BULLETIN

OF THE

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

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APRIL 1, 1930

No. 4

FIFTY-FOURTH

ANNUAL CATALOGUE

SESSION 1929-30

WITH ANNOUNCEMENTS FOR 1930-31



COLLEGE STATION, TEXAS

I call therefore a complete and generous education that which fits a man to perform justly, skillfully and magnanimously all the offices, both private and public, of peace and war.—Milton.

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COLLEGE CALENDAR

1930

Entrance examinations, September 11, 12, 13.

Freshman week, September 15, 16, 17.

First term begins Wednesday, September 17.

Registration of new students, September, 17.

Registration of old students, September, 18.

Registration of graduate students, September 19.

Recitations begin September 19, 8:00 a. m.

Opening exercises, September 19, 10:00 a. m.

November 11, 11:00 a. m. observance of Armistice Day.

Thanksgiving Recess, November 27, 28, 29.

Christmas holidays begin Saturday, December 20, at noon.

1931

Christmas holidays end Monday, January 5, at reveille. Recitations resumed Monday, January 5, 8:00 a.m.

First term ends Friday, January 30.

Second term begins Saturday, January 31.

Registration for second term, January 29, 30, 31.

Spring Recess, April 16, 17, 18.

Commencement sermon, Sunday, May 24.

Commencement Day, Saturday, May 30.



Part I

OFFICERS OF ADMINISTRATION AND OF INSTRUCTION

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THE ENGINEERING EXPERIMENT STATION

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F. C. Bolton, B.S., M.S., Dean of the School of Engineering.

C. H. WINKLER, B.S., A.M., Ph.D., Dean of the School of Vocational Teaching, Director of the Summer Session.

CHARLES E. FRILEY, B.S., A.M., LL.D., Dean of the School of Arts and Sciences, Registrar.

F. E. GIESECKE, M.E., B.S., in Arch., Ph.D., Director of the Engineering Experiment Station, College Architect.

O. B. MARTIN, Director of the Extension Service.

E. O. SIECKE, B.A., B.S., Director of the Forest Service.

A. B. Conner, M.S., Director of the Agricultural Experiment Station.

CHARLES J. NELSON, B.S., Colonel, U. S. Army, Commandant.

THOMAS F. MAYO, M.A., Librarian.

G. S. FRAPS, Ph.D., State Chemist.

F. L. THOMAS, Ph.D., State Entomologist.

J. E. Marsh, B.A., M.D., College Physician.

B. D. MARBURGER, B.S., Superintendent of Buildings and College Utilities. .

W. A. Duncan, Supervisor of Subsistence.

W. H. HOLZMANN, Comptroller of Accounts.

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CHARLES PURYEAR, Dean of the College, Dean of the Graduate School, Professor of Mathematics.

M.A., Richmond College, 1881; C.E., Virginia, 1885; LL.D., Daniel Baker, 1914. MARK FRANCIS, Dean of the School of Veterinary Medicine, Professor of Veterinary Anatomy.

D.V.M., Ohio State, 1887; LL.D., 1929.

EDWIN JACKSON KYLE, Dean of the School of Agriculture, Professor of Horticulture.
 B.S., Agricultural and Mechanical College of Texas, 1899; B.S.A., Cornell, 1901; M.S.A., 1902.

OSCAR MELVILLE BALL, Professor of Biology. B.A., Virginia, 1897; M.A., Ph.D., Leipzig, 1903.

JOHN BREWER BAGLEY, Professor of Textile Engineering. B.A., Wake Forest College, 1900.

Frank Cleveland Bolton, Dean of the School of Engineering, Professor of Electrical Engineering.

B.S., Mississippi A. and M., 1905; M.S., Ohio State, 1928.

JAMES OSCAR MORGAN, Vice-Dean of the School of Agriculture, Professor of Agronomy.

B.Agr., North Carolina State College, 1905; M.S.A., Cornell, 1907; Ph.D., 1909.

ALVA MITCHELL, Professor of Drawing.

B.C.E., Agricultural and Mechanical College of Texas, 1894.

CHARLES CLEVELAND HEDGES, Vice-Dean of the School of Engineering, Professor of Chemistry and Chemical Engineering.
B.S., Kentucky, 1906; A.B., Cornell, 1908; Ph.D., 1912.

CHARLES BOYLE CAMPBELL, Professor of Modern Languages. Ph.B., Depauw, 1900; Ph.D., Chicago, 1912.

Ross Perry Marsteller, Professor of Veterinary Medicine and Surgery. D.V.M., Ohio State, 1905.

OSCAR WILLIAM SILVEY, Professor of Physics. . A.B., Indiana, 1907; A.M., 1910; Ph.D., Chicago, 1915.

FLOYD BARZILIA CLARK, Professor of Economics.
B.A., Richmond College, 1907; M.A., 1908; Ph.D., Johns Hopkins, 1914.

ERIC OTTO SIECKE, Professor of Forestry. B.A., Nebraska, 1904; B.S.F., 1905.

SHERMAN WEAVER BILSING, Professor of Entomology.
A.B., Ohio State, 1912; M.A., 1913; Ph.D., 1924.

DANIEL SCOATES, Professor of Agricultural Engineering. B.S., Iowa State College, 1910; A.E., 1915.

JOHN JEFFERSON RICHEY, Professor of Civil Engineering.

B.S., Illinois, 1903; C.E., 1910.
GEORGE SUMMEY, JR, Professor of English.

EORGE SUMMEY, JR, Projessor of Enguso.
 A.B., Southwestern Presbyterian University, 1897; M.A., 1898; Ph.D., Columbia, 1919.

DAVID WILLIAMS, Professor of Animal Husbandry. B.S., Ohio State, 1915; M.S., Illinois, 1916.

Eugene Peter Humbert, Professor of Genetics.

B.S., Iowa State College, 1906; M.S., Cornell, 1908; Ph.D., 1910.

CHARLES HERMAN WINKLER, Dean of the School of Vocational Teaching, Professor of Agricultural Education.

B.S., Texas, 1904; M.A., 1914; Ph.D., Missouri, 1916.

DUNCAN HENRY REID, Professor of Poultry Husbandry. B.S., Wisconsin, 1919; M.S., 1922.

CHARLES EDWIN FRILEY, Dean of the School of Arts and Sciences, Registrar, Secretary of the Faculty. B.S., Agricultural and Mechanical College of Texas, 1919; A.M., Columbia, 1923; LL.D., Simmons University, 1929.

WILLIAM LYCURGUS HUGHES, Professor of Rural Education.

B.A., Howard Payne College, 1920; B.S., Agricultural and Mechanical College of Texas, 1921; M.S., 1922.

SAMUEL RHEA GAMMON, JR, Professor of History.
A.B., Washington and Lee. 1911; A.M., 1913; Ph.D., Johns Hopkins, 1921.

ERNEST WILLIAM STEEL, Professor of Municipal and Sanitary Engineering. C.E., Cornell, 1920.

EDWARD LAFAYETTE WILLIAMS, Professor of Industrial Education. B.S., Pittsburg, 1925.

FREDERICK WILLIAM HENSEL, JR, Professor of Landscape Art.
B.S., Agricultural and Mechanical College of Texas, 1907; M.S., Cornell, 1915.

VIRGIL PORTER LEE, Professor of Marketing and Finance. B.A., Texas, 1918; M.A., 1919; Ph.D., Wisconsin, 1923.

THOMAS WILLIAM LELAND, Professor of Accounting and Statistics. B.A., Wisconsin, 1921; M.A., 1922; C.P.A., 1929.

SAMUEL AUGUSTUS McMillan, Professor of Farm and Ranch Management. B.S., Agricultural and Mechanical College of Texas, 1909; M.S.A., Cornell, 1917.

DANIEL RUSSELL, Professor of Rural Sociology. A.B., Baylor, 1922.

FREDERICK ERNEST GIESECKE, Professor of Engineering Research.

M.E., Agricultural and Mechanical College of Texas, 1890; B.S., in Architecture, Massachusetts Institute of Technology, 1904; Ph.D., Illinois, 1924.

CHARLES JOHNSTON NELSON, Colonel, U. S. Army, Professor of Military Science and Tactics, Commandant. B.S., Alabama Polytechnic Institute, 1897.

JOHN TIPTON LONSDALE, Professor of Geology.

B.A., Iowa, 1917; M.S., 1921; Ph.D., Virginia, 1924.

CHARLES NOAH SHEPHARDSON, Professor of Dairy Husbandry. B.S., Colorado, 1917; M.S., Iowa State College, 1924.

ERNEST LANGFORD, Professor of Architecture.

B.S., Agricultural and Mechanical College of Texas, 1913; M.S., Illinois, 1924.

CHARLES WILLIAM CRAWFORD, Professor of Mechanical Engineering. B.S., Agricultural and Mechanical College of Texas, 1919; M.S., 1929.

MADISON BELL, Professor of Physical Education. B.S., Centre College, 1920.

JOHN BERRY JOYCE, Professor of Petroleum Engineering. B.S., Agricultural and Mechanical College of Texas, 1917.

OTHER MEMBERS OF THE TEACHING STAFF

Professors

ROBERT FRANKLIN SMITH, Professor of Mathematics.

MARMADUKE K. THORNTON, JR, Professor of Industrial Chemistry. B.S., Mississippi A. and M., 1909; A.M., Columbia, 1914.

GILBERT ALLAN GEIST, Professor of Architecture. B.S., St. John's Episcopal College, 1899.

WILLIAM HENRY THOMAS, Professor of English.

B.Lit., Texas, 1902; M.A., Columbia, 1920.

HAROLD RENSHAW BRAYTON, Professor of Inorganic Chemistry.
A.B., Wisconsin, 1914; M.S., 1915.

C. WINFIELD BURCHARD, Professor of Organic and Physical Chemistry. A.B., Allegheny College, 1908; M.A., Wisconsin, 1911.

DAVID BROOKS COFER, Professor of English.

A.B., Centre College, 1907; M.A., Wisconsin, 1927.

MARTIN COLLINS HUGHES, Professor of Electrical Engineering. B.S., Illinois, 1917; E.E., 1926.

JOHN WEEMS MITCHELL, Professor of Mathematics.

A.B., Maryville College, 1904.

HILLEL HALPERIN, Professor of Mathematics. E.E. Liege, 1908; A.M., Columbia, 1915.

ALBERT LAURIE DARNELL, Professor of Dairy Husbandry. B.S., Mississippi A. and M., 1913; M.A., Missouri, 1916.

JOHN THOMAS LAMAR MCNEW, Professor of Highway Engineering. B.S., Agricultural and Mechanical College of Texas, 1920; M.S., 1926; C.E., Iowa State College, 1925.

RICHARD HERMON WILLIAMS, Professor of Animal Husbandry.

B.S.A., Toronto, 1905; M.S., Illinois, 1907; Ph.D., 1912.

THURMOND ARMOUR MUNSON, Professor of Railroad Engineering. B.S., Agricultural and Mechanical College of Texas, 1910; C.E., Iowa State College, 1924; M.S., 1925.

LUTHER GOODRICH JONES, Professor of Agronomy.

B.S., Princeton, 1917; M.S., Agricultural and Mechanical College of Texas, 1921; Ph.D., Cornell, 1927.

JOHN EMMITT SLOAN, Major, U. S. Army, Professor of Military Science and Tactics.

Graduate, U. S. Naval Academy, 1910.

DAVID CLUIE JONES, Professor of Mathematics.

B.A., Emory, 1908. WALTER LEE PORTER, Professor of Mathematics.

A.B., Howard College, 1911; M.S., Agricultural and Mechanical College of Texas, 1926.

*George Barton Wilcox, Professor of Rural Education.

B.S., Agricultural and Mechanical College of Texas, 1923; M.A. Columbia, 1926.

ELMER ROSS ALEXANDER, Professor of Agricultural Education.

A.B., Baylor, 1919; B.S., Agricultural and Mechanical College of Texas, 1923; M.S., 1926.

VANGEL KONSTANTINE SUGAREFF, Professor of History. A.B., Syracuse, 1917; A.M., Harvard, 1918.

GUY WEBB ADRIANCE, Professor of Horticulture. B.S., Agricultural and Mechanical College of Texas, 1915; M.S., California, 1917.

FRANK GIST ANDERSON, Professor of Physical Education. B.S., Mississippi College, 1916; M.A., 1917.

CHARLES ORVINE SPRIGGS, Professor of Public Speaking. A.B., Indiana, 1924.

^{*}On leave, 1929-80.

ARTHUR KAPP Mackey, Professor of Animal Husbandry. B.S., Purdue, 1921; M.S., Illinois, 1923.

JOHN PARSONS WHEELER, Major, U. S. Army, Professor of Military Science and Tactics.

LEWIS ANDREW PICK, Captain, U. S. Army, Professor of Military Science and Tactics.

B.S., Virginia Polytechnic Institute, 1914.

ROBERT GATLIN REEVES, Professor of Biology.
B.S., Mississippi A. and M., 1922; M.S., 1923; Ph.D., Iowa State College, 1928.

LINTON ELIAS GRINTER, Professor of Civil Engineering. B.S., Kansas, 1923; M.S., Illinois, 1924; Ph.D., 1926.

BENJAMIN FRANKLIN DELAMATER, Major, U. S. Army, Professor of Military Science and Tactics.

Graduate, U. S. Military Academy, 1912.

JUSTUS WHEELER BARGER, Professor of Economics.

B.S., Kansas State Agricultural College, 1922; M.S., 1923; M.A., Leland Stanford Junior University, 1929.

JEFFERSON CHENWORTH DYKES, Professor of Agricultural Education.

B.S., Agricultural and Mechanical College of Texas, 1921.

SAMUEL CHARLES PHELPS VOSPER, Professor of Architecture.

Associate Professors

AUGUST ALBERT LENERT, Associate Professor of Veterinary Medicine.

B.S., Agricultural and Mechanical College of Texas, 1914; D.V.M., Kansas City Veterinary College, 1917.

HARRIS PEARSON SMITH, Associate Professor of Agricultural Engineering. B.S., Mississippi A. and M., 1917; M.S., Agricultural and Mechanical College of Texas, 1926.

FREDERICK ARTHUR BURT, Associate Professor of Geology. B.S., Colgate University, 1908; M.S., Chicago, 1929.

PERCY GLYNDON GUNTER, Associate Professor of English. A.B., Elon College, 1909; M.A., North Carolina, 1910.

FRED ERNEST LICHTE, Associate Professor of Textile Engineering B.S., Agricultural and Mechanical College of Texas, 1905.

ELIAS WARD MARKLE, Associate Professor of Electrical Engineering. B.S., Pennsylvania State College, 1913.

RALPH CLARK DUNN, Associate Professor of Veterinary Medicine and Surgery. D.V.M., Ohio State, 1911.

WALTER RAWLINGS HORLACHER, Associate Professor of Genetics. B.S., Kansas State Agricultural College, 1920; M.S., 1922; Ph.D., Wisconsin, 1929.

THOMAS FRANKLIN MAYO, Associate Professor of English.

B.A., Mississippi, 1913; A.M., Oxford, 1922. ALEXANDER VAN BREWER, Associate Professor of Mechanical Engineering B.S., Purdue, 1913; M.E., 1925.

Frederick William Jensen, Associate Professor of Chemistry. B.S., Nebraska, 1920; M.S., 1923; Ph.D., 1925.

JOSEPH SAYERS MOGFORD, Associate Professor of Agronomy. B.S., Agricultural and Mechanical College of Texas, 1916; M.S.; 1926.

ALBERT Dow Martin, Associate Professor of Mathematics. B.S., Gunter Bible College, 1908; B.A., Texas Christian University, 1920.

PATTON WRIGHT BURNS, Associate Professor of Veterinary Physiology and Pharmacology.

B.S., Agricultural and Mechanical College of Texas, 1923; D.V.M., 1926.

PENNOYER FRANCIS ENGLISH, Associate Professor of Biology. B.S., Oregon Agricultural College, 1919; M.S., Agricultural and Mechanical College of Texas, 1925.

RALPH THOMAS STEWART, Associate Professor of Agronomy. B.S., Iowa State College, 1914; M.S., 1925; Ph.D., 1928.

ARTHUR EDWARDS WHARTON, Associate Professor of Veterinary Pathology. D.V.M, Colorado Agricultural College, 1925.

EDWARD EARL VEZEY, Associate Professor of Physics.

B.S., Oklahoma A. and M., 1910; M.S., Agricultural and Mechanical College of Texas, 1927.

LEROY LEVI FOURAKER, Associate Professor of Electrical Engineering. B.S., Agricultural and Mechanical College of Texas, 1914; M.S., 1927.

FRED RUFUS JONES, Associate Professor of Agricultural Engineering. B.S., Wisconsin, 1915.

VAN ALLEN LITTLE, Associate Professor of Entomology.

B.A., Sam Houston Normal College, 1922; M.S., Agricultural and Mechanical College of Texas, 1925.

CARL EDWARD SANDSTEDT, Associate Professor of Civil Engineering.

A.B., Leland Stanford, 1910; M.S., Agricultural and Mechanical College of Texas,

NORMAN FREDERICK RODE, Associate Professor of Electrical Engineering. B.S., Clemson College, 1919; M.S., Agricultural and Mechanical College of Texas, 1929.

FRED ROBERT BRISON, Associate Professor of Horticulture. B.S., Agricultural and Mechanical College of Texas, 1921.

WALTER LAWREN PENBERTHY, Associate Professor of Physical Education. B.S., Ohio State, 1926.

ISAAC CHRISTOPHER SANDERS, Associate Professor of Physics. B.A., Rice Institute, 1917; M.A., Texas, 1925.

STEWART SAMUEL MORGAN, Associate Professor of English. B.A., Cincinnati, 1926; M.A., Ohio State, 1927.

OSCAR ARNOLD WEINKE, Associate Professor of Accounting and Statistics, Acting Head of the Department. B.A., Wisconsin, 1921.

HARLEY CLAY DILLINGHAM, Associate Professor of Electrical Engineering. B.S., Agricultural and Mechanical College of Texas, 1922.

CLARENCE JACK FINNY, Associate Professor of Architecture.
B.S., Agricultural and Mechanical College of Texas, 1922.

JOHN DOUGLAS PITTS FULLER, Associate Professor of History.
S.B., The Citadel, 1919; A.M., Johns Hopkins, 1928.

VIRGIL MORING FAIRES, Associate Professor of Mechanical Engineering.

B.S., Colorado, 1922; M.E., 1926.

JOSEPH JOHN WOOLKET, Associate Professor of Modern Languages. A.B., Oberlin College, 1924; M.A., 1925.

JOHN HARVEY KNOX, Associate Professor of Animal Husbandry. B.S., Ohio State, 1921; M.S., Illinois, 1924.

JOHN BOND REID, Associate Professor of Physical Education.

A.B., Baylor, 1919. ELVER WILLIAM RENNER, Associate Professor of Dairy Husbandry. B.S., Iowa State College, 1918; M.S., 1929.

Assistant Professors

LOUIS ADOLPH KOENIG, Assistant Professor of Chemistry. B.A., Texas, 1917.

ERNEST KENNETH SPAHR, Assistant Professor of English.

B.A., Milligan College, 1919; M.A., Virginia, 1921.
GEORGE HENRY FERN, Assistant Professor of Industrial Education.

B.S., Agricultural and Mechanical College of Texas, 1929.

JOHN HENRY BINNEY, Assistant Professor of Mathematics. B.S., Sam Houston State Teachers College, 1924; M.A., Texas, 1925.

THOMAS ROBERT NELSON, Assistant Professor of Mathematics. B.A., East Texas State Teachers College, 1917; M.A., Texas, 1922.

CHAUNCEY BARGER GODBEY, Assistant Professor of Genetics.

B.S., Kentucky, 1925; M.S., Agricultural and Mechanical College of Texas, 1926.

MILAN FRANK THURMOND, Assistant Professor of Agricultural Engineering.

A.B., Baylor, 1919; B.S., Agricultural and Mechanical College of Texas, 1922.

BEECHER CALVIN JONES, Assistant Professor of Chemistry.
A.B., Baylor. 1921; B.S., Agricultural and Mechanical College of Texas, 1928;
M.S., 1926.

EDWARD LINN HARTER, Assistant Professor of Chemistry. A.B., Missouri Weslyan, 1919.

GEORGE CHILDS BAUER, Assistant Professor of Chemistry. B.S., Kentucky, 1920; M.S., Iowa State College, 1927.

ELDRED HARRIS GIBBONS, Assistant Professor of Biology. B.S.A., Tennessee, 1925; S.M., Chicago, 1929.

Percy Clark Key, Assistant Professor of English.
A.B., Texas Christian University, 1917; M.A., Vanderbilt, 1918.

FRANK STOVER JAMISON, Assistant Professor of Horticulture. B.S., Pennsylvaania State College, 1924; M.S., Iowa State College, 1925.

ROSWELL GUNBY HIGGINBOTHAM, Assistant Professor of Physical Education. *ROBERT LEE HUNT, Assistant Professor of Marketing and Finance.

B.S., Agricultural and Mechanical College of Texas, 1924; M.S., North Carolina State College, 1927.

JOHN GRAHAM POWERS, Assistant Professor of Textile Engineering.

Horace Greeley Johnston, Assistant Professor of Entomology. B.S., Mississippi A. and M., 1926; M.S., Iowa State College, 1928.

LELAND SHUMWAY PAINE, Assistant Professor of Agricultural Economics. B.A. Nebraska, 1922; M.A., Wisconsin, 1926.

**JOSEPH JONATHAN DAVIS, Assistant Professor of Drawing. B.S., North Carolina State College, 1924.

EARL L. LYONS, Captain, U. S. Army, Assistant Professor of Military Science and Tactics.

THOMAS CASTLEMAN HARRY, Captain, U. S. Army, Assistant Professor of Military Science and Tactics.

JAMES VINCENT CARROLL, First Lieutenant, U. S. Army, Assistant Professor of Militray Science and Tactics.

Graduate, United States Military Academy, 1918; B.S., Yale, 1925.
ISAAC GEORGE WALKER, Captain, U. S. Army, Assistant Professor of Military

Science and Tactics. EARL T. McCullough, First Lieutenant, U. S. Army, Assistant Professor of

Military Science and Tactics.

JOHN STATES SEYBOLD, First Lieutenant, U. S. Army, Assistant Professor of Military Science and Tactics. Graduate, United States Military Academy, 1920; C.E., Rensselaer Polytechnic Institute, 1922.

EDGAR WILSON GLENN, Assistant Professor of Drawing

B.S., Illinois, 1924.
WILLIAM FORD MUNNERLYN, Assistant Professor of Poultry Husbandry
B.S., Agricultural and Mechanical College of Texas, 1920.
LEONARD RANDALL NACHMAN, First Lieutenant, U. S. Army, Assistant Pro-

fessor of Military Science and Tactics.

Graduate, U. S. Military Academy, 1928.

^{*}On leave 1929-30.

^{**}Died November 24, 1929.

- PAUL LARUE NEAL, First Lieutenant; U.S. Army, Assistant Professor of Military Science and Tactics.
- HAROLD BURTON GIBSON, Captain, U. S. Army, Assistant Professor of Military Science and Tactics.
- CALVIN SUTTON RICHARDS, Captain, U. S. Army, Assistant Professor of Military Science and Tactics.
- WILLIAM HOMER McCorkle, Assistant Professor of Physics. B.A., Iowa, 1924; M.S., 1928.
- ELMER GILLAM SMITH, Assistant Professor of Physics.
 - A.B., Amherst College, 1919; M.S., Agricultural and Mechanical College of Texas.
- HENRY BRONISLAU STENZEL, Assistant Professor of Geology. Ph.D., Breslau, 1924.
- ROBERT PAGE WARD, Assistant Professor of Electrical Engineering. B.S., Agricultural and Mechanical College of Texas, 1924.
- JOHN PAUL ABBOTT, Assistant Professor of English. B.A., Vanderbilt, 1925.
- CLIFTON CHILDRESS DOAK, Assistant Professor of Biology. B.S., North Texas State Teachers College, 1922; M.S., Agricultural and Mechanical College of Texas, 1928.
- IRA GILLESPIE ADAMS, Assistant Professor of Economics. A.B., Evansville College, 1923; A.M., Minnesota, 1927.
- JOHN LEROY WATSON, Assistant Professor of Agricultural Economics. B.S., Agricultural and Mechanical College of Texas, 1915; M.S., 1927.
- JOHN ALEXANDER GORMAN, Assistant Professor of Animal Husbandry. B.S., Agricultural and Mechanical College of Texas, 1923.
- THOMAS ROWAN HAMILTON, Assistant Professor of Accounting and Statistics. A.B., Washington and Lee, 1917; M.S., Columbia, 1924.
- JAMES GORDAN HOLMES, Assistant Professor of Physical Education. B.S., Agricultural and Mechanical College of Texas, 1928.
- JOHN GEORGE JENSEN, Assistant Professor of Mechanical Engineering. B.S., Agricultural and Mechanical College of Texas, 1926.
- VERNON ALPHUS Young, Assistant Professor of Biology.
- B.S., Utah State College, 1922; M.S., Iowa State College, 1924; Ph.D., Minnesota, 1929.
- SAMUEL SHACKLEY OBENSHAIN, Assistant Professor of Agronomy.
 - B.S., Virginia Polytechnic Institute, 1927; M.S., Agricultural and Mechanical College of Texas, 1928

Instructors

- RICHARD WALTER DOWNARD, Instructor in Mechanical Engineering.
- WILLIAM WARREN McCarter, Instructor in Mechanical Engineering.
- Francis Frederick Bishop, Instructor in Chemistry. B.S., Clarkson College, 1922; M.S., 1928.
- Albert Asa Blumberg, Instructor in Mathematics. B.A., Texas, 1929.
- MARION THOMAS HARRINGTON, Instructor in Chemistry. B.S., Agricultural and Mechanical College of Texas, 1922; M.S., 1927.
- ROLAND EDWARD SNUGGS, Instructor in Chemistry.
- A.B., Georgetown College, 1920; M.S., Florida, 1923.

 CARL TYLER SPRAGUE, Instructor in Physical Education
- B.S., Agricultural and Mechanical College of Texas, 1922.

 ALBERT HARRISON KERNS, Instructor in Electrical Engineering. B.S., Kansas State Agricultural College, 1926.

ERROLL BATHURST MIDDLETON, Instructor in Chemistry. B.A., Illinois, 1919; M.S., 1921.

CARL CAMERON PALMER, Instructor in Electrical Engineering. B.S., Purdue, 1926.

WILLIAM McDaniel Potts, Instructor in Chemistry. B.S., Chicago, 1921; M.S., 1927.

JOHN WENDELL Ross, Instructor in Mathematics. B.A., Texas, 1923.

GROVER CLEVELAND VAUGHN, Instructor in Economics. B.A., Texas, 1921; M.A., 1925.

BLAKE MARABLE CALDWELL, Instructor in Drawing.
B.S., Agricultural and Mechanical College of Texas, 1927; M.S., 1929.

RICHARD ARTHUR EADS, Instructor in Chemistry.

B.L., B.S., East Texas Normal College, 1917; B.S., East Texas State Teachers

College, 1923; M.S., Agricultural and Mechanical College of Texas, 1929.

DAVID WINSTONE FLEMING, Instructor in Mechanical Engineering.

ULYS ROY GORE, Instructor in Biology. B.S., Arkansas, 1925; M.S., Iowa State College, 1926.

STANLEY ARMSTRONG McCosh, Instructor in Civil Engineering. B.S., Iowa State College, 1923.

CLYDE HAROLD TARNEY, Instructor in Physics. Ph.B., Ph.M., Wisconsin, 1927.

ROGER VALENTINE McGEE, Instructor in Mathematics. B.S., Agricultural and Mechanical College of Texas, 1922.

MILLS HERBERT BYROM, Instructor in Agricultural Engineering. B.S., Agricultural and Mechanical College of Texas, 1928.

JOSEPH BAKER DENT, Instructor in Drawing. B.S., Virginia Polytechnic Institute, 1926.

Joseph Anderson Orr, Instructor in Civil Engineering. B.S., Agricultural and Mechanical Collegt of Texas, 1922.

GRAVES BAXTER ROBERTS, Instructor in Modern Languages.

A.B., Davidson College, 1923; A.M., Colorado State Teachers' College, 1926. WILLIAM REEDER SHERRILL, Instructor in Agricultural Education. B.S., Agricultural and Mechanical College of Texas, 1928.

J. FISH SMITH, Instructor in Marketing and Finance. B.S., Utah Agricultural College, 1916.

Roy Matthew Wingren, Instructor in Mechanical Engineering. B.S., Agricultural and Mechanical College of Texas, 1927.

JESSE GERALD CHANEY, Instructor in Mathematics. A.B., Southwestern, 1924.

Dan Hall, Instructor in Mathematics. A.B., North Carolina, 1927; A.M., 1928.

Joseph Kelly Blum, Instructor in Chemistry.

B.S., North Carolina State College, 1923.

JAMES COZBY BYRD, Instructor in Architecture. B.A., Pennsylvania, 1922.

HUBERT LIONELL CAMP, Instructor in Mathematics.

A.B., Oklahoma, 1928; M.A., 1929. JAMES CHARLES CHEATHAM, Instructor in Mechanical Engineering.

B.S., Clemson College, 1923.

BERNARD MICHAEL COONEY, Instructor in English. A.B., Columbia, 1926; M.A., 1929.

WILLIS BOORING DOBSON, Instructor in English. A.B., Centenary College, 1928; M.A., Texas, 1929.

ALBERT EDWARD FINLAY, Instructor in Mathematics. B.S., Peabody, 1929; M.A., 1929.

M. P. Frank, Instructor in Civil Engineering.
B.S., Agricultural and Mechanical College of Texas, 1929.
JOHN O'DELL GRAGG, Instructor in Accounting and Statistics.
B.A., Texas, 1924; B.B.A., 1924.
JOHN QUE HAYS, Instructor in English.
A.B., Missouri, 1929.
JOHN ARTHUR OAKEY, Instructor in Mechanical Engineering.
B.S., Wisconsin, 1929.
JAMES ARTHUR TRAIL, Instructor in Mechanical Engineering.
B.S., Agricultural and Mechanicol College of Texas, 1929.
HENRY CECIL SPENCER, Instructor in Drawing.
B.S., Baylor, 1929.

Assistants

RONALD FOSTER WICK, Assistant in Electrical Engineering. B.S., Agricultural and Mechanical College of Texas, 1928.

Student Assistants

WILLIAM DEYERLE NEFF, Student Assistant in Drawing.

SUMMARY OF TEACHING STAFF AS OF APRIL 1, 1930.

Heads of Departments	39
Other Full Professors	
Associate Professors	
Assistant Professors	4
Instructors	42
Assistants	
Student Assistants	
	196
On leave	
•	10.

THE AGRICULTURAL EXPERIMENT STATION

THOMAS OTTO WALTON, LL.D., President

STAFF (As of January 1, 1930)

Administration:

A. B. Conner, M.S., Director.
R. E. Karper, M.S., Vice-Director.
CLARICE MIXON, B.A. Secretary.
M. P. HOLLEMAN, JR., Chief Clerk.
J. K. Francklow, Assistant Chief Clerk.
CHESTER HIGGS, Executive Assistant.
C. B. NEBLETTE, Technical Assistant.

Chemistry:

G. S. Fraps, Ph.D., Chief; State Chemist.
J. Franklin Fudge, Ph.D., Chemist.
S. E. Asbury, M.S., Assistant Chemist.
E. C. Carlyle, B.S., Assistant Chemist.
T. L. Ogier, B.S., Assistant Chemist.
Athan J. Sterges, B.S., Assistant Chemist.
Waldo H. Walker, Assistant Chemist.
Velma Graham, Assistant Chemist.
Velma Graham, Assistant Chemist.
Jeanne M. Fuegas, Assistant Chemist.
J. K. Farmer, M.A., Assistant Chemist.
Ralph L. Schwartz, B.S., Assistant Chemist.

Horticulture:

HAMILTON P. TRAUB. Ph.D., Chief.

Range Animal Husbandry:

J. M. Jones, A.M., Chief; Sheep and Goat Investigations.
*J. L. Lush, Ph.D., Animal Husbandman; Breeding Investigations.
Stanley P. Davis, Wool Grader.

Entomology:

F. L. Thomas, Ph.D., Chief; State Entomologist. H. J. Reinhard, B.S., Entomologist. R. K. Fletcher, Ph.D. Entomologist. W. L. Owens, Jr., M.S., Entomologist. Frank M. Hull, M.S., Entomologist. J. C. Gaines, Jr., M.S., Entomologist. G. J. Todd, B.S., Entomologist. F. F. Bibby, B.S., Entomologist. F. F. Bibby, B.S., Entomologist. Cecil E. Heard, B.S., Chief Foulbrood Inspector. Otto Mackensen, Foulbrood Inspector.

^{*}Resigned, January 1, 1930.

Agronomy:

E. B. REYNOLDS, Ph.D., Chief.

R. E. KARPER, M.S., Agronomist; Grain Sorghum Research. P. C. Mangeldorf, Sc.D., Agronomist; Corn and Small Grain Investiga-

D. T. KILLOUGH, M.S., Agronomist; Cotton Breeding. H. E. Rea, B.S., Agronomist; Cotton Root Rot Investigations. W. E. FLINT, B.S., Agronomist. B. C. Langley, B.S., Assistant in Soils.

Publications:

A. D. JACKSON, Chiet.

Veterinary Science:

*M. Francis, D.V.M., Chief. H. Schmidt, D. V. M., Veterinarian Acting Chief.

F. E. CARROLL, D.V.M., Veterinarian.

ERWIN JUNGHERR, D.V.M., Ph.D., Veterinarian.

Plant Pathology and Physiology:

J. J. TAUBENHAUS, Ph.D., Chief.
W. N. EZEKIEL, Ph.D., Plant Pathologist and Laboratory Technician
W. J. Bach, M.S., Plant Pathologist.
B. F. Dana, M.S., Plant Pathologist.

Farm and Ranch Economics:

L. P. Gabbard, M.S., Chief.
W. E. Paulson, Ph.D., Marketing Research Specialist.
C. A. Bonnen, M.S., Farm Management Research Specialist
V. L. Cory, M.S., Grazing Research Botanist.
J. F. Criswell, B.S., Assistant; Farm Records and Accounts.
**J. N. Tate, B.S., Assistant; Ranch Records and Accounts

Rural Home Research:

JESSIE WHITACRE, Ph.D., Chief.
MARY ANNA GRIMES, M.S., Textile and Clothing Specialist.

EMMA E. SUMNER, M.S., Nutrition Specialist.

Soil Survey:

**W. T. CARTER, B.S., Chief. E. H. TEMPLIN, B.S., Soil Surveyor.

T. C. REITCH, B.S., Soil Surveyor.

Botany:

—. Chief.

SIMON E. WOLFF, M.S., Botanist.

Swine Husbandry:

FRED HALE, M.S., Chief.

Dairy Husbandry:

O. C. COPELAND, M.S. Dairy Husbandman.

Poultry Husbandry:

R. M. SHEERWOOD, M.S., Chief.

***Agricultural Engineering:

Main Station Farm:

G. T. McNess, Superintendent.

Apiculture: (San Antonio)

H. B. PARKS, B.S., Chief.

A. H. Alex, B.S., Queen Breeder.

Feed Control Service:

F. D. Fuller, M.S., Chief.

S. D. PEARCE, Secretary.
J. H. ROGERS, Feed Inspector.
W. H. WOOD, Feed Inspector.

K. L. KIRKLAND, B.S., Feed Inspector.

W. D. NORTHCUTT, JR., B.S., Feed Inspector. SIDNEY D. REYNOLDS, JR., Feed Inspector.

P. A. Moore, Feed Inspector.

SUBSTATIONS

No. 1, Beeville, Bee County:

R. A. HALL, B.S., Superintendent.

No. 2, Troup, Smith County:

P. R. JOHNSON, M.S., Acting Superintendent.

No. 3, Angleton, Brazoria County:

R. H. STANSEL, M.S., Superintendent.

No. 4, Beaumont, Jefferson County:

R. H. WYCHE, B.S., Superintendent.

No. 5, Temple, Bell County:

HENRY DUNLAVY, M.S., Superintendent.

B. F. Dana, M.S., Plant Pathologist. H. E. Rea, B.S., Agronomist; Cotton Root Rot Investigations. SIMON E. WOLFF, M.S., Botanist; Cotton Root Rot Investigations

No. 6, Denton, Denton County:

P. B. Dunkle, B.S., Superintendent.

No. 7, Spur, Dickens County:

R. E. Dickson, B.S., Superintendent. W. E. Flint, B.S., Agronomist.

No. 8, Lubbock, Lubbock County:

D. L. JONES, Superintendent.

FRANK GAINES, Irrigationist and Forest Nurseryman.

No. 9, Balmorhea, Reeves County:

J. J. BAYLES, B.S., Superintendent.

No. 10, Feeding and Breeding Station, near College Station, Brazos County:

R. M. SHERWOOD, M.S., Animal Hushandman in Charge of Farm.

L. J. McCall, Farm Superintendent.

No. 11, Nacogdoches, Nacogdoches County:

H. F. Morris, M.S., Superintendent.

**No. 12, Chillicothe, Hardeman County:

J. R. QUINBY, B.S., Superintendent.

** J. C. Stephens, M.A., Assistant Agronomist.

No. 14, Sonora, Sutton-Edwards Counties:

W. H. DAMERON, B.S., Superintendent. ERWIN JUNGHERR, D.V.M., Ph.D., Veterinarian. V. L. Cory, M.S., Grazing Research Botanist. **O. G. BABCOCK, B.S., Collaborating Entomologist. O. L. Carpenter, Shepherd.

No. 15, Weslaco, Hidalgo County:

W. H. FRIEND, B.S., Superintendent. SHERMAN W. CLARK, B.S., Entomologist, W. J. BACH, M.S., Plant Pathologist.

No. 16, Iowa Park, Wichita County;

E. J. WILSON, B.S., Superintendent.

No. 17, -

No. 18, -

No. 19, Winterhaven, Dimmit County: E. MORTENSEN, B.S., Superintendent.

No. 20, -

Teachers in the School of Agriculture Carrying Cooperative Projects on the Station

G. W. Adriance, M.S. Associate Professor of Horticulture.

S. W. Bilising, Ph.D., Professor of Entomology.
V. P. Lee, Ph.D., Professor of Marketing and Finance.
D. Scoates, A.E., Professor of Agricultural Engineering.
H. P. Smith, M.S., Associate Professor of Agricultural Engineering.
R. H. Williams, Ph.D., Professor of Animal Husbandry.
A. K. Mackey, M.S., Associate Professor of Animal Husbandry.

J. S. Mogford. M.S., Associate Professor of Agronomy.

F. S. JAMISON, M.S., Associate Professor of Horticulture. W. R. HORLACHER, M.S., Associate Professor of Genetics.

^{*}Dean, School of Veterinary Medicine.

**In cooperation with U. S. Department of Agriculture.

***In cooperation with the School of Agriculture.

THE ENGINEERING EXPERIMENT STATION

THOMAS OTTO WALTON, LL.D., President.

F. C. Bolton, M.S., Dean, School of Engineering.

F. E. GIESECKE, Ph.D., Director.

ADVISORY COUNCIL

- J. B. BAGLEY, B.A., Professor of Textile Engineering.
- C. C. Hedges, A.B., Ph.D., Professor of Chemistry and Chemical Engineering.
- J. B. Joyce, B.S., Professor of Petroleum Engineering.
- J. T. Lonsdale, Ph.D., Professor of Geology.
- J. J. RICHEY, C.E., Professor of Civil Engineering.
- D. Scoates, A.E., Professor of Agricultural Engineering.
- O. W. SILVEY, A.M., Ph.D., Professor of Physics.
- E. W. Steel, C.E., Professor of Municipal and Sanitary Engineering.

THE EXTENSION SERVICE

THOMAS OTTO WALTON, LL.D., President. STAFF (As of January 1, 1930)

Administration:

O. B. MARTIN, Director.

H. H. WILLIAMSON, Vice-Director and State Agent.

MISS MILDRED HORTON, State Home Demonstration Agent.

MISS BESS EDWARDS, Assistant State Home Demonstration Agent.

W. H. DARROW, Editor Extension Publications.

D. L. WEDDINGTON, Chief Clerk.

H. E. RANDOLPH, Bookkeeper.

MRS. L. G. BRYAN, Librarian.

Farm Demonstration Work:

GEORGE E. ADAMS, District Agent.

GEORGE W. BARNES, Animal Husbandman.

M. R. BENTLY, Agricultural Engineer.

A. W. BUCHANAN, District Agent.

JOHN R. EDMONDS, District Agent.

STERLING C. EVANS, District Agent.

E. N. Holmgreen, Poultry Husbandman.

GEORGE W. JOHNSON, District Agent.

R. R. LANDCASTER, Sociologist Rural Organization.

E. A. MILLER, Agronomist.

G. W. ORMS, District Agent.

R. W. Persons, District Agent.

E. M. REGENBRECHT, Swine Husbandman.

R. R. REPPERT, Entomologist.

I. F. Rosborough, Horticulturist.

CHAS. W. SIMMONS, Forester.

A. L. SMITH, District Agent.

J. L. THOMAS, Dairyman.

T. B. Wood, District Agent.

Home Demonstration Work:

MRS. DORA R. BARNES, Specialist in Clothing.

MRS. MAGGIE W. BARRY, Sociologist Rural Women's Organization.

MISS LOLA BLAIR, Nutritionist.

MISS GERTRUDE L. BLODGETT, District Agent.

MISS JENNIE CAMP, District Agent.

MISS BENNIE CAMPBELL, District Agent.

Mrs. Bernice Clayton, Specialist in Home Improvement.

MISS MINNIE MAE GRUBBS, District Agent.

MISS SADIE HATFIELD, District Agent.
MISS MAMIE LEE HAYDEN, Specialist in Home Industries.
MISS KATE ADELE HILL, District Agent.
MISS SALLIE F. HILL, District Agent.
MISS MYRTLE MURRAY, District Agent.
MISS HELEN H. SWIFT, District Agent.

Negro Extension Work: '

C. H. Waller, State Leader. H. S. Estelle, District Agent. Mrs. M. E. V. Hunter, District Agent.

THE TEXAS FOREST SERVICE

THOMAS OTTO WALTON, LL.D., President.

E. O. SIECKE, B.A., B.S., Director.

R. F. BALTHIS, B.S.A., M.S., Assistant State Forester.

WM A. NORMAN, Chief Clerk.

Division of Forest Protection:

W. E. WHITE, B.S., Lufkin, Acting Chief.

I. C. Burroughs, M.S.F., Lufkin, Assistant Chief.

W. O. Durham, Lufkin, Inspector.

J. M. TURNER, Kirbyville, Inspector.

E. B. Long, Huntsville, Inspector.

B. D. HAWKINS, Woodville, Inspector.

Forty-seven patrolmen on duty seven months annually.

Fifty guards on annual retainer basis.

Division of Forest Management:

C. B. Webster, M.S.F., Chief.

V. V. Bean, Kirbyville, Superintendent, Kirbyville State Forest.

H. A. Budde, Conroe, Superintendent, Conroe State Forest.

Division of Farm Forestry:

*C. W. SIMMONS, M.F., Farm Forester.

^{*}In cooperation with the Extension Service.

ADMINISTRATION OF STATE LAWS

Fertilizer Law:

- G. S. Fraps, Ph.D., State Chemist.
- S. E. ASBURY, M.S., Assistant State Chemist.
- W. H. WALKER, Assistant Chemist.
- T. L. OGIER, B.S., Assistant Chemist.

Foulbrood Law:

- F. L. THOMAS, Ph.D., State Entomologist.
- C. E. HEARD, Chief Foulbrood Inspector.
- OTTO MACKENSEN, B.S., Foulbrood Inspector.

Forestry Law:

Administered by the Director of the Texas Forest Service.

Feed Control Law:

Administered by the Director of the Agricultural Experiment Station.

OTHER MEMBERS OF THE STAFF

S. G. BAILEY, Executive Secretary to the President, Secretary of the Board of Directors.

WALTER WIPPRECHT, B.S.A., Business Manager.

REV. M. L. CASHION, A.B., General Secretary, Y. M. C. A.

CURTIS VINSON, Publicity Secretary.

JAMES SULLIVAN, Business Manager of Athletics.

R. K. CHATHAM, Manager, Cadet Exchange Store.

G. A. Long, B.S., Auditor and Supervising Accountant, Branch Colleges.

J. E. WAGGONER, Research Agricultural Engineer.

MRS. W. H. THOMAS, Assistant Librarian.

MRS. C. P. SWEENY, B.A., Assistant Librarian.

Mrs. R. K. Fletcher, Cataloguer.

MRS. R. L. STEWART, Assistant Cataloguer.

V. B. Edge, Accountant.

C. C. EDGE, Cashier.

Louise Hillyer, B.A., Assistant Registrar.

W. A. ORTH, B. S. Assistant Supervisor of Building and College Utilities.

J. E. MITCHELL, B.S., Assistant Commandant.

J. P. A. Zeller, B.S., Research Associate.

Part II GENERAL INFORMATION

GENERAL INFORMATION

LOCATION

The College is situated at College Station, in the County of Brazos, and is 350 feet above the sea level. The Southern Pacific and the Missouri Pacific railroads run through the grounds, daily trains stopping at the stations, about 650 yards from the Academic Building. Students and visitors are advised to take trains arriving in day time.

College Station is a money order postoffice. Letters intended for persons at the College should not be directed to Bryan. At College Station there are telegraph and express offices.

HISTORICAL SKETCH

The Agricultural and Mechanical College of Texas, like the land grant institutions in other states of the Union, owes its origin to an act of Congress approved July 2, 1862. This act donated public lands to the several states and territories which might provide colleges for the benefit of agriculture and the mechanic arts, and directed the Secretary of the Interior to issue land scrip to the states in which there was not the requisite quantity of public land. The act further directed that the money derived from this source should constitute a perpetual fund, the principal of which should remain forever undiminished, and the interest of which should be inviolably appropriated by each state to the endownment, support and maintenance of at least one technological college, whose leading object should be, without excluding other scientific and classical studies, and including military tactics. to teach branches of learning pertaining to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life. It was further provided that the provisions of the act should be formally accepted by the state By joint resolution approved November 1, 1866, the Legislature of Texas accepted the provisions of the congressional legislation, and accordingly there was issued to Texas scrip for 180,000 acres of public land. which was sold for \$174,000. This amount was invested in Texas 7 per cent gold frontier bonds. At the time of the opening of the College there was an addition to the fund of accrued interest amounting to \$35,000, which was invested at 6 per cent. State bonds.

In an act approved April 17, 1871, the Legislature provided for the establishment of the Agricultural and Mechanical College. A commission to locate the College was created by the Legislature. After careful investigation, the Commission accepted the proposition of the citizens of Brazos county, and located the institution on a tract of 2416 acres of land in that county. Finally, the constitutional convention of 1876 constituted the College branch of the University of Texas, and in accordance with the terms of the federal legislation, designated it as an institution for instruction in agriculture and

the mechanc arts and the natural sciences connected therewith. The convention further provided that the Legislature should have the right to levy taxes for the maintenance and support of the Agricultural and Mechanical College.

The College was formally opened for the reception of students October 4, 1876. By means of financial aid voted by Congress and of appropriations made by the State Legislature, there has been developed a considerable foundation at the College for instruction, for investigation, and for extension.

GOVERNMENT

The government of the College is vested in a Board of nine directors, appointed by the Governor for terms of six years.

ADMINISTRATION

The immediate regulation and direction of the affairs of the College are delegated by the Board of Directors to the President and the Faculty.

ORGANIZATION

The College comprises the following divisions:

(1) Resident Teaching.

The School of Agriculture.

The School of Arts and Sciences.

The School of Engineering

The School of Veterinary Medicine.

The School of Vocational Teaching.

The Graduate School.

The Summer Session.

(2) Research.

The Agricultural Experiment Station.
The Engineering Experiment Station

(3) Extension.

The Extension Service.

(4) Forestry.

The Forest Service.

DEPARTMENTS

The College has now in operation forty-two departments of instruction, which are listed in Part IV under the heading "Courses of Instruction by Departments."

For administrative purposes the departments of instruction are assigned to the several schools as follows:

School of Agriculture.—Accounting and Statistics, Agricultural Economics, Agricultural Engineering, Agronomy, Animal Husbandry, Dairy Husbandry, Entomology, Farm and Ranch Management, Forestry, Genetics, Horticul-

ture, Landscape Art, Marketing and Finance, Poultry Husbandry, Rural Sociology.

School of Arts and Sciences.—Biology, Chemistry, Economics, English, Geology, History, Mathematics, Military Science and Tactics, Modern Languages, Physical Education, Physics.

School of Engineering.—Architecture, Chemical Engineering, Civil Engineering, Drawing, Electrical Engineering, Engineering Research, Mechanical Engineering, Municipal and Sanitary Engineering, Petroleum Engineering, Textile Engineering.

School of Veterinary Medicine.—Veterinary Anatomy, Veterinary Medicine and Surgery, Veterinary Pathology, Veterinary Physiology and Pharmacology.

School of Vocational Teaching.—Agricultural Education, Industrial Education, Rural Education.

DISCIPLINE

Discipline is administered by the Commandant. The regulations are designed with the view of securing consistent conformty to the following

General Requirement.—Every student is expected at all times to conform to the ordinary rules of gentlemanly conduct; to be truthful; to respect the rights of others; to be punctual and regular in attendance upon all required exercises; to apply himself diligently to his studies; and to have due regard for the preservation of College property.

Students are not allowed to leave the College grounds, either to visit neighboring towns or their homes, without first securing a furlough from the Commandant. Students who are deficient in two or more subjects and those who have accumulated an excess of demerits, temporarily lose all furlough privileges. When a student overstays a furlough his name may be dropped from the rolls.

Students are not permitted to keep motor vehicles or to make frequent use of motor vehicles kept by others.

For improper conduct, or failure to keep up with his studies, a student may at any time be required to withdraw from the College.

HAZING

Hazing is forbidden by the law of the State and by the College regulations. Every student, upon re-entering College after his first year, is required to sign a pledge that he will not engage in hazing while he is a student of the College. These pledges are to be witnessed by the parent or guardian of the student.

RESERVE OFFICERS' TRAINING CORPS

The act of Congress of June 3, 1916, known as the National Defence Act, provides for the establishment in civil educational institutions of units of the Reserve Officers' Training Corps (R. O. T. C.). The object of the Reserve Officers' Training Corps is best stated by the War Department in its Army Regulations No. 145-10 which governs the R. O. T. C. and is as follows:

Object.—The primary object of the Reserve Officers' Training Corps is to provide systematic military training at civil educational institutions for the purpose of qualifying selected students of such institutions for appointment as reserve officers in the military forces of the United States; the Reserve Officers' Training Corps is, therefore, an important agency in making effective the plan for national defence.

Although the primary object of the Reserve Officers' Training Corps is, as stated above, to produce trained officers for the Reserve Officers' Corps, it is recognized that the basic military training received by the students who for various reasons fail to complete their qualification course for the Officers' Reserve Corps is of considerable military value to the Government.

Educational Aim.—The Reserve Officers' Training Corps will add to the educational resources of schools and colleges and will give to the student a training which will be as valuable to him in his industrial or professional career as it would be should the Nation call upon him to act as a leader in its defensive forces.

MILITARY ORGANIZATION

All military instruction is under the immediate charge of the Professor of Military Science and Tactics. The officers of the Cadet Corps are selected from the Senior class, non-commissioned officers from the Junior and Sophomore classes.

The cadet corps consists of units of the Infantry, Field Artillery, Engineer Corps, Signal Corps and Cavalry branches of the service. The instruction is divided into basic and advanced courses. When entered upon, these courses become prerequisite to graduation and carry credits corresponding to other college work.

BASIC COURSE

All students of this institution who are citizens of the United States and who are physically fit are required to take this course unless excused by the Faculty for one of the following reasons:

- (a) A minimum of six months' service in the Army, Navy, or Marine Corps during the World War.
 - (b) Completion of the basic course in an advanced unit elsewhere.
- (c) The presentation of advanced credits in a considerable number of subjects.

With the exception of those who enter with junior or senior standing, tudents who are exempted from the basic course in Military Science must substitute for it other work amounting to six term hours.

Obligations.—Members of the basic course are not obligated further than to pursue the course diligently and properly care for the equipment and apparatus used in the instruction.

Benefits.—Each student will be furnished commutation of uniform, which at the present time amounts to \$7.15 per year, provided that amount has been expended for uniform at the College Exchange Store.

ADVANCED COURSE

In order to continue in the R. O. T. C. for the advanced course, i. e., during the Junior and Senior years, a student must be selected by the President of the institution and the Professor of Military Science and Tactics and he must obligate himself to attend the advanced course camp as prescribed by the Secretary of War. This course, including the prescribed camp training when entered upon, becomes a prerequisite to graduation.

Obligations.—The student obligates himself:

- (a) To pursue the course while at the College.
- (b) To attend the advanced course camp.
- (c) To take proper care of the equipment furnished him.
- (d) He is expected, though not bound, to accept a commission in the Officers' Reserve Corps, if offered one, unless prevented by unusual conditions.

Benefits.—(a) He will receive commutation of uniform totaling \$36.00 for the two years.

- (b) He will be furnished subsistence now allowed at 30 cents per day from the beginning of his Junior year to the end of his Senior year, excepting during camp when he is given rations in kind. Commutation of rations will not be paid for more than two years.
- (c) While at camp he will receive 70 cents per day, and will also receive transportation to and from camp.
- (d) After graduation he may be eligible for appointment as an officer in the Reserve Corps.
- (e) Honor graduates applying for appointment as second lieutenants, U. S. Army, are exempt from the mental part of the examination for appointment
- (f) Graduates may be given the opportunity to take competitive examinations for Regular Army Commission and may be granted exemptions in some subjects.

ELIGIBILITY FOR DIFFERENT BRANCHES OF THE SERVICE

1. Signal Corps—Only students taking a four-year course in Electrical Engineering are eligible. Students taking Electrical Engineering are especially urged to select the Signal Corps Unit. The instruction given in this Unit

is very closely allied to the course given by the College in Communication Engineering.

2. Only students enrolling in Architecture, Chemical Engineering, Civil Engineering, Electrical Engineering, (except those electing Signal Corps), and Mechanical Engineering may select the Engineer Corps.

Civil Engineering students are urged to select the Engineer Corps as the instruction given in that Unit is very closely allied to the instruction given in the Department of Civil Engineering.

3. All students taking military training who fall in one of the above classes but who do not elect the Signal Corps or the Engineer Corps and all others must select either the Infantry, the Field Artillery, or the Cavalry. Each of these units can accomodate approximately 250 first year students. No student weighing more than 180 pounds will be eligible for enrollment in the Cavalry. Within these limits a students will be given his choice of branches. However, a first and second choice should be made since often one unit is filled up before the others.

WITHDRAWAL FROM THE R. O. T. C.

For satisfactory reasons, upon recommendation of the Professor of Military Science and Tactics, the authorities of the institution may discharge members of the R. O. T. C. from such corps and from the necessity of completing the course in military training as a prerequisite to graduation except in cases involving withdrawal from the advanced course contract.

METHODS AND SCOPE OF INSTRUCTION

In all courses the fundamental idea is education in the applications of science to the affairs of life. With this idea in view, instruction is given in English, history, economics, mathematics, physics, chemistry and in other studies which lie at the foundation of a sound education and furnish the best preparation for the more technical studies of the several courses. Instruction is given by the use of text-books, by lectures and recitations, and by practice in the shop, field, laboratory and drawing room.

These practical exercises have a high educational value, and serve a useful purpose in fixing and rendering clear the ideas presented in the class room; they have also a practical value; for they are, in great measure, examples of just such problems as the graduate will encounter in the pursuit of his calling. For convenience of instruction, the classes are sub-divided into sections of suitable size. Unannounced written exercises and tests are given at the discretion of instructors. Written examinations are held at the end of each term.

ELECTIVE STUDIES

Elective studies are to be chosen by the student under the advice and direction of a member of the Faculty designated for the purpose, and subject to schedule. The choice of electives for any year must be made by April

15 of the preceding year. In case of failure to comply with this requirement, the student's advisor will be authorized to assign subjects for his electives. The Faculty may withdraw any elective course unless it is elected by at least five students.

ABSENCES

When a student is absent from recitation a considerable number of times, his absences are taken into account in making up his term grade, unless the work mised is satisfactorily made up before the time set for the examination.

PETITIONS FOR CHANGES IN STUDIES

Petitions for substitution, for change of course, or for other changes affecting the student's list of studies, must be submitted at least one week before the first day of the term.

REPORTS

In order to keep parents systematically informed concerning the progress of their sons, reports showing class standing are sent out at the end of each term. A preliminary report is sent out soon after December 1.

HEALTH

The College buildings are situated on the crest of a wide divide, with sufficient slope in every direction to insure proper drainage. The health of the student body, as shown by the daily records of the institution, is all that could be expected.

The hospital is a modern brick building, with steam heat, hot and cold shower baths, a capacity of 100 beds, and is equipped with operating room, x-ray and laboratory facilities. There is a staff of one full time physician, a technician and four nurses.

Sanitary work is carried on throughout the entire year by a full time man, with special reference to the eradication of mosquitoes, flies and other disease bearing agencies.

Drinking water is supplied from artesian wells. The milk supply for the College is obtained mainly from two College dairies which use tested cows, and the most modern methods of handling their dairy products. Bacterial examinations of both milk and water are made twice monthly, in order to detect any contamination or disease producing organisms which might be present.

The dormitories are inspected daily and are kept neat and clean throughout. The rooms are well lighted and comfortable.

Drill, field practice work, and outdoor athletic sports, furnish sufficient and varied exercises, and contribute very much to the maintenance of health and proper development.

ATHLETICS

The usual forms of athletic sports are encouraged. The College is a member of the Southwest Athletic Conference. The general rules of eligibility of this organization have been adopted by the Faculty. The Faculty Committee on Athletics is entrusted with the general oversight of athletics.

ATHLETIC TRIPS

For the purpose of attendance upon intercollegiate athletic contests, one trip by the student body will be authorized each year. Individual furloughs for that purpose are not granted to students in their first year of College attendance. Other students may be granted one such furlough each term provided they have in their last term of attendance passed in two-thirds of a normal term's work and have earned at least eight grade points, and provided further that they have the written consent of parent or guardian addressed to the Commandant.

BAND

An attractive feature is a regularly organized cadet band of about one hundred pieces. Under the direction of a leader employed by the College, it furnishes music for occasions of social and military importance, gives open-air concerts in season, leads the corps in marching to the mess hall, and plays at dress parade. Prospective students who play any band instrument should communicate with Mr. R. J. Dunn, Leader, with reference to membership in this organization.

RELIGIOUS EDUCATION

The Synod of Texas, Presbyterian Church, U. S., and the Huntsville District, Methodist Episcopal Church, South, have been authorized to offer courses in religious education open to students of Junior and Senior standing. These courses carry college credit.

Under this arrangement the following courses are offered: Religious Education 301. The Life of Christ and the Establishment of the Christian Church. (3-0). Rev. Norman Anderson. Religious Education 302. Growth of the Early Church and Development of Christian Doctrine After the Death of Christ. (3-0). Rev. Norman Anderson. Religious Education 303. Early Old Testament Life and Religion. (3-0). Rev. Jesse C. Thomson. Religious Education 304. Later Old Testament Life and Religion. (3-0). Rev. Jesse C. Thomson.

RELIGIOUS AND MORAL CULTURE

There is religious service in the chapel every Sunday for the Corps of Cadets and the residents of the campus. A Sunday School for Bible study, affords additional help in the way of ethical training. Every effort is made through lecture and personal example to develop and protect good morals in the young men attending the institution.

YOUNG MEN'S CHRISTIAN ASSOCIATION

The Young Men's Christian Association occupies a handsome building in which ample provision is made for the meetings of the Association, for Bible study, for social gatherings, and for games. In the basement there is a well appointed swimming pool.

THE LIBRARY

The Library contains approximately 30,000 volumes exclusive of the files of the Federal and State Agricultural Bulletins. While the Library has hitherto been modeled chiefly along reference lines a very good reading library has now been accumulated, and the careful selection of new books keeps the collection abreast of contemporary thought. With the exception of books of general reference, current periodicals, and books temporarily reserved by certain departments for required reading, all books are loaned for home use for a period of two weeks, with the privilege of renewal for the same length of time.

The Library receives about two hundred standard magazines, reviews, and technical journals besides the leading newspapers of the State, and some journals of national importance. Files are kept of some of the most important of these periodicals.

The Library is a United States designated depository and receives copies of all Federal publications. A card index is maintained of all publications of the United States Department of Agriculture and of the State Experiment Stations.

The Library is open on week days and holidays from 8 a. m. to 12 m. from 1 p. m. to 5 p. m., and from 7 p. m. to 10:00 p. m. The Sunday hours are from 1:30 p. m. to 4:30 p. m.

PUBLICATIONS

The following publications are issued by the College:

The Bulletin of the Agricultural and Mechanical College of Texas.— This is a monthly publication which includes the bulletins of the Texas Engineering Experiment Station, the Catalogue of the College, and the announcement of the Summer Session.

Bulletins of the Agricultural Experiment Station.—These bulletins are issued from time to time and contain reports of the results of the investigations of the Station.

Extension Service Bulletins.—The Extension Service publishes from time to time bulletins on subjects of popular interest in the fields of Agriculture and Home Economics.

In addition there are issued twice a month an Extension Service News Letter of seasonal advice, and numerous circulars from time to time covering

both matters of general agricultural interest and matters of unexpected development.

The Daily Bulletin.—This is a small sheet issued daily during the regular session, which carries official notices and other announcements.

The Texas Aggie.—The object of this publication is to keep the alumni informed as to the progress and activities of the College.

Student Publications.—The students of the College publish The Battalion, a weekly devoted to student activities and interests. The Senior Class publishes an annual, The Longhorn.

The Texas Aggie Countryman.—A monthly, published by students in the School of Agriculture.

EXPULSIONS

At a joint session of the Board of the Regents of the University of Texas and the Board of Directors of the Agricultural and Mechanical College held at College Station, Texas, from June 30 to July 1, 1896, the following order was made:

"It is ordered that hereafter, when any student shall be dismissed or expelled from either of the branches of the University of Texas on account of any immoral or other conduct which shall render him an unfit character to be matriculated in any such branches, it shall thereupon be the duty of the branch so expelling or dismissing such student to immediately notify the other branches of their action, whereupon such other branches shall refuse to receive such student for matriculation, or even for examination, should he apply therefor, until the branch which has so expelled or dismissed him has recinded or reconsidered its former action, and recommended such student for admission into such other bronch at which he may apply."

DEGREES OFFERED

On the basis of resident study the College offers the degrees of Bachelor of Arts, Bachelor of Science, Doctor of Veterinary Medicine, and Master of Science. In addition, the professional degrees in engineering, Agricultural Engineer, Chemical Engineer, Civil Engineer, Electrical Engineer, Mechanical Engineer, are offered on the basis of acceptable professional experience.

The requirements for each of these degrees are stated on subsequent pages.

GRADUATION

A degree corresponding to the course of study pursued will be conferred upon students who satisfactorily complete the requirements for graduation in one of the regular courses. One of the requirements for graduation is that a student must earn each year a specific number of grade points. To do this, it will be necessary for him to get a grade above C in approximately one-half of his studies. A diploma will be issued upon payment of \$7.50.

No degree will be conferred without a residence of at least one year in the College.

HONORS

At the end of each session, students who have failed in no subject and who have accumulated a total of at least sixty grade points during the session are designated as "Distinguished."

CADET EXCHANGE—BOOKS AND OTHER SUPPLIES

The College runs an exchange store for the purpose of supplying necessary articles to students at the lowest possible cost. The store carries in stock textbooks, stationery, drawing instruments, regulation articles of the uniform, toilet articles, etc. These goods are sold at prices just sufficient to cover cost and operating expenses.

STUDENT LABOR

The Legislature provides a fund by which a limited number of industrious young men may defray a part of their expenses by working for the College at such times as their regular duties will permit.

The rate of pay is made to depend upon the character of the work, and the manner in which it is performed. A student should not count upon earning more than \$40 a session.

CHANGES IN ANNOUNCEMENTS

The announcements made in this Catalogue are based upon present conditions, and are subject to change without notice

BUILDINGS

The physical plant of the College includes the buildings described below and a number of smaller structures, with a total valuation of approximately \$3,000,000.00.

The Academic Building, erected in 1914, contains the adminstrative offices of the College and provides class room, laboratory and office space for several College departments.

Bernard Sbisa Hall, erected in 1912, has a seating capacity of 2750 and is provided with a modern kitchen, cold-storage, etc. It is named in honor of Bernard Sbisa, formerly Supervisor of Subsistence.

Aggieland Inn, erected in 1925, designed as a hotel for the use of guests of the College and other vistiors, contains 36 sleeping rooms with baths, a large dining room, and a separate lunch room with kitchen and service equipment.

The Young Men's Christian Association Building, erected in 1914, contains offices, auditorium, lobby, social rooms, bed rooms, swimming pool, locker rooms and billiard parlor.

Guion Hall, erected in 1918, contains a modern college auditorium seating 960 on the main floor and 940 in the balcony. It is named in honor of Judge John I. Guion, a former president of the Board of Directors.

The Assembly Hall, erected in 1923, contains an auditorium seating two thousand persons, and an ample stage, dressing rooms, and other accessories.

The Hospital, erected in 1916, contains ample accommodations for the needs of the College, including modern equipment and conveniences.

The Exchange Store, erected in 1925, contains the retail supply store of the College, which occupies the entire ground floor. The second floor is occupied by a tailor shop, a photograph studio and the Western Union Telegraph office.

The Memorial Gymnasium, erected in 1924, is primarily designed to house basketball courts as well as offices for the athletic staff and coaches; it contains ample lockers, shower baths, and other facilities for all field sports; lecture rooms, retiring rooms, examination rooms and heating plant. The basketball section has a seating capacity of about three thousand.

The Stadium.—Erected in 1927-1929; a concrete stadium in Kyle Field, with a seating capacity of 33,000.

The Power Plant, erected in 1917, provides heat, light, and ice for College purposes.

The Military Science Building, erected in 1920, contains offices and class rooms for instruction in Military Science and Tactics.

The Physics Building, erected in 1920, contains offices, class rooms, lecture rooms and completely equipped laboratories.

The College Utilities Building, completed in 1922, contains the office, supply store and warehouse of the Department of Buildings and College Utilities, as well as the electrician's, painter's, and plumber's shops. A grocery store, the telephone office and the Fire Department are also housed in this building.

The Agricultural Building, erected in 1922, contains administrative offices for the School of Agriculture, and offices, class rooms, and laboratories for various agricultural departments.

The Agricultural Engineering Building, contains offices, class rooms and laboratories for the study of gas engines, tractors and farm machinery.

The Animal Husbandry Building, erected in 1916, contains a large display area surrounded by concrete seats seating 1600 spectators; also, offices and class rooms.

The Dairy Barns, erected in 1916 and 1926, are modern miking barns with capacity for 125 cows, feed rooms, milk rooms and offices.

The College Creamery, erected in 1923, contains the dairy laboratories and the creamery, which is equipped for the manufacture and distribution of ice cream, butter, cheese and market milk.

The Poultry Adminstartion Building, erected in 1925, contains egg candling rooms, baby chick brooding rooms, two class rooms for judging poultry.

The Science Building, erected in 1899, was used until 1922 as the Agricultural Building. It was remodeled in 1924 and is now used for Biology, Geology, and Entomology. The building contains offices, laboratories, and class rooms serving the needs of these departments.

The Civil Engineering Building, erected in 1909, contains offices, class rooms, drafting rooms and laboratories.

The Chemistry Building.—The first unit erected in 1929, contains laboratories for the department of Chemistry and Chemical Engineering.

The Electrical Engineering Building, erected in 1912, contains offices, class rooms, drafting rooms and laboratories.

The Mechanical Engineering Building, erected in 1919, contains offices class rooms, drafting rooms and laboratories.

The Mechanical Engineering Shops Building, erected in 1922, contains a comprehensive layout of the following shop units—cabinet making, pattern making, machine, foundry and mechanical laboratory.

The Textile Engineering Building, erected in 1904, contains offices, carding and spinning, warp-preparation machinery, weaving, cloth finishing machinery, designing and class rooms.

The Veterinary Hospital, erected in 1908, contains clinic rooms, stalls, dog room, feed rooms, medicine rooms, etc.

Francis Hall, erected in 1918, contains offices, class rooms and laboratories for the School of Veterinary Medicine. It is named in honor of Dean Mark Francis.

The Serum Laboratory, erected in 1917, provides for the manufacture of hog cholera serum and contains preparation, killing, bleeding, defibernating and laboratary rooms.

The Research Chemistry Building, erected in 1909, is occupied by the divisions of Chemistry, Entomology, Plant Pathology, and Physiology of the Texas Experiment Station.

The Research Administration Building, erected in 1918, contains administrative offices and laboratories for the research division of the Texas Experiment Station.

The Extension Service Building, erected in 1924, contains administrative offices, library and mailing rooms for the agricultural extension work.

DORMITORIES

All dormitories are screened, well ventilated and provided with sanitary conveniences.

Gathright Hall, erected in 1876; named in honor of Thomas L. Gathright, the first president of the College.

Pfeuffer Hall, erected in 1887; named in honor of George Pfeuffer, a former president of the Board of Directors.

Austin Hall, erected in 1888; named in honor of Stephen F. Austin.

Ross Hall, erected in 1892; named in honor of L. S. Ross, a former president of the College.

Foster Hall, erected in 1899; named in honor of L. L. Foster, a former president of the College.

Goodwin Hall, erected in 1908; named in honor of Hon. G. I. Goodwin,

Milner Hall, erected in 1911; named in honor of R. T. Milner, a former president of the College.

Legett Hall, erected in 1911; named in honor of K. K. Legett, a former president of the Board of Directors.

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Mitchell Hall, erected in 1912; named in honor of Harvey Mitchell.

Bizzell Hall, erected in 1912; named in honor of W. B. Bizzell, a former President of the College.

Alpha Hall, a frame building, converted into and used as a dormitory.

Beta Hall, a frame building, converted into and used as a dormitory.

The Cottage Group, erected in 1923; contains one hundred and sixty-four frame cottages housing two or three students each.

The Graduate Hall, erected in 1925, for the use of students of the Graduate School, as a dormitory and containing 32 sleeping and study rooms.

Law Hall, erected in 1928; named in honor of Francis Marion Law, President of the Board of Directors.

Puryear Hall, erected in 1928; named in honor of Charles Puryear, Dean of the College.

SEWERAGE SYSTEM

The College is provided with a system of sewers to which are connected the buildings of the campus. The outfall of the system is three-fourths of a mile from the nearest College building and nine-tenths of a mile from the nearest recitation hall or dormitory.

GROUNDS AND GARDEN

The garden, orchard, barnyards and campus are included in the inclosure east of the railroad stations. The campus consists of some twenty-five acres of lawn, shubbery and flowers.

FARM

The farm proper comprises about three hundred and fifty acres, and has the necesary barns, silos, and outhouses. The pastures contain about one thousand acres and furnish grazing for the College herds.

EQUIPMENT

ACCOUNTING AND STATISTICS

The department of Accounting and Statistics has laboratories equipped with calculators, adding machines, slide rules, and drawing tables.

AGRICULTURAL ENGINEERING

The agricultural engineering department has special laboratories for each of the following subjects: Farm machinery, farm motors, farm shops, automobiles, tractors, farm home utilities and concrete construction. In addition to this there is a drawing room for use of classes in farm buildings, irrigation and drainage. A hundred-acre farm is provided for practical work in the various subjects.

The farm machinery and tractor laboratories are housed in a building 160x100 feet, which is entirely taken up with up-to-date farm machinery and tractors, such as should be used on Texas farms. The machinery consists of different makes of plows, harrows, planters, cultivators, harvesters, threshers, seed cleaners and grinders.

The farm motor laboratory contains twenty-five farm gas engines, together with all apparatus necessary for testing same, and a supply of extra magnetos and carburetors.

The automobile and truck laboratory contains thirty-four six, eight and twelve cylinder motors, six automobiles, two trucks, a number of chassis, soldering and babbitting room, acetylene welding outfit, special ignition apparatus, storage battery charging and repairing outfit, and a number of surplus megnetos and carburetors.

The concrete construction laboratory is equipped with cement and aggregating testing apparatus, together with moulds and forms for making such simple structures as are found on the farm.

The farm home utilities laboratory contains a number of isolated electric light plants with their various accessories, home water supply systems and other equipment needed in the farm home.

The farm shop laboratory is well supplied with tools and equipment necessary for the teaching of this subject.

Equipment for special field work in terracing, drainage and irrigation has been provided.

AGRONOMY

The agronomy department has three well equipped laboratories. Two of these are used for instructional purposes in soils, and one for instructional purposes in farm crops.

The main soils laboratory is equipped with a centrifuge, shaking machine, Briggs filter, electric air pump, torsion balances, chemical balances, drying ovens, hot plates, compound microscopes, evaporators, soil capillary tubes.

soil samplers and all the smaller equipment and chemicals for a modern soils laboratory.

The soil fertility laboratory is equipped for specialized instruction in soils for the benefit of senior students who desire to specialize in this subject, and for graduate instruction in soils.

For soil survey instruction, the department has five plane tables equipped with alidades; also other miscellaneous equipment for this work.

The farm crops laboratory is equipped for general laboratory instruction in farm crops and also for specialized instruction in commercial grain grading. For the general laboratory study of farm crops the chief items of equipment are standard seed testers, dissecting sets, hand lenses, torsion balances, insect-proof and rat-proof grain bins. Type samples and specimens of all the important field and forage crops are kept in stock for study. For work in grain grading the chief items of equipment are two Brown-Duvel moisture testers, a wild-oat kicker, several complete sets of dockage sieves for determining dockage in the various kinds, classes and grades of grain for practice work in determining the grades.

The department has a modern greenhouse 67x25 feet, equipped for soil fertility, farm crops and plant-breeding work. For field study the department has 35 acres of land devoted to demonstration and experimental work in crops and soils. All the important types and varieties of fram crops adapted to this section are grown for field study.

The department maintains a rather complete technical library, in which will be found practically all the standard works and journals pertaining to agronomy, as well as the Experiment Station bulletins and reports.

ANIMAL HUSBANDRY

The Animal Husbandry Department is made up of five divisions and has rather complete equipment for instructional purposes in each as well as a large central judging arena and office building.

The division of Animal Nutrition maintains a laboratory for small animal work. These animals are used chiefly for deficiency disease, vitamin, mineral and unbalanced ration work. All the animals in the department are available for other work.

The beef cattle division is equipped with barns, sheds and land suitable for fitting show animals as well as caring for commercial cattle. Excellent herds of Hereford, Shorthorn and Aberdeen Angus cattle are maintained together with a few representatives of the Brahman and Red Polled breeds. The Grand Champion steer over all breeds at the American Royal Live Stock Exposition in 1927 was bred and fitted by the division.

The horse division is equipped with representatives of the following breeds: Percheron, American Saddle, Standard bred, Morgan and Thorough-bred. It is a matter of some interest that there are also a fertile mule and two of her offspring being maintained for the purpose of further testing their breeding ability.

A large flock of Rambouillet sheep together with smaller flocks of Delaines, Hampshires and Southdowns is maintained by the Sheep and Goat division. There is also a splendid flock of grade and purebred Angora goats. This division is assigned a complete unit of land divided into small pastures for rotation grazing work. The goats are run in 125 acres of brush land. Magnifying glasses, micrometer calipers and scouring equipment are available for work on wool and mohair.

The hog division is built up with a complete unit of equipment consisting of numerous small lots and pastures, a central feeding and storage barn, colony houses, feeding floors, etc. Breeding herds of Durocs, Poland Chinas, Hampshires and Tamworths are maintained.

Herds of cattle, horses, sheep and hogs are fitted and exhibited at both fall and spring live stock shows. Practically all the animals exhibited are bred by the department. These animals are used for instructional purposes in judging, feeding, fitting and exhibiting.

Commercial cattle, sheep and hogs are fed for instructional purposes. The number fed each year is varied according to the outlook for the particular class of livestock. An attempt is made to have representatives of the various market classes for this work.

In addition to the animals and equipment in the Animal Husbandry department, students specializing in this work also have available for use by arrangement, the swine herd of the Texas Experiment Station, and the wool and mohair equipment including the outstanding scouring plant used for shrinkage determinations.

ARCHITECTURE

The department comprises a large drafting room where students of the several classes work together, two small drafting rooms for special drafting classes, a well lighted large art room for cast drawings and art instruction, a library and lecture room. These rooms are furnished with adequate drafting tables and lockers, a large number of casts of architectural units and sculpture, a very complete collection of building materials and samples, a collection of library reference books and plates, a projection lantern and large screen wall for lectures with an adequate collection of lecture slides and plates upon architectural history and the history of art. The department subscribes to architectural magazines, among which are French and English standard publications. All this equipment is being increased as the needs of the department demand. Students of Architecture also have access to the equipment of the other departments whose work is associated with Architecture.

BIOLOGY

The department in its various branches is thoroughly equipped with apparatus for lecture room and for laboratory use. There are eight labora—

tories—one zoological, four botanical, one bacteriological and two research. All are amply provided with tables and other general apparatus.

For the use of elementary classes, the department is provided with 60 standard 2-power miscroscopes, with their usual accessories; charts and models of plants and animals; a fairly good collection of prepared specimens, and a herbarium of about 3000 mounted plants. For experimental work and demonstration in the class room, there is an excellent equipment of instruments of precision largely of French and German make. For use of more advanced workers there are 20 high-power miscroscopes of the best makes; 3 Leitz binocular dissecting miscroscopes; Reickert and Minot microtomes; imbedding ovens; a large and a small incubator; two steam sterlizers; analytical balances; and a full equipment of glassware, chemicals, stains and similar material.

The library contains about 300 books of reference and several thousand separates, bulletins and special papers. The leading journals of botany, zoology, bacteriology, and mycology are also available to the student.

CHEMISTRY AND CHEMICAL ENGINEERING

The department has the usual laboratory facilities, including a vacuum system for rapid filtration, a compressed-air system for use with blast lamps, and a ventilating system. The laboratories are supplied with hydrant, cistern and distilled water. Each student is assigned to a lock-desk containing the necessary equipment.

There is a separate room for technical analysis and one for advanced industrial chemistry. The former is provided with vacuum and compressed-air systems, colorimeters, calorimeters, refractometers, Levibond tinometer, combustion furnaces, gas buretts, and other special apparatus used in technical analysis. The laboratory has the usual equipment for work in physical chemistry.

The department has a good reference library.

CIVIL ENGINEERING

The equipment in the civil engineering department provides for adequate laboratory instruction and practice in surveying, hydraulics, testing of engineering material, and in office work such as drafting and designing.

For the work in surveying there is a good supply of transits, levels, planetables, compasses, and the smaller instruments used in such work.

The hydraulics laboratory contain water meters, meter testing apparatus, impulse wheels, weirs, weighing tanks, centrifugal pumps, hydraulic ram, current meters, and other instruments for hydraulic tests and measurements.

The laboratory for testing engineering material such as steel, wood, cement, contains one universal testing machine of 100,000 pounds capacity, one of 50,000 pounds and one 20,000 pounds. There is also one torsion machine having a capacity of 50,000 inch pounds. For testing cement and sand, there

are the usual briquette molds, tension machines, and other apparatus for making tests of fineness, soundness, and other properties of cement.

The road materials laboratory is well equipped with apparatus for testing both bituminous and non-bituminous highway materials. For non-bituminous materials there are a diamond core drill, diamond saw, Dorry hardness machine, Page impact machine, Deval abrasion machine and other similar equipment. For testing of bituminous materials and pavement samples the department is especially well equipped, having practically all of the standard apparatus for such tests.

In addition to laboratory and drafting room facilities there is a well furnished library of books and periodicals on civil engineering and related subjects. This library is available for the use of students as well as instructors.

DAIRY HUSBANDRY

The department controls a complete dairy farm 593 acres of land, the operations of which are devoted to the growing of feed crops, and the preparation and maintenance of permanent pastures for the dairy herd. Two hundred and twenty-five acres are under cultivation, the remainder being devoted to pasturage.

Modern machinery is used by this department, including breaking plows, cultivators, and harvesting machinery.

The herd consists of 222 animals, including cows, calves and bulls, of which there are 110 pure-bred Jerseys, 90 pure-bred Holsteins, 11 pure-bred Ayrshires, and 11 pure-bred Guernseys. The milking herd usually includes about 90 cows, which are housed in a modern dairy barn constructed of tile and concrete, and furnished completely with modern barn equipment.

The dairy manufacturing equipment is housed in a tile-stucco building. Equipment and machinery necessary for the manufacture of butter and ice cream are available, including a modern six-ton York refrigerating unit; glass lined mixing vat; motor drive homogenizer; motor drive horizontal brine freezer; power churn, and sterilizer.

DRAWING

This department is located on the fourth floor of the Academic Building. It occupies three large drawing rooms, three recitation rooms, offices, etc., all of which are especially well ventilated, heated and lighted.

The department is fully equipped with necessary furniture, models, etc.

For illustrative purposes there is in use in the department all modern apparatus for the draftsman, such as electric blue printing machine, universal drafting machine, pantograph, ellipsograph, etc.

A reference library of the best works on drafting, illustrating, etc., is kept in the department for the convenience and use of students.

ELECTRICAL ENGINEERING

The electrical engineering laboratories comprise three electric machinery laboratories, a measurements laboratory, a standardizing laboratory, a photometric laboratory, a storage battery room, a storage battery repair room, a communication laboratory for the telephone, telegraph and radio work, a work shop, two rooms for building and repairing electrical machinery, and an instrument room.

The electrical laboratories are supplied with 2300 volt, three phase, 60 cycle power from the College power station. Alternating current at 110 and 220 volts is obtained through transformers. Direct current is supplied by two motor-generator sets located in the machinery laboratory. The small set consists of a 2300-volt, 50-horse power induction motor direct connected to a 35 kw., 125-volt, compound wound direct current generator. The larger set consists of a 2300-volt, 100-horse power synchronous motor direct connected to two 35 kw., 250-volt Dobrowolsky, three-wire direct current generators, so arranged that they may be operated independently or connected in series for obtaining 500 volts. A three panel switchboard controls the above equipment and the feeders to the 6-panel switchboard used for the distribution of power within the machinery laboratories and to the switchboard located in the other laboratories. Throughout all laboratories the distribution of power is controlled by a plug-and-socket system thus securing absolute flexibility.

The equipment of the machine laboratories is as follows: Two street car motors mounted on a single shaft with prony brake attachment, and equipped with both a hand controller and a master controller operating an electropneumatic system, twenty-eight direct-current machines ranging in size from 1½ horse-power to 20 kilowatts and provided with various means of speed and voltage control; eight alternators ranging from 2½ K. V. A. to 30 K. V. A.; three convertors including one of the split pole type; a number of induction motors including practically all standard types; a number of constant voltage transformers; a constant current transformer; induction regulators; and several types of automatic motor starters.

The laboratories are provided with a total of more than 200 voltmeters, ammeters, wattmeters, and meters for measuring other electrical quantities.

The high tension laboratory contains a 100 K. V. A. 200,000-volt transformer, with regulator for varying the voltage, a 125 cm. spark gap, a crest voltmeter with a number of auxiliary devices.

The electrical measurements laboratory has a full equipment of the apparatus needed for the study of the fundamentals of electrical measurements. The equipment includes the following: Various types of Wheatstone bridges; a Kelvin double bridge; a Cary-Foster bridge; magnetometers, dynamometers; portable, semi-portable and wall galvanometers; astatic galvanometers; universal tangent galvanometer; calorimeters; sechometer; influence machine; electrostatic apparatus; spark coils; apparatus for testing magnetic qualities of iron and steel; standard resistances; standard cells, physical balances, uni-

versal shunts; resistance boxes; variable inductances and capacities; portable storage batteries, and various minor equipment.

The standardizing room is equipped with a Leeds and Northrup potentiometer and its accessories; Weston standard laboratory voltmeter, and millivoltmeter with shunts; a Kelvin balance; Westinghouse precision ammeter, voltmeter, and wattmeter, and standard resistances and standard cells. In this room there are also a three-vibrator oscillagraph with photographic attachment, and a motor generator set consisting of direct current motor direct connection to set of four alternators giving a fundamental wave, and the third, fifth and seventh harmonies, so arranged that any desired phase relation may be obtained between each of the harmonies and the fundamental.

The photometric laboratory has several well arranged dark rooms suitable for various kinds of photometric work. They are equipped with Lummer-Brodhum and flicker photometers which can be used to measure the distribution of light from any angle, an Ulbricht sphere, a Taylor reflectometer, and an asortment of portable photometers making possible complete tests of illuminants and illuminations.

The equipment of the comunication laboratories consisting of both manual and automatic telephone switchboards and accessories has been augmented by the admission of a variable oscillator, a 250-mile artificial transmission line and an assortment of delicate measuring instruments, the gift of the Bell Telephone System. The laboratories contain a complete assortment of radio telephone and telegraph equipment including wave meter, decremeters and various types and sizes of vacuum tubes. The College operates a 500 watt broadcasting station from which regular programs are sent out. This station is available for use of instruction also.

The College maintains a complete power plant to furnish power, lights, water, heat, ice and refrigeration, and both this and the motors which operate the machinery of the various departments are available for study and test by the student.

Students are encouraged to read the literature pertaining to their professions, and the latest books on electrical engineering and a selected list of the best technical magazines are kept in the department library and are available for reading and reference work.

ENTOMOLOGY

The department of entomology maintains two laboratories, one of which is equipped with dissecting and compound microscopes, and the other with compound microscopes. In addition, the department maintains an insecticide laboratory equipped with the more important insecticides and spray machines, powder guns, etc.

The department has several insect models illustrating the anatomy of the more common insects, together with a series of charts illustrating the life histories of insects. This equipment is supplemented by a baloptican and

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several hundred lantern slides illustrating the anatomy and life history of the most important insects.

The equipment in apiculture consists of a bee house and workshop containing honey extractors, wax presses, wiring device and different makes of beehives. In addition to this the department has a small apiary, where the student can familiarize himself with the practical operation of bee-keeping.

For life history work, the department has an insectory equipped with breeding cages, a hydrothemograph, and all necessary equipment for working out the life histories of insects.

A library is maintained which comprises two hundred and eighty volumes of technical books on entomology. This library contains full sets of the Transactions of the American Entomology Society, Genera Insectorum, Journal of the New York Entomological Society, Entomological News, The Canadian Entomologist and Psyche.

In addition, a reading table is maintained, on which are kept the recent publications on economic entomology and apiculture.

GENETICS

The genetics department has a student laboratory equipped with tables and other general apparatus. A number of different strains of drosophila are kept for laboratory use. These are grown in a constant-temperature refrigerator which provides optimum conditions for their culture. This laboratory is also equipped with calculating machines and a Leitz compound microscope.

The genetics research laboratory consists of a stucco building 30x50, equipped with a large number of individual mating cages for pigeons and guinea pigs, a feed room, and an office. There are fifteen outside mating pens for use in studies in poultry genetics. Complete stock of pigeons, guinea pigs and poultry are maintained. Investigations are being carried on with these at all times, thus giving the under-graduate and graduate student an opportunity for close acquaintance with research work in experimental breeding.

The department has a reference library consisting of books, periodicals and bulletins.

GEOLOGY

The department of geology occupies rooms on the first floor of Science Hall. These include a lecture room, laboratories for general geology, mineralogy, paleontology, petrology, and offices of the department. Equipment includes geologic and crystallographic models, maps, goniometers, six petrographic microscopes, plane tables and other surveying instruments and an automobile for field trips.

The collection of rock, mineral, and fossil specimens donated by Mr. F. W. Steber of Dallas forms the nucleus of departmental collections. These

now include approximately 5000 fossil specimens, 1500 mineral specimens and 600 rock specimens. Library facilities include the Watson Library of 1500 bound volumes and 3000 pamphlets, and approximately 1500 additional volumes in the college library.

HORTICULTURE

The class-room work in horticulture is considerably strengthened by practical exercises in orchards, gardens, and laboratories.

There are now growing on the horticultural grounds consisting of 60 acres, orchards containing the standard varieties of peaches, pears, plums, pecans, persimmons, grapes, figs, blackberries and dewberries.

In addition to the commercial gardens, where vegetables are grown for use at the Mess Hall, a plot of ground has been set aside on which a great variety of vegetables is grown under the direct supervision of the student.

There is maintained in co-operation with the American Rose Society, a rose garden, which, when completed, will contain about eight hundred varieties. There is also to be found on the horticultural grounds a rather complete collection of ornamentals.

The department has ample equipment for the control of insects and diseases, including various types of sprayers.

The collection of lantern slides owned by the department which are used for illustrating different subjects, including those in vegetable gardening and nut culture, is growing rapidly, there being now over twelve hundred.

For work in plant propagation, in forcing early vegetables and in plant breeding, and in floriculture, the students have the use of one of the finest greenhouses to be found in the Southwest. In addition, the department has an excellent greenhouse on the horticultural farm and modern laboratories and cold storage facilities in the agricultural building.

MECHANICAL ENGINEERING

In the wood-working shop are excellent work benches of special design, equipment with quick-acting vices, and the tools ordinarily found in a carpenter's kit, each student having a set of edged tools assigned to him alone. In the mill room are a number of up-to-date separately motor driven wood working machines such as jointer, surfacer, mortiser, band saw, rip saw, cross cutting saw, with dado, etc. A full outfit for glueing, veneering and wood finishing is also valuable.

The pattern shop equipment consists of pattern maker's benches, equipped with vise, drawers, lockers and an outfit of hand tools; and in addition there is an assortment of special tools in the tool room, as well as a number of small turning lathes, pattern maker's lathes, circular saw, jointers, grinder, sander, wood trimmers, etc.

The foundry is equipped with bench molding stands, with all necessary

shovels, riddles and small tools, a number of floor molding kits, flasks of all kinds, a core machine, a core oven, a squeezer, a Combs gyratory riddle, a brass furnace with all necessary accessories, a No. 1 Whiting Cupola with electric-driven blower for blast, and a Clark blast meter for measuring the amount of air supplied. The other accessories for the cupola, a tumbling barrel and a grinder are also included.

In the machine shop the equipment is very satisfactory. It consists of a full line of lathes, grinders, milling machines, automatic machines, planers, shapers, etc., many having individual motor drives.

The tool room contains a large assortment of taps, dies, drills, reamers, chucks and other machine accessories, as well as the small tools for laying out work accurately and properly measuring the same; calipers, micrometers, steel scales, punches, surface plates. Electric portable drills and grinders are also included in the equipment.

The enginering laboratory contains steam engines, gasoline engines, steam turbines, steam and power pumps, fans, water motors, a hot-air engine, condensers, air pumps, injectors, and a full line of indicators, gauges, pyrometers, thermometers, tachometers, speed indicators, weirs, pitot tubes, prony brakes, platform scales, etc., for conducting tests, as outlined in course 403, 404. A recent addition to the equipment is a testing rack for internal combustion motors; a locomotive air compresser; also a semi-Diesel oil engine made available through courtesy of the San Antonio Machine and Supply Company. A triple expansion engine with condenser, cooling tower, and all necessary auxiliaries has been installed. Through the cooperation of the General Electric Company an electric dynamometer has been installed. This is of such design as to be available for testing the performance of internal combustion engines, pumps, fans, electric motors, etc.

Another addition to the equipment of this department is a railway locomotive in full running condition, which has been supplied through the courtesy of the Missouri Pacific Lines.

In addition, the laboratory has the use of all apparatus of the power plant, consisting of simple and compound engines, steam turbines, condensers, pumps of several different kinds; also the boilers of well known makes and different types with automatic stokers. The equipment of the steam plant makes available larger engines, condensers, air compressors, air lift pumps, etc., for instruction and test purposes.

For the class-room instruction there are numerous full-size wooden and metal models of different kinds of engines, also sections of actual air-brake equipment and other appliances and fittings for railway and power plant equipment.

Besides the above mentioned equipment, might be mentioned the fact that manufacturers have in some instances deposited or donated for the use of the department a number of standard appliances, which prove valuable to the student.

MILITARY SCIENCE AND TACTICS

The department has full equipment for Infantry, Field Artillery, Signal Corps, Cavalry, and Engineer Corps as follows:

Infantry.—The Infantry is equipped with rifles, pistols, machine guns, automatic rifles, one-pounder guns, trench mortars, hand and rifle grenades, gallery rifles, infantry packs, ammunition for all arms, and field engineering tools. Besides these arms and equipment, the infantry has facilities at hand to use all of its equipment, including an indoor gallery range and a 1000-yard outdoor rifle range.

Field Artillery.—One 75 mm. battery complete, consisting of four 75 mm. guns, 8 caissons, 10 limbers, 2 battery and store wagons, 2 store limbers, battery reel cart, 68 horses, harness and saddle equipment for all horses, and all accessories, spare parts and tools; also included in the equipment are one 155 mm. Howitzer with limber and cassion, 1 five-ton caterpillar tractor; 1 F. W. D. ammunition truck, one White reconnaisance car. The artillery equipment also includes four Browning machine guns and a complete supply of fire control instruments, such as B. C. telescope, range finders, aiming circles, trench periscopes, prismatic compasses, sitogoniometers, and an assorted supply of smaller instruments, including drawing instruments, slide rules for field artillery computations, compasses, stop watches and telephone equipment.

Cavalry.—Sixty sets of cavalry equipment consisting of saddle, saddle blanket, bridle, saddle bags, rifle scabbard, lariats, picket pins, sabres, sabre scabbard, feed bags, grain bags, halter and halter tie rope. Two pack outfits complete, consisting of aparejo, corona, manta, lair sling and lash ropes; 60 cavalry horses; 1 wagon escort; harness.

Engineer Unit.—Pioneer engineer, photographic, demolition, map reproduction and sketching equipment, surveying instruments and carpenter and bridging tools.

Signal Corps.—Radio telephones; radio telegraph; military telephones and switchboards; automatic telephones and switchboards; wavemeters; batteries; buzzer instruction sets; service buzzers; buzzerphones; amplifiers; crystal receivers; spark transmitters; commercial telegraph sets; repeaters; tools, equipment and supplies necessary for installation and repair of communications equipment; literature and books for conducting technical courses in Signal Corps work.

PETROLEUM ENGINEERING

The laboratory of the department of Petroleum Engineering is equipped with samples of appliances and machines used in the petroleum industry.

Through the cooperation of a number of the leading producing companies and the manufacturerers of oil well machinery, this laboratory is rapidly being built up to include all types of equipment with which the student will come in contact after he enters the field of petroleum engineering

PHYSICS

The main lecture room of the Physics Building has a seating capacity of 250. It is equipped with amphitheater seats, motor-driven blinds for darkening the room, and with a large lecture table provided with gas, water, and an electric switchboard. The blinds and lights of the room are controlled from the switchboard.

A smaller lecture room, having a seating capacity of 50, contains a lecture table equipped with water, gas and a switchboard. Both of these lecture rooms are in direct communication with the preparation room.

The apparatus room of the first floor is equipped with a five-panel switchboard supplied with 110 and 220-volt, alternating current from the College power system, and with 110 and 220-volt direct current from a 20 kw. motor generator in the basement. By a plug-and-socket system either alternating or direct current can be distributed by individual lines to any part of the laboratory and to the lecture rooms.

One of the two laboratories of the first floor contains sixteen tables, each supplied with water, sink, and gas. It contains also tables for sensitive balances. The other laboratory, designed for electrical measurements, is provided with numerous well distributed outlets for separate electrical lines to the switchboard.

The shop, also on the first floor, is equipped with a motor-driven planer, lathe, rip saw and drill press; stock material and the usual metal and wood working tools.

The basement consists of one general laboratory, ten smaller laboratories for special work, and equipment room for the motor-generator, a storage battery room, a general store-room and a store-room for chemicals.

In the two larger laboratories are fourteen tables mounted on masonry piers which are free from the floor. These tables may be used either for general practice or for special work. Each table is supplied with gas and a separate electrical line to the switchboard.

Two of the smaller laboratories are black and suitable for photometric work. Another 40x20 feet is suitable for general experiments in light.

POULTRY HUSBANDRY

The Poultry Husbandry department operates a farm of thirty-nine acres with a total of sixty-one buildings. Thirty-one of these buildings are used to house the Texas National Egg Laying Contest composed of sixty pens with a total of seven hundred and eighty bred for high production hens. Ten of the houses are used for research work in feeding and breeding, while the remaining twenty houses are used to house one thousand high producing hens of the three most popular breeds, Rhode Island Reds, Plymouth Rocks and White Leghorns. The department also owns and operates two mammoth incubators with several smaller ones. Every phase of poultry raising is actually carried out on the farm by the students.

RURAL SOCIOLOGY

The department has an extensive library of State and Federal reports, and bulletins, together with clipping files, and books giving accounts of various forms of social work. It also has a number of maps and charts illustrating in a graphic manner many questions connected with community organizations and development. Apparatus for working out the laboratory problems peculiar to this field are available.

Connections have been established by the department for giving the student practical contact with local and State social problems, especially in the field of community organizations.

TEXTILE ENGINEERING

For yarn manufacture there is ample equipment necessary to produce carded or combed yarns, and with it machines for making chain or sized warps of either single or double yarns.

In the weaving room there are fourteen Northrop looms, and one Stafford loom, which are entirely automatic, and two plain looms for ordinary plain goods. There are two dobby looms, with box motion, to insert four colors for filling; one dobby loom for terry towels; one dress goods loom, with dobby and boxes for making seven-colored pattern; one loom for weaving narrow Jacquard dress goods, one Jacquard loom for weaving table covers and one for fancy towels.

The finishing machinery is for ordinary ducks, sheetings or drills, and consists of an inspecting machine, railway sewing and rolling machine, folder and bale press.

VETERINARY ANATOMY

The laboratory of anatomy has a number of mounted and unmounted skeletons of the domestic animals, and about twelve sets of disarticulated skulls. There are a number of preparations of muscles and ligaments, both dry and wet specimens. There are also preparations of the brain, eye, feet and other organs preserved in formaline and a number of charts and papier-mache models. There are the usual microscopes, microtomes, embedding apparatus, stains, reagents, and apparatus used in histology and embryology, and five sets of sections showing the embryology of the chick and the pig.

VETERINARY MEDICINE AND SURGERY

The class-room work, practice and clinics, are largely conducted at the Veterinary Hospital, which has a large operating room equipped with operating tables for large and small animals, stocks, casting harness, and instruments for operations and treatment of diseases of live stock. A dispensary which is stocked with necessary drugs and biologics is maintained. Facilities for keeping records of each case are provided; and complete records are stored in fireproof vaults for future reference. There are wards for sick dogs and

other small animals. Provision is made for isolation of animals with infectious diseases and transmissible skin diseases.

A large barn, 50x120 feet, is used for keeping horses, mules, cattle, sheep and goats which are being treated. There are also several other barns and small houses used for isolating animals. After animals are in condition that they do not need daily attention, they are turned into a large pasture to permit occasional treatment and observation until complete recovery takes place.

The serum laboratory offers an unusual opportunity for students to become familiar with the preparation of hog cholera serum, antogenous bacterins and other biologics.

Ambulance service for large and small animals is available; also automobiles for transporting students to see cases that cannot be brought to the College.

There is a post-mortem building with skylights, sanitary floor, hoisting apparatus and other equipment where post-mortem examination is made on all animals that die in the clinic and many dead animals from Bryan and the surrounding country; also a slaughter house with sanitary floor, overhead tracks, hoisting apparatus, scalding vat, meat blocks and cold storage for teaching the slaughtering, cutting, curing and inspection of meat and meat products.

VETERINARY PATHOLOGY

The department is located on the third floor of Francis Hall and has the usual equipment found in laboratories where pathology, bacteriology, and allied subjects are taught.

In connection with the department a pathological museum containing preserved specimens of various disease processes and parasites is maintained.

VETERINARY PHYSIOLOGY AND PHARMACOLOGY

The Physiology laboratory is well equipped with appartus, reagents, chemicals, etc., for the proper instruction in pathological chemistry, experimental physiology, urine, blood, milk, and gastric analysis, and for producing graphic record of the physiological processes of the body.

The pharmacy and experimental pharmacology laboratory is equipped with the apparatus, reagents, chemicals, etc., essential for a thorough training in the preparation of all the official and the more common proprietary medicinal preparations, and for experimental work in the determination of the action of drugs on the living body. It also includes the necessary apparatus for the examination of arsenic, lime-sulphur, and other dips which are commonly used.

The toxicology department is equipped with all the apparatus, drugs, chemicals, experimental animals, etc., essential to the proper study of the action of inorganic and organic poisons, and poisonous plants on the living animal, their action, their detection and the treatment for them.

The apparatus consists of the necessary glassware, mortars, pill tiles, hot water funnels, torsion and laboratory balances, kymographs, pneumographs, Plethysmograph tubes, egographs, tambours, manometers, muscle levers, cardiac levers, saccharometers, urinometers, ureometers, indiconometers, hyrdometers, electric centrifuge, electric water bath (for digestion experiments), respiratory and circulatory schemes, microscopes, spectroscope, drug mill, steam mill, suppository machine and mold, tablet machine, triturate tablet molds and all other necessary equipment. The department also cultivates a garden of medical and poisonous plants, which are used in the courses of instruction.

THE SCHOOL OF VOCATIONAL TEACHING

The School of Vocational Teaching occupies six rooms on the third floor of the Academic Building. The classroom for agricultural students is equipped with movable tables and chairs, slide and film projectors, etc., to serve as an example of a good type for high school departments of agriculture. The Visual Instruction laboratory is equipped with mimeograph, mimeoscope, charting board, photograph reducing and enlarging apparatus, motion picture rewind, projection and motion picture machines and cabinets for lantern slides.

The A. and M. Consolidated School, located on the College Campus, affords excellent opportunity for observation and directed teaching. This project in school consolidation and transportation of pupils at public expense, provides exceptional facilities for the study of current problems in school administration and management.

Part III

ADMISSION, EXPENSES

ADMISSION

All communications in regard to admission should be addressed to the Registrar, Agricultural and Mechanical College of Texas, College Station, Texas.

GENERAL REQUIREMENTS

The candidate for admission to the College must be of good moral character, at least sixteen years of age, and physically able to perform the duties of a cadet. He must be free from contagious or infectious diseases and must present a satisfactory certificate of recent vaccination against small pox and typhoid-paratyphoid fever, or be vaccinated against both upon entering the College.

SCHOLARSHIP REQUIREMENTS FOR ADMISSION

1. Admission by Certificate.—Graduation from an accredited secondary school, with a minimum of fifteen approved units, is required for admission by certificate. From seven to nine of these units are prescribed, depending on the course of study for which the student enrolls; the distribution of units is indicated in List A, below.

The units in social science, natural science, and in elective subjects are to be chosen from List B.

No credit is granted for work done in an accredited school unless the candidate is a graduate of the school.

It is of the highest importance that credentals be submitted in advance. If this cannot be done, the candidate should bring them at the opening of the session. Without the credentials he cannot be admitted, and valuable time will be lost if he has to send for them after reaching College Station.

Blanks for submitting credentials may be obtained upon application to the Registrar.

Subjects and Units Accepted for Admission

LIST A. DISTRIBUTION OF UNITS

	1	Number	ofl	Units 1	Require	d in—	
SCHOOL OF—	English	Algebra	Plane	Social	Natural	Elective	Total
Agriculture:						Subjects	
All curricula except Agr	i-						
cultural Engineering	3	1	1	1	1	8	15
Agricultural Engineering	g 3	2	1	1	1	7	15
Arts and Sciences:	3	2	1	2	1	6	15
Engineering:	3	2	1	2	1	6	15
(Including Architecture)							
Veterinary Medicine:	3	1	1	1	1	8	15
Vocational Teaching:	3	1	1	1	1	8	15

LIST B. ELECTIVE UNITS

English (4th unit)	Natural Sciences: Biology
•	Pub. Speaking1 unit

NOTES

- (a) Students who plan to enter the School of Engineering are urged to complete Physics and Solid Geometry as a part of their course of study in high school.
- (b) An maximum of 4 units in vocational subjects will be accepted for admission to the School of Arts and Sciences, and the School of Engineering; for admission to the School of Agriculture, the School of Veterinary Medicine, and the School of Vocational Teaching, a maximum of 5 units in vocational subjects will be accepted.
- 2. Admission by Examination.—Any or all of the scholarship requirements for admission may be met by passing the entrance examinations.

The spring entrance examinations are held throughout the State in May, under the supervision of the State Department of Education. These examinations are conducted in each county by responsible school officials and the papers are sent to the State Department of Education to be graded. On the basis of these papers uniform entrance certificates are issued, which will be accepted for admission to any Texas college, provided the subjects certified cover the entrance requirements of the college to which application for admission is made. Under this system students are allowed to take examinations at the close of each high school year, in the subjects studied during that year, so that at the end of three or four years of high school work they should

have from ten to fifteen entrance credits. This method of admission should appeal particularly to students from non-accredited high schools. Further information regarding the spring entrance examinations may be obtained from the State Department of Education, Austin.

Fall entrance examinations will be held at the College September 11, 12, and 13, 1930, under the supervision of the College authorities, and will cover all the subjects required or accepted for admission as outlined above.

SCHEDULE OF FALL ENTRANCE EXAMINATIONS

Note: Acceptable laboratory note books must be presented in connection with the examinations in science subjects.

Hour	September 11	September 12	September 13
8-10	Algebra, Agriculture, Sociology	Plane Geometry, Physiogra	Solid Geometry, Trigonom- etry, Drawing
10-12	Botany, English, Manual Training	Physics, Latin, Stenography and Typewriting	American History, Bookkeep- ing, Com. Arith.
1-3	Ancient Hist., Physiology	Modern History, Biology, Psychology	English History, General Science, Com. Law
8-5	Civics, Chemistry, Public Speaking	French, Adv. Arithmetic, Economics	German, Spanish, Zoology, Com. Geog.

- 3. Admission by Individual Approval.—A candidate over twenty-one years of age, who has not recently attended school and who cannot satisfy the entrance requirements in full, may be admitted to the Freshman class without examination, subjects to the following requirements:
 - (1) He must make application on the official entrance blank.
- (2) He must furnish evidence that his preparation is substantially equivalent to that required of other applicants, and that he possesses the ability and seriousness of purpose necessary to pursue his studies with profit to himself and to the satisfaction of the College.
- (3) He must show, by a test in composition, that he has an adequate command of the English language.

The candidate should forward his credentials to the Registrar in advance of his coming, but in no case will he be admitted without a personal interview.

A student admitted by individual approval will not be considered a candidate for a degree until he has satisfied the entrance requirements in full.

ADMISSION TO ADVANCED STANDING

Admission to advanced standing may be granted under the following conditions.

- (1) The candidate must present a letter of honorable dismissal from the institution last attended.
- (2) An official transcript of the record of all previous high school and college work must be submitted, together with a marked catalogue showing the college courses referred to in the transcript.

On the basis of these credentials credit will be given for work completed with a grade of C or better, so far as the work is equivalent in character and extent to subjects included in the course of study to be pursued here. Credits given by transfer are provisional and may be cancelled at any time if the student's work here is unsatisfactory.

It is essential that all credentials be forwarded to the Registrar in advance.

College credit for work done in secondary schools will be given only on the basis of examinations at the College, and shall not include work presented in satisfaction of the entrance requirements.

ADMISSION OF SPECIAL STUDENTS

A limited number of young men over twenty-one years of age may be admitted to the College as special students, not candidates for a degree, subject to the following regulations:

- 1. The candidate must show good reason for not taking a regular course, and must submit satisfactory evidence that he is prepared to profit by the special studies he wishes to pursue.
- 2. Record of his preparatory work must be submitted on the official entrance blank, and must be accompanied by a statement showing (a) his experience; (b) a plan of study, enumerating the courses he desires to pursue; and (c) the purpose or end expected to be accomplished by his study.
- 3. In order to be admitted to the work of any department a special student must secure the consent of the head of the department; and his course of study, as a whole, must be approved by the Dean concerned.

Special students are subject to the rules and regulations governing regular students, and are required to take the prescribed military training.

A special student who may desire to become a candidate for a degree must satisfy the entrance requirements and obtain the consent of the Dean concerned.

ADMISSION TO THE NON-COLLEGIATE TWO-YEAR COURSE IN AGRICULTURE

A candidate for admission to the non-collegiate Two-year Course in Agriculture must be eighteen years of age, except in the case of a graduate of a non-accredited school, who may be admitted at the age of sixteen years. He must satisfy the general requirements in regard to health, character, and vaccination, and must present a certificate showing the satisfactory completion of the tenth grade of a classified school, or its equivalent.

The two-year Course in Agriculture is not open to candidates who are qualified to enter a four-year course.

ADMISSION AT THE BEGINNING OF THE SECOND TERM

For the benefit of students admitted at the beginning of the second term, certain first term subjects are repeated. By completing these subjects, and

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by attending the summer session for twelve weeks, the student should be able to graduate with his class. For those who are unable to attend the summer session, it is not advisable to enter at the beginning of the second term.

REGISTRATION

Upon arrival at the College young men intending to enter will report at once in the Academic Building for full information in regard to registration.

Every student is required to register when he first enters the College and thereafter at the beginning of each term.

SESSION

The session begins on the third Wednesday in September and extends through thirty-seven weeks.

Wednesday and Thursday, September 17 and 18 will be devoted to the registration of new and old students respectively. Recitations will begin Friday, September 19.

FRESHMAN WEEK

Freshmen will report on the morning of Monday, September 15 for the exercises of Freshman week.

EXPENSES

EXPENSES FOR THE SESSION

The fixed charges are:	
Maintenance, first term	\$125.00
Room Rent, first term	
Maintenance, second term	125.00
Room Rent, second term	30.00
*Matriculation fee	17.00
Medical Service fee	10.00
Room key deposit, returnable	1.00
	-
	\$338.00

*For old students who for the first term do not register on the days set apart for that purpose the matriculation fee is \$22.00. For old students who for the second term do not register on the days set apart for that purpose, there is charged an additional matriculation fee of \$5.00.

Additional expenses include:

Laboratory fees, about	310.00
Text-books, from \$15.00 to	25.00
For Freshman engineering students, drawing instruments, about	15.00
Student Activities fee, voluntary	15.00
Post-office box rent, voluntary	.50

First-year students taking Freshman Physical Training will be at an expense of \$3.75 for gymnassium suit and other necessary articles. Of this amount \$1.00 is returnable.

Contingent Deposit.—In certain laboratory courses the student is required to make a deposit to cover breakage and damage to equipment. The amount of the deposit, less charges for breakage and damage, is returned to the student.

Notes.—A limited number of students, needing financial assistance, may make notes with the College for part of their maintenance. Application blanks for such loans may be obtained from the Fiscal Department, and must be properly filled out and returned to the President's Office 30 days before the opening of the session.

Personal checks will not be accepted.

Payment for each term must be made in advance. A student entering during a term will be charged maintenance only for the remainder of that term.

Deductions.—No deductions will be made for entrance within 15 days after the opening of a term, nor will there be any refund for the last 15 days of a term or the last 15 days paid for.

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Maintenance.—Maintenance includes board, heat and light, laundry. Rooms are furnished with single bedsteads and mattresses, table, and chairs.

Forfeiture on Withdrawal.—Refund of maintenance will be made only in case the student is required to withdraw by Faculty action or in case of sickness disqualifying him for the discharge of his duties for the rest of the term. When such sickness takes place at the College it must be attested by the College Physician before the student can receive the refund of the unused portion of his maintenance.

Matriculation Fee.—The matriculation fee entitles the student to the usual privileges of a student of the College, including the use of the library and certain incidental supplies.

The matriculation fee is payable upon registration and is in no case refunded.

Medical Service Fee.—The medical service fee covers the professional services of the College Physician and the hospital staff. Surgical operations and charges for consultations with outside physicians requested by parents are not included in the medical fee. For students entering at the beginning of the second term, the medical service fee is one-half the amount shown above.

Laboratory Fees.—The laboratory fees cover in part the cost of materials used by the student in his laboratory work. The total amount of these fees varies according to the classification of the student. The fees for the several courses are listed under "Courses of Instruction by Departments." They are payable during registration at the beginning of each term.

Student Activities Fee.—The Student Activities fee is for the support of student activities, and by a practically unanimous vote of the student body this fee has been fixed at \$15.00. This fee is paid at registration along with other fees, but is not compulsory. A student entering after the Christmas holidays will pay only \$9.25. On payment of this fee a student is entitled to be admitted to all intercollegiate and inter-scholastic contests held at College Station, to receive a copy of the Longhorn, the College annual, and one annual subscription to the Batallion, the student college publication, throughout the scholastic year.

Post-office Box Rent.—Mail for students who elect to pay this fee is distributed through the Students' Exchange. Other students get their mail through the United States Post-office.

Graduate Students.—A graduate student who is not a member of the College Staff shall pay the matriculation fee, laboratory fees, and maintenance.

Members of the College Staff.—Full time members of the College Staff are permitted to register for not more than one-fourth of a full term's work, whether graduate or undergraduate. They pay a matriculation fee of \$7.50 the first year, and \$2.50 for each succeeding year; and laboratory fees in certain courses.

Day Students.—Day students pay the matriculation fee, laboratory fees, and the medical service fee.

Deposits.—Deposits may be made with the Fiscal Department. Depositors will draw their money by giving receipt direct to the Fiscal Department as money is required. Deposits and withdrawals must be made in even dollars.

Unpaid Checks.—If a check or draft accepted by the Fiscal Department as cash is returned unpaid by the bank on which it is drawn, the person presenting it will be required to pay a penalty of \$1.00.

Duplicate Receipts.—A fee of fifty cents will be charged for duplicate receipts.

UNIFORM

Cadets will be required to have in their possession the following articles of uniform:

- 1 College regulation woolen uniform, complete.
- 1 Extra pair of woolen breeches.
- 1 Cap with insignia.
- 1 Regulation hat.
- 1 Silk hat cord.
- 3 Regulation o. d. shirts at least two of which are woolen.
- 1 Soft white shirt with collar attached.
- 1 Sam Browne belt.
- 2 Pairs cordovan leather leggins.
- 1 Pair russet service shoes.
- 1 Regulation waist belt.
- 1 Set collar insignia for shirt.
- 1 Set insignia for coat.
- 4 R. O. T. C. shields with pipings the color of branch of service.
- 1 Regulation black tie.
- 1 Blue star.
- 1 Suit unionalls.
- 1 Pair riding boots or leather puttees for cadet officers.
- 1 Saber, saber chains and frog, for cadet officers only.

All articles of uniform must meet the approval of the Professor of Military Science and Tactics. The above articles may be purchased from the Exchange Store at a cost of about \$85.00 insuring approval by the Professor of Military Science and Tactics as regulation.

It is not contemplated that the above mentioned articles must be purchased each year. Uniform dress is more economical than civilian dress if proper care is taken of the clothing, and articles left over from the first year may be used as long as serviceable.

Part IV

COURSES OF STUDY

COURSES OF STUDY

There are eighteen regular courses, extending through four years; of these the course in Liberal Arts leads to the degree of Bachelor of Arts; the course in Veterinary Medicine leads to the degree of Doctor of Veterinary Medicine; the others lead to the degree of Bachelor of Science, the particular course being specified in the diploma; and graduate courses and short courses as shown below:

REGULAR FOUR-YEAR COURSES

I.—Course in Agriculture.

III.—Course in Mechanical Engineering.

IV.—Course in Civil Engineering.

V.—Course in Electrical Engineering.

VI.—Course in Textile Engineering.

VIII.—Course in Chemical Engineering

IX.—Course in Architecture.

X.—Course in Science.

XI.—Course in Veterinary Medicine.

XII.—Course in Agricultural Education.

XIII.—Course in Industrial Education.

XIV.—Course in Agricultural Adminstration.

XV.—Course in Agricultural Engineering.

XVI.—Course in Rural Education.

XIX.—Course in Liberal Arts.

XX.-Course in Landscape Art.

XXII.—Course in Industrial Arts Education.

XXIII.—Course in Petroleum Production Engineering.

GRADUATE COURSES

Courses of study leading to the degree of Master of Science are offered in:

Agricultural Administration, Agricultural Education, Agricultural Engineering, Agriculture, Architecture, Chemical Engineering, Civil Engineering, Electrical Engineering, Industral Education, Mechanical Engineering, Rural Education, Science, Veterinary Medicine.

TWO-YEAR COURSES

(C).—Course in Agriculture (Non-Collegiate). XVIII.—Course in Cotton Marketing and Classing.

THE SCHOOL OF AGRICULTURE

In the School of Agriculture there are offered the following courses:

REGULAR FOUR-YEAR COURSES

Course in Agriculture.

Course in Agricultural Administration.

Course in Agricultural Engineering.

Course in Landscape Art

TWO-YEAR COURSE

Two-Year Course in Agriculture.

COURSE IN AGRICULTURE

The regular four-year course has as its main object the preparation of young men for the business of farming, for the pusuit of scientific investigation along some line of agriculture, for becoming county demonstration agents, or extension workers, and for teaching in the high schools and agricultural colleges. It also affords excellent preparation for young men who intend to follow business pursuits, especially for merchants and bankers. Systematic training is given in the sciences of biology, chemistry, entomology and geology, which are fundamental to the study of scientific agriculture, and in technical subjects, covering the main divisions of agriculture, including agricultural engineering, agronomy, animal husbandry, farm management, horticulture, poultry husbandry, and rural sociology. As shown in the curriculum, the work in the Junoir and Senior years is arranged so as to provide for a choice by the student of one of eleven groups of studies. This arrangement affords the student a wide range of subjects from which to choose his major work, permitting him to specialize in agricultural education, agricultural engineering, agronomy, animal husbandry, cotton production, dairy husbandry, entomology, horticulture, landscape art, poultry husbandry, or in rural sociology.

COURSE IN AGRICULTURAL ADMINISTRATION

The course in Agricultural Administration stresses the business side of agriculture rather than the technological side, although the latter is not neglected.

The central aim of the course is to prepare men to become agricultural economists in the broad sense of the term. This involves a much broader concept of agriculture than has hitherto been generally held. It involves the concept that farmers will become associated in powerful business organizations, carrying on their commercial operations in accordance with fundamental principles that have been approved in other lines of industry.

The factors that promote the economic efficiency of the individual farms

are given careful consideration as the farmsteads are the pillars upon which the great business superstructure of agriculture must gradually be built. Ecoomical growing of plant and animal products upon the individual farms must ever be an indispensable prerequisite to successful farmer business organizations.

Such sciences as statistics and accounting are used as tools to bring the great mass of world data pertaining to agriculture into such form that they may be analyzed and interpreted. It is because the problems relating to the economics of agriculture require exact measurements, or as we say, quantitative treatment, that so much use is made of mathematics, accountancy and statistics in the course in Agricultural Administration.

Men who have finished this course will be well equipped to enter general business such as that of banker or merchant, etc., to administer landed estates, large or small; to enter the Civil Service in the field of marketing statistics, etc., to become managers of a business, either private or co-operative; to serve as agricultural advisors in chambers of commerce, corporations, including railroads; to serve as County Agents; and as instructors and research students in economics and commercial subjects.

It should perhaps be emphasized that there is at present a great need for business men who have a thorough understanding of both the economic and the technical side of agriculture. This is especially true of a state like Texas, which is so predominantly agricultural. Much of misunderstanding that now exists between rural and urban communities will be disspelled when men who have taken this course, with the broad vision it inculcates, become distributed as business men and leaders all over the State.

By April 15 of his sophomore year, the student will choose one of the four groups: (1) Accounting and Statistics; (2) Agricultural Economics; (3) Farm and Ranch Management; (4) Marketing and Finance.

COURSE IN AGRICULTURAL ENGINEERING

The course in Agricultural Engineering is designed to give the student an engineering training with an agricultural viewpoint. A thorough grounding in fundamental engineering principles is given, as much time is devoted to purely agricultural subjects as possible, and the application of engineering to agriculture receives its share of attention.

The need of such engineers is being felt more and more each year as the demand grows for farms to be better equipped with power machinery, farm buildings and home conveniences and more land to be reclaimed by drainage, irrigation and clearing.

Graduates of this course are prepared for service in the following lines: with the colleges and government, in teaching, extension, and experiment station work; with manufacturers of farm machinery, gas engines, tractors, other farm equipment and farm buildings, in advertising, sales and designing work; with engineering and contracting firms doing irrigation work and drainage work; and with farm trade journals.

COURSE IN LANDSCAPE ART

The purpose of this course is to train students in the development of out-door areas, such as flower gardens, both formal and informal, large and small estates, parks and playgrounds, cemeteries and the surroundings of buildings, private, semi-public, and public. The object of the landscape designer is to create not only beautiful compositions, but to plan, direct and to carry to completion problems that will satisfy the esthetic taste and in addition be fundamentally practicable.

In order to perform this work properly, the student should have some knowledge of the basic sciences and in addition a considerable training in architecture, horticulture and civil engineering. It is not necessary that he be equally proficient in all phases of landscape art, as the work is sufficiently broad to enable men of diverse talents to select and follow some particular subdivision of the work. Students whose primary qualification is a talent for drawing become designers, others are more interested in the horticultural side and become superintendents of planting. Still others may prefer landscape construction or one of the many divisions of civic improvement. Extension landscape work, superintendents of large parks or cemeteries, members of city park boards or park commissioners are some of the other fields open to graduates in this group. In addition the United States Department of Agriculture now employs landscape architects, the positions being filled under Civil Service Rules.

While the student can, with the training he receives at the College, begin practice immediately after graduation, an apprentice course under a competent landscape architect or actual work in a good nursery, or both, will be found of great value. Students are urged to spend some considerable part of their summer vacations in some related field, thus gaining technical knowledge and experience while still in college and thereby shortening or eliminating entirely an apprentice course after graduation.

TWO-YEAR COURSE IN AGRICULTURE

This course is intended for young men who wish to spend one or two years in preparing to go back to the farm and apply the more important scientific methods of farming which have been worked out in recent years. To this end the course is made highly practical and includes much of the technical work required in the four-year course. In the first year, the studies are nearly all prescribed; in the second year, they are elective. The electives must be chosen under the advice and direction of the Dean of the School of Agriculture. Students who have approved farm experience will upon the completion of this course, be awarded certificates.

THE SCHOOL OF ARTS AND SCIENCES

In the School of Arts and Sciences there are offered the following courses:

REGULAR FOUR-YEAR COURSES

Course in Liberal Arts. Course in Science.

COURSE IN LIBERAL ARTS

This course is planned to meet the needs of students who have not made a definite decision regarding their life work, and who desire adequate preparation for intelligent citizenship, or a broad foundation for further education. The program of studies, especially in the upper years, is shaped to meet the needs and aptitudes of the individual student.

The major field of study in the Junior and Senior years is to be chosen from one of the following departments:

Economics; English; History; Mathematics; Modern Languages (French, German, Spanish); Physical Education.

The first two years of the course in Liberal Arts provide the necessary fundamental preparation for students who are planning to study law.

This course also offers adequate facilities for the training of teachers in the fields indicated above.

The course in Liberal Arts leads to the degree of Bachelor of Arts.

COURSE IN SCIENCE

The work of the course in Science is planned with the following purposes in view:

- 1. To prepare students for research in the pure sciences, and for practical work in the important fields of Biology, Chemistry, Geology and Physics, especially as they relate to agriculture, engineering, and allied industries.
- 2. To provide the necessary fundamental preparation for students planning to enter upon the study of medicine.
- 3. To train teachers of science in secondary schools and other institutions of learning.

The student's major work is to be carried on in one of the following fields: Biology (Botany, Zoology, Bacteriology), Entomology, Genetics; Chemistry; Geology (General Geology, Petroleum Geology); Physics.

Students in the course in Science who complete in this College at least two years of work preparatory to Medicine, and who subsequently complete the first two years in Medicine in a class A medical college, will be awarded the degree of Bachelor of Science, in Science, upon transferring their medical credits back to this institution, and upon satisfying the grade-point requirement. The work completed in this institution must include all of the prescribed subjects listed for the freshman and sophomore years of the Course in Science and at least sixteen hours of approved electives.

THE SCHOOL OF ENGINEERING

In the School of Engineering there are offered the following courses:

REGULAR FOUR-YEAR COURSES

Course in Architecture.

Course in Chemical Engineering.

Course in Civil Engineering.

Course in Electrical Engineering.

Course in Mechanical Engineering.

Course in Petroleum Production Engineering.

Course in Textile Engineering.

TWO-YEAR COURSE

Two-Year course in Cotton Marketing and Classing.

COURSE IN ARCHITECTURE

The course in Architecture is planned to give thorough instruction in the subjects which are generally recognized as necessary in the preparation of students for working in architectural design and building construction. It is arranged to make the practice classes reflect the instruction given the theoretical subjects and to associate the two in practical application and problems, which are intended to prepare the student for immediate usefulness and earning ability after graduation. While particular emphasis is given throughout the course to the unison of design and construction which exists in all practical architectural work, the course is arranged in two groups; Group 1, which develops special ability in composition, planning, and rendering in the later years of the course: Group 2, which devotes particular attention to the structural elements of architectural practice during the later years. work is done by the Freshman class in these two groups, and as the courses develop, the emphasis upon the special work of each group is increased, until in the Senior year, they become distinct and separate. Both groups give a sufficiently broad training in architecture to make the student effective in general architectural work after graduation.

In the selection of either of these groups the student should be guided by his natural inclination toward the type of work which is emphasized in that group. Graduates in Architecture find positions as draughtsmen, designers, superintendents or general assistants in architects' offices; in the architectural and engineering departments of business and railway corporations; in the construction companies in state and municipal employment and in the Federal Civil Service. A few years of practical experience should fit the graduate to enter upon independent architectural practice.

COURSE IN CHEMICAL ENGINEERING

The course in Chemical Engineering is designed to prepare men trained in the knowledge of chemistry and engineering for the design, construction, and operation of industries in which materials undergo chemical and physical change.

Chemical engineering became a separate division of engineering with the growth of strictly chemical industries and it is now recognized as one of the important divisions of engineering dealing with combustion of fuels, heat treatment of metals and alloys, the preparation of water for potable and industrial use, the refining of petroleum and cotton seed oil, electric furnace products, portland cement, lime, gypsum plaster, heavy chemicals, soaps, rubber, corn products, textiles, paper, artificial leather and silks, food products and other products.

The work of the chemical engineer is the changing of the raw material into the finished product with the greatest efficiency and with the least possible cost of production. He substitutes a rigid control of processes for guess work and uncertainty, and increases the productivity of labor by supplying more efficient processes, where the standard and quality of the finished product are revised and the amount of seconds and rejections is reduced. The chemical engineer must also be able to modify a process in order to adapt it to commercial conditions and select his material for construction with special reference to its use. His work is distinct from that of the chemist on the one hand and the mechanical engineer on the other; though he must have a thorough training in both chemistry and engineering.

As chemical engineering treats of the processes where materials undergo a chemical and physical change, it is apparent that a large number of diversified industries have use for the chemical engineer, not only in the operation and control of processes but in the design of special equipment. Many chemical engineers enter the research laboratory, investigating processes in the laboratory and the successful operation of them in the plants, considering carefully the controlling interest of cost as a factor in all industrial operations.

Graduates in chemical engineering may enter industrial work in two ways, first, by entering the laboratory and then transferring to the plant, or second, by starting directly in the development, control, or operating division of the plant.

COURSE IN CIVIL ENGINEERING

The course in Civil Engineering has for its object the thorough grounding of young men in the underlying principles of engineering, with such training in the art of putting these principles into practical use as will enable graduates in the course to give satisfactory service in an engineering organization immediately upon graduation.

During the first three years the student is given training in the subjects common to all civil engineering courses, such as surveying, railroad engineer-

ing, mechanics, strength of materials, masonry structures, and stress analysis. In the fourth year he elects work in one of several groups, structural engineering, highway engineering or municipal and sanitary engineering. Part of the work for these groups is the same for all. In the highway group special emphasis is placed on pavements and highway materials, while in the structural engineering group somewhat more attention is given to stresses and design of bridges and other structures. In the municipal and sanitary engineering group less time is devoted to structures than for the other two, with correspondingly greater emphasis on water supply, sewage disposal, sanitation, and other municipal problems. Either group will fit the student for entering any of the many lines of work open to civil engineers, among which may be mentioned the following: professional practice in surveying; water supply, sewerage and sewage disposal; railway location, construction and maintenance, the design and construction of dams, reservoirs, canals, foundations, buildings, bridges and other structures; design, construction and maintenance of roads and pavements; planning and execution of sanitary measures for rural and urban communities, administration of city business as city manager, research work in colleges or government bureaus; technical service of various kinds in the industries, leading to executive positions.

COURSE IN ELECTRICAL ENGINEERING

The course in Electrical Engineering is designed to give the student a thorough training in the underlying principles of direct and alternating current phenomena and of electric measurements. It provides training in subjects fundamental to the general practice of the engineering profession, in the theory of electricity, and in the application of the theory to practical problems in many branches of engineering.

The work of the first three years of the course includes the mathematics, chemistry, physics, drawing, and mechanics fundamental to any engineering course. The electrical engineering subjects begin in the sophomore year and continue in an increasing amount through the junior and senior years. Much emphasis is put on the fundamental principles of electrical engineering, but the fundamentals are vitalized by illustration of their applications in engineering practice. In the senior year, without reducing the time devoted to fundamental subjects, an opportunity is given to the student to make a study of the application of electrical engineering to some field of engineering. This is done with two purposes; the first, and more important, is to impress more firmly in the student's mind the principles already covered; and the second is to give the student specific information about some branch of electrical engineering.

Electrical Engineering presents broad opportunities for the young man with the proper training. A few of the fields which he may enter are outlined below:

The electric power plant in a community has come to be considered the

source of energy not only for the lighting of the buildings and streets, but for the operation of all kinds of machinery ranging in size from the largest factory to the sewing machine and the vacuum cleaner. It is recognized that technically trained engineers are needed not only for the more highly technical positions in the organization of the central stations but that by virtue of their technical knowledge they are also best qualified for practically every position of responsibility in such organizations.

The utilization of electrical energy by manufacturing organizations has necessitated the employment of electrical engineers to design the installation of the electrical machinery and supervise it when it is in operation.

The electric railway industry is another field in which electrical engineers are required, and the electrification of steam railroads has created a demand for electrical engineers to supervise the electrical equipment used in the production of the power and operation of the trains. The electrification of railroads is in its infancy but the decided gain in efficiency from operating with electricity instead of steam will cause a steady increase in the number of roads to be electrified.

The telephone and telegraph companies have always used a limited number of electrical engineers but with the greater complexity of electrical devices which are displacing the simpler systems of communication, trained engineers are in demand not only for the more highly specialized positions but also for administrative and executive positions where a knowledge of electrical engineering is becoming important. Radio engineering is a field for electrical engineerneers which, while comparatively new, bids fair to become of considerable importance.

Many electrical engineers are needed in organizations engaged in the manufacture of electrical machinery and its proper application, its sale and erection.

There are also a great many other subdivisions, such as that of the illuminating engineer, the signal engineer, the battery engineer, and a score of others which offer excellent fields for men with proper training.

The course is outlined with a view of giving the young man such fundamental principles of electrical engineering and such mental development and faculty of analysis, as will enable him to rise to a position of responsibility in any one of the several fields of electrical engineering.

A Signal Corps Unit of the Reserve Officers' Training Corps has been established at the College and electrical engineering students who elect to become members of this unit have an opportunity to receive thorough instruction in telephone, telegraph and radio engineering in addition to their other engineering work. For use in the Signal Corps work, the government has supplied a complete assortment of modern equipment.

A branch of the American Institute of Electrical Engineers has been organized among the students and affords the means of keeping students in touch with the latest development in the electrical field.

COURSE IN MECHANICAL ENGINEERING

The course in Mechanical Engineering is designed with a view of giving the student such training as will fit him to design, construct and erect machinery, power and industrial plants, equipment, etc., and to manage or to operate the same with the greatest economy of labor and materials.

It is not possible to give the student that skill in the shops and that experience in the laboratories which come with long service in practical work, but the aim is to give him the power to understand and apply the underlying principles which are involved in all problems met with in practical engineering.

When it is remembered that there is a steam power plant or other mechanical equipment connected with practically every industrial enterprise it is apparent that the graduates from the course in mechanical engineering should find a large field for their activities in the industrial development of the State. While the chief aim of the curriculum is to give a thorough grounding in the fundamentals it is possible for the student, in his senior year by selection of his electives, to do a limited amount of specializing along the line of his choice. This arrangement of the senior year enables the student to specialize in power plant work, in transportation and railway mechanical engineering, or in factory management and industrial engineering, in cottoseed oil industry, or in petroleum industry. The training at the College, followed by a few years contact with the practical work, should fit one to take charge of the operation or of the management of almost any industrial enterprise whether strictly mechanical engineering or involving other activities as well.

Included in the field of the graduate from this course are the following: railway motive power, automotive and marine transportation, refrigeration, steam and oil engine power equipment, heating, ventilation, iron and steel production and fabrication, machine tool industry, lumber production and utilization, factory management, production and refining petroleum, and other mineral resources, and also practically unlimited other lines.

In addition to the purely technical studies, the mechanical engineering course has a well balanced portion of cultural subjects which provide a good general education and equip the graduate for leadership in his community. The habits of accurate analysis and the training in logical thinking make him a better citizen and a more desirable leader.

COURSE IN PETROLEUM PRODUCTION ENGINEERING

The course in Petroleum Production Engineering is intended to prepare students for the petroleum industry and particularly for those parts of the industry which have to do with the production and transportation of petroleum. The field of the engineer in the petroleum industry may be roughly divided into two parts.

The first is the production of the crude oil involving as it does determination of locations of drilling equipment, types of equipment to be used, the

kind of power to apply, determination of the source of water in the oil and methods of excluding it; perhaps selection of types and sizes of pumps and methods of operating them. Closely allied with the production, and in fact usually considered a part of it, is the design, construction and operation of pipe lines and pump stations to transport the oil.

The course in petroleum production engineering includes a foundation in general engineering with sufficient training in civil, mechanical and electrical engineering to prepare the graduate for the application of such of these branches of engineering as are usually found in the petroleum industry. The course includes sufficient geology to give an understanding of the origin of the petroleum and the geological structures which are found in oil fields. To the basic courses are added courses in petroleum engineering which illustrate the application of engineering principles to the type of problems met in the petroleum industry and which also give some understanding of the technique of the industry. Emphasis is placed on a thorough grounding in the fundamentals, however, rather than on the application to a particular problem.

The second division of the petroleum industry in which the engineer is needed is found in the refining of crude oils to produce gasoline, kerosene, lubricating oils and other products. The student who is interested in this division will find an opportunity to prepare himself for it through the course in chemical engineering. If the student is interested in the field of petroleum geology rather than in the engineering fields presented by the industry, he may prepare himself for this profession by taking work offered in the School of Arts and Sciences.

COURSE IN TEXTILE ENGINEERING

The object of this course is to prepare young men for entering the field of cotton manufacturing. The unprecedented development of the cotton milling industry in the South has brought about an era of prosperity and created a strong demand for educated young men in the industry. The State of Texas offers excellent advantages for the manufacture of cotton goods in its vast supply of raw material, intelligent labor, and excellent climatic conditions, and it is believed that cotton manufacturing will develop as rapidly as skilled and capable managers familiar with local conditions are to be had. The studies outlined have been selected with a view of giving theoretical and practical training in the manufacture of cotton goods as thorough as is possible in the time available.

Graduates from this course are prepared to enter the cotton mills to operate any machinery. After a study of labor conditions and requirements they are in line for positions as overseers, superintendents and managers. Graduates may also find employment in the fields of mill engineering and architecture, installation of equipment, dyeing and the sale of machinery and supplies.

TWO-YEAR COURSE IN COTTON MARKETING AND CLASSING

The two-year course in marketing and classing is intended for the student who expects to enter the cotton business either as a buyer, or office man. The course of study is designed to familiarize the student with the position of cotton among agricultural resources, the economics of cotton, business law, money and banking, marketing, and waste in manufacture as related to cotton. Courses are offered giving the fundamental principles and much detail of cotton office accounting. The course proposes to give, in addition to the fundamental subjects, some general educational courses which will better fit the student for the cotton business.

The entrance requirements for this course are the same as for the fouryear courses.

THE SCHOOL OF VETERINARY MEDICINE

COURSE IN VETERINARY MEDICINE

This course has for its object the systematic training of young men in all matters pertaining to diseases of domestic animals.

The freshman and sophomore years are in large measure devoted to the physical and biological studies that contribute so much to an understanding of problems of health and disease. The junior and senior years are almost entirely devoted to studies of a technical nature.

Those who expect to engage in ranching, dairying or some other branch of animal industry, will find the course of great value to them in preventing serious losses from diseases or mismanagement of their animals. Those who possess a biological mind will find it an interesting life study, and such men are in great demand in matters of public health or as investigators in experiment stations. Those who pursue the course from commercial motives will find that its rewards are similar to those of any other form of human endeavor in that these will always be in proportion to the intelligence and energy displayed by the individual.

When it is recalled that the value of domestic animals in Texas is about five hundred million dollars, it becomes apparent that men informed on such matters will be of great value to the State.

THE SCHOOL OF VOCATIONAL TEACHING

In the School of Vocational Teaching there are offered the following courses:

REGULAR FOUR-YEAR COURSES

Course in Agricultural Education.
Course in Industrial Arts Education.
Course in Industrial Education.
Course in Rural Education.

COURSE IN AGRICULTURAL EDUCATION

This course is designed to give the teacher of vocational agriculture the minimum preparation and training in both technical agriculture and in education subjects required to qualify under the Federal Vocational Education Act. The course permits a sufficient number of electives to enable students coming from Junior Colleges and State Teachers' Colleges to transfer to this institution with little or no loss of time.

Graduates of approved institutions having satisfactory training in the sciences underlying the study of agriculture will be awarded the degree of Bachelor of Science in Agricultural Education upon satisfying the following requirements: (1) forty-five hours of technical agriculture; (2) fourteen hours of education subjects as prescribed in the curriculum, and (3) one year's residence.

COURSE IN INDUSTRIAL ARTS EDUCATION

The purpose of this course is to prepare men to teach Industrial Arts or Manual Training as offered in the public schools. The course is arranged so that during the first three years the student will obtain a general training in fundamental technical courses. The large number of electives in the senior year will permit him to specialize in the one or two courses he prefers to teach.

The Junior High School movement has created a demand for well-trained instructors for this type of work. Any young man, mechanically inclined and interested in boys and their work, should find this a very profitable course.

COURSE IN INDUSTRIAL EDUCATION

This course is intended to train teachers, supervisors, and directors for the general continuation and trade and industrial schools of Texas. Since the men graduating from this course are to qualify as teachers under the State plan for Vocational Education, a candidate for a degree in Industrial Education must qualify under one of the following requirements:

- 1. Seven years' experience (three beyond the apprenticeship period) as a wage earner at the trade the student intends to teach. (For teachers of shop work).
- 2. Two years of practical experience as a wage earner in a trade or industrial occupation and two years of technical training in a school of engineering. (For teachers of related subjects).
- Four years of technical training in a school of engineering. (For teachers of related subjects).

The candidate for a degree in this course must also have at least one year of 144 clock hours of successful teaching of some phase of trade and industrial work under the Smith-Hughes Act.

COURSE IN RURAL EDUCATION

This course is offered in response to the increasing demand for high school principals and superintendents who have had the benefit of an agricultural college education in their preparation for leadership in the solution of rural life problems. The curriculum in rural education permits the student to qualify for the various elementary and high school certificates granted on college credits by the State Department of Education.

TEACHERS CERTIFICATES

- 1. An elementary certificate good for four years, or a high-school certificate good for two years, may be obtained upon completion of the work prescribed for Freshmen in the course in rural education, or its equivalent.
- 2. An elementary certificate good for six years may be obtained on completion of two years work in rural education, or its equivalent.
- 3. By substituting Rural Education 321 and 322 for Rural Education 221 and 222, the student may qualify for a four-year high-school certificate at the end of his second year in college.
- 4. A high-school certificate good for six years may be obtained on completion of three years work in rural education or its equivalent.
- 5. The permanent high-school certificate may be obtained upon completion of the four-year course in rural education, or its equivalent.

TEACHERS APPOINTMENT SERVICE

The Teachers Appointment Service, under the direction of the School of Vocational Teaching, endeavors to assist graduates and students of the College who desire to teach in securing suitable positions, and to assist boards of education and other school officials in securing teachers. While no one is assured of a position, every reasonable effort will be made to place all worthy candidates registered for this service. Information obtained from professors and others is kept confidential. No charge is made for this service. Applicants should address the Dean of the School of Vocational Teaching.

THE GRADUATE SCHOOL

General Statement.—The Graduate School was established in 1924. Prior to that time graduate work was administered by the General Faculty, acting through a Committee on Graduate Studies. The Faculty of the Graduate School consists of such members of the teaching staff and of the staff of the Agricultural Experiment Station as the General Faculty may determine, and has general jurisdiction over all matters relating to graduate work.

Administration.—Matters of general policy are considered by the Graduate Council, which reports its recommendations to the Faculty of the School. In cases in which prompt action is desirable the Council is authorized to act, reporting its action to the Faculty for ratification.

The Executive Committee, consisting of five members of the Council, is authorized in routine matters to take action in accordance with the general policies.

The Dean of the Graduate School is the representative of the Faculty in dealing with individuals, and is charged with the execution of its regulations. Petitions are acted upon by the Dean or by the Executive Committee, as the case may require.

All communications relating to graduate work should be addressed to the Dean of the Graduate School.

Character of Graduate Work.—The principal aim of graduate study is the development of the power of independent work and the promotion of the spirit of research. Each candidate for a degree is expected to have a wide knowledge of his subject and of related fields of work; the graduate student is not expected to get from lecture and laboratory courses all the knowledge and training necessary to meet the requirements for his degree.

Degrees.—The completion of an approved course of study in the Graduate School leads to the degree of Master of Science. Professional degrees in engineering—Agricultural Engineer, Chemical Engineer, Civil Engineer, Electrical Engineer, Mechanical Engineer,—are offered on the basis of acceptable professional experience, a thesis, and an examination.

REQUIREMENTS FOR THE MASTER'S DEGREE

General.—The master's degree denotes that attainment which a student of good native ability, who has received an appropriate bachelor's degree, may reasonably expect to attain in one year of entire and successful devotion to advanced studies, with adequate facilities and under competent direction. The courses of study leading to this degree do not make research the chief consideration, but are intended to serve as an introduction to the methods and discipline of research.

Specification as to Course.—The course of study pursued is specified in the

diploma. In his application for admission the student must designate as his course of study one of the following:

Agricultural Administration.
Agricultural Education.
Agricultural Engineering.
Agriculture.
Architecture.
Chemical Engineering.
Civil Engineering.
Electrical Engineering.
Industrial Education.
Mechanical Engineering.
Science.
Rural Education.
Veterinary Medicine.

Admission.—In order to be admitted to a course of study leading to the master's degree, the candidate must satisfy the following requirements:

- 1. He must be a graduate of this College or of some other approved institution whose requirements for graduation are substantially equivalent to those of this College.
- 2. His undergraduate course of study must be of such nature as to afford a satisfactory foundation for the graduate studies he proposes to take up.
- 3. His undergraduate record must be of such high order as to satisfy the committee that he is qualified by native ability and by training to pursue graduate studies with profit and with credit. In case it does not fully meet this requirement, the committee may require the completion of additional undergraduate work with a grade of at least B.

Application.—Application for admission should be made at least one month in advance, and in case the candidate comes from another institution, his application must be accompanied by a complete transcript of his undergraduate record, properly certified.

Admission to Candidacy.—Admission as a graduate student does not imply admission as a candidate for a degree. In order to become a candidate for an advanced degree, the student must make formal application,—in the regular session before December 15, and in the summer session one week before the close of his first term. The application will be approved only in case the student has demonstrated his ability to do graduate work in a creditable manner.

Registration.—Graduate students must register at the beginning of each term at the office of the Registrar and of the Dean.

Their assignment cards are to be approved by the Dean.

Amount of Work.—The candidate for the degree of Master of Science must do at least one full year's work. By this is meant that he must register for, attend, and complete courses amounting to at least thirty-two term hours, and in addition must submit a satisfactory thesis.

Course of Study.—The subjects constituting the student's complete course of study are to be chosen subject to the approval of the Executive Committee. Of the thirty-two hours required, at least twenty must be done in this College.

In general, the work must be made up of graduate courses, and in every case must include at least twelve term hours each term in such courses in addition to the thesis. In cases in which it may be deemed advisable the remainder may consist of advanced undergraduate courses. Each hour of theory involves two hours of preparation.

Major and Minor Subjects.—For the degree of Master of Science in Agricultural Administration, in Agricultural Education, in Agricultural Engineering, in Agriculture, in Industrial Education, in Rural Education, in Science, in Veterinary Science, the candidate must choose a major subject and one or two minor subjects. A major or a minor denotes the field of knowledge of a department. With the approval of the Executive Committee, the major may be taken in two closely allied departments. In his major subject the student must take courses amounting to at least eight term hours each term, in addition to his thesis. Courses in minor subjects must be chosen by the student after consultation with the head of his major department.

Residence.—The master's degree will not be conferred except after a residence of at least one year at the College. For candidates engaged in teaching or other regular employment, the period of residence will be increased to such extent as the committee may determine. Members of the staff may not take in any term of the regular session more than one-fourth of a full term's work.

Work in Summer Session.—The residence requirement may be satisfied by residence during four summer terms of six weeks each. Courses offered in the summer session cover essentially the same ground as that covered by the corresponding courses of the regular session. The maximum amount of work for which a student may register in a summer term is eight term hours. In the summer session each hour of theory involves three hours of preparation.

The candidate who spends only four summer terms in residence may fulfill the requirements for the master's degree, provided that, in the *ad interim* periods between summer sessions, he does the greater part of the work on his thesis. Authority to do thesis work in this way must be obtained through the Dean, and the student must make such reports of progress as the head of his major department may require.

Work in Absentia.-No provision is made for work in absentia except that

the student who is in residence during summer sessions only must do the greater part of his thesis work between summer sessions as stated above.

Short Unit Courses.—For the benefit of teachers of Vocational Agriculture whose summer vacation is limited to three weeks, provision is made by which they may take the first half of a course one summer and the second half another summer. The letters M and N written after a course refer respectively to the first and the second half of the course. Credit is not given until both halves have been completed.

Courses Offered by Experiment Station Staff.—In addition to the courses offered by the several departments of instruction there are graduate courses offered by members of the Agricultural Experiment Station Staff and described under the respective departments of instruction.

Special Opportunity for the Study of Cotton.—The College offers unusual opportunity for the thorough study of cotton in all its phases. The following graduate courses in that field are described under the respective departments: Advanced Cotton Production, Genetic Studies in Cotton, Research in Cotton Breeding, Research in the Physiology of the Cotton Plant, Cotton Insects, The Diseases of Cotton, Cotton Seed Oil, Cotton Machinery, Economics of Cotton Marketing. Undergraduate courses in this field include: The Cotton Plant, Origin, Classification and Breeding of Cotton, Fiber Crops, Cotton Insects, Cotton Research Problems, Cotton Machinery, Cotton Prices. The manufacture of cotton is covered in the courses offered by the Department of Textile Engineering.

Quality of Work.—In order to be allowed to go on with his course a graduate student must give continued satisfaction in his work.

Initiative.—In carrying on his work in the Gradaute School, the student is expected to keep himself informed as to the regulations and to assume the initiative in complying with them.

Thesis.—The candidate must submit a thesis, which shall be based upon his work in the department in which he takes his leading subject. Its title must be submitted to the committee through the head of the department in which it is to be written for approval by November 15. In matter and style the thesis must be acceptable to the head of the department in which it is written and to the committee. It must show that the candidate has the ability to do independent work; and, by correct citation of authorities, must show that he has satisfactory acquaintance with the literature of his field.

The thesis must be typewritten on paper 8½ inches by 11 inches; two weeks before commencement it must be presented to the Dean through the head of the department in completed form ready for binding. Before the degree is conferred a bound copy for the College library must be deposited with the Dean.

Examinations.—At the close of the term written examinations are held in each graduate course and it is the duty of the head of the department concerned to file with the Dean a copy of the questions. In addition to the entire course of study and his thesis. The final examination may be oral or term examinations, a student must pass a final examination covering his written or both and is open to the committee and to members of the Faculty.

Reports.—Heads of departments will make reports to the Registrar at the end of each term on all graduate work done in their respective departments and such other reports on the progress of their graduate students as the Dean may request.

Special Committee.—The instructors under whom a graduate student takes work constitute a special committee to direct and advise him concerning his work and to represent him before the Executive Committee. The instructor in charge of the leading subject shall be chairman of the special committee in each case.

Fees.—A statement of the fees to be paid by graduate students is given under "expenses" in Part III.

Leave of Absence or Withdrawal.—Requests for authority to be absent from the College or to withdraw permanently must be presented to the Dean through the Commandant.

Graduation.—Candidates for advanced degrees who expect to complete their work at the end of a given term must give written notice to the Dean to that effect at least one month in advance. When a candidate has to the satisfaction of the Executive Committee completed the requirements for an advanced degree he will be recommended to the Faculty for his degree.

PROFESSIONAL DEGREES IN ENGINEERING

The professional degrees in engineering, Agricultural Engineer, Chemical Engineer, Civil Engineer, Electrical Engineer, Mechanical Engineer, are open only to men who have received from this College the degree of Bachelor of Science or Master of Science in an engineering course.

The requirements for any one of these degrees include acceptable professional experience, a thesis and an examination. In detail the requirements are as follows:

The candidate must have been engaged in acceptable professional work for a period of not less than four years after graduation, and must have been in responsible charge of such work for at least one year. The applicant who holds the degree of Master of Science in an engineering course is regarded as having met the time requirement if he has devoted three years to professional practice or to teaching engineering subjects.

In connection with his application for authority to register, the candidate must submit an orderly and detailed statement of his professional experience for the consideration of the Executive Committee. He must also submit a title for his thesis and a general outline of the thesis.

At a time to be designated by the Dean he must report at the College for an examination covering his professional experience, his thesis and the research or study which forms its basis.

The thesis must correspond in form to the master's thesis described above. It must not be simply a descriptive discussion of some ordinary engineering project, nor a digest of engineering literature, but must be of an analytical character and must constitute a distinct contribution to engineering science. The thesis in final form must be in the hands of the Dean three weeks before commencement.

The degree is conferred only at commencement, and application for registration must be made not later than November 1 preceding. In case a student does not complete the work for his degree within two years after registration, his registration will be cancelled.

The matriculation fee of \$5.00 is to be paid upon registration.

SCHOLARSHIPS AND FELLOWSHIPS OFFERED BY THE COLLEGE

The College offers annually a limited number of graduate scholarships, each carrying a stipend of \$200.00, and of fellowships, each carrying a stipend of \$600.00. In either case payments are made in eight equal installments.

An applicant for a scholarship or a fellowship must meet the requirements for admission to the Graduate School and must express his intention of completing in this College the requirements for the master's dergee. He must also agree, in consideration of the award, to render a reasonable amount of service, to be determined by the Dean of the Graduate School and the head of the department in which he takes his major work.

Application must be made on forms to be obtained from the Dean of the Graduate School and must be accompanied by a letter of recommendation from the President or other officer of the institution from which the applicant comes.

Nominations to scholarships or fellowships are made on the basis of worthiness of character, scholastic attainments, and promise of success in the principal field of study to which the applicant proposes to devote himself. They are made by the Dean of the Graduate School, subject to the approval of the President.

ADDITIONAL FELLOWSHIPS

For information concerning the fellowships listed below, address the Dean of Engineering.

Texas Power and Light Company Fellowship ______\$600.00
Open to graduate students in Electrical Engineering or Mechanical
Engineering.

Lone Star Portland Cement Company Fellowship	600. 00
Open to graduate students in engineering who are qualified to do research work in the manufacture or utilization of cement. Trinity Portland Cement Company Fellowship	600 00
Open to graduate students in engineering who are qualified to do research work in the manufacture or utilization of cement.	
Texas Rock Asphalt Fellowship	600. 00
For the study of the uses of Texas Rock Asphalts. 2 Texas Cotton Seed Crushers' Association Followship, each	600. 00
2 Interstate Cotton Seed Crushers' Association Fellowship, each	600. 00
1 Abilene Cotton Oil Company Fellowship	
1 Southern Cotton Seed Oil Company Fellowship	_60 0.00

NORTH TEXAS CHAPTER, A. I. A. HONORS

The North Texas Chapter of the American Institute of Architects, Dallas, Texas, awards annually Certificates of Merit to students who have done the most creditable work in Architectural Design throughout the school year.

THE WITCHELL MEDAL IN ARCHITECTURE

Mr. Frank O. Witchell of the firm of Lang and Witchell. Architects, Dallas, Texas, awards annually a gold and a silver medal to senior students in Architectural Design. The medals are awarded for work done in the advanced courses in Design and upon competitions approved by Mr. Witchell.

CURRICULA

THEORY, PRACTICE, TERM-HOUR

In the curricula shown on the following pages, the time devoted each week to the several subjects is expressed in clock-hours. The hours devoted to "theory" (which includes recitations and lectures) are indicated in the column headed "Th.", the hours devoted to "practice" (which include work in laboratory, shop, drawing room or field) are indicated in the column headed "Pr."

A "term-hour" is one clock-hour of "theory" or two clock-hours of "practice" per week for one term. Effective September 1930, three hours of practice will count as the equivalent of one hour of theory.

Notes.-1. In addition to the work shown in the several curricula,

- (a) All first-year students are required to take Physical Education 101, 102.
- (b) Students taking English are required to attend conferences with their instructors.
- (c) In the four-year agricultural and engineering courses all students are required to attend an assembly not oftener than once a month.
- (d) Members of the R. O. T. C. are required to devote two afternoons in the second term of every year to target practice.
- 2. Junior and senior courses in Military Science are required of members of the advanced course in the R. O. T. C.; they are not open to other students.

THE SCHOOL OF AGRICULTURE

I.—COURSE IN AGRICULTURE

FRESHMAN YEAR

First Term	Hours Weel	\$	Hours Second Term We	
Agricultural Economics 101.	Th. 3	Pr. 0	Agricultural Economics 1023	Pr. 0
Agricultural Resources Animal Husbandry 107		4	Agricultural Resources Agronomy 1053	2
General Animal Husbandry		4	Crop Production	_
Biology 101	Z		General Botany	•
Chemistry 101		3	Chemistry 102 3	3
English 103	3	0	English 104 3	0
Rhetoric and Composition Military Science	1	2	Rhetoric and Composition Military Science1	2
j	-	_	-	
	14	13	15	11
	SOP	номо	DRE YEAR	
‡Biology 207	2	4	Agricultural Eng. 201 2	2
Zoology English 203	2	0	Farm Machinery ‡Biology 2061	4
Composition and Literature		2	Bacteriology Chemistry 2124	, .
Entomology 201		_	Agricultural Unemistry	7
Horticulture 201Plant Prop. and Orcharding	-	2	Dairy Husbandry 202 2	2
Military Science	1	2	**English 210 2	0
*Elective	3		Argumentation Military Science I	2
•	12	10	*Elective3	
			15	14
*To b	e chose	n fro	om the following:	••
Agricultural Eng. 203	2	2	Agricultural Education 207_ 3	0
Gas Engines Animal Husbandry 203	· 2	2	Psychology Animal Husbandry 202 2	2
Market Classes and Grades Poultry Hnsbandry 201		2	Breed Types Horticulture 2022	2
Poultry Production		_	Vegetable Gardening Rural Sociology 204 3	~
Rural Sociology 201 Introduction to Social Problem		0	Rural Sociology 204 3 Introductory Rural Sociology	0

‡One half of the class will take Biology 207, the first term and Biology 206 the second term. The other half will take those subjects in the reverse order. Students who intend to take Group 4 or 9 should substitute Biology 213, Plant Physiology (3-2) for Biology 207.

^{**}For possible substitutions, see the description of English 210.

GROUP 2. AGRICULTURAL EDUCATION

GROUP 2. AGE	RICULT	TURAL EDUCATION	
	JUNIOR	YEAR	
	rs per eek	Second Term Hours	
Agricultural Education 301 3	Pr.	Agricultural Education 3023	Pr.
Educational Psychology		Principles of Education	
Agricultural Engineering 321 1 Farm Shop	4	Agricultural Engineering 322 1 Farm Shop	4
Agronomy 301 3	2	Economics 403	0
Chemistry 309 3 Agricultural Chemistry	3	**English 307 2 Technical Writing	0
*Elective6		*Elective9	
	<u> </u>	18	4
	_	*	·
Agricultural Education 401 2	SENIOR 6	Agricultural Education 402 2	6
Teaching Vocational Agriculture		Teaching Vocational Agriculture	_
History 3053		Agricultural Engineering 424 0	4
Marketing and Finance 302 3	0	English 401 2 Public Speaking	0
*Elective12		Farm and Ranch Manage-	_
20	6	ment 401 3	2
20	, 0	Farm Management *Elective9	
		16	12
GROUP 3 AGRI	CULTI	JRAL ENGINEERING	
	JUNIOR		
Agricultural Engineering 305 2	4		3
Terracing and Drainage Agronomy 3013	2	Automotive Machinery Economics 4033	0
Soils Chemistry 3093		Principles **English 307 2	0
Agricultural Chemistry *Elective7		Technical Writing *Elective10	•
Elective		- Elective	
. 15	9.	18	3
	SENIOR	YEAR	
Agricultural Engineering 413 2	3	Agricultural Engineering 426 1	0
Farm Buildings Agricultural Engineering 425 1		Siminar English 401 2	0
Siminar History 3053 Citizenship	0	Public Speaking Farm and Ranch Manage-	
Citizenship	0	ment 401 3	2
Marketing and Finance 302 3	U	Farm Management *Elective13	
*Elective12			

^{**}Or English 317 (2-0). Commercial Correspondence. For possible substitutions see the description of English 307.

21 3

GROUP 4. AGRONOMY.

JUNIOR YEAR

Agronomy 301Soils Chemistry 309Agricultural Chemistry Genetics 301Senetics *Elective	Th. 3	Pr. 2 3 2	Second Term Agronomy 308 Forage Crops Agronomy 314 Field Crops Economics 403 Principles **English 307 Technical Writing Genetics 304 Plant Breeding *Elective	3 3 2 3	Pr. 2 2 0 0 2 -
Agronomy 413 Soil and Crop Problems Agronomy 415 Soils and Crops Seminar Animal Husbandry 409 Animal Nutrition and Feedi History 305 Citizenship Marketing and Finance 302 Marketing *Elective	1 3 ng 3 2 3 3 2 3 4 2 1		Agricultural Engineering 424 Terracing Agronomy 416 Soils and Crops Seminar English 401 Public Speaking Farm and Panch Management 401 Farm Management *Elective	1 2 3 11 17	6 4 0 0 2 -6
Agricultural Engineering 419 Cotton Machinery Biology 315 Botany of the Cotton Plant Entomology 411 Cotton Insects Marketing and Finance 302 Marketing Textile Engineering 413 Cotton Classing *Elective	2 2 2 2 3 1	SENIOR 2	YEAR Agronomy 420 Cotton Research Methods English 401 Public Speaking Farm and Ranch Management 401 Farm Management Textile Engineering 414 Cotton Classing *Elective	1 2 3 0	0 0 2 2

Note.—Group 4a will be discontinued after September 1931.

^{**}Or English 317. For possible substitutions, see the description of English 307.

GROUP 5. ANIMAL HUSBANDRY JUNIOR YEAR

JUNIOR	YEAR		
rs per		Hours	
	Second Term		ek Pr.
2	Economics 403	3	0
2	Principles **English 303	2	0
	Technical Writing	2	2
,	Animal Prooding		2
2	Veterinary Anatomy 302	2	2
	*Elective	9	
9		18	4
	YEAR		•
0	Agricultural Engineering 424		4
2	English 401	2	0
0	Public Speaking		_
U	ment 401	3	2
	Farm Management		L
	*Elective	12	
2			
			.6
r electiv	res must include at least one	course	in
DAIR	Y HUSBANDRY		
JUNIOR	YEAR		
2	Biology 320	2	4
	Bacteriology of Dairy Produc	ts	_
3	Dairy Husbandry 306	3	2
2	agement.	man-	
_	Economics 403	3	0
2	Principles		0
	Argumentation	2	U
_		8	
9		_	_
		18	6
		•	
2	Agricultural Engineering 424	0	4
0	English 401	2	0
0	Farm and Ranch Manage-		
	ment 401	3	2
	Farm Management	12	
$\frac{-}{2}$	LICCUIVE	12	
_		17	6
	Pr. per eek Pr. 2 2 3 2 2 3 2 9 SENIOR 0 2 0 0 1 2 2 1 9 SENIOR 2 2 1 9 SENIOR 2 2 0 0 0 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	eek Second Term Pr. 2 Economics 403 Principles 2 **English 303 Technical Writing 3 Genetics 306 Animal Breeding 2 Veterinary Anatomy 302 Anatomy and Physiology *Elective 9 SENIOR YEAR 0 Agricultural Engineering 424 Terracing 2 English 401 Public Speaking 0 Farm and Ranch Management 401 Farm Management *Elective 2 relectives must include at least one DAIRY HUSBANDRY JUNIOR YEAR 2 Biology 320 Bacteriology of Dairy Produc 3 Dairy Husbandry 306 Butter Making and Factory agement. Economics 403 Principles English 303 Argumentation *Elective 9 SENIOR YEAR 2 Agricultural Engineering 424 Terracing 0 English 401 Public Speaking 0 Farm and Ranch Management 401 Farm Management *Elective 2	Pr. Second Term We Th.

Note.—In group 7, senior year, one course in Dairy Husbandry must be elected each term.

**Or English 317. For possible substitutions, see the description of English 307.

GROUP 8. ENTOMOLOGY

JUNIOR YEAR

First Term	Hours Wee		Second Term	Hours Wee	
	Th.	Pr.	,	Th.	Pr.
Agronomy 301	3	2	Economics 403	3	0
Soils Chemistry 309	3 .	3	Principles **English 307	2	0
Chemistry 309Agricultural Chemistry		-	Technical Writing		
Entomology 301	2	4	Entomology 302	2	4
*Elective			Systematic *Elective	10	
Elective			Licetive		
	16	9		17	4
	s	ENIOR	YEAR		
Entomology 401	· 2	4	Agricultural Engineering 424	4 0	4
Economic			Tormaina		
Genetics 301	3	2	English 401	2	0
Genetics History 305	3	0	Public Speaking Entomology 402	2	4:
Citizensin		Ü	Economic		•
*Elective	11		*Elective	11	
					_
	19	6		15	8
CR	OUP 9.	HO	RTICULTURE		1
GIO					
		UNIOR		-	_
Agronomy 301	3	2	Economics 403	3	o
Chemistry 309	3	3	Principles **English 307 Technical Writing	2	0
Agricultural Chemistry			Technical Writing		
Genetics 301	3	2	Genetics 304	3	2
Genetics Horticulture 317	2	4	Plant Breeding Horticulture 310 Commercial Veg. Production	2	2
		•	Commercial Veg. Production	1	2
*Elective	5	*	Florticulture 318	2	4
	_		Principles of Fruit Product *Elective	ion 5	
	16	11	Elective	/	
				17	8
		ENIOR	YEAR		
History 305	3	0	Agricultural Engineering 42	4 0	4
Citizenship Horticulture 401	2	2	Terracing	•	
Pomology		4	Biology 416 Plant Diseases	2	4
Horticulture 421	2	2	English 401	2	0
Commercial Horticulture			Public Speaking		
Marketing and Finance 302	3	0	*Elective	12	
*Elective	9			16	-8
	_			10	ø
•	20	4			
37 / P /1 1		C .1			

Note.—For the second term of the senior year, the electives must include one course in Horticulture.

**Or English 317. For possible substitutions, see the description of English 307.

GROUP 10. LANDSCAPE ART

SENIOR YEAR

First Term	ours pe Week h. Pr	Second Term We	
Architecture 407		0 English 401 2	ö
History of Art		Public Speaking	-
Landscape Art 401	3 8	8 Landscape Art 402 3	8
Landscape Art	2 (Landscape Art 0 *Flective 11	
History 305	, (o Felective11	
Marketing and Finance 302	3 (0 . 16	-8
Marketing		. 10	٥
*Elective	7 (0	
-		<u>.</u>	
<u>.</u> 1	18 8	3	

Note.—Group 10 will be discontinued, effective September, 1931.

GROUP II. POULTRY HUSBANDRY

		•	
	JUNIOR	YEAR	
Agronomy 301	3 2	Economics 403 3	0
Chemistry 309 Agricultural Chemistry	3 3	**English 307 2	0
Genetics 301	3 2	Genetics 308 2	0
Genetics Poultry Husbandry 301 Market Poultry	2 2	Poultry Breeding Poultry Husbandry 302 3 Feeding and Brooding	2
*Elective	5	*Elective9	
1	6 9	• 19	2
•	SENIOR	YEAR	
History 305	3 0	Agricultural Engineering 424 0	4
Marketing and Finance 302	3 0	English 401 2 Public Speaking	0
Poultry Husbandry 401	2 2	Poultry Husbandry 402 2 Poultry Farming	2
Poultry Husbandry 403	2 2	*Elective13	
Judging *Electivel	0 .	17	6
29	0 4		

^{**}Or English 317. For possible substitutions, see the description of English 307.

GROUP 12. RURAL SOCIOLOGY

JUNIOR YEAR

First Term Rural Sociology 311 Social Psychology • Rural Education 321 Secondary School Methods *Elective	3			0 0 0
	S	ENIOR	YEAR	
History 305	3	0	English 401	0
Citizenship Rural Sociology 405	2	2	Public Speaking Marketing and Finance 302	3 0
Social Research Rural Sociology 407	2	2	Marketing Rural Sociology 404	0
Rural Sociology Rural Sociology 415	2	2	Rural Organization *Elective12	2
*Elective	8 	_	20	0
	17	0		

^{*}Note.—In all groups the electives for the senior year must include History 305 in the first or the second term.

XIV.—COURSE IN AGRICULTURAL ADMINISTRATION

FRESHMAN YEAR

First Term Wee	ek	Second Term Hours	ek
Agricultural Economics 101 3	$\overset{\mathbf{Pr.}}{0}$	Agricultural Economics 102 3	Pr. 0
Agricultural Resources Biology 1012	4	Agricultural Resources Biology 1022	4
General Botany Chemistry 1013	3	General Botany Chemistry 1023	3
Inorganic English 1033	0	Inorganic English 1043	0
Rhetoric and Composition Mathematics 1013	0	Rhetoric and Composition Mathematics 102	0
Algebra Military Science1	2	Algebra Military Science1	2
• 15	9	15	$\frac{}{9}$
•	•		2
Accounting and Statistics 201_ 2	иомо 4	Accounting and Statistics 202 2.	4
Principles of Accounting Agronomy 105 3	2	Principles of Accounting Agronomy 3013	2
Crop Production Economics 203 3	. 0	Soils Animal Husbandry 107 2	4
Principles English 203 2	0	General Animal Husbandry Economics 204	0
Composition and Literature	-	Principles	
*Horticulture 2012 Plant Propagation and Orcharding	2	**English 210 2 Argumentation	0
Military Science1	2	Military Science1	2
13	10	13	12
*Or Dairy Husbandry 202 (2-2), or Poultry Husbandry 201 (2- or Entomology 201 (2-2)	-2),		
GROUP 1. ACCOU	JNTI	NG AND STATISTICS	
		R YEAR .	
Accounting and Statistics 301 2 Theory and Practice of Accounting	4	Accounting and Statistics 304-1	4
Accounting and Statistics 303_ 2 Statistical Method	4	Agricultural Economics 312 2 Agricultural Economics	2
History 3053	0	**English 307 2	0
*Elective7		*Elective10	
14	8	15	<u></u>

^{}**Or English 317. For possible substitutions, see the description of English 307.

			•			
		5	SENIOR	YEAR	*	
First		Hours Wee	ek Pr.	Second Term	Th.	s per eek Pr.
Accounting and	Statistics	401 I	4	*Elective	18	
Cost Accounting English 401 Public Speaking		2	0		18	<u></u>
*Elective		13				
		16	4			
*Note.—In	group 1 t	he electi	ives fo	or the second term of	the senior	year
	1			D 4 4 4		C

must include at least one course		or the second term of the senior y e Department of Accounting and S							
tistics.									
GROUP 2. AGRICULTURAL ECONOMICS									
JUNIOR YEAR									
Accounting and Sattistics 303_ 2 Statistical Method	4	Agricultural Economics 312 2	2						
History 3053	0	Agricultural Economics **English 3072	0						
Citizenship History 3213	_	Technical Writing History 3223	·						
History 321 3	0	History 322 3	0						
Industrial History of U. S. *Elective8		Industrial History of U. S. *Elective10							
- Elective		Dicetive10							
16	4	17	2						
S	ENIOR	YEAR							
Agricultural Economics 423 3	0	Agricultural Economics 402 3 Property and Contract	0						
Outline of Land Economics Economics 4133	0	Francomics 414	0						
Advanced Theory English 401 2 Public Speaking	0	Advanced Theory							
Public Speaking	U	*Elective12							
Farm and Ranch Man-		18	0						
agement 401 2	4	10	U						
Farm Management									
*Elective6									
16	4								
GROUP 3. FARM A	ND I	RANCH MANAGEMENT							
J	UNIOR	YEAR							
Agricultural Engineering 321_1	4	Agricultural Economics 312 2 Agricultural Economics	2						
Animal Husbandry 409 3	2	Agronomy 314 3	2						
Animal Nutrition		Field Crops Dairy Husbandry 202 2	2						
Farm and Ranch Management 3012	2	Doiming	L						
Farm Records and Cost Analysis	2	**English 307 2	0 -						
*Elective8		Technical Writing	•						
<u>ਜ਼</u>		Poultry Husbandry 302 3 Feeding and Brooding	2						
14	8	*Elective4							
		-	_						
		16	. 8						

**Or English 317. For possible substitutions see the description of English 307.

	S	ENIOR	YEAR						
First Term	Hours Wee	ek Pr.	Second Term	Hours We Th.					
English 401	2	0	Agronomy 308	2	2				
Public Speaking	100		Forage Crops						
Farm and Ranch Man-	2	2	Farm and Ranch Man-		6				
agement 401	2	2	agement 404	1	O				
History 305	3	. 0	*Elective	11					
Citizenship					_				
*Elective	9		9	14	8				
	17	_							
	17	2							
GROUP 4	MAR	KET	ING AND FINANCE						
GRee! "									
JUNIOR YEAR									
Accounting and Statistics 30	03 2	4	Agricultural Economics 312	2	2				
Statistical Method			Agricultural Economics						
Economics 311	3	0	**English 307	2	0				
Money and Banking History 305	3	0,	Technical Writing Marketing and Finance 302	3	0				
Citizenship		U,	Marketing		U				
Citizenship *Elective	8		*Elective	10					
	-	_	•	_	_				
	16	4		17	2				

SENIOR YEAR

	2	0	Marketing and Finance 402 3	0
Public Speaking Farm and Ranch Ma-			Agricultural Finance *Elective15	
agement 401	3	2	-	
Farm Management Marketing and Finance 401	3	n ·	18	0
Cooperative Marketing		U		
*Elective	9			

*Junior and Senior Electives

- Notes.—1. Junior electives must bear course numbers above 200, and senior electives must bear course numbers above 300.
- 2. In all groups the electives for the senior year must include History 305 in the first or second term.
- **Or English 317. For possible substitutions, see the description of English 307.

XV.—COURSE IN AGRICULTURAL ENGINEERING

FRESHMAN YEAR

First Term . We		Second Term V	rs per Veek
Agricultural Engineering 103 ()	Pr.	Agricultural Engineering 104 C	
Farm Building Construction Animal Husbandry 107 2	4	Farm Building Construction Agronomy 1053	2
General Animal Husbandry Chemistry 1013	3	Crop Production Chemistry 102	3
English 103 3 Rhetoric and Composition	0	English 104 3	()
Mathematics 101 3	. 0	Mathematics 102	0
Algebra Mathematics 1033	0	Algebra Mathematics 104	0
Trigonometry Military Science	2	Analytics Military Science1	2
	12	16	
19	12	IC	10
so	рномо	RE YEAR	
Agricultural Engineering 203_ 2	2	Agricultural Engineering 216 3	3
Gas Engines Drawing 111 0	6	Automotive Machinery Civil Engineering 204	0
Mechanical English 2032	0	Analytic Mechanics **English 210	. 0
Composition and Literature	-	Argumentation Mathematics 204	
Mathematics 203 5	0	Mathematics 204	0
Military Science1	2	Military Science	2
Physics 2033	3	Physics 2043	3
	13	17	7 8
**For possible substitutions,			Ü
	JUNIOR		
Agronomy 301 3	2	Agricultural Engineering 201 2	2 2
Civil Engineering 201 3 Plane Surveying	3	Farm Machinery Agronomy 314	3 2
Electrical Engineering 305 3	3	Civil Engineering 305	3 0
Electrical Machinery Geology 2013	2	Mechanics of Materials Civil Engineering 315 () 2
General *Elective3		Materials Laboratory Dairy Husbandry 202	2 2
	_	Dairying	
15	10	**English 307 2	
•		*Elective	3
			8

^{**}Or English 317. For possible substitutions, see the description of English 307.

<u> </u>	-		#		
First Term	Hours Wee	k	Second Term	Hours Wee	
	Th.	Pr.		Th.	Pr.
Agricultural Engineering 41	3 2	3	Agricultural Engineering 426	1	0
Agricultural Engineering 42	25 _ 1	0	Agricultural Engineering 428	3 2	4
Civil Engineering 311	3	0	Agricultural Engineering 418 Designing of Farm Structure		4
Civil Engineering 336	0	2	Electrical Engineering 431 _ Engineering Administration		0
Economics 403	3	0	History 305	3	0
English 401 Public Speaking	2	0	*Elective	6	
*Elective	6			16	8
		-			
	17	5			

*Junior and Senior Electives
Junior electives must bear course numbers above 200, and senior electives must bear course numbers above 300.

XX.—COURSE IN LANDSCAPE ART

FRESHMAN YEAR

		LOIIIII	III I DAIR		
First Term	Hour. We	s per	Second Term	Hours We	
	Th.	Pr.		Th.	Pr.
Architecture 101	0	3	Architecture 102	0	3
Architectural Drawing Architecture 109 Freehand Drawing	0	2	Architectural Drawing Architecture 110 Freehand Drawing	0	2
Biology 101	2	4	Riology 102	2	4
Chemistry 101		3	General Botany Chemistry 102	3	3
English 103	3	0	Inorganic English 104 Rhetoric and Composition	3	0
Rhetoric and Composition History 101	3	0	History 102	3	0
Western Europe Military Science		2	Western Europe Military Science		2
Military Science	I	2	Military Science	I	2
	12	14		12	14
	so.	DUOMO	RE YEAR		
English 203		0	Agricultural Education 207	3	. 0
English 203 Composition and Literature			Psychology		-
Entomology 201	2	2	**English 210 Argumentation	2	0
History 305	3	0	Landscape Art 202	2	2
Citizenship Horticulture 201	2	2	Landscape Art 302	2	0
Plant Propagation Military Science	1	2	History of Landscape Art Military Science	1	2
Elective	6		Elective	6	_
	_	-			_
	16	6		16	4
**For possible substitut	ions,	see the	e description of English 210.		
-					
		JUNIOR			
Agricultural Engineering 30	5_ 2	4	Architecture 206	0	4
Terracing and Drainage Agronomy 301	3	2	Freehand Drawing Economics 403	3	0
Soils Architecture 205		4	Principles **English 307	2	0
Freehand Drawing	0	т	Technical Writing		U
Freehand Drawing Landscape Art 301	2	4	Horticulture 314	2	2
Introduction of Landscape A *Elective	5		Landscape Art 304	0	8
	_	_	Landscape Design *Elective		
	12	14	Diective	⁰	
				13	14

^{**}Or English 317. For possible substitutions, see the description of English 307.

			2 20.00		
First Term	Hours We		Second Term	Hours We	
	Th.	Pr.		Th.	Pr.
English 401	2	0	Economics 316	3	0
Public Speaking			Business Law		
Horticulture 317	2	4	Horticulture 420	1	4
Fruit Growing			Experimental		
Landscape Art 401	3	. 8	Landscape Art 402	3	8
Landscape Art			Landscape Art		
*Elective	8		*Elective	7	
		_			—
	15	12	•	14	12

*Junior and Senior Electives

- Notes.—1. Junior electives must bear course numbers above 200, and senior electives must bear course numbers above 300.
- 2. In all groups the electives for the senior year must include History 305 in the first or second term.

C. TWO-YEAR COURSE IN AGRICULTURE

FIRST YEAR

	Hours	per	Hours	per
First Term	_Wee		Second Term •We	
	Th.	Pr.	Th.	Pr.
Agricultural Engineering 21	l I	4	Agricultural Engineering 22 1	4
Farm Shop	2	-	Farm Shop	- 7
Agronomy 25)	2	Animal Husbandry 24 0	4
Soils	^	4	Market Types	
Animal Husbandry 23	0	4	Biology 202	4
Market Types	2	4	Elements of Botany	0
Chemistry 21	Z	4	English 323	0
Descriptive	2	0	Rhetoric and Composition	2
English 31	3	0	Entomology 222	Z
Rhetoric and Composition	2	2	Elementary Econ. Ento.	2
Horticulture 21		2	Military Science 102	2
Plant Culture and Propaga		2	Poultry Husbandry 26 2	2
Military Science 101	1	2	Farm Poultry	•
			Textile Engineering 102 0	2
	12	18	Cotton Classing	
			· · · · · · · · · · · · · · · · · · ·	
			11	20

SECOND YEAR

Seventeen term-hours each term from the following in addition to Military Science.

9,111,111				
Agricultural F	Engineering 2012	2	Agricultural Engineering 216 2 Automotive Machinery	4
Agricultural E	Engineering 203 2	0	Agricultural Engineering 402 2 Automobiles and Motor Trucks	4
Agricultural E	Engineering 305 2	4	Agricultural Engineering 422 2	3
Agronomy 10	5 3	2	Animal Husbandry 52 2 Breeding	2
	ndry 55 2	2	Animal Husbandry 58 2 Livestock Management	2
Animal Husba	andry 203 1	4	Animal Husbandry 202 2	2
Livestock	ses and Grades of adry 2022	2	Breed Types Entomology 562	. 2
Dairying	53 3	2	Apiculture Farm and Ranch Man-	
Tree and Vi	ne Fruits	2	agement 50 2 Farm Organization and	_4
Poultry Husb	andry 301 2	2	Management Horticulture 4181	. 4
Market Poul	try		Nut Culture Military Science 2021	2
			Poultry Husbandry 302	2
			Veterinary Anatomy 306 3 Animal Diseases	2

THE SCHOOL OF ARTS AND SCIENCES XIX.—COURSE IN LIBERAL ARTS

(Leading to the Degree of Bachelor of Arts)

The Course in Liberal Arts is planned to meet the needs of students who are interested in other than technical studies, and who desire a broad, general education as a preparation for intelligent citizenship. The first two years are spent in introductory work in essential fundamental subjects. The purpose of this plan is to give to the student breadth of view, and to enable him to take a more intelligent part in his own education. During the two upper years the student selects a major and a minor field of study, and appropriate electives, under the advice and direction of the Dean of the School of Arts and Sciences.

FRESHMAN YEAR (See note 1, below)

	(See	HOLC	i, below)		
	Hours			Hours	per
First Term	Wee		Second Term	Wee Th.	
Chemistry 101	Th.	3	Chemistry 102	7 n.	Pr.
Inorganic		,	Inorganic	J)
English 103	3	0	English 104	3	Ø
Rhetoric and Composition		Ū	Rhetoric and Composition		U
History 101	3	0	History 102	3	0
Western Europe			Western Europe		
Matehmatics 101	3	0	Mathematics 103	3	0
Algebra		•	Trigonometry		_
Military Science	<u>l</u>	2	Military Science	<u>l</u>	2
Modern Language	3	0	Modern Language	3	0.
French, German or Spanish			French, German or Spanish		
	_	_			_
	16	5		16	5
	COL	NI CAAC	DRE YEAR		
		note	2, below)		
Biology 211	2	4	Biology 212	2	4
General Riology			General Biology Economics 204		
Economics 203	3	0	Economics 204	3	0
Principles English 231	:	^	Principles English 232	•	_
English 231	3	0	English 232	3	0
English Literature		2	English Literature		2
Military Science	<u>I</u>	2	Military Science	<u>I</u>	2
Modern Language	3	0	Modern Language	3	0
French, German or Spanish	2		French, German or Spanish	2	
Elective)		Elective)	
· · · · · · · · · · · · · · · · · · ·		_			
•	15	6		15	0
		IUNIO	R YEAR		
•					
	•		3, below)		
Elective	18		History 305	3	0
	_		Citizenship		
•	18	0	Elective	לו	
					_
				18	0

SENIOR YEAR (See note 3, below) Hours per Hours per First Term Second Term Week Th. 2 English 401 *Elective Public Speaking *Elective .16 18 0 18

NOTES

1. In the Freshman year Physics 201-202 (Principles of Physics) may, for sufficient reason, be taken in place of Chemistry 101-102.

Mathematics 102 (Advanced College Algebra), or Mathematics 104 (Analytic Geometry), must be taken in the second term of the Freshman year in place of Mathematics 103 (Trigonometry), if the latter subject was completed in preparatory school.

- 2. In the Sophomore year one of the following may be taken in place of Biology 211-212: Biology 103-104 (General Botany), Biology 203-204 (Zoology), or Geology 201-202 (General and Historical Geology).
- 3. A minimum of eight term hours of advanced work in English must be taken as a part of the elective work in the junior and senior years.

MAJOR AND MINOR STUDIES

By April 15 of his sophomore year the student selects a major and a minor field of study, according to the following directions:

- 1. One of the following departments must be chosen as the field of major study: Economics (including Accounting and Statistics, Agricultural Economics, Marketing and Finance), English, History, Mathematics, Modern Languages, Physical Education. Suggested programs for students majoring in Economics or in Physical Education are outlined on pages 116, 118.
- 2. For his minor study the student may select one of the above departments other than that of his major study, or one of the following: Biology, Chemistry, Entomology, Geology, Physics.
- 3. The remainder of the elective work may be taken in any of the departments indicated above, or from other departments of the College, subject to the approval of the Dean of the School of Arts and Sciences.
- 4. Before graduation the student must complete in his major study a minimum of from 18 to 24 term hours, and in his minor study at least 12 term hours, not including the prescribed subjects of the Freshman and Sophomore years.
- 5. For more detailed information regarding major studies, minor studies, and electives, see the "Handbook of the School of Arts and Sciences," a copy of which may be secured by writing to the Registrar of the College.

^{*}For the session 1930-31 seniors must include History 305 in their electives.

THE FOREIGN LANGUAGE REQUIREMENT

Students who do not present a foreign language for admission must complete a minimum of 18 term hours in one foreign language; others will complete a minimum of 12 term hours, except where three units in one language, or two units in each of two languages, are presented for admission, in which case 6 term hours of advanced work in one of the languages presented will cover the requirement; provided, that the satisfactory completion of four years of a modern foreign language in preparatory school will exempt the student from the language requirement in the course in Liberal Arts.

STUDIES PREPARATORY TO LAW

Students planning to enter Law School should matriculate in the Course in Liberal Arts, and take the following program in the Freshman and Sophomore years:

Freshman, Year

English 103-104
Rhetoric and Composition
Mathematics 101-103
Algebra; Trigonometry
History 213-214
History of England
Chemistry 101-102
Or Biology 211-212.
History 211-212
Comparative Government
Military Science
Physical Training

Sophomore Year

English 231-232
English Literature
Agricultural Education 207
Psychology
History 305
Citizenship
Economics 203-204
Principles of Economics
History 215-216
United States History
Agricultural Economics 201-202
Principles of Accounting
Military Science

The above program covers the *minimum* requirement for admission to Law School. Where possible, the student should complete the course in Liberal Arts, with History and Economics as the principal studies, and obtain the degree of Bachelor of Arts before beginning the study of law.

PROGRAM FOR STUDENTS MAJORING IN ECONOMICS

FRESHMAN YEAR

As outlined for the Course in Liberal Arts.

SOPHOMORE YEAR

As outlined for the Course in Liberal Arts, with Accounting and Statistics 201-202 (Principles of Accounting) as the elective study.

JUNIOR YEAR

		o o i i i o i c	I Little			
First Term	We	s per eek	Second Term		Hours We	ek
Accounting and Statistics 303_	Th. 2	Pr. 4	Agricultural Educa		Th. _ 3	Pr. 0
Statistical Method Economics 311	3	0	Psychology Economics 316		_ 3	0
Money and Banking History 211	3	0	Business Law History 212		3	0
Comparative Government Elective	9		Comparative Govern	iment	9	
,	17	4	•		18	0
		SENIOR	YEAR			
English 401	2	0	History 305		3	0
Public Speaking Marketing and Finance 302	3	0	Citizenship Economics 412		3	0
Marketing Economics 413Advanced Economic Theory	3	0	Public Finance and Economics 414		_ 3	0
Elective	10		Advanced Economic Elective		9	
¥.	18	0			18	0

Suggested electives in the Junior and Senior Years: A. and S. 301-302 (Advanced Accounting), A. and S. 304 (Auditing), A. and S. 401 (Cost Accounting), A. and S. 403 (Income Tax), A. and S. 404 (Advanced Statistics); Agr. Economics 402 (Property and Contract), Agr. Economics 423 (Land Economics); Economics 315 (Insurance), Economics 318 (Labor Problems), Economics 408 (Corporation Finance), Economics 409 (Foreign Trade Exchange); English 317 (Commercial Correspondence); History 307-308 (Industrial History); M. and F. 404 (Transportation); Mathematics 207-208 (Investments); Military Science.

PROGRAM FOR STUDENTS MAJORING IN PHYSICAL EDUCATION

FRESHMAN YEAR

As outlined for the course in Liberal Arts, except that Biology 203-204, (Zoology) takes the place of Math. 101-103.

SOPHOMORE YEAR

As outlined for the course in Liberal Arts, except that Biology 221 (2-4) (Anatomy and Physiology), and Phys. Ed. 206 (3-0) (Personal and Community Hygiene) take the place of Biol. 211-212; and Phys. Ed. 203-204 (2-4) (Methods in Physical Education) is taken as the elective study.

JUNIOR YEAR

First Term	Hour We Th.	s per ek Pr.	Second Term W Th.	s per eek Pr.
Agricultural Education 207		Ö	Physical Education 3083	ö
Physical Education 305	3	0	Physical Education 306 3 Public School Phys. Ed.	0
Physical Education 311	3	2	Physical Education 3123	2
Fundamentals of Ath. Coach Rural Education 321 Secondary School Methods	3	0	Fundamentals of Ath. Coaching Rural Education 3223 Secondary School Administration	0
Elective	0		Elective6	
	_	-	_	
	18	2	18	2
	, ;	SENIOR	YEAR	
English 401Public Speaking	2	0	History 305 3	0
Physical Education 401	3	2	Physical Education 402	2
Th. and Pr. of Ath. Coaching Physical Education 403 Org. and Adm. of Phys. Ed.	3	0	Physical Education 404	0
Elective			Elective9	
•		_	_	
	17	2	18	2

X.—COURSE IN SCIENCE

The work of the Course in Science is planned with the following purposes in view:

- 1. To prepare students for research in pure science and for practical work in the fields of Biology (Botany, Zoology, Bacteriology), Chemistry, Entomology, Geology and Physics, especially as they relate to Agriculture, Engineering, and the allied industries.
- 2. To train teachers of Science in secondary schools and other institutions of learning.
- 3. To provide the necessary fundamental preparation for students planning to enter upon the study of medicine. (See page 120).

	FRI	ESH M	AN YEAR		
First Term Biology 203	Hours Wee Th.		Second Term Biology 204	Hours We Th.	per ek Pr. 4
Chemistry 103	3	4	Zoology Chemistry 104	3	4
Inorganic English 103		0	Inorganic English 104	3	0
Mathematics 101		0	Rhetoric and Composition Mathematics 103	3	0
Algebra Military Science	1	2	Trigonometry Military Science	1	2
Modern Language	3	0	Modern Language	3	0
	15	10		<u>15</u>	10
	SOI	номо	DRE YEAR		
English 231	3	0	English 232	3	0
English Literature Military Science Modern Language	1	2	English Literature Military Science Modern Language	1 3	2
French or German Physics 201	3	2	French or German Physics 202		2
College Physics Elective	8		College Physics Elective	8	
	18	4	•	18	4
		JUNIO	R YEAR		
Economics 403	3	0	History 305	3	0
Principles Elective	16		Citizenship Elective	16	
	<u>19</u>	0		19	0

F	irst Term	Hours per Week		Second Term		s per eek	
English 401		Th. 2	Pr. 0	*Elective	Th. 20	Pr.	
*Elective	aking	18			20	0	
	•	20	0				

*For the session 1930-31 seniors must include History 305 in their electives.

NOTES

1. By April 15 of his sophomore year, the student must designate as his major department one of the following: Biology (botany, zoology, bacteriology), Chemistry, Geology, Physics.

A suggested program of studies for students majoring in Geology is given on page 121.

- 2. Before graduation he must complete in his major department a minimum of from 24 to 30 term hours, not including prescribed subjects. Certain studies from other departments, closely allied to his major subject, are to be included in the electives.
- 3. A minimum of eight term hours of advanced work in English must be taken as a part of the elective work in either the Junior or the Senior year.
- 4. For more detailed information regarding major studies, allied subjects, and electives, see the "Handbook of the School of Arts and Sciences," a copy of which may be secured by writing to the Registrar of the College.

THE FOREIGN LANGUAGE REQUIREMENT

French or German is to be taken in satisfaction of the Foreign Language requirement. Students who do not present a foreign language for admission must complete a minimum of 18 term hours in one of these languages; others will complete a minimum of 12 term hours, except where at least three units in German or French are presented, in which case 6 term hours of advanced work in the same language will satisfy the requirement; provided, that the completion of four years of either French or German in preparatory school will exempt the student from the language requirement in the Course in Science.

STUDIES PREPARATORY TO MEDICINE

Students planning to enter the study of medicine should enroll in the Course in Science and take the following program of studies in the Freshman and Sophomore years:

Freshman Year

As outlined for the Freshman year of the Course in Science, page 119.

Sophomore Year

As outlined for the Sophomore year of the Course in Science, with the following as electives: Biology 317-318 (Comparative Vertebrate Zoology), and Chemistry 301-302 (Organic Chemistry).

The above program covers the *minimum* requirements for admission to Medical School. Where possible, the student should complete the course in Science, with Biology and Chemistry as the principal studies, and obtain the degree of Bachelor of Science before beginning the study of medicine.

If the student is unable to spend more than two years in preparation for the study of medicine he should substitute Agr. Education 207 (Psychology) and History 305 (Citizenship) for English 231-232 in the Sophomore year.

Students in the course in Science who complete at least the minimum program outlined above, and who subsequently complete the first two years in medicine at a Class A medical school, will be awarded the degree of Bachelor of Science upon transferring their medical credits back to the A. and M. College of Texas, provided the grade point requirement has been met.

PROGRAM FOR STUDENTS MAJORING IN GEOLOGY

FRESHMAN YEAR

As outlined for the course in Science, page 119, except that Physics 201-202 (Principles of Physics) is taken in place of Biology 203-204 (Zoology); and Language 103-104 (Ģerman) is taken in satisfaction of the language requirement.

SOPHOMORE YEAR

As outlined for the course in Science, except that Biology 203-204 is taken in place of Physics 201-202. German is continued, and Geology 201-202 (General and Historical Geology), Geology 205-206 (Crystallography and Mineralogy), are taken as electives.

JUNIOR YEAR

First Term	Hours Wee		Second Term	Hours Wee	
Economics 403		0	Civil Engineering 206	1	3
Geology 303	2	4	Plane Surveying Geology 304		4
Geology 305	3	3	Geology 306	3	3
Paleontology History 305	3	0	Geology 312	3	2
Citizenship Elective	6		Structural Geology Elective	6	
	17	7		15	12
	S	ENIOR	YEAR		
Architecture 101	0	3	Architecture 102	0	3
Architectural Drawing English 401	2	0	Architectural Drawing Geology 404	3	3
Public Speaking Geology 405	3	2	Geology 416	1	4
Economic Geology Geology 415	1	4	Field Methods Geology 418	3	2
Field Methods Geology 417	3	2	Advanced General Geology Elective	6	
Advanced General Geology Elective	6			13	12
	15	$\overline{11}$			

Suggested electives in the Junior and Senior Years. Biology 103-104 (Botany); Chem. Eng. 407 (Industrial Chemistry), Chem, Eng. 408 (Metallurgy); Chemistry 206 (Organic), Chemistry 207 (Quantitative Analysis), Economics 316 (Business Law); Mathematics 102 (Advanced Algebra), Mathematics 104 (Analytic Geometry), Mathematics 203 (Calculus); Military Science; advanced courses in English.

THE SCHOOL OF ENGINEERING

IX.—COURSES IN ARCHITECTURE

GROUP 1. GENERAL COURSE

FRESHMAN YEAR

	3 2 3	Second Term Architecture 102 Architectural Drawing Architecture 110 Freehand Drawing Chemistry 102 Inorganic Drawing 104	0 3	
Descriptive Geometry English 103	0	Descriptive Geometry English 104	3	0
Mathematics 101	0	Rhetoric and Composition Mathematics 102		0.
Algebra Mathematics 103	0	Algebra Mathematics 104	3	0
Trigonometry Mechanical Engineering 101 1	2	Analytics Mechanical Engineering 102		2
Engineering Problems Military Science1	2	Engineering Problems Military Science	1	2
	12		16	14
S	орном	ORE YEAR		
Architecture 201 0	10	Architecture 202	0	14
Architecture 203 1 Shades, Shadows and Perspective	0	Architecture 206		4
Architecture 2050	4	Freehand Drawing Architecture 208	2	0
Architecture 207 2	0	Architecture 218	3	0
Architecture 217 3	0	English 210 Argumentation	2	0
Elements of Mechanics English 203 2 Composition and Literature	0	Military Science Physics 204	1	2
Military Science1	2	General	3	3
Physics 203 3	3		11	23
12	19			

SUMMER WORK

Architecture 300, Working Drawings, three weeks

JUNIOR YEAR

First Term	Hours Wee		Hours Second Term We Th.	per ek Pr.
Architecture 301	_ Ö	15	Architecture 3020	115
Architecture 305	0	4	Architecture 3060	4
Freehand Drawing Architecture 309	2	0	Architecture 318	3
Architecture 317	_ 2	3	Reinforced Concrete History 3053	0
Framed Construction Economics 403	3	0	Citizenship Modern Language 102 3	0
Principles Modern Language 101	. 3	0	French *Elective3	
French *Elective	3		 12	$\frac{}{22}$
	- 13	- 22		

*To be chosen from List A, page 137.

SUMMER WORK

Architecture 400, Working Drawings, three weeks

SENIOR YEAR

Architecture 4010	18	Architecture 4020	20
Design Architecture 4072	0	Design Architecture 4062	0
History of Art Architecture 409 0	4	Professional Practice Architecture 4100	4
Freehand Drawing History 3053	0	Freehand Drawing Architecture 4141	0
Citizenship Modern Language 201	0.	Modern Architecture English 401 2	0
French *Elective 3	U	Public Speaking	0
*Elective		Modern Language 202 3	U
11	22	*Elective3	
		. 11	24

^{*}To be chosen from List A, page 137.

GROUP 2. STRUCTURAL COURSE

FRESHMAN YEAR

Same as in Group 1.

SOPHOMORE YEAR

First Term	Hours Wee Th.		Hour Second Term W Th.	s per eek Pr.
Architecture 201a	0	8	Architecture 202a0	4
Architecture 203	1	0	Architecture 2060	4
Principles of Perspective	Λ	4	Freehand Drawing	^
Architecture 205	0	4	Architecture 208 2	U
Architecture 207	2	0	Civil Engineering 204 3	0
History	2	0	Analytic Mechanics	0
English 203 Composition and Literature	4	U	English 210 2	U
Mathematics 203		0	Mathematics 2045	0
Calculus			Calculus	_
Military Science	l	2	Military Science1	2
Physics 203	3	3	Physics 204 3	3
General			General	
		_		
	14	17	16	13

SUMMER WORK

Architecture 300, Working Drawings, three weeks

JUNIOR YEAR

		1 Line	
Architecture 305 0	4	Architecture 306 0	4
Freehand Drawing Architecture 3092	0	Freehand Drawing Architecture 3120	12
History of Architecture	U	Design United the Design	12
Architecture 311 0	12	Civil Engineering 340	0
Design C: 1 D	2	El. Structural Analysis	,
Civil Engineering 2061	3	Civil Engineering 342 0 Structural Drafting	4
Civil Engineering 305 3	U	History 3053	0
Mechanics of Materials	_	Citizenship	
Civil Engineering 3150	2	Mechanical Engineering 324 3	0
Materials Laboratory	0	Steam and Gas Power	
Economics 403 3	0	*Elective 3	
*Elective3		12	20
_		12	20
12	21		

^{*} To be chosen from List A, page 137.

SUMMER WORK

Architecture 400, Working Drawings, three weeks

First Term	Hours Wee		Second Term	ours We	
Architecture 407	2	ö	Architecture 406	2	0
History of Art			Professional Practice	_	
Architecture 411	0	14	Architecture 412	. 2	12
Structural Design	_	_	Structural Design		
Civil Engineering 413	2	0	Architecture 414	. 1	0
Elements of Reinf. Concrete	_	_	Modern Architecture	_	_
Geology 201	3	2	Electrical Engineering 436	3	U
General		_	Wiring and Lighting	•	•
Mechanical Engineering 403	I	3	English 401	Z	0
Laboratory	~		Public Speaking	•	^
*Elective	3		History 305	3	U
			Citizenship	2	
	11	19	*Elective	3	
				_	_
				16	12

^{*}To be chosen from List A, page 137.

COURSES IN ENGINEERING

(The Curricula for all engineering courses are identical in the Freshman Year.)

FRESHMAN YEAR

Chemistry 101 3	3	Chemistry 102 3	3
Inorganic Drawing 1110	6	Inorganic Drawing 1242	4
Mechanical	٥	Descriptive Geometry	
English 103 3 Rhetoric and Composition	0	English 104 3 Rhetoric and Composition	U
Mathematics 1013	0	Mathematics 102 3	0
Algebra Mathematics 103 3 Trigonometry	0	Algebra Mathematics 104	0
Mechanical Engineering 101 1	2	Mechanical Engineering 102 1	2
Engineering Problems Military Science 1	2	Engineering Problems Military Science1	2
			_
14	13	16	11

VIII.—COURSE IN CHEMICAL ENGINEERING

(Gas, Petroleum Refining and Cotton Seed Oil)

FRESHMAN YEAR (See page 126).

	YEAR

First Term We Th. Chemistry 205 2 Qualitative Analysis Drawing 201 0 Mechanical English 203 2		Second Term Chemical Engineering 202 Quantitative Analysis Drawing 202 Mechanical English 210	0	
Composition and Literature Mathematics 2035 Calculus	0	Argumentation Mathematics 204	5	0
Military Science 1 Physics 203 3 General 3	3	Military SciencePhysics 204General	1 3	2
13	15	•	13	15
•	JUNIOR	YEAR		
Chemical Engineering 301 2	8	Chemistry 302	3	4
Quantitative Analysis		Organic		_
Chemistry 3013	4	Civil Engineering 206	I	3
Economics 403 3	0	Electrical Engineering 305	3	3
Principles History 305	- 0	Electrical Machinery		٥
Citizenship	. 0	Electrical Engineering 431	Z	0
*Elective 3		Mechanical Engineering 320		0
14	12	Thermodynamics *Elective	3	
14	12			_
	_		17	10
*To be chosen	n from	ı List A, page 137.		
	ENIOR	YEAR .		
Chemical Engineering 409 3	6	Chemical Engineering 416 _	3	4
Gas and Oil Technology	-	Chemical Technology		-
Chemical Engineering 411 3 Physical Chemistry	4	Chemical Engineering 418	3	4
English 401 2	0	Physical Chemistry Chemistry 438	1	0
Public Speaking	3	Seminar		2
Geology 401 2 Coology for Engineers)	**Geology 408 Geology for Engineers	3	3
Mechanical Engineering 403 1	3	Mechanical Engineering 404.	i	. 3
*Elective3		*Elective	3	
	_	Diccirc	<i>)</i>	
14	16		14	14
*To be chosen	n from	List A, page 137.		

^{**}Students specializing in Cotton Seed Oil Engineering will substitute Chemical Engineering 422 for Geology 408.

IV.—COURSE IN CIVIL ENGINEERING

FRESHMAN YEAR (See page 126).

SOPHOMORE YEAR

First Term	Hours Wee Th.			s per eek Pr.
Civil Engineering 201		3	Civil Engineering 2023	3
Surveying		_	Railroad Engineering	_
Drawing 201	0	2	Civil Engineering 204 3	0
Mechanical	2	0	Analytic Mechanics	_
English 203	Z	0	Drawing 202 0	Z
Composition and Literature		0	Mechanical	٥
History 305		U	English 210 2	U
Mathematics 203	5	0	Mathematics 204	n
Calculus		U	Calculus	U
Military Science	1	2	Military Science1	2
Physics 203	3	3	Physics 204 3	3
General			General	
			<i>←</i>	_
	17	10	17	10

SUMMER WORK

Civil Engineering 300s, Field Practice, six weeks.

JUNIOR YEAR

Civil Engineering 305 3	0	Civil Engineering 3062	0
Mechanics of Materials		Masonry	
Civil Engineering 3150	2	Civil Engineering 311	0
Materials Laboratory		Hydraulics	
Civil Engineering 331	0	Civil Engineering 3360	2.
Analytic Mechanics	•	Hydraulics Laboratory	_
Civil Engineering 333 0	3	Civil Engineering 340	Ο
Railroad Surveying	,	Elem. Structural Analysis	U
Civil Engineering 335	4		1
	4	Civil Engineering 3420	4
Estimating and Drafting	^	Structural Drafting	•
Economics 4033	0	Geology 2013	Z
Principles		General	_
Electrical Engineering 305	3	Mechanical Engineering 324 3	0
Electrical Machinery		Steam and Gas Power	
*Elective3		*Elective3	
· <u> </u>		_	
15	12	17	-0
17	12	17	O

^{*}To be chosen from List A, page 137.

		1	
First Term V	3 0 2 0 2 4 3 0 6 3		s per eek Pr. 3 4 0 0 0 0
*To be ch	osen fr	om the following:	
Chemistry 441 Chemical Testing, Water and	2 3	Biology 418I	4
Sewage Civil Engineering 417	2 3	Civil Engineering 434	0
Bituminous Materials Civil Engineering 448	3 0	Civil Engineering 446	0
Engineering Economics Civil Engineering 453 Structural Design		Civil Engineering 452 3 Structural Engineering Municipal and Sanitary	0
Municipal and Sanitary Engineering 403	0 6	Engineering 406 3 Sanitary and Public Health	0
Sanitary Design		Municipal and Sanitary Engineering 408	0

By proper choice of electives from the above list students may specialize in Highway, Structural, Municipal, or Sanitary Engineering.

V.—COURSE IN ELECTRICAL ENGINEERING

FRESHMAN YEAR (See page 126).

SOPHOMORE YEAR

	2 3 6 0 0 3 2 2 3 2 3 2 3 2 3 2 3 2 3 2 3 3 2 3 3 2 3 3 2 3	Second Term	
		14	16
F	JUNIOR	YEAR	
Economics 4033	0	Civil Engineering 305 3	0
Electrical Engineering 301		Civil Engineering 315	2
Mathematics 305 2 Differential Equations	0	Electrical Engineering 302 5 Alternating Currents	2
Mechanical Engineering 317 3	0	Electrical Engineering 304 1 Alternating Current Laboratory	4
Engineering Mechanics Mechanical Engineering 323 4 Thermodynamics	0	History 3053	0.
Elective from List A		Citizenship Mechanical Engineering 318 2	0
18	6	Engineering Mechanics Elective from List A	
		17	8

First Term Ween Th. Electrical Engineering 401 4 A. C. Machinery Electrical Engineering 403 0 Alternating Current Laboratory Electrical Engineering 405 3 Electrical Engineering 431 2 Engineering Administration English 401 2 Public Speaking Mechanical Engineering 403 1 Laboratory Electrice from List A 3 Elective, general 2 *To be chose	Pr. 0 7 0 0 0 3 - 10	Second Term Second Term Wee Th. Electrical Engineering 402 4 A. C. Machinery Electrical Engineering 404 0 Alternating Current Laboratory Electrical Engineering 432 3 Public Utility Problems Mechanical Engineering 404 1 Laboratory *Technical electives 6 Elective from List A 3 17	
Electrical Engineering 425 2	2	Civil Engineering 311 3	0
Illumination Engineering Electrical Engineering 507 2 Adv. Alt. Current Machinery	4	Hydraulics Electrical Engineering 406 3 Elec. Distribution and Transmission	0
Mechanical Engineering 407 3 Mechanical Refrigeration	0	Electrical Engineering 414 3 Radio Communication	0
Mechanical Refrigeration		Electrical Engineering 416 3	0
		Electrical Engineering 426 2 Illumination Engineering	2
al .		Electrical Engineering 428 2 Telephone Engineering	2 -
		Electrical Engineering 508 2 Adv. Alt. Current Machinery	4

III.—COURSE IN MECHANICAL ENGINEERING

FRESHMAN YEAR (See page 126).

SOPHOMORE YEAR

First Term W Th. Chemistry 207 2 Quantitative Analysis Civil Engineering 206 1 Surveying Drawing 201 0 Mechanical English 203 2	3 3		1 3 2 0
Composition and Literature Mathematics 2035		Calculus Mechanical Engineering 202	0 3
Calculus Mechanical Engineering 201 0 Pattern Making and Foundry Military Science 1 Physics 203 3 General	2	Pattern Making and Foundry Mechanical Engineering 212 Engineering Mechanics Military Science Physics 204 General	1 2
14	16	Ï	5 13
	JUNIO	R YEAR	
Civil Engineering 305	0	Civil Engineering 315	3 0
Mechanical Engineering 307 2	3	History 305	3 0
Mechanical Engineering 309 0	3	Mechanical Engineering 310	0 3
Mechanical Engineering 313 3 Engineering Mechanics *Elective	0	Mechanical Engineering 320 Thermodynamics *Elective	
17	9	1	7 8

Electrical Engineering 431 2 Engineering Administration	0	English 401 2 Public Speaking	0
Mechanical Engineering 303 2	3	Mechanical Engineering 304 2	3
Machine Design	_	Machine Design	-
Mechanical Engineering 403 1	3	Mechanical Engineering 404 1	3
Laboratory		Laboratory	
Mechanical Engineering 417 3	0	Mechanical Engineering 418 3	0
Power Engineering		Power Engineering	
Mechanical Engineering 419 3	0	Mechanical Engineering 420 3	0
Industrial Engineering		Industrial Engineering	
Mechanical Engineering 423 3	0	*Elective3	
Industrial Administration		**Technical Elective3	
*Elective		reclinear Elective	
Elective		_	
		17	6
17	6	17	v

^{*}To be chosen from List A, page 137.

^{**}To be chosen from the following:

Chemical Engineering 407 _ 2	3
Industrial Chemistry	^
Mechanical Engineering 4073	0
Refrigeration Mechanical Engineering 430 2	2
Production Engineering	-
Mechanical Engineering 428 2	3
Aerodynamtics	-

XXIII.—COURSE IN PETROLEUM PRODUCTION ENGINEERING

(Effective through the Junior Year for the Session 1930-31)

FRESHMAN YEAR (See page 126).

SOPHOMORE YEAR

House	ma mam	Hours	
First Term W	rs per eek		ek
Drawing 2010	Pr. 2	Civil Engineering 2061	Pr. 3
English 203 2		Drawing 2020	2
Geology 201	2	Mechanical English 210 2	0
Mathematics 2035	0	Argumentation Geology 2023	3
Military Science 1	2	Historical Mathematics 2045	0
Petroleum Engineering 201 3	0	Calculus	•
Drilling and Development Physics 203 3	2	Military Science1 Petroleum Engineering 202 2	2
Physics 203 3 General	3	Petroleum Engineering 202 2	0
General		Drilling and Development Physics 2043	3
17	9	General	,
••		- 17	13
	JUNIOR	YEAR	
Civil Engineering 311 3		Civil Engineering 305 3	0
Hydraulics Civil Engineering 3360	2	Mechanics of Materials Civil Engineering 315	2
Hydraulics Laboratory Electrical Engineering 307 3	3	Materials Laboratory Electrical Engineering 3083	3
Electrical Machinery Geology 3073		Electrical Machinery . Geology 3123	
Mineralogy and Petrology		Structural	2
Mechanical Engineering 317 3	0	Mechanical Engineering 324 3 Steam and Gas Power	0
Petroleum Engineering 301 2 Oil and Gas Transportation	0	Petroleum Engineering 302 3 Equipment and Applications	2
Elective3		Elective3	
-	_	, =====================================	_
17	9	18	9
	SENIOR	YEAR	
Chemical Engineering 419 3	0	English 401 2 Public Speaking	0
Petroleum Refining Economics 4033 Principles	0	Geology 404	3
Mechanical Engineering 323 4 Thermodynamics	0	Petroleum History 305 3 Citizenship	0
Mechanical Engineering 403 1	3	Mechanical Engineering 404 1	3
Petroleum Engineering 401 3 Oil and Gas Measurements	2	Petroleum Engineering 402 3 Oil Field Management	2
Petroleum Engineering 403 0 Petroleum Problems	4	Petroleum Engineering 404 0	4
Elective3		Petroleum Problems Elective3	
17	. 9	15	12

VI.—COUSE IN TEXTILE ENGINEERING

FRESHMAN YEAR (See page 126).

SOPHOMORE YEAR

First Term	Hours Wee		Second Term	ours We	
Chemistry 207		3	Chemistry 208		13
Quantitative Analysis	0	2	Technical Analysis	1	2
Drawing 201	0	2	Civil Engineering 206	. 1	,
English 203	2	0	Drawing 202	. 0	2
Composition and Literature	-	0	Mechanical	•	_
*Mathematics 203	<i>)</i>	0	English 210	2	0
Military Science	1	2	Mechanical Engineering 307	2	2
Physics 203		3	Kinematics	-	_
General	0	_	Military Science	1	2
Textile Engineering 207	0	3	Physics 204	3	3
Weaving	_	_	General Textile Engineering 206	0	3
	13	13	Yarn Manufacture	U	,
				10	18

*Or Accounting and Statistics 201, Accounting; and Accounting and Statistics 202, Accounting

JUNIOR YEAR

Chemistry 206 3	2	Chemistry 308 2	4
History 305	0	Electrical Engineering 305 3	3
Mechanical Engineering 309 0 Machine Shop	3	Mechanical Engineering 324 3 Steam and Gas Power	0
Textile Engineering 3012	3	Textile Engineering 302() Yarn Manufacture	2
Yarn Manufacture Textile Engineering 303 0	3	Textile Engineering 3040	3
Fabric Design Textile Engineering 307	3	Fabric Design Textile Engineering 306 3	3
*Elective3		Weaving *Elective3	
	_	_	_
14	14	14	15

^{*}To be chosen from List A, page 137.

First Term	Hours pe Week Th. Pi	Second Term Wee	
Economics 403		Electrical Engineering 431 2	0
Principles Textile Engineering 401	3	Engineering Administration 2 English 4012	0
Yarn Manufacture Textile Engineering 413	1 2	Public Speaking Public Speaking Textile Fingineering 402	3
Cotton Classing Textile Engineering 415	0	Yarn Manufacture Textile Engineering 4140	2
Fabric Design Textile Engineering 419 Weaving	1 2	Cotton Classing 2 Textile Engineering 416	3
*Elective	6	Textile Engineering 420 0 Weaving	3
. Elective		Textile Engineering 422 3	0
Note: a see a la l	17	*Elective3	
		**Elective3	
		16	11

^{*}To be chosen from approved subjects bearing course numbers above 200. Subjects in List A, except Military Science may be chosen.

^{**}To be chosen from List A, below.

LIST A.

Junior and Senior Electives Common to all Engineering Courses.

Hours First Term Wee	k	Hours Wee Th.	ek
Accounting and Statistics 201.2	Pr. 4	Accounting and Statistics 202_ 2	Pr. 4
Principles of Accounting	•	Principles of Accounting	
Agricultural Education 207 3	0	Economics 318 3	0
Davishology		Labor Problems	^
Economics 311	0	Economics 408	0
Money and Banking	0	Corporation Finance	0
English 305 2 Contemporary Civilization	J	English 310 2 The English Language	U
English 309 2	0	English 312 3	0
The English Language	-	Shakespeare	-
English 307	0	English 316 2	0
Technical Writing	•	Eighteenth Century Literature	^
English 317 2	0	English 322 3	0
Commercial Correspondence	Ü	Nineteenth Century Literature	0
English 315 2 Seventeenth Century Literature	U	English 528	U
English 3213	0	English 406	0
Nineteenth Century Literature	U	Advanced Debating	U
English 3252	0	English 416 2	0
Creative Writing		Contemporary English Drama	
Creative Writing English 405 3	0	History 312 3	0
Public Speaking Debate	0	Modern and Contemporary Europe	^
English 415 2	0	History 424 3	0
Genetics 405	0	American Foreign Relations	2
	U	Military Science 3 Modern Language 3	ő
Survey of Eugenics History 3113	0	French, German or Spanish	U
Modern and Contemporary Europe	v	Trenen, derman of Spanish	
History 423 3	0		
American Foreign Relations			
Military Science3	2		
Modern Language3	0	· ·	
French, German or Spanish			

Note.—If Military Science 305, 306 and Military Science 405, 406, are chosen, Electrical Engineering 310, and Electrical Engineering 409, must also be chosen.

XVIII.—TWO-YEAR COURSE IN COTTON MARKETING AND CLASSING

FIRST YEAR

	3 0 3 3 3 0 3 0 1 2 2 5	Second Term Worth. Agricultural Economics 102 3 Agricultural Resources Chemistry 102 3 Inorganic English 104 3 Rhetoric and Composition Mathematics 102 3 Algebra Military Science 1 Textile Engineering 108 2 Cotton Classing 15	3 0 0 2 5 — 10.
	SECOND	YEAR	
Accounting and Statistics 201	2 4	Accounting and Statistics 202_ 2	4
Accounting Economics 203		Accounting Economics 204	0
Principles Economics 311		Principles Economics 3163	0
Monor and Ranking		Business Law	0
English 203 Composition and Literature	2 0	English 210 2	0
Military Science	1 2	Military Science1	2
Textile Engineering 205		Textile Engineering 2121	,
Textile Engineering 211	1 5	Textile Engineering 218 3 Foreign Cotton Markets	0
1	5 11	15	11

Note.—Completion of this course will be accepted for full Junior standing in group 4 of the course in Agricultural Administration.

THE SCHOOL OF VETERINARY MEDICINE

XI.—COURSE IN VETERINARY MEDICINE

FRESHMAN YEAR

First Term Wee Th. Animal Husbandry 107 2 General Animal Husbandry Biology 101 2 General Botany Chemistry 101 3 Inorganic English 103 3 Rhetoric and Composition Military Science 1 Veterinary Anatomy 111 3 Anatomy of the Domestic Animals Veterinary Physiology and Pharmacology 121 2 Physiology 16	Pr. 4 4 3 0 2 6	Second Term W. Th. Biology 102 2 2 General Botany Chemistry 102 3 Inorganic English 104 3 Rhetoric and Composition Military Science 1 Poultry Husbandry 201 2 Poultry Production Veterinary Medicine 112 3 Anatomy of the Domestic Animals Veterinary Physiology and Pharmacology 122 2 Phsysiology 126	3 per eek Pr. 4 3 0 2 0 6 0 — 15
SOF	номе	ORE YEAR	
Biology 2072	4	Biology 2061	,
E 1' 1 003	0	Pastaviology	4
English 203	0 2	Bacteriology Chemistry 206	2 0
English 203 2 Composition and Literature Entomology 201 2 General Military Science 1	2 2	Bacteriology Chemistry 206 3 Organic *English 307 2 Technical Writing	2
English 203 2 Composition and Literature Entomology 201 2 General Military Science 1 Veterinary Anatomy 211 3 Anatomy of Domestic Animals Veterinary Anatomy 213 2 Histology and Embryology	2 2 6 4	Bacteriology Chemistry 206 3 Organic *English 307 2 Technical Writing Entomology 208 2 Animal Parasites History 305 3 Citizenship Military Science 1	2 0 2 0 2
English 203 2 Composition and Literature Entomology 201 2 General Military Science 1 Veterinary Anatomy 211 3 Anatomy of Domestic Animals Veterinary Anatomy 213 2	2 2 6	Bacteriology Chemistry 206 3 Organic	2 0 2 0

*Or English 317

JUNIOR YEAR

Hours First Term Wee Th.			s per eek Pr.
Dairy Husbandry 3013	2	Genetics 301 3	2
Market Milk Veterinary Medicine 351 3 Non-infections Diseases	0	Genetics Veterinary Medicene 352 3 Non-infectious Diseases	0
Veterinary Medicine and Surgery 3710	7	Veterinary Medicine and Surgery 372 0	12
Veterinary Pathology 341 2	0	Veterinary Pathology 342 2	4
Veterinary Pathology 343 2 Special Bacteriology	4	Vet. Pharmacology 334	0
Vet. Pharmacology 333 3	4	Veterinary Surgery 362 3	0
Pharmacology Veterinary Surgery 361	0	General Elective	
General Elective3		17	18
	17		
.,	•,		
·	ENIOR	YEAR	
Animal Husbandry 409 3	SENIOR	English 401 2	0
Animal Husbandry 409 3 Animal Nutrition Veterinary Medicine 451 3 Diseases of Small Animals		English 401 2 Public Speaking Veterinary Medicine 452 3 Practice of Medicine and	0
Animal Husbandry 409 3 Animal Nutrition Veterinary Medicine 451 3 Diseases of Small Animals and Fowls Veterinary Medicine 453 3	2	English 401 2 Public Speaking Veterinary Medicine 452 3 Practice of Medicine and Jurisprudence Veterinary Medicine and	0
Animal Husbandry 409 3 Animal Nutrition Veterinary Medicine 451 3 Diseases of Small Animals and Fowls Veterinary Medicine 453 3 Infectious Diseases Veterinary Medicine and	2 0 0	English 401 2 Public Speaking Veterinary Medicine 452 3 Practice of Medicine and Jurisprudence	_
Animal Husbandry 409 3 Animal Nutrition Veterinary Medicine 451 3 Diseases of Small Animals and Fowls Veterinary Medicine 453 3 Infectious Diseases Veterinary Medicine and Surgery 471 0	2	English 401 2 Public Speaking Veterinary Medicine 452 3 Practice of Medicine and Jurisprudence Veterinary Medicine and Surgery 472 0 Clinic Veterinary Pathology 442 2	0
Animal Husbandry 409 3 Animal Nutrition Veterinary Medicine 451 3 Diseases of Small Animals and Fowls Veterinary Medicine 453 3 Infectious Diseases Veterinary Medicine and Surgery 471 0 Clinic Veterinary Pathology 441 2 Immunology and Serum	2 0 0	English 401 2 Public Speaking Veterinary Medicine 452 3 Practice of Medicine and Jurisprudence Veterinary Medicine and Surgery 472 0 Clinie Veterinary Pathology 442 2 Meat Hygiene Veterinary Pathology 444 2 Laboratory Diagnosis	0 7 2 2
Animal Husbandry 409 3 Animal Nutrition Veterinary Medicine 451 3 Diseases of Small Animals and Fowls Veterinary Medicine 453 3 Infectious Diseases Veterinary Medicine and Surgery 471 0 Clinie Veterinary Pathology 441 2 Immunology and Serum Therapy Veterinary Pathology 443 2	2 0 0	English 401 2 Public Speaking Veterinary Medicine 452 3 Practice of Medicine and Jurisprudence Veterinary Medicine and Surgery 472 0 Clinic Veterinary Pathology 442 2 Meat Hygiene Veterinary Pathology 444 2 Laboratory Diagnosis Vet. Pharmacology 432 1 Toxicology	0 7 2 2 2
Animal Husbandry 409 3 Animal Nutrition Veterinary Medicine 451 3 Diseases of Small Animals and Fowls Veterinary Medicine 453 3 Infectious Diseases Veterinary Medicine and Surgery 471 0 Clinic Veterinary Pathology 441 2 Immunology and Serum Therapy Veterinary Pathology 443 2 Parasitology	2 0 0 7 2	English 401 2 Public Speaking Veterinary Medicine 452 3 Practice of Medicine and Jurisprudence Veterinary Medicine and Surgery 472 0 Clinic Veterinary Pathology 442 2 Meat Hygiene Veterinary Pathology 444 2 Laboratory Diagnosis Vet. Pharmacology 432 1 Toxicology Veterinary Surgery 462 3	0 7 2 2
Animal Husbandry 409 3 Animal Nutrition Veterinary Medicine 451 3 Diseases of Small Animals and Fowls Veterinary Medicine 453 3 Infectious Diseases Veterinary Medicine and Surgery 471 0 Clinie Veterinary Pathology 441 2 Immunology and Serum Therapy Veterinary Pathology 443 2 Parasitology Veterinary Surgery 461 2 Obstetries	2 0 0 7 2	English 401 2 Public Speaking Veterinary Medicine 452 3 Practice of Medicine and Jurisprudence Veterinary Medicine and Surgery 472 0 Clinic Veterinary Pathology 442 2 Meat Hygiene Veterinary Pathology 444 2 Laboratory Diagnosis Vet. Pharmacology 432 1 Toxicology	0 7 2 2 2
Animal Husbandry 409 3 Animal Nutrition Veterinary Medicine 451 3 Diseases of Small Animals and Fowls Veterinary Medicine 453 3 Infectious Diseases Veterinary Medicine and Surgery 471 0 Clinic Veterinary Pathology 441 2 Immunology and Serum Therapy Veterinary Pathology 443 2 Parasitology Veterinary Surgery 461 2	2 0 0 7 2	English 401 2 Public Speaking Veterinary Medicine 452 3 Practice of Medicine and Jurisprudence Veterinary Medicine and Surgery 472 0 Clinie Veterinary Pathology 442 2 Meat Hygiene Veterinary Pathology 444 2 Laboratory Diagnosis Vet. Pharmacology 432 1 Toxicology Veterinary Surgery 462 3 Operative	0 7 2 2 2

THE SCHOOL OF VOCATIONAL TEACHING

XII.—COURSE IN AGRICULTURAL EDUCATION

FRESHMAN YEAR

Hour We Th. Animal Husbandry 107 2 2 General Animal Husbandry Biology 101 2 Ceneral Botany Chemistry 101 3 Inorganic English 103 3 Rhetoric and Composition Military Science 1 Elective 3 14		Second Term Agronomy 105 Crop Production Biology 102 General Botany Chemistry 102 Inorganic English 104 Rhetoric and Composition Military Science Elective	2 3 3	
Agricultural Engineering 321	9 4 4 0 2 2 2 2	Agricultural Engineering 32. Farm Shop Dairy Husbandry 202 Dairying English 232 English Literature Entomology 204 Insecticides Military Science	2 3 2	4 2 0 2 2 14
Agricultural Economics 312	2 3 3 3 4 4	2 Agricultural Education 302 Principles of Education 0 Genetics 301 Genetics 2 Poultry Husbandry 304 Poultry Essentials 2 Veterinary Anatomy 306 Animal Diseases Elective	3 2 3	0 2 2 2 - 6

	TT			ŤŤ	
First Term	Hours Wee		Second Term	Hours We	
	Th.	Pr.		Th.	Pr.
Agricultural Education 401	2	6	Agricultural Education 402.	2	6
Teaching Vocational Agricu	ılture		Teaching Vocational Agricult		
English 401	2	0	Animal Husbandry 416	3	2
Public Speaking			Live Stock Management		
History 305	3	0	Dairy Husbandry 414	3	2
Citizenship			Dairy Cattle Feeding and M		nent
Marketing and Finance 401	3	0	Elective	4	
Cooperative Marketing of					_
Farm Products				12	10
Elective	4			12	10
	_	_			
	14	6			

XIII.—COURSE IN INDUSTRIAL EDUCATION

FRESHMAN YEAR

First Term Chemistry 101 Inorganic Drawing 111 Mechanical English 103 Rhetoric and Composition Mathematics 101 Algebra Military Science *Elective	3 0 3 3		Second Term Chemistry 102 Inorganic English 104 Rhetoric and Composition Industrial Education 102 Theory and Principles of Votional Education Mathematics 103 Trigonometry Military Science *Elective	3 2 oca- 3	
	SOPI	нома	DRE YEAR		
Drawing 201	0 3 2 1	2	Drawing 202 Mechanical Economics 204 Principles Industrial Education 202 Job Analysis Military Science Physics 204 General Rural Sociology 204 Introductory Rural Sociology *Elective	3 2 1 3	2 0 0 2 3 0
*	JU	JNIOF	R YEAR		
History 305	2	0 0 —	History 322 Industrial History of the United States Industrial Education 310 Course Making Industrial Education 312 Psychology Applied to Industrial Education 314 Observation and Criticism *Elective	2 3	0 0 0 2 -

	First Term	Hours Wee	k	Second Term	Hours We	ek
		Th.	Pr.		Th.	Pr.
Industria	I Education 409	2	0	English 401	2	0
	zation and Manage	ement		Public Speaking		
	ustrial Schools			Industrial Education 406.	2	0
Industria	l Education 411	2	0	Vocational Guidance		-
	Planning			**Industrial Education 416	0	6
**Industr	rial Education 41	5 0	6	Practice Teaching		-
Practic	e Teaching			*Flective	12	
*Elective		11		1,1001.10		
					• •	_
					16	6
		15	6			

^{*}For students with industrial experience approved by the head of the Department of Industrial Education and by the Dean of the School of Vocational Teaching, the total number of elective hours will be reduced by four term hours for each year of certified industrial experience up to a maximum of 20 term hours.

^{**}Approved teaching experience with written reports may be substituted for these courses on the basis of two term hours for each year of such experience.

XVI.—COURSE IN RURAL EDUCATION

FRESHMAN YEAR

First Term Animal Husbandry 107 General Animal Husbandry Biology 101 General Botany English 103 Rhetoric and Composition Mathematics 101 Alegbra Military Science Rural I ducation 121 Elementary School Methods	Th. 2 2 3 3 3	Pr. 4 4 0 0 2 0 ————————————————————————————	Second Term Agronomy 105 Crop Production Biology 102 General Botany English 104 Rhetoric and Composition Military Science Poultry Husbandry 201 Poultry Production Rural Education 122 Elementary School Methods	Th. 3 2 3 2 3 1 2	9 per seek Pr. 2 4 0 2 2 0 — 10	
SOPHOMORE YEAR						
Chemistry 101 Inorganic English 231 English Literature Entomology 201 General Military Science	3 3	3 0 2	Chemistry 102 Inorganic Dairy Husbandry 202 Dairying English 232 English Literature Military Science	2 3	3 2 0 2	
Rural Education 221 Rural School Methods Elective	3	- 7	Rural Education 222 Rural School Administration Elective	3	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	
JUNIOR YEAR						
Biology 207	2	4	Economics 403	3	0	
Zoology Rural Education 321 Secondary School Methods	3	0	Principles English 307 Technical Writing History 305	2	0	
Secondary School Methods Rural Sociology 407 Rural Sociology Elective:	2	2	Cifizenshin		0	
Elective:	-	_	Rural Education 322 Secondary School Administra	ation	0	
,	. 15	6	Elective			
·				17	0	
		SENIOR	YEAR			
English 401		0	Rural Education 422		0	
Rural Education 425	_	4	Elective	15 —		
Elective	13	_		18	0	
	16	4	*			

XXII.—COURSE IN INDUSTRIAL ARTS EDUCATION

FRESHMAN YEAR

First Term Drawing 111 Mechanical English 103 Rhetoric and Composition Mathematics 101 Algebra Mechanical Engineering 101 Engineering Problems Mechanical Engineering 105 Bench Wood Work Military Science Elective	0 6 3 0 3 0 0 3 1 6 1 2	Second Term W Th. Drawing 124 2 Descriptive Geometry Drawing 201 0 Mechanical Drawing 202 0 Mechanical English 104 3 Reteroric and Composition Mathematics 103 3 Trigonometry Mechanical Engineering 102 0 Engineering Problems Mechanical Engineering 106 1 Cabinet Making and Mill Work Military Science 1 Elective 3	2 2 0 0 3 6 2
,	SOPHOM	13 LORE YEAR	· 19
Architecture 221 Architectural Construction English 203 Composition and Literature Industrial Education 325 Equipment and Supplies Mechanical Engineering 201 Pattern Making and Foundry Wor Military Science Physics 201 College Physics Elective	2 0 3 0 0 3 rk 1 2 3 2	Architecture 222	4 4 0 0 2 2
1:	3 11	12	12

JUNIOR YEAR

		and the second s	
First Term Wernst Term Wernst Term Wernst Term Wernst Term Wernst Term Shop Industrial Education 301 3 Methods of Teaching and Class Management Industrial Education 323 1 Methods of Teaching Mechanical Drawing Mechanical Engineering 309 0 Machine Shop Nucleic School Methods Elective 3	Pr. 0 4 0 4 3 0 — 11	Second Term W.W. Agricultural Engineering 402 2 Automobiles and Trucks History 305 3 Citizenship Industrial Education 310a 3 Course Making Industrial Education 324 1 Methods of Teaching Machine Drawing Mechanical Engineering 310 0 Machine Shop Elective 3	9 per eek Pr. 4 0 0 4 3 11
	SENIOR	YEAR	
Economics 403 3	0	English 401 2 Public Speaking	0
Industrial Education 411 2 Lesson Planning	0	Industrial Education 418 2 General Shop Methods	5
Industrial Education 415 0 Practice Teaching	6	Industrial Education 416 0 Practice Teaching	6
*Elective9		*Elective9	
	_	-	_
14	6	13	11

^{*}At least 6 term hours of these electives must be taken in advanced shop work drawing.

COURSES OF INSTRUCTION BY DEPARTMENTS

The courses of instruction are described on the following pages under the departments in which they are offered. Courses from 101 to 199 are primarily for freshmen, 201 to 299 for sophomores, 301 to 399 for juniors, 401 to 499 for seniors, 501 to 599 for graduate students; courses 571 to 599 are offered by members of the Agricultural Experiment Station Staff; 1 to 49 for first-year students in short courses; 51 to 99 for second year students in short courses. First-term courses are as a rule given odd numbers, second-term courses, even numbers.

For courses in Religious Education see page 42.

The figures in parenthesis following the name of a course indicate the number of hours per week, theory and practice, respectively, devoted to the course.

For convenience of reference, the departments are listed here in alphabetical order:

DEPARTMENT	PAGE	DEPARTMENT	PAGE
Accounting and Statistics	149	Horticulture	211
Agricultural Economics		Industrial Education	214
Agricultural Education		Landscape Art	219
Agricultural Engineering	155	Marketing and Finance	220
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Animal Husbandry	160	Mechanical Engineering	223
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Biology		Modern Languages	
Chemistry and Chemical		Municipal and Sanitary	
Engineering	173	Engineering	236
Civil Engineering	180	Petroleum Engineering	238
Dairy Husbandry	185	Physical Education	239
Drawing	188	Physics	
Economics	188	Poultry Husbandry	243
Electrical Engineering	191	Rural Education	246
Engineering Research	195	Rural Sociology	247
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Entomology	200	Veterinary Anatomy	252
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Forestry		Surgery	253
Genetics	205	Veterinary Pathology	255
Geology		Veterinary Physciology and	
History		Pharmacology	257

DEPARTMENT OF ACCOUNTING AND STATISTICS

Professor Leland, Associate Professor Weinke, Assistant Professor Hamilton, Mr. Gragg

201. Principles of Accounting. (2-4).

Development and application of the fundamental principles of accounting. Analysis and recording of transactions, use of the journal, ledger, and trial balance, location of errors, columnar journals, controlling accounts, working sheets, financial statements, adjusting and closing entries, business procedure and forms.

Text: Principles of Accounting, Himmelblau.

Laboratory fee, 50 cents.

(Required in XIV, XVIII; elective in IV, V, VI, VII, VIII, IX, XXIII). (Offered in both terms).

202. Principles of Accounting. (2-4).

A continuation of course 201. Accrued and deferred items, depreciation, corporation accounting, accounting for manufacturing concerns, voucher systems, classification and interpretation of accounts and financial statements.

Text: Principles of Accounting, Himmelblau.

Laboratory fee, 50 cents.

(Required in XIV, XVIII, elective in III, IV, V, VI, VIII, 1X, XXIII).

301. Theory and Practice of Accounting. (2-4).

Further development of fundamental principles and application to specific subjects, such as: statement preparation and analysis, partnerships, corporations, instalment sales, agencies and branches, consignments, joint ventures, insolvent concerns, inventories, receivables and cash.

Text: Principles of Accounting, Volume 1, Finney.

Prerequisite: Accounting and Statistics 201, 202.

Laboratory fee, 50 cents.

(Required in XIV group 1).

302. Advanced Problems. (1-4).

Further study of accounting theory and practice; estate accounting, actuarial accounting, appraisals, depletion, good will, investments, reserves, funds, consolidations, foreign exchange, insurance, fixed liabilities, current and contingent liabilities.

Text: Principles of Accounting, Volume II, Finney.

Prerequisite: Accounting and Statistics 301.

Laboratory fee, 50 cents.

303. Statistical Method. (2-4).

Application of statistical method to agricultural subjects: collection, tabulation, presentation, and analysis of data. A study of sampling, graphics,

averages, ratios and coefficients, dispersion, skewness, probability and error, index numbers, seasonal and long-time trend, barometers and linear correlation.

Text: Statistical Methods, Mills.

Laboratory fee, 50 cents.

(Required in XIV groups 1, 2).

304. Auditing. (1-4).

Theory and practice of auditing; types of audits; audit procedure for individual assets, liabilities, and nominal accounts; working papers and reports; case studies.

Text: To be selected.

Prerequisite: Accounting and Statistics 301.

Laboratory fee, 50 cents.

(Required in XIV group 1).

401. Cost Accounting. (1-4).

Development of cost accounting principles, cost elements, methods of control, order and process systems, estimated and standard costs, debatable points of theory, uniform methods, cost accounting for agricultural enterprises.

Text: To be selected.

Prerequisite: Accounting and Statistics 301.

Laboratory fee, 50 cents.

(Required in XIV group 1).

402. Cooperative Accounting. (1-2).

A study of the special features of accounting for various types of cooperatives, an analysis of the accounting systems devised and recommended by government agencies and farmer organizations. Each student is expected to devise a system for some cooperative organization.

Text: To be selected.

Prerequisite: Accounting and Statistics 301.

Laboratory fee, 50 cents.

403. Income Tax. (1-2).

A survey of income tax legislation. A study of the present income tax law, regulations, treasury decisions, court decisions and departmental rulings. Emphasis on underlying principles. Income tax problems and returns.

Texts: Regulations, Laws, Tax Problems.

Prerequisite: Accounting and Statistics 202.

Laboratory fee, 50 cents.

404. Advanced Statistics. (2-4).

A brief review of the first course in statistics: collection, presentation, and elementary analysis of agricultural data. Advanced treatment of measures of relationship; linear, non-linear, multiple linear, and multiple non-linear; appli-

cation of correlation, simple and multiple, to time series, and the problem of estimation.

Text: To be selected.

Prerequisite: Accounting and Statistics 303.

Laboratory fee, 50 cents.

405. Price Analysis. (2-4).

Relation between theoretical economics and statistics in the study of prices, methods of analyzing prices, supply and demand curves, elasticity of demand, price forcasting, study and critique of works on price analysis. Term paper required on factors affecting the price of an agricultural commodity.

Text: To be selected.

Prerequisite: Accounting and Statistics 303, Economics 203 or equivalent. Laboratory fee, 50 cents.

406. Agricultural and Business Cycles. (2-4).

An empirical and statistical study of agricultural data, production, consumption and price indexes; analysis of seasonal and long-time trends, and factors constituting cyclical fluctation; theory, causes, effects and control of cycles from an agricultural point of view.

Text: To be selected.

Prerequisite: Accounting and Statistics 303.

Laboratory fee, 50 cents.

FOR GRADUATES

501. Statement Analysis. (2-4).

An analytical study of the different kinds of statements for the guidance of executives, investors and creditors. Considerable time is given to the study of balance sheet and profit and loss ratios.

Prerequisite: Accounting and Statistics 301, 304, 401.

Laboratory fee, 50 cents.

DEPARTMENT OF AGRICULTURIAL ECONOMICS

Assistant Professor Paine, Mr. Watson

101. Agricultural Resources. (3-0). Credit, three hours.

A basis course for all students interested in agriculture. A study and interpretation of the basic principles of geography which determine man's activities, with particular reference to the physical and economic conditions influencing agricultural development; the relationship between climate and vegetation, soils and man; economic and physical conditions influencing trade in agricultural products; a determination of potentialities of our remaining agricultural frontiers.

Text: Principles of Human Geography, Huntington and Cushing, School Atlas, Goode.

(Required in I, XIV, XVIII). (Offered both terms).

102. Agricultural Resources... (3-0). Credit, three hours.

A survey of potentialities and limitations of agricultural production in relation to population pressure; the agricultural revolution as manisfested in changes in agriculture in old regions and in new parts of the world; physical bases of production of the leading agricultural commodities of the world, and the United States in particular; commercial movements with reference to surplus and deficit producing regions; present trends in the utilization of the world's agricultural resources.

Text: To be selected.

Prerequisite: Agricultural Economics 101.

(Required in I. XIV. XVIII).

301. Agricultural Geography of North America. (3-0).

A survey of the physical bases of production in the different portions of the continent, with especial attention to the factors most influential in determining America's agricultural development; a classification of the lands of North America; past development, present production, trends and possibilities of agriculture in Canada, New England, North Atlantic and Central States.

Text: North America, Smith.

303. Economic History of Agriculture. (3-0).

This course is designated to give the student a background for the study of current agricultural economic problems. The economic development of American agriculture is traced from its beginning to the present, with some review of European agriculture prior to the settlement of this country. The student traces the development of such problems as those of land tenure, farm labor, credit and marketing and analyzes the methods by which American farmers have attempted to solve these problems. This course furnishes the background for a better understanding of other courses in agricultural economics and the courses in marketing and finance.

Text: To be selected.

Prerequisite: Economics 203 and 204, or 403.

312. Agricultural Economics. (2-2).

An application of the principles of economics to agriculture. A course dealing with economic data affecting agriculture as a national industry; a comparison of agriculture with the other important industries. The subjects covered include farm population and farm life; land as a factor in production; land values; land policies; farm credit; insurance; labor; price economy; specialization and management; farm marketing; foreign markets for farm products; the relation of the tariff to agriculture; taxation; price cycles; land tenure; farmers' movements; farm wealth and income.

Text: Introduction to Agricultural Economics, Yoder.

(Required in XIV groups 1, 2, 3, and 4).

402. Property and Contract. (3-0).

The evolution of property rights; private and public property; the influence of property upon the distribution of wealth; social regulation of private property; future development of property; the evolution of contracts; types of contracts; philosophy of the laws of contracts; social control of contracts; the effect of contracts upon the distribution of wealth.

Text: To be selected.

Prerequisite: Economics 203, 208.

(Required in XIV group 2).

423. Outlines of Land Economics. (3-0).

Characteristics of land as a factor in production; classification of land; land utilization; social ends of land utilization; property rights in land; land tenure; land valuation; land credit; land taxation; state and national land policies.

Text: Elements of Land Economics, Ely and Morehouse. (Required in XIV group 2).

FOR GRADUATES

503. Land Problems. (2-4).

An extensive study of such problems as land tenure, land classification, land utilization, land taxation, and land valuation.

504. Historical Development of Agricultural Economics. (2-4).

Agricultural economics defined and described; origin of agricultural economics; historical development of agricultural economics in Rome, England, Germany, and France. This part of the historical work deals very largely with the biographical sketches of the writers concerned and with the history of economic conditions at the time they wrote, especially as related to agriculture. The works of such men as Arthur Young, Albrecht Thaer, and Von Thunen; modern agricultural economics; recent developments in agricultural economics; relation of agricultural economics to farmers' movements; relation of agricultural economics to general economics; essentials of a sound agricultural economics course.

Prerequisite: Agricultural Economics 312.

DEPARTMENT OF AGRICULTURAL EDUCATION

Professor Winkler, Professors Alexander, Dykes, Mr. Sherrill

207. Psychology. (3-0).

An introductory course dealing with the elementary principles of psychology.

(Required in XX; elective in I, III, IV, V, VI, VIII, IX, XXIII).

301. Educational Psychology. (3-0).

A course in psychology with special emphasis on its application to the problems of teaching.

(Required in I group 2; XII, XXII).

302. Principles of Education. (3-0).

An introductory course to the field of general education, designed to acquaint the student with the principles of educational theory; the aim and meaning of education, emphazing the vocational viewpoint.

(Required in I group 2; XII).

401, 402. Teaching Vocational Agriculture. (2-6).

Analysis of the agricultural teacher's job; courses of study; annual plan lesson plans; project outlines and supervisions; equipment; reports; observation and directed teaching.

(Required in I group 2; XII).

404. Extension Methods. (3-0).

The agricultural extension movement; organization of extension work; State and county plan of work; the county agent and extension specialists; the Farm Bureau; other extension agencies.

FOR GRADUATES

501. All-Day Classes. (4-0).

An advanced course in methods of teaching all day classes in vocational agriculture.

502. Supervised Practice. (4-0).

An advanced course in methods of conducting supervised practice in vocational agriculture.

503. Evening Schools. (4-0).

An advanced course in methods of organizing and conducting evening schools in vocational agriculture.

504. Teaching Cooperative Marketing. (2-0).

An advanced course in methods of teaching cooperative marketing, designed primarily for teachers of vocational agriculture and county agents.

Offered in Summer Sessions only.

Prerequisite: Marketing and Finance 302 or the equivalent.

505, 506. Administration and Supervision of Vocational Agriculture. (4-0).

A course designed for teachers of vocational agriculture preparing for State supervisory positions. It includes a study of the duties of the state supervisor, his relation to teachers of vocational agriculture, teacher training institutions, federal boards for vocational education, and other agencies engaged in agricultural education.

DEPARTMENT OF AGRICULTURAL ENGINEERING

Professor Scoates, Associate Professors H. P. Smith, F. R. Jones, Assistant Professor Thurmond, Mr. Byrom.

103, 104. Farm Building Construction. (0-3). Credit, one hour each term. Methods of construction of various buildings found on the farm. Includes masonry, as well as wood construction and installation of plumbing.

Laboratory fee, \$1.25 each term.

(Required in XV).

201. Farm Machinery. (2-2).

Construction, adjustment, operation and repair of all types of farm machinery; tilling, seeding, cultivating, fertilizing and power machinery.

Laboratory fee, 50 cents.

(Required in I, XV).

203. Gas Engines. (2-2).

Construction, operation, care and repair of farm gas engines.

Laboratory fee, \$1.00.

(Required in XV; elective in I, C).

216. Automotive Machinery. (3-3).

Construction, operation, care and repair of tractors, automobiles, and trucks.

Prerequisite: Agricultural Engineering 203.

Laboratory fee, \$2.00.

(Required in I, group 3, XV; elective in C).

305. Terracing and Drainage. (2-4).

Surveying with its farm application; principles of farm drainage as applied to open ditches, terraces, tile drains; promotion of drainage districts; use of dynamite, removal of stumps; law with respect to farm waters.

Laboratory fee, 50 cents.

(Required in I group 3; XX; elective in C).

321, 322. Farm Shop. (1-4).

A course for vocational school teachers which includes; soldering, belt lacing, rope knots and splices, concrete construction, carpentry, sufficient forging to enable the student to make ordinary farm repairs.

Laboratory fee, \$1.50 each term.

(Required in I group 2, XII; 321 required in XIV group 3; XXII).

402. Automobiles and Trucks. (2-4).

Construction, operation, care, and repair of the gasoline automobile and truck.

Prerequisite: Agricultural Engineering 203.

Laboratory fee, \$1.50.

(Required in XXII; elective in C).

413. Farm Buildings. (2-3).

Design and location of farm buildings; building materials; construction, arrangement; ventilation, heating, lighting, water supply and sewage disposal. (Required in I group 3; XV).

418. Designing of Farm Structures. (2-4).

A continuation of course 413.

(Required in XV).

419. Cotton Machinery. (2-2).

Construction, adjustment, operation and repair of the various types of machines necessary in the production and preparation for the marketing of cotton.

Prerequisite: Agricultural Engineering 201.

421. Advanced Farm Shop. (2-4).

Advanced study of farm shop with special emphasis on problems relative to teaching the course, i. e., equipment, methods, supplies and projects.

Prerequisite: Agricultural Engineering 321, 322.

Laboratory fee, \$1.50.

422. Irrigation. (2-3).

A modification of course 410 with emphasis on growing crops under irrigated conditions—a course designed for agricultural students without engineering background.

(Elective in C).

424. Terracing. (0-4).

The control of soil erosion and soil moisture by the use of terraces and other obstructions.

Laboratory fee, 50 cents.

(Required in I groups 2, 4, 5, 7, 8, 9, 11).

425, 426. Seminar. (1-0).

A review and presentation of the results of the special selected lines of research dealing with Agricultural Engineering.

(Required in I group 3, XV).

428. Irrigation and Drainage. (2-4).

Principles of irrigation practice; source of water supply; methods of obtaining water; distribution systems; application of water to crops; measurement and duty of water; control of alkali. Principles of farm drainage as applied to open ditches, terraces, tile drains; promotion of drainage districts; use of dynamite; removal of stumps; law with respect to farm waters.

Laboratory fee 50 cents.

(Required in XV).

FOR GRADUATES

501, 502. Advanced Drainage and Irrigation. (2-4).

Advanced study of farm drainage and irrigation with special emphasis on recent developments.

Prerequisite: Agricultural Engineering 305 or 416 and 410.

503. 504. Advanced Farm Machinery. (2-4).

Advanced study of farm machinery with special emphasis on recent developments.

Prerequisite: Agricultural Engineering 320.

505, 506. Advanced Farm Buildings. (2-4).

Advanced study of farm buildings and farm home utilities.

Prerequisite: Agricultural Engineering 413.

507. Cotton Machinery. (1-2).

An advanced course in cotton machinery used for preparation of seed bed, seeding, cultivating, harvesting and ginning, with special emphasis on recent developments.

FOR STUDENTS IN SHORT COURSES

Farm Shop. (1-4). Credit, two hours each term.
 A modification of course 321, 322.
 Laboratory fee, \$1.25 each term.
 (Required in C).

DEPARTMENT OF AGRONOMY

Professor J. Oscar Morgan, Professor L. G. Jones, Associate Professors Mogford, Stewart, Assistant Professor Obenshain

105. The Fundamentals of Crop Production. (3-2). Credit, four hours.

Classification and distribution of farm crops; importance of good varieties and good seed; crop improvement; preparation of the seed bed; commercial fertilizers, manures, and lime; seeding practices; crop tillage; harvesting; meadow and pasture management; weeds; crop rotation; diseases and insect enemies.

Text: The Production of Field Crops, Hutchinson and Wolfe. (Required in I, XII, XIV, XV, XVI; elective in C).

301. Soils. (3-2).

Soil farming processes; geological classification of soils; organic matter; colloidal matter; soil structure and its modification; forms of soil water; soil water in relation to plants; control of soil water; soil heat; soil air; absorp-

tive properties of soil; removal of nutrients by cropping and leaching; alkali soils; soil acidity; soil organisms; principles of fertilizer practice; farm manures; green manures; maintenance of soil fertility.

Text: The Nature and Properties of Soils, Lyon and Buckman.

Prerequisite: Chemistry 101, 102.

Laboratory fee, 50 cents.

(Required in I groups 2, 3, 4, 5, 7, 8, 9, 11; XII, XIV, XV, XX).

308. Forage Crops. (2-2).

The production, harvesting and preservation of alfalfa, cowpeas, soy beans, vetches, Sudan grass, sorghums, Bermuda grass, Johnson grass, Lespedeza and the other miscellaneous hay and pasture crops adapted to Southern agriculture; problems of meadow and pasture management.

Text: Forage Crops, Piper.

Laboratory fee, 50 cents.

(Required in I group 4; XIV group 3).

314. Field Crops. (3-2).

The production, harvesting and utilization of corn, oats, wheat, barley, rye, rice, the grain sorghums and sugar cane.

Text: Field Crops for the Cotton-Belt, Morgan.

Laboratory fee, 50 cents.

(Required in I group 4; XIV, XV group 3).

315. Fiber Crops. (2-2).

Cotton production, including species, varieties, improvement, adaptation, fertilization, tillage practices, harvesting, insects and diseases. Flax, hemp, and other miscellaneous fiber crops are treated briefly.

413. Soil and Crop Problems. (3-0).

Special problems dealing with the management and utilization of distinctive types of soils and soil condition and a detailed consideration of crop management problems under varying soil and climatic conditions.

Prerequisite: Agronomy 301.

(Required in I group 4).

415, 416. Soil and Crop Seminar. (1-0).

A review and presentation of the results of especially selected lines of research, dealing with soils and crops.

(Required in I group 4).

417. Range and Pasture Improvement and Maintenance. (2-0).

Problems dealing with vegetation, improvement and maintenance of ranges and pastures. Weeds and poisonous plants and their eradication receive special attention.

418. Soil and Water Conservation. (2-0).

A course dealing with the importance of soil and water conservation,

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from the standpoint of the different soil types in the various agricultural regions, climatic condtions, cropping systems, and other influencing factors.

Prerequisite: Agronomy 301.

420. Cotton Research Problems. (1-0).

A study of research methods as applied to cotton production and improvement.

421. Commercial Hay Grading. (0-3).

Detailed instruction in grading hays according to the Federal standards, including a study of the grade factors influencing the market value of hay; the kinds of inspections made on the markets in the United States; practice in grading baled hay according to the United States grades; certificate writing. Laboratory fee, \$1.00.

422. Commercial Grain Grading. (0-3).

Detailed instruction in grading grains according to Federal standards, including a study of dockage, weight, moisture, heat damage, foreign material and other factors influencing the commercial grade of corn, oats, wheat and the grain sorghums.

Laboratory fee, \$1.00.

FOR GRADUATES

501, 502. Advanced Farm Crops. (2-4).

An advanced study of field crop production and breeding, including a thorough review of the more recent and noteworthy investigations in this field.

505, 506. Advanced Soils. (2-4).

A concise review of our present knowledge of the soil as a medium for plant growth, followed by a detailed study of the more recent and noteworthy investigations pertaining to soils and fertility.

507, 508. Advanced Cotton Production. (2-4).

An advanced study of cotton from the standpoint of species, varieties, breeding, fertilization, tillage practices, and harvesting. In the course extended use is made of the recent cotton literature in scientific journals, experiment station bulletins, and such reference books on cotton as are available.

FOR STUDENTS IN SHORT COURSES

25. Soils. (3-2). Credit, four hours.

Soil fertility and its maintenance; manures; fertilizers; cover crops; fallowing; fall and spring plowing; crop rotations.

Text: Productive Soils, Weir.

Laboratory fee, 50 cents.

(Required in C).

DEPARTMENT OF ANIMAL HUSBANDRY

Professor D. W. Williams, Professors R. H. Williams, Mackey, Associate Professor Knox, Assistant Professor Gorman

107. General Animal Husbandry. (2-4) Credit, three hours.

Farm animals as a source of food, clothing, and labor; the place of live-stock in farming: the place of the United States and of Texas in the livestock industry; history of the industry in the United States; heredity the basis for improvement; selection or judging and its importance; pedigrees; methods used in improvement; the importance of proper nutritional development; chemistry and physics the basis for nutrition; factors influencing efficiency in feeding; care and management as factors determining results obtained; the importance of sanitation and disease control to the live stock producer; the place and special advantages of each class of livestock; classifications used in showing live stock; classifications of the breeds and market types of horses, beef cattle, hogs, sheep and goats; the marketing machinery of the live stock industry.

Text: To be selected. (Required in I, XI, XII, XIV, XV, XVI).

202. The Breeds of Farm Animals. (2-2).

The origin and native homes of breeds of horses, cattle, sheep, and swine; early development; constructive breeders; adaptability; distribution; breed type and characteristics; breed organizations; publications; score card and comparative judging of representative animals.

Text: Types and Breeds of Farm Animals, Plumb.

Prerequisite: Animal Husbandry 107.

(Elective in I, C).

203. Market Classes and Grades of Live Stock. (2-2).

Age, type, quality, condition or finish, size and weight, sex, style, dressing percentage, methods of finishing, breeding, uniformity, etc., as factors determining market classification; market classifications for each class of live stock; wholesale and retail meat cuts; by-products; comparative judging; classifying, grading and valuing market animals.

Text: Revised Government Market Classifications.

Prerequisite: Animal Husbandry 107.

(Elective in I, C).

(Offered both terms).

303. Animal Nutrition. (3-2).

Chemical composition of feeding stuffs; composition of farm animals; digestion; metabolism; functions of nutrients; vitamins; coefficients of digestibility; energy in feeds and its uses; feed requirements of animals; maintenance, growth; fattening; milk production; wool production; work; computa-

tion of rations; manurial value of feeds; nature and uses of feed stuffs including cereal by-products, legumes and legume seeds, oil bearing seeds and by-products, packing house by-products, hays, fodders, straws, pastures, forage, silage, and miscellaneous feeds.

Prerequisite: Chemistry 206. (Required in I groups 5, 7).

307. Farm Meats. (0-4).

Farm meat supply; methods of slaughtering, dressing, cutting, and curing meats; utilization of by-products; factors influencing value of meat and dressing percentage of animals.

Text: Farm Meats, Helser. Not offered in 1930-31.

403. Advanced Judging. (0-6).

An advanced course in live stock judging. Prerequisite: Animal Husbandry 202.

406. Beef Cattle Production. (3-2).

The world beef cattle situation; historical development; systems of production and determination of place of each; distribution and value in comparison with other meat animals; location of beef enterprise; establishment of the herd; improvement methods; mating and reproduction; calving; feed and care of calf; development of stock for the breeding herd; wintering; summer management; cattle feeding; selection of feeders; value of feeds; financial aspect of beef production; equipment; parasites and diseases; fitting and showing; marketing.

Text: Beef Cattle, Snapp.

Prerequisite: Animal Husbandry 303 or 409.

409. Animal Nutrition and Live Stock Feeding. (3-2).

A modification of course 303 together with a study of the practical feeding of horses, dairy cattle, beef cattle, sheep and swine.

Text: Feeds and Feeding, Henry and Morrison. (Required in I group 4; XI, XII, XIV group 3).

410. Sheep and Angora Goat Production. (3-2).

Present status; history in United States; methods and types of sheep raising; pure bred business; breeding; management and feeding of the breeding flock; growing young lambs; fattening sheep and lambs; marketing sheep and lambs; fitting and showing; parasites and diseases.

Text: Productive Sheep Husbandry, Coffey. Prerequisite: Animal Husbandry 303 or 409.

412. Swine Production. (3-2).

Historical; feeding and handling the breeding herd during various seasons; culling; records; the sow and the litter; growing and fattening pigs; forage

crops; feeding on forage; dry lot feeding; choice and value of feeds; garbage **disposal** plants; prevention of disease; slaughtering and curing; the pure bred **herd**; fitting and showing.

Text: Pork Production, Smith.

Prerequisite: Animal Husbandry 303 or 409.

413. Horse and Mule Production. (3-2).

Review of situation; historical development; mechanical vs. horsepower; anatomy; unsoundness; ailments and diseases; feeding the brood mare; stallions; growing and developing colts; feeding and handling horses at work; stables and equipment; harness; shoeing; fitting and showing; polo and saddle horse breeding and training; horse markets; jacks and jennets; mule production.

Prerequisite: Animal Husbandry 303 or 409.

416. Live Stock Management. (3-2).

A modification of courses 406, 410, 412, 413.

Prerequisite: Animal Husbandry 409.

(Required in XII).

418. Wool and Mohair. (2-4).

Microscopic structure; chemical composition; production; preparation for market; market reports; marketing; comparison with other textile materials; measurement; grading; sorting; scouring; pullaries; process of manufacture of fabrics.

421. Advanced Studies of Breeds of Live Stock. (2-0).

Methods used in the development of outstanding animals; popular lines of breeding; breed improvement; characteristics and breeding of show winners. The following breeds will be considered: Hereford cattle, Percheron horses, Rambouillet and Delaine sheep, Duroc-Jersey hogs.

Prerequisite: Animal Husbandry 202.

422. Advanced Studies of Breeds of Live Stock. (2-0).

Same as course 421 except that the following breeds will be considered: **Aber**deen-Angus and Shorthorn cattle, Belgian horses, Hampshire and Shrop-shire sheep, Poland-China hogs.

Prerequisite: Animal Husbandry 202.

423. Seminar. (2-0).

Research methods in animal experimentation; sources of error in experiment work; review of research literature with oral and written presentation.

Prerequisite: Animal Husbandry 303, Genetics 301.

424. Range Live Stock Production. (3-0).

Review of historical development; types of ranges; types and breeds of livestock used; range livestock improvement; handling cattle, sheep and goats during various seasons of the year; culling of herds and flocks; range livestock losses including parasites, deficiency diseases, droughts; etc., stocking of the

range under various conditions; carrying capacity determination; over and under grazing; water development; salting; feeding both regular and under emergency conditions; finishing on the range; equipment; labor; cost of production; marketing.

Prerequisite: Animal Husbandry 303 or 409.

FOR GRADUATES

501, 502. Advanced Animal Nutrition. (2-4).

A continuation of material covered in course 303; review of more recent investigations; methods of investigations; sources of error.

505, 506. Advanced Live Stock Production. (3-2).

A continuation of courses 406, 410, 412 and 413. The course is varied according to the class of livestock in which the student is most interested. Managerial problems of production will be considered in detail.

571, 572. Wool and Mohair Research. (3-4).

Offered only by individual agreement, to graduate students qualified by previous training to do thesis work on some portion of an organized wool or mohair research project.

Studies under way include a determination of the grades and shrinkages of wool and mohair from registered and unregistered flocks. The wool and mohair grading and scouring laboratory is at the disposal of graduate students taking this course. Mr. Jones.

573, 574. Research in Animal Breeding.

This course is a thesis course and is designed to furnish to students majoring in genetics, animal husbandry, or dairy husbandry, the opportunity to work out a thesis upon some breeding problem which is of sufficient practical importance to be organized as a regular research project of the Experiment Station. Portions of projects already organized are available as thesis subjects and include problems of inheritance in beef cattle, dairy cattle, sheep and goats. Most of the problems available involve principles both of genetics and either animal husbandry or dairy husbandry, and students electing this course must first be familiar with the fundamentals of those fields. Dr. Warwick

FOR STUDENTS IN SHORT COURSES

23. Judging Market Types of Beef Cattle and Sheep. (0-4). Credit, one hour. Cattle and sheep terms; description and value of beef and mutton types; beef and mutton carcasses, wholesale and retail cuts; factors determining dressing percentage; packing house by-products; score cards and comparative judging; feeder steers and feeder lambs; market classes and grades of cattle and sheep; dual purpose cattle; fine wool sheep; classification of breeds.

Text: Types and Market Classes of Live Stock, Vaughan. (Required in C).

- 24. Judging Market Types of Horses and Swine. (0-4). Credit, one hour.
 Origin of the horse; anatomical review; conformation with relation to action; classification of breeds; draft type; carriage type; roadster type; saddle type; hunter type; polo pony; mules; market classification; unsoundness; lard type hogs; bacon type; the hog carcass; wholesale cuts; by-products; market classification; breed classification; score card and comparative judging. Text: Types and Market Classes of Live Stock, Vaughan. (Required in C).
- 52. The Breeding of Live Stock and the Study of Pedigrees. (2-2). Credit, three hours.

Methods used in the practice of breeding purebred and market horses, cattle, sheep, swine; pedigree study.

Text: The Breeding of Animals, Mumford. (Elective in C).

- 55. Live Stock Feeding. (2-2). Credit, three hours.A modification of course 409.Text: Feeds and Feeding (abridged), Henry and Morrison. (Elective in C).
- Live Stock Management. (2-2). Credit, three hours.
 A modification of course 416.
 Prerequisite: Animal Husbandry 55.
 (Elective in C).

DEPARTMENT OF ARCHITECTURE

Professor Langford, Professors Geist, Vosper, Associate Professor Finney, Mr. Byrd

101, 102. Architectural Drawing. (0-3). Credit, one hour each term.

Lettering, line drawing, patterns, mouldings, band ornaments, proportion of openings, geometrical constructions, curves and spirals, coordinated projections, elementary stereotomy, india ink, and color washes, elements of architecture, application of cast shadows, the orders, architectural composition.

Text: Architectural Composition, Curtis. (Required in IX, XX).

109, 110. Freehand Drawing. (0-2). Credit, one hour each term.

Sketching from geometrical solids, simple objects, plaster casts, still life, elementary color and color wheels.

Adaptation of light and shade drawing. (Required in IX, XX).

201, 202. Design (Elementary). (0-10, 0-14).

Simple problems in design and composition, presentation, rendering, application of elements of Architecture, analytique, research.

Text: Study of Architectural Design, Harbeson.

Prerequisite: For course 201, Architecture 102; for course 202, Architecture 201 and 203.

(Required in IX group I).

201a, 202a. Design (Elementary). (0-8, 0-4).

Similar to course 201, 202.

Prerequisite: For course 201a, Architecture 102; for course 202a, Architecture 201a and 203.

(Required in IX group 2).

203. Shades, Shadows and Perspective. (1-0).

A study of the principles of shades, shadows, and perspective and of their application to various architectural subjects.

Lectures; recitations; problems.

Prerequisite: Drawing 103.

(Required in IX groups 1, 2).

205, 206. Freehand Drawing. (0-4).

Sketches in charcoal of the full length antique and other subjects; shaded charcoal drawing from the full length figure and from casts of architectural ornament, water color studies.

Prerequisite: Architecture 110.

(Required in IX groups 1, 2; XX).

207, 208. History of Architecture. (2-0).

Egyptian, Western Asiatic, Greek, Roman, Early Christian, Byzantine, Romanesque, and Gothic styles.

Written quizes; research; lectures.

Text: History of Architecture, Fletcher.

(Required in IX groups 1, 2).

217, 218. Mechanics of Materials. (3-0).

Space, force, stress, moment, and shear diagrams.

Properties of materials and theory of design.

Text: Practical Mechanics, Leigh.

Prerequisite: Mathematics 101, 102, 103, 104.

(Required in IX group 1).

221, 222. Architectural Construction. (1-4).

Details in frame and masonry construction. General drawings, scale and full size details, working drawings.

(Course 222 required in XXII).

300. Working Drawings. Summer following Sophomore year, three weeks.

Work in laying out details of building construction such as cornices, window and door frames; stairs, fireplaces, and similar construction for timber and masonry buildings.

Prerequisite: Architecture 202 or 202a. (Required in IX groups 1, 2; XXII).

301, 302. Design (Intermediate). (0-15).

Major and sketch design problems of small ensemble involving composition, planning and presentation. Archaeological problems, library research.

Text: Essentials of Composition, Van Pelt.

Prerequisite: Architecture 202. (Required in IX group 1).

305, 306. Freehand Drawing. (0-4).

Pen and ink, pencil and water color drawing.

Prerequisite: Architecture 206. (Required in IX groups 1, 2).

309. History of Architecture. (2-0).

Renaissance and modern architectural styles.

Written quizzes: research, lectures,

Text: History of Architecture, Hamlin.

(Required in IX groups 1, 2).

311, 312. Design (Intermediate). (0-12).

Similar to course 301, 302.

Prerequisite: Architecture 202a.

(Required in IX group 2).

316. Mechanical Equipment of Buildings. (3-0).

Heating and ventilation; water supply; plumbing and sanitation; acoustics.

Prerequisite: Mathematics 101, 102, 103, 104; Physics 203, 204.

317. Building Construction. (2-3).

Design of wood and steel framing as used in building construction; beams; columns; struts; roof trusses; analytic and graphic method.

Prerequisite: Architecture 217, 218.

(Required in IX group 1).

318. Reinforced Concrete. (3-3).

Theory of reinforced concrete; design of walls; columns, beams, and slabs. Text: Design of Reinforced Concrete Structures, Urquhart and O'Rourke. Prerequisite: Architecture 217, 218.

(Required in IX group 1).

400. Working Drawings. Summer following Junior year, three weeks.

Work in laying out and tracing general working drawing for buildings.

Prerequisite: Architecture 300. (Required in IX groups 1, 2).

401, 402. Design (Advanced). (0-24, 0-20).

Major and sketch design problems of large ensemble involving composition, planning and presentation. Archaeological problems, library research. (Required in IX group 1).

406. Professional Practice. (2-0).

A series of lectures on the law of contracts; professional practice; ethics; professional and inter-professional relationships.

(Required in IX groups 1, 2).

407. History of Art. (2-0).

Analysis of architectural ornament; history of painting, sculpture and ornament; art appreciation. Lectures and research.

(Required in IX groups 1, 2).

409, 410. Freehand Drawing. (0-4).

Studio and out-door sketching; architectural rendering, advanced water color.

Prerequisite: Architecture 305, 306.

(Required in IX group 1).

411, 412. Structural Design. (0-4, 2-12).

Draughting room methods, design of framed timber structures, design of skeleton steel structures, details of trusses, girders and columns in buildings, critical study of reinforced concrete structures, footings, beams, slabs and columns and simple design in concrete, working drawings and details.

Library research.

Prerequisite: For course 411, Civil Engineering 330, for course 412, Civil 1 Engineering 413.

(Required in IX group 2).

414. Modern Architecture. (1-0).

An analysis of modern buildings; historical influences; modern development; tendencies. Lectures; assignments, and reports.

Text: Story of Architecture in America, Tallmadge.

(Required in IX groups 1, 2).

FOR GRADUATES

501, 502. Architectural Design. (0-24).

Design of buildings and groups of buildings. Practice, criticisms; consultations; research.

503, 504. Architectural Construction. (2-8).

Theory and practice in advanced constructive design; foundations; walls; frames.

- 505, 506. Architectural Practice. (1-4). Contracts, specifications; superintendence; office methods.
- 507, 508. Architectural Presentation. (0-6). Sketching; rendering; color harmony and effects.
- 509, 510. Mechanical Equipment of Buildings. (1-4). Theory, practice, and research relating to building sanitation.

DEPARTMENT OF BIOLOGY

Professor Ball, Professor Reeves; Associate Professor English; Assistant Professors Gibbons, Doak, Young, Mr. Gore

101, 102. General Botany. (2-4). Credit, three hours each term.

The first term begins with an outline of the external and internal form and structure necessary to the more extended study of life processes of plants. In the second term, types of various subdivisions of the plant-kingdom are used to illustrate the great fundamental principles of development and adaptation, and serve as a foundation for later work in classification.

In the laboratory work each student is required to keep a notebook in which he records by drawings and notes the results of his work.

Text: A textbook of General Botany, Smith-Overton.

(Required in I, XI, XII, XIV, XVI, XX).

103, 104. General Botany. (2-4) Credit, three hours each term.

This course differs from the preceding in being more thorough and advanced.

Text: General Botany, Holman and Robbins.

Laboratory fee, \$1.00 each term.

(Elective in XIX).

211, 212. General Biology. (2-4).

The structure of the animals; elementary vital phenomena; their functions and development of organisms; hygiene and sanitation; the causes and prevention of diseases; discussion of the principal biological theories.

Introduction to the use of the microscope, laboratory technique, and scientific methods of observation and experiment.

The subject matter of this course is so arranged as to allow the terms to be taken separately.

Text: Foundations of Biology, Woodruff.

Laboratory fee, \$1.00 each term.

(Required in XIX).

213. Plant Physiology. (3-2).

A course designed as a preparation for further work in agronomy and

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horticulture. Emphasis is laid on the study of the physiology of growth, nutrition and reproduction in plants, but not excluding other functions.

Text: Plant Physiology, Raber.

Laboratory fee, \$1.00.

(Elective in I).

Offered both terms.

315. The Cotton Plant. (2-2).

An outline of the botanical relationships, morphology, special physiology and pathology of the cotton plant. The text and lectures are supplmented by bulletins from available sources.

The laboratory work consists of studies in the structure and physiology of the plant.

Text: To be assigned.

Laboratory fee, \$1.50.

403, 404. Plant Physiology. (2-4).

An introduction to systematic mycology in the first term, which is followed by a study of the more important diseases of plants.

Text: Manual of Plant Diseases. Heald.

Prerequisite: Biology 103, 104, 311, 312.

Laboratory fee \$1.00 each term.

416. Plant Diseases. (2-4).

This course begins with a study of the biology and classification of fungi with special reference to pathogenic forms. Types of the more important plant diseases occurring in Texas are selected for study and the student is trained to investigate and identify the cause of trouble and is shown appropriate corrective measures. Plant diseases due to other causes receive attention within the limits of time and material.

In the laboratory, the student studies the form, structure, and biology of selected fungi and learns routine methods of cultivation and identification. Diseased plants are placed before him for individual study and he is instructed in the diagnosis of each disease.

Text: Fungous Diseases of Plants, Duggar.

Prerequisite: Biology 101, 102, 206.

Laboratory fee, \$1.00.

(Required in I group 9).

ZOOLOGY

203, 204. General Zoology. (2-4).

The fundamental principles of classification, morphology and physiology of the various phyla of the animal kingdom, with a discussion of life-histories and habits of representative species. In the laboratory type specimens are dissected.

Text: College Zoology, Hegner. Laboratory fee, \$1.00 each term. (Required in X; elective in X1X).

207. General Zoology. (2-4).

The essential aims and plan outlined in the work in botany are continued in this course. Especial attention is given to forms of economic importance. Types of the various great groups of animals are considered as illustrating origin, development and distribution. Careful dissection and study of type forms, with notes and drawings are required in the laboratory work.

Text: Outlines of General Zoology, Newman.

Laboratory fee, \$1.00.

(Required in I, XI, XVI).

317, 318. Comparative Veterbrate Zoology. (2-4).

A detailed study of the anatomy of type chordates is undertaken from a comparative viewpoint. The lectures deal with the progressive development and evolution of the organs and organ systems, while in the laboratory the anatomy of the shark, fish, amphibian and mammal is carefully studied.

Text: History of the Human Body, Wilder.

Laboratory Manual for Comparative Vertebrate Anatomy, Hyman.

Prerequisite: Biology 203, 204. Laboratory fee, \$2.00 each term.

341, 342. General Physiology. (3-4).

The structure of the human body; the physiology of the cell; nutrition, chemistry of food, digestion, metabolism; physiology of the muscular, nervous and circulation systems, and of the special senses.

Text: General Physiology, Mitchell.

Prerequisite: Biology 203, 204 or 211, and 212.

Laboratory fee, \$1.50 each term.

BACTERIOLOGY

206. Introductory Bacteriology. (1-4).

An introduction to the study of the nature and relation of bacteria. The laboratory work comprises, in part, the preparation of culture media; of pure cultures; staining and microscopic technique: methods of indentification, etc.

Text: Bacteriology, Tanner.

Laboratory Manual: Practical Bacteriology, Tanner.

Prerequisite: Biology 101, 102.

Lab ratory fee, \$1.50.

(Required in I, XI).

309, 310. General Bacteriology. (2-4).

The general nature and relations of bacteria, as exhibited in the study of selected types.

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In the laboratory, routine methods of isolation, preparation, and study of pure cultures; technical microscopy of bacteria. etc., occupy the time allotted.

Text: Textbook of Bacteriology, Zinzer.

Laboratory Manual: Microbiology, Giltner.

Laboroatory fee, \$1.00 each term.

Prerequisite:

319. Bacteriology of Milk. (2-4).

Application of bacteriology of milk; action of bacteria in milk; dairy sanitation; milk-borne diseases. Methods of analysis used in public health laboratories.

Text: Dairy Bacteriology, Hammer.

Laboratory Manual: Standard Methods of Milk Analysis.

Prerequisite: Biology 206. Laboratory fee, \$1.50. (Required in I group 7).

320. Bacteriology of Dairy Products. (2-4).

A study of the action of microorganisms in the ripening of cheese, butter and fermented milks; relation of microoragisms to quality in milk products.

Text: Assigned references.

Laboratory fee, \$1.50.

Prerequisite: Biology 319.

(Elective in I group 7).

409, 410. Advanced Bacteriology. (1-4).

This course is designed for students who elect special work in bacteriology and is adapted to the needs of the group making the selection.

Prerequisite: Biology 103, 104, 309, 310.

418. Water Bacteriology. (1-4).

The relations of bacteria and similar organisms to water, and water supplies, sewage and sewage disposal.

The laboratory work consists of preparation of culture media; qualitative and quantitative analysis of water sewage and sewage effluents.

Text: Microbiology, Marshall.

Laboratory Manual: Official Methods of Water Analysis.

Laboratory fee, \$1.50.

(Elective in IV).

FOR GRADUATES

501, 502. Vegetable Morphology. (2-4).

The life histories of various types of plants beginning with the lower forms

and extending throughout the Angiosperms are studied with reference to structure and reproduction. Special attention is given to the origin and development of sex, the vascular system, the flower, etc., and to the alternation of generations.

The laboratory work includes among other things training in the preparation of permanent microscopic slides.

No text is used but numerous references are given to publications available to the student.

Laboratory fee, \$2.00 each term.

503, 504. Advanced Vetebrate Zoology. (2-4).

An advanced course in zoology. The theory deals with the comparative anatomy of veterbrate types. The origin, development and evolution of the organs and organ systems, together with the anatomical evidence of evolution are emphasized. Laboratory work; detailed dissection of selected vertebrate types.

Text: Comparative Anatomy of Veterbrates, Kingsley; and Textbook of Zoology, Parker and Haswell, Vol. 2.

Laboratory fee, \$2.00 each term.

505, 506. Advanced Bacteriology. (2-4).

Advanced methods of bacteriological analysis of water; milk and foods; sewage.

Texts: Monographs on the special topics.

Laboratory fee, \$2.00 each term.

507. Diseases of Cotton. (2-4).

An outline of the life history of the more important diseases of the cotton plant together with measures of control.

509, 510. Advanced Plant Physiology. (2-4).

An extended study of the responses made by the plant to various external and internal stimuli, especially of gravitation, light, heat, water, and other chemical bodies. It includes an examination of the physiology of growth, nutrition and reproduction.

Experimental investigation of such responses is made in the laboratory work.

571, 572. Research in the Physiology of the Cotton Plant. (2-4).

This course is designed for students who specialize in cotton. Thorough studies are made of the structure of the cotton plant, its metabolism, its response to various fertilizers and to temperature of air and soil, its normal requirements for fertilization, and abnormal conditions resulting in the shedding of its blossoms. Dr. Taubenhaus.

FOR STUDENTS IN SHORT COURSES .

20. Elements of Botany. (2-4). Credit, three hours.

An elementary course for students in the two-year course in Agriculture. Text: To be selected.

Laboratory fee, \$1.50.

(Required in C).

DEPARTMENT OF CHEMISTRY AND CHEMICAL ENGINEERING

Professor Hedges, Professors Thornton, Brayton, Burchard, Associate Professor F. W. Jensen, Assistant Professors Koenig, B. C. Jones, Harter, Bauer, Mr. Bishop, Mr. Harrington, Mr. Snuggs, Mr. Middleton, Mr. Potts, Mr. Eads, Mr. Blum

CHEMISTRY

101, 102. General Inorganic Chemistry. (3-3). Credit, four hours each term. Foundation principles of all chemical activity are fully discussed and demonstrated. Industrial applications of the more important chemical processes are briefly described, and organic chemistry is touched upon. This course must precede all other chemical studies. An elementary course in physics should precede or accompany this course.

Text: General Chemistry, Newell.

Laboratory Manual of Inorganic Chemistry and Elementary Qualitative Analysis, Hedges and Brayton.

General laboratory work, duplication of lecture experiments and simple tests of technical importance. The laboratory work of the last half of the second term deals with elementary qualitative analysis.

Laboratory fee, \$2.00 each term.

103, 104. Inorganic Chemistry. (3-4). Credit, four hours each term.

Same as course 101, 102, with the addition of one hour of laboratory practice per week.

Laboratory fee, \$2.00 each term.

(Required in X).

205. Qualitative Analysis. (2-8).

This course includes both the theory and practice of fundamental analytical operations and is designed to enable the student to make a rapid and accurate analysis of substances of average complexity, and to understand the steps by which his results are obtained.

The laboratory work consists of a study of the properties and reactions of the more common basic and acidic radicals, their separation and identifi-

cation from mixtures, the method of getting solids into solution for analysis and the analysis of unknown substances. The number of substances analyzed varies with their nature and complexity.

Text: Qualitative Analysis, Steiglitz, Part 1, and Noyes, A. A.

Prerequisite: Chemistry 101, 102.

Laboratory fee, \$4.00. (Required in VIII).

206. Organic Chemistry. (3-2)

The subject is treated primarily as a pure science. An effort is made to select for illustration such compounds as are of interest to the student of agriculture.

Text: Organic Chemistry, Moore.

In the laboratory a study is made of the properties and typical reactions of compounds discussed in the theory.

Prerequisite: Chemistry 101, 102.

Laboratory fee, \$2.50. (Required in VI, XI).

207. Quantitative Analysis. (2-3).

A considerable portion of the class-room time is devoted to chemical calculation involved in the practice.

The laboratory work consists of a number of carefully selected experiments in quantitative analysis designed to typify operations of general application.

Prerequisite: Chemistry 101, 102.

Laboratory fee, \$3.00.

(Required in III, VI, XII).

208. Technical Analysis. (1-3).

This course is designed to give the student an insight into the methods employed in the analysis of materials connected with his profession and the applications of the results obtained to practical problems. The work in the laboratory is discussed and explained, and its application to engineering problems emphasizied.

Fuels, steels, cements, waters for industrial purposes, and industrial products commonly met with, are analyzed by rapid technical methods.

Prerequisite: Chemistry 207.

Laboratory fee, \$3.00. (Required in III, VI).

212. Agricultural Chemistry. (4-4).

A study of the fundamental chemical principles of agriculture; the application of chemistry; the chemical terms used in Experiment Station literature; the chemistry of plant substances, soils, irrigation water, fertilizers, insecticides, and fungicides. An elementary study of organic chemistry is made in the beginning.

The laboratory work consists of the chemical analysis of feeds, fertilizers, insecticides, and fungicides.

Text: Chemistry of Agriculture, Stoddard.

Laboratory Manual of Agricultural Chemistry, Hedges and Bryant.

Prerequisite: Chemistry 102.

Laboratory fee, \$3.00.

(Required in I, XII).

301, 302. Organic Chemistry. (3-4).

An introduction to the chemistry of the compounds of carbon. A study of the general principles, and of their application to various industrial processes.

The laboratory work serves as a basis of the course. The student here familiarizes himself with the reactions, properties and relations of typical organic compounds.

Text: Organic Chemistry, Norris. Prerequisite: Chemistry 101, 102. Laboratory fee, \$2.00 each term. (Required in VIII).

308. Dyeing. (2-4).

A study of the physical and chemical properties of textile fibers, dyes, dyestuffs, and mordants, together with the principles and appliances involved in the commercial coloring of textiles, especially of cotton and woolen goods.

Most of the principles discussed in the theory are tested in the laboratory, with especial attention to the production of dyes to meet particular commercial requirements.

Prerequisite: Chemistry 206.

Laboratory fee, \$2.00.

(Required in VI).

309. Agricultural Chemistry. (3-3).

A study of the fundamental chemical principles of agriculture; the application of chemistry; the chemical terms used in Experiment Station literature; the chemistry of plant substances, soils, irrigation water, fertilizers, insectitides, and fungicides.

The laboratory work consists of the chemical analysis of feeds, fertilizers, insecticides, and fungicides.

Text: Chemistry of Agriculture, Stoddard.

Laboratory Manual of Agricultural Chemistry, Hedges and Bryant.

Prerequisite: Chemistry 206.

Laboratory fee, \$3.00.

(Required in I groups 2, 3, 4, 5, 7, 8, 9, 11).

314. Dairy Chemistry. (3-4).

Chemical analysis of milk, butter, cheese and other food products with

an interpretation of the results.

Text: Food Analysis, Woodman. Prerequisite: Chemistry 212. Laboratory fee, \$2.00. Not offered in 1930-31.

342. Physical Chemistry. (3-4).

Explanation of basic chemical theories and principles with reference to their relationship to tranformations in living matter. Special development is made of such topics as atomic structure, diffusion and osmotic pressure, colloids, chemical equilibrium, catalysis, reaction velocity, hydrogen-ion concentration and its importance in biological processes.

Prerequisite: Chemistry 302.

Laboratory fee, \$2.00.

438. Seminar. (1-0). (Required in VIII).

441. Analysis of Water and Sewage. (2-3). Sanitary analysis of water and sewage. Laboratory fee, \$2.00. (Elective in IV).

FOR GRADUATES

- 501, 502. Advanced Agricultural Chemistry. (3-4). Same course as 309, with more advanced work. Laboratory fee, \$2.00 each term.
- 503, 504. Advanced Industrial Chemistry. (2-8). A study of industrial processes. Laboratory fee, \$2.00 each term.
- 507, 508. Advanced Organic Chemistry. (2-8). Preparation of organic compounds. Laboratory fee, \$2.00 each term.
- 509, 510. Cotton Seed Oil. (2-4).

 A study of cotton seed oil production and refining.

 Laboratory fee, \$2.00 each term.
- 571, 572. Special Topics in the Chemistry of Animal Nutrition. (2-6).

 This course deals with vitamines, amio acids, mineral contents of feeds, productive protein, and productive energy as related to animal nutrition.

The laboratory work is under Agricultural Experiment Station conditions and includes analysis of feeds, experiments, and a thesis in the chemistry of animal nutrition. Dr. Fraps.

- 573, 574. Special Topics in the Chemistry of Animal Nutrition. (2-6). A continuation of course 571, 572. Dr. Fraps.
- 575, 576. Special Topics in the Chemistry of Soils. (2-4).

This course includes the study of soil acidity, phosphoric acid, potash, and nitrogen related to crops, and similar topics by means of books, bulletins, original articles, and the preparation of the reports. The laboratory work accompanying the course will depend upon experience of the student. Dr. Fraps.

577, 578. Special Topics in the Chemistry of Soils. (2-4).

A continuation of course 575, 576.

FOR STUDENTS IN SHORT COURSES

21. Elementary Chemistry. (2-4). Credit, three hours.

An elementary study of chemistry and its application to agriculture.

Laboratory fee, \$2.00.
(Required in C).

CHEMICAL ENGINEERING

The foundation for the work in chemical engineering is laid in the courses in chemistry already described. Chemistry and chemical engineering cover such a broad field that in the senior year students are advised to specialize in some branch of technical analysis such as its application to the cotton seed oil industry, petroleum technology, problems of sanitation, or the chemical control of a cement plant. All the work is supplemented by laboratory work. The chemical industries most highly developed in this State are inspected from time to time.

202. Elementary Quantitative Analysis. (2-8).

An introduction to the methods of exact analysis, as preliminary training for the more advanced courses. In the class room the practice and theory of the laboratory exercises are dealt with by lectures and recitations. Special attention is given to stoichiometry.

The laboratory work consists of a number of carefully selected experiments in quantitative analysis designed to typify operations of general application. The work is first gravimetric, then volumetric. In the early periods compounds of known composition and purity are analyzed, but later substances of industrial significance, whose percentage composition is known only to the instructor, are undertaken. Near the close of the term an analysis is made of a carbonate or silicate rock from the commonly determined constituents.

Texts: Quantitative Chemical Analysis, Smith; Calculations of Analytical Chemistry, Miller.

Prerequisite: Chemistry 205. Laboratory fee, \$4.00. (Required in VIII).

301. Quantitative Analysis. (2-8).

Lectures, recitations and conferences dealing with technical methods of analysis, both rapid and exact. Before beginning an analysis the student is required to consult current literature and standard books of reference and present a written outline for criticism and suggestion.

The laboratory work comprises the analysis of limestone, fuels, lubricating oils, gas, boiler water, iron and steel, alloys, ores, paint, soap, sugar, asphalt and other materials of engineering and industrial importance.

Text: Quantitative Analysis, Mahin.

Prerequisite: Chemical Engineering 202.

Laboratory fee, \$4.00. (Required in VIII).

407. Industrial Chemistry. (3-0).

The principal applications of chemical process to commercial products, mostly organic in nature, such as gas manufacture, petroleum products, soaps, the starch and sugar industries, and the manufacture of paper, leather, and explosives; the manufacture of fertilizers, cements and ceramics.

Text: Industrial Chemistry, Benson. Prerequisite: Chemistry 101, 102.

(Elective in III).

408. Metallurgy of Iron and Steel. (2-0).

Metallurgy of iron and the manufacture of steel are considered in detail with especial attention to the nature and location of valuable iron ore deposits, together with suitable fluxes; the nature and availability of proper fuels, together with the furnaces used; the constitution of the resulting pig iron and the manufacture of steel therefrom; the chemistry of the different kinds of steel and their adaptability in engineering practice. Lectures and recitations.

Text: The Metallurgy of Iron and Steel, Stoughton.

Prerequisite: Chemistry 101, 102.

409. Gas and Oil Technology. (3-6).

Application of chemistry and engineering to gas, natural gasoline, petroleum, and cotton seed oil.

The laboratory work comprises the refining of petroleum and the production and refining of cotton seed oil.

Prerequisite: Chemistry 302.

Laboratory fee, \$4.00.

(Required in VIII).

411. Physical Chemistry. (3-4).

Explanation and mathematical development of the theories and principles of chemistry. Topics discussed are atomic structure, gas laws, thermodynamics, thermochemistry, liquids, solutions, osmotic pressure, and colloids. Experiments

in the laboratory substantiate the theories and principles developed in theory. Prerequisite: Chemistry 302.

Laboratory fee, \$2.00. (Required in VIII).

414. Sanitary Chemistry. (3-4).

Sanitary examination of food, milk, and milk products, and the sanitary analysis of water, including water treatment methods. Methods of purification of water, as the use of sand filters, coagulants, and algicides; sources of pollution of water and milk supplies and their relation to public health; problems common to the sanitary chemist and the engineer.

Prerequisite: Chemistry 206 or 301, 302.

Laboratory fee, \$4.00.

416. Chemical Technology. (3-4).

The application of chemical theories and laws to industrial processes, organic chemical processes being emphasized, especially those dealing with the refining of petroleum, cotton seed oil, and sugar.

Text: Principles of Chemical Engineering, Walker, Lewis and McAdams.

Prerequisite: Chemical Engineering 409.

Laboratory fee, \$4.00.

(Required in VIII).

418. Physical Chemistry. (3-4).

Intensive study of homogenous and heterogeneous equilibria, the phase rule, chemical kinetics, catalysis, hydrogen-ion concentration, electrolytic and galvanic cells and electrochemistry, photochemistry, and radio activity.

Prerequisite: Chemical Engineering 411.

Laboratory fee, \$2.00.

(Required in VIII).

419. Petroleum Refining. (3-0).

The application of chemical theories and laws to the refining of petroleum. (Required in XXIII).

422. Animal and Vegetable Oils. (3-4).

Chemical examination of animal and vegetable oils with special reference to the detection of adulterants.

Text: Food Analysis, Woodman.

Prerequisite: Chemistry 302.

Laboratory fee, \$4.00.

(Elective in VIII).

DEPARTMENT OF CIVIL ENGINEERING

Professor Richey, Professors McNew, Munson, Grinter, Associate Professor Sandstedt, Mr. McCosh, Mr. Orr, Mr. Frank

201. Plane Surveying. (3-3).

Chaining; the adjustment, use and care of compass, transit. level, plane table and hand instruments; measurement of angles; land surveys and computations; stadia, topographic, city and general surveying; observations for true meridian and latitude; plotting results.

Text: Surveying, Davis, Foote, and Rayner.

Prerequisite: Mathematics 103.

Laboratory fee, 75 cents. (Required in IV, XV).

202. Railroad Engineering. (3-3).

Outlining reconnoisance, preliminary, and location surveys, computing and staking out simple and compound curves; changes in alignment, and connecting curves; frogs and switches, turnouts, and transition curves.

Text: Field Manual for Railroad Engineers, Nagle.

Laboratory fee, 75 cents.

Prerequisite: Civil Engineering 201.

(Required in IV).

204. Analytical Mechanics. (3-0).

Fundamental principles; coplanar and non-coplanar forces; centroids; friction; moment of inertia.

Text: Applied Mechanics, Poorman.

Prerequisite: Mathematics 203; to be accompanied by Mathematics 204. (Required in IV, IX group 2; XV).

206. Plane Surveying. (1-3).

Fundamental principles of surveying, use of transit and level in making layouts of buildings, running profile surveys, etc.

Text: Manual of Surveying, R. E. Davis,

Prerequisite: Mathematics 103.

Laboratory fee, 50 cents.

(Required in III, V, VI, VIII, IX group 2; XXIII).

300S. Surveying Practice. Summer following Sophomore year, 6 weeks.

First six weeks of summer session.

Practice in leveling; land surveying, topographic surveying including base line and meridian measurements, triangulation, and taking topography with transit and plane table; preliminary and location surveys for railway and for highway.

Full working days are spent in the field and the office.

Prerequisite: Civil Engineering 202. Laboratory fee, \$1.50. (Required in IV).

305. Mechanics of Materials. (3-0).

The resistance of materials and the mechanics of pipes, riveted joints, beams, columns, shafts, etc. Elastic curve and the deflection of beams, combined stresses, resilience, and impact.

Text: Strength of Materials, Poorman.

Prerequisite: Mathematics 204; Civil Engineering 204 or equivalent. (Required in III, IV, V, IX group 2; XV, XXIII).

306. Masonry. (2-0).

Brick and stone masonry; cement and aggregates; theory of proportioning concrete; methods of mixing, placing, and caring for concrete; foundations; plain concrete structures, including dams, retaining walls, abutments, piers, culverts; forms and falsework.

Text: Design of Masonry Structures and Foundations, Williams.

Prerequisite: Civil Engineering 305.

(Required in IV).

311. Hydraulics. (3-0).

The laws governing the action of water at rest and in motion, as related to engineering problems; the flow of water in pressure mains, sewers, acqueducts, open channels, and in rivers; measurement of the flow of water by nozzles, orifices, weirs and meters; estimates for water supply and water power, theory and efficiency of water wheels, motors, turbines, rams and pumps.

Text: Hydraulics, King and Wissler.

Prerequisite: Civil Engineering 204.

(Required in III, IV, XV, XXIII; elective in V).

315. Strength of Materials Laboratory. (0-2).

Determination of the strength, ductility, modulus of elasticity, and other properties of engineering materials. Tests of timber, steel, cast iron, cement, etc., and reports showing results.

Prerequisite: Civil Engineering 305 or registration in Civil Engineering 305.

Laboratory fee, \$1.00. (Required in III, IV, V, IX group 2, XV, XXIII).

331. Analytical Mechanics. (3-0).

A continuation of course 204; rectilinear and curvilinear motion; work and energy; power, momentum and impulse.

Text: Applied Mechanics, Poorman. Prerequisite: Civil Engineering 204.

(Required in IV).

333. Railroad Surveying. (0-3).

Field and office work covering transition curves, turnouts, vertical curves, earthwork, overhaul, track facilities for industrial plants, grade revision.

Text: Field Manual for Railroad Engineers, Nagle.

Prerequisite: Civil Engineering 202.

Laboratory fee, 75 cents.

(Required in IV).

335. Mapping and Estimating. (0-4).

Making topographic map of a part of the College campus, from data secured in course 300 S; making contour map, profiles and estimates for the railway and highway line located in course 300 S.

Prerequisite: Civil Engineering 300 S.

(Required in IV).

336. Hydraulics Laboratory. (0-2).

Calibration of nozzles, orifices, water meters, weirs, pressure gauges; efficiency tests on impulse motors, hydraulic ram, and on one, two, and three-stage centrifugal pumps.

Prerequisite: Civil Engineering 311 or registration in that course.

(Required in IV, XV, XXIII).

340. Elementary Structural Analysis. (3-0).

Loads and reactions for simple structures; review of moment and shear in beams; influence lines for beams and trusses; algebraic and graphical methods for determining stresses in trusses; analysis of the riveted plate girder.

Text: Modern Framed Structures, Johnson, Bryan, and Turneaure.

Prerequisite: Civil Engineering 305.

(Required in IV, IX group 2).

342. Structural Drafting. (0-4).

Application of graphical methods in solving reactions and stresses in simple structures; designing and detailing of a simple roof truss.

Prerequisite: Civil Engineering 340 or registration in that course.

(Required in IV, IX group 2).

407. Roads and Pavements. (3-0).

A brief study of country roads and city pavements. Highway location, design, construction and maintenance; road laws, finances, organization and supervision briefly considered.

The text is supplemented by lectures, the use of bulletins, models and samples of materials.

Text: To be selected.

Prerequisite: Civil Engineering 201, 204.

(Required in IV).

413. Elements of Reinforced Concrete. (2-0).

Theory of stress distribution in plain and reinforced concrete beams; derivation of working formulas for rectangular reinforced beams and T-beams; stress determination and elementary design of beams; theory, investigation, and design of reinforced columns.

Text: Reinforced Concrete Design, Sutherland and Clifford.

Prerequisite: Civil Engineering 305.

(Required in IV, IX group 2).

414. Reinforced Concrete Design. (2-3).

A study of the design of various types of reinforced concrete structures, such as buildings, bridges, retaining walls, culverts. Practice is had in the making of simple designs and working drawings.

Text: Same as in course 413.

Prerequisite: Civil Engineering 413.

(Required in IV).

417. Bituminous Materials. (2-3).

Origin, production, specification, and tests of bituminous materials and mixtures used in the construction and maintenance of roads and pavements.

Text: Laboratory Manual of Bituminous Materials, Hubbard.

Prerequisite: Senior classification in engineering.

Laboratory fee, \$2.50.

(Elective in IV). .

423. Structures. (2-4).

Types of highway bridges; calculation of stresses; design of bridge floors; beam bridges; plate girders; high and low truss bridges; bridge details, deflections.

The practice consists chiefly in making design computations and general drawings for a low riveted truss bridge in accordance with a given set of specifications.

Text: Same as in course 340.

Prerequisite: Civil Engineering 340, 342.

(Required in IV).

434. Irrigation and Drainage. (3-0).

Determination of the quantity of water available; collection and storage works; design, location and construction of distribution systems; economic use and duty of water in irrigation; water rights. Drainage of overflowed lands and flood control measures are presented briefly by lectures.

Texts: Principles of Irrigation Engineering, Newall and Murphy. Drainage and Flood Control, Pickels.

Prerequisite: Civil Engineering 311.

(Elective in IV).

443. Materials of Construction. (0-4).

A laboratory study of the suitability of various materials of engineering.

including brick, stone, sand, gravel, cement, mortars, concrete.

Prerequisite: Civil Engineering 407.

Laboratory fee, \$3.50.

(Required in IV).

446. Highway Administration. (3-0).

Study of highway laws, the administration of streets and highway improvements, and the procedure followed in planning and executing municipal street improvements.

Text: To'be assigned.

Prerequisite: Civil Engineering 407.

(Elective in IV).

448. Engineering Economics. (3-0).

Study of first cost and operating costs, business units and business statistics; valuation; cost estimating; engineering reports.

Text: Engineering Economics, Fish.

Prerequisite: Senior classification, engineering courses.

(Elective in IV).

452. Structural Engineering. (3-0).

An introduction to the various methods of analyzing and designing indeterminate structures.

Text: To be assigned.

Prerequisite: Civil Engineering 423.

(Elective in IV).

459. Steel Buildings. (2-3).

Structural features of mill buildings, office buildings, warehouses.

Design of one of the foregoing types of buildings.

Text: Mill Buildings, Ketchum.

Prerequisite: Civil Engineering 423, or registration in that course.

(Elective in IV).

FOR GRADUATES

521, 522. Advanced Stress Analysis. (3-3).

Stresses in statically indeterminate frames; deflections; secondary stresses; elastic arches; cantilever, continuous, and swing bridges.

523, 524. Structural Design. (2-6).

Reinforced concrete arch bridges; concrete buildings; steel buildings.

525, 526. Highway Construction and Materials. (3-3).

Highway design and construction, including location, drainage, foundations, types, costs. Laboratory and field investigations of highway materials and pavement mixtures. 527, 528. Hydraulic Engineering. (4-0).

Hydrology, water power development, flood control.

529, 530. Railway Engineering. (2-6).

Railway expenditures; valuation; operation costs; locomotive performance; speed-distance and time-distance curves; virtual profile; betterment surveys including grade revision, change of alignment, etc.

541, 542. Research. (2 to 6 credit hours).

Technical research; project subject to approval of head of department upon submission of outline of proposed investigation.

DEPARTMENT OF DAIRY HUSBANDRY

Professor Shepardson, Professor Darnell, Associate Professor Renner

202. Dairying. (2-2).

The secretion of milk; composition of milk and its products; use and application of the lactometer, methods of cream raising and separation; system of making farm butter and ice cream.

Text: Principles of Dairying, Judkins.

Laboratory fee, 75 cents.

(Required in I, XII, XIV group 3; XV; XVI; elective in XIV, C).

Offered both terms.

301. Market Milk. (3-2).

Food value of milk; handling and sale of sanitary milk; city milk inspec-

Text: Market Milk, Kelly and Clement.

Laboratory fee, \$1.00.

(Required in I group 7; XI).

303. Dairy Cattle Judging. (0-4).

A study of comparative judging of dairy cattle.

References assigned.

Prerequisite: Dairy Husbandry 202.

306. Butter Making and Factory Management. (3-2).

Types of creameries; raw product; grading; pasteurization; use of commercial starters; ripening; churning; salting; and working butter; explanation of various physical phenomena in making, packing, and storing butter. Creamery location and plans; business accounting as applied to management in various types of creameries.

Text: The Butter Industry, Hunziker.

Prerequisite: Dairy Husbandry 202.

Laboratory fee, \$1.00.

. (Required in I group 7).

310. Advanced Dairy Cattle Judging. (0-2).

Advanced study of dairy cattle judging with particular attention to show ring type and classification.

Prerequisite: Dairy Husbandry 303.

311. Technical Control of Dairy Products. (1-4).

Methods of testing dairy products for fat, acidity, salt, moisture, solids, adulteration and overrun.

Text: Practical Dairy Tests, Burke.

Prerequisite: Dairy Husbandry 202.

Laboratory fee, \$1.00.

407. Ice Cream Making and Refrigeration. (3-2).

Mixing and freezing ice cream; sherberts and other frozen products and the physical principles involved: type of freezers; flavoring materials; fillers; binders; ice cream standards; the theory and practice of artificial refrigeration and its use in the ice cream plant.

Text: Ice Cream, Turnbow and Raffetto.

Lectures: References assigned.

Prerequisite: Dairy Husbandry 202.

Laboratory fee, \$1.00.

408. Cheese Making. (2-4).

A study of various types of cheese, including the manufacture, ripening and marketing. Practice in the manufacture of Cheddar cheese and the more common types of soft cheese.

Text: Cheese, Van Slyke and Price.

Prerequisite: Dairy Husbandry 202.

Laboratory fee, \$1.00.

409. Advanced Study of Dairy Breeds. (1-4).

Historical study of prominent families and individuals of the major dairy breeds.

Prerequisite: Dairy Husbandry 202, Genetics 301.

411. History of Dairving. (3-0).

The development of the industry, stressing influence of inventions; natural resources of leading dairy countries; types of organization; present status of the industry.

Text: History of Dairying, Pirtle.

Prerequisite: Dairy Husbandry 202.

Not offered in 1930-31.

415. Condensed Milk and Milk Powder. (3-0).

The food value, manufacture and distribution of condensed and evaporated milk, milk powder, milk sugar, casein and other milk products; a study of milk substitutes.

Text: Condensed Milk and Milk Powder, Hunziker.

Prerequisite: Dairy Husbandry 301.

417. History and Development of Dairy Cattle. (3-2).

A general history of dairy farming and its place in a permanent system of agriculture; history, origin and classification of dairy cattle and dairy cattle breeds; general considerations in selecting breeds, individual cows and herd sires; dairy cattle breeding and the other problems of the breeder.

Text: Dairy Cattle and Milk Production, Eckles.

Prerequisite: Genetics 301. Laboratory fee, 75 cents.

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418. Feeding and Management of Dairy Cattle. (3-2).

The care, feeding and management of the dairy herd; calf raising, developing the dairy heifer; herd records and record keeping.

Text: Dairy Cattle and Milk Production, Eckles.

Prerequisite: Animal Husbandry 303 or 409.

Laboratory fee, 75 cents.

(Required in XII).

FOR GRADUATES

- 501, 502. Advanced Dairy Production. (2-4).

 An advanced study of general production problems.
- 503, 504. Advanced Dairy Manufactures. (2-4).

 An advanced study of general manufacturing problems.
- 505, 506. Research in Dairy Production. (2-6).

A study of research methods and a review of scientific literature dealing with special dairy production problems. Students will select individual problems, subject to the approval of the head of the department.

507, 508. Research in Dairy Manufacture. (2-6).

A study of research and a review of scientific literature dealing with special dairy manufacturing problems. Students will select individual problems, subject to the approval of the head of the department.

FOR STUDENTS IN SHORT COURSES

23. Farm Dairying. (3-2). Credit, four hours.

An elementary course in selecting and handling dairy cattle, rearing dairy calves; methods of milking; testing milk; care and handling milk and dairy products on the farm.

Text: Farm Dairying, C. Larsen. Laboratory fee, \$1.00.

DEPARTMENT OF DRAWING

Professor A. Mitchell, Assistant Professor Glenn, Mr. Caldwell, Mr. Dent, Mr. Spencer, Mr. Neff

103, 104. Descriptive Geometry. (3-0, 2-2). Credit, three hours each term. Problems relating to points, lines, planes, solids, intersections of planes and solids, intersections of solids, development of surfaces, shades and shad-

ows, linear perspective. (Required in IX).

111. Mechanical Drawing. (0-6). Credit, two hours.

Care and use of drawing instruments, freehand lettering, exercises in the use of drawing instruments, construction of plane and space curves, orthographic and axonometric projections, technical sketching, dimensioning drawings, principles and practice in working drawings, standard conventions.

Text: Freehand Lettering, Lessons in Lettering, Book 1 and Book 2, French and Turnbull. Mechanical Drawing, Giesecke and Mitchell. (Required in III, IV, V, VI, VIII, XIII, XV, XXII, XXIII).

124. Descriptive Geometry. (2-4). Credit, three hours.

Problems relating to points, lines, planes; solids, intersections of planes and solids, intersections of solids, development of surfaces.

Texts: Descriptive Geometry, Descriptive Geometry Problems, Giesecke and Mitchell.

(Required in III, IV, V, VI, VIII, XXII, XXIII).

201, 202. Mechanical Drawing. (0-2).

A continuation of course 111 including elementary parts of machines and engineering structures; details and assemblages; Patent Office Drawings, tfacing, blueprinting.

The course is varied to meet the practical needs of students in the different engineering departments.

Text: Mechanical Drawing, Giesecke and Mitchell.

Reference Text: Engineering Drawing, French.

Prerequisite: Drawing 111 or equivalent.

(Required in III, IV, V, VI, VIII, XIII, XXII, XXIII).

Offered both terms.

DEPARTMENT OF ECONOMICS

Professor Clark, Acting Professor Barger, Assistant Professor Adams, Mr. Vaughn

203, 204. Principles of Economics. (3-0).

A general course in the fundamental principles of economics, including the theory of economic activities concerning production, distribution and ECONOMICS 189

consumption; the practical economic problems of money, credit and banking foreign exchange, tariff, transportation, trusts, insurance, taxation.

Text: Our Economic System, Hayes. (Required in XIII, XIV, XVIII, XIX).

311. Money and Banking. (3-0).

The evolution of money, the various forms of credit, the history of banking institutions, banking in other countries, the Federal Reserve System, and current monetary and banking problems.

Text: Banking and Business, Willis and Edwards.

Prerequisite: Economics 203 and 204, or 403.

(Required in XIV, group 4; XVIII; elective in III, IV, V, VI, VIII; IX XXIII).

315. Economics of Insurance. (3-0).

An introductory course dealing with the historical development and general economic aspects of the insurance business. Special attention is given to property and life insurance.

Text: Insurance Principles and Practice, Reigel and Loman.

Prerequisite: Economics 203 and 204, or 403.

316. Business Law. (3-0).

Such subjects as the following are studied: the nature and scope of law, contracts, sales agency, negotiable instruments, employment, personal property, real property, wills and inheritance, surety, bankruptcy. Supplementary studies of Texas laws, and of court decisions.

Text: Business Law, Conyngton and Bergh; Clark's Outlines.

Prerequisite: Sophomore standing. (Required in XIV, XVIII, XX).

318. Labor Problems. (3-0).

This course deals with theories of wages, development of trade unions and labor unions, proposals for the solution of labor problems, labor legislation, and other problems growing out of modern industrial development.

Text: Labor Attitudes and Problems, Atkins and Laswell,

Prerequisite: Economics 203 and 204, or 403. (Elective in III, IV, V, VI, VIII, IX, XXIII).

403. Principles of Economics. (3-0).

This is a general course in the fundamental principles of economics. It deals with the theory of economic activities concerning production, distribution and consumption, and the practical economic problems of money, credit and banking, foreign exchange, tariff, transportation, taxation, trusts, insurance. The same ground is covered as in course 203, 204, but in a more compact way.

Text: Principles of Economics, Rufener.

(Required in 1 groups 2, 3, 4, 5, 7, 8, 9, 11, 12; III, IV, V, VI, VIII; IX groups 1, 2, XV, XVI, XX, XXII, XXIII).

408. Corporation Finance. (3-0).

This is a comparative study of the doctrines as they appear in modern economic literature. The purpose is, so far as possible, to associate the modern economists with any of the older schools to which they may logically belong or to give them distinctive positions to which their writings may entitle them.

Text: Business Finance, Lincoln.

Prerequisite: Economics 203 and 204, or 403.

(Elective in III, IV, V, VI, VIII, IX, XXIII).

409. Foreign Trade and Exchange. (3-0).

This course treats of the principles of international commerce, methods of conducting foreign trade, and the theory and practice of foreign exchange.

Prerequisite: Economics 403 or its equivalent.

Texts: Principles of Foreign Trade, Griffin; Foreign Trade, Kidd.

412. Public Finance and Taxation. (3-0).

The purpose of the course is to give a working knowledge of public financial institutions and practices. A model system of taxation is discussed; and taxes particularly affecting the agriculturist are studied in detail. Among the topics considered are: The amount and growth of public expenditures; the sources of revenue; budgetary methods; principles which should govern appropriations; public industries and price making; the principles of taxation; the important kinds of taxes; the principles of borrowing; the management of public debts.

Text: Public Finance, Lutz.

Prerequisite: Economics 203 and 204, or 403, Agricultural Economics 312.

413, 414. Advanced Economic Theory. (3-0).

This course is based on two assumptions, namely, (1) the nature of economic theory is such that maturity of judgment is essential to its comprehension, and (2) contact with practical economic problems is highly valuable in grasping economic concepts. The advanced course in economic theory, therefore, covers the same ground as that covered in other courses in economic principles but covers it more exhaustively. The course is open only to students who have had Economics 203, 204, or its equivalent, and in addition at least one course in applied economics.

Texts: Principles of Economics, Marshall; Principles of Political Economy, Gide.

(Required in XIV group 2).

FOR GRADUATES

501, 502. History of Economic Doctrines. (4-0).

The purpose of this course is to study in detail, beginning with the Physi-

ocrats, the growth of the science of economics. A careful study is made of the various schools of economists and an analysis is made of such fundamental concepts as production, value, capital, interest, profits, etc., as they have appeared from time to time in the writings of the leading economists. Gide and Rist's History of Economic Doctrines serves as a guide into these authorities.

503, 504. Comparative Economic Theory. (3-0).

This is a comparative study of the doctrines as they appear in modern economic literature. The purpose is, so far as possible, to associate the modern economists with any of the older schools to which they may logically belong or to give them distinctive positions to which their writings may entitle them. A critical study is made of Gide's Political Economy with the view of forming a background in accepted doctrines as a basis of the comparative estimates made.

DEPARTMENT OF ELECTRICAL ENGINEERING

Professor Bolton, Professor M. C. Hughes, Associate Professors Markle, Fouraker, Rode, Dillingham, Assistant Professor Ward, Mr. Kerns. Mr. Palmer, Mr. Wick.

201. Electricity and Magnetism. (3-6).

Lectures, recitations and problems in electricity and magnetism.

A laboratory investigation of the phenomena studied in the text-book.

Prerequisite: Mathematics 102, 103, 104.

. Laboratory fee, 75 cents.

(Required in V).

Offered both terms.

202. Elementary Electrical Engineering. (2-4).

Simple electric circuits, primary and secondary batteries, battery charging, simple telephone circuits, the magnetic circuit, inductance, and capacity.

A short time is devoted to the study of the National Electric Code, and of methods of wiring.

The practice includes the accurate measurement of various electrical quantities, such as resistance, inductance, capacity, and the effect of temperature, position, etc., on these quantities; a study of the various types of batteries to determine their adaptability to different uses; calibration and repair of instruments, such as ammeters, voltmeters, and watt-meters; tests of the magnetic properties of iron.

Prerequisite: Electrical Engineering 201, Mathematics 104.

Laboratory fee, 75 cents.

(Required in V).

204. Electric Wiring and Repair. (2-4).

A study of elementary electric circuits.

Practice in electric wiring and the repair of simple electric appliances.

Prerequisite: Electrical Engineering 201.

Laboratory fee, \$1.50.

(Required in XXII).

301. Direct Currents. (3-6).

A study of the theory, design, and applications of direct current machinery. The practice includes the operation of dynamos and motors, the determination of characteristics and the measurement and calculation of losses, efficiencies and regulation.

Prerequisite: Electrical Engineering 202, Mathematics 204.

Laboratory fee, \$1.50.

(Required in V).

302. Alternating Currents. (5-2).

The principles of alternating currents, including the relations of voltage, current, resistance, inductance and capacity.

Prerequisite: Electrical Engineering 202, Mathematics 204. Must be accompanied by Electrical Engineering 304.

(Required in V).

304. Alternating Current Laboratory. (1-4).

An experimental study of the effect of resistance, reactance, and capacity on alternating current circuits; the determination of wave shapes; and tests of some of the simpler types of alternating current machines.

Prerequisite: Electrical Engineering 301, Mathematics 204. Must be accompanied by Electrical Engineering 302.

Laboratory fee, \$1.50.

(Required in V).

305. Electrical Machinery. (3-3).

A general study of dynamos, motors and transformers of the types most commonly met with in general engineering practice. The course is abbreviated so that only the more fundamental principles are studied.

The practice is designed to give the general engineering student a slight degree of familiarity with the operation and the more important characteristics of both direct and alternating current machines.

Prerequisite: Physics 204, Mathematics 204.

Laboratory fee, \$1.00.

(Required in IV, VI, VIII, XV).

307, 308. Electrical Machinery. (3-3).

The fundamental principles of direct and alternating current machinery, and the operating characteristics of electrical machinery usually installed in

power plants and electrically operated industrial enterprises.

The practice includes the operation of the principal types of electric motors, generators and transformers and the study of their operating characteristics.

Prerequisite: Physics 204, Mathematics 204.

Laboratory fee, \$1.00, each term.

(Required in III, XXIII).

310. Communication Engineering. (2-2).

The principles of electric communciation engineering, including the study of telegraph circuits, repeaters, multiplex and printing telegraphy; the principles of automatic telephony; and basic principles of radio engineering; including the vacuum tube.

The practice includes an experimental study of circuits and instruments covered in the course, emphasizing fundamental principles rather than mechanical details of modern practice.

Prerequisite: Electrical Engineering 202. Must be accompanied by Electrical Engineering 301, 302.

Laboratory fee, \$1.00.

(Elective in V).

401, 402. Alternating Current Machinery. (4-0).

A graphical and mathematical study of alternating current machinery, including generators, transformers, motors and converters.

Text: Principles of Alternating Current Machinery, Lawrence.

Prerequisite: Electrical Engineering 302 or 308. Must be accompanied by Electrical Engineering 403. 404.

(Required in V).

403, 404. Alternating Current Laboratory. (0-7).

A laboratory study of the characteristics of various types of alternating current machines.

Laboratory fee, \$1.50, each term.

Prerequisite: Electrical Engineering 302 or 308, registration in Electrical Engineering 401, 402.

(Required in V).

405. Electric Transmission. (3-0).

Lectures and recitations on the transmission of electricity by wires. The subject is treated by the use of hyperbolic functions and covers the fundamental principles of electric transmission which are applicable to either telephone or power transmission.

Prerequisite: Mathematics 305, Electrical Engineering 302. (Required in V).

406. Electric Distribution and Transmission. (3-0).

Lectures and recitations on the transmission and distribution of power-

by electrical methods, including the design and cost estimate of several transmission and distribution systems.

Prerequisite: Electrical Engineering 405.

(Elective in V).

409, 410. Advanced Communication Engineering. (2-2, 3-2).

Advanced telephone, telegraph and radio engineering including a more advanced study of vacuum tubes and their application in radio receiving and transmitting circuits, and in carrier current telegraphy and telephony.

The laboratory study of circuits and instruments studied in the course emphasizes fundamental principles rather than the mechanical details of modern practice.

Prerequisite: Electrical Engineering 310.

Laboratory fee, 75 cents each term.

(Elective in V).

414. Radio Communication. (3-0).

A study of radio receiving and sending equipment and of vacuum tubes as applied to radio circuits and other uses.

Prerequisite: Electrical Engineering 302.

(Elective in V).

416. Motor Ap. cations. (3-0).

The determination of the proper sizes and types of motors to be applied to various industrial loads. Special emphasis is laid on the preliminary study of duty cycle and numerical calculation of starting duty and motor ratings. The study of industrial controllers.

Prerequisite: Electrical Engineering 401.

(Elective in V).

425, 426. Illumination Engineering. (2-2).

The principles of illumination; the design of lighting systems for buildings of various types.

Tests of lighting units and of complete systems both for interior and exterior use.

Prerequisite: Electrical Engineering 302.

Laboratory fee, 50 cents each term.

(Elective in V).

428. Telephone Engineering. (2-2).

A study of the engineering principles used in telephone communication including transmission problems, inductive interference, transpositions, phantom circuits, repeaters, and other modern developments in telephone engineering.

Prerequisite: Electrical Engineering 305

(Elective in V).

431. Engineering Administration. (2-0).

A brief study of problems of engineering administration, including the law of contracts, records to be kept in engineering construction and operation, systems of organizations required.

Prerequisite: Senior classification.

(Required in III, IV, V, VI, VIII, XV).

432. Public Utility Problems. (3-0).

Lectures and recitations on the problems of operation of public utilities with particular attention to methods of organization, the fixing of rates, and the economic features of new lines and extensions.

recrequisite: Electrical Engineering 401, 431.

(k quired in V).

436. Wi ; and Lighting. (3-0).

- (a) study of the fundamentals of interior wiring.
- (b) The rinciples of artificial illumination with a study of modern types of illumi. ...

(Required i 1X group 2).

FOR GRADUATES

501, 502. Aavanced Alternating Currents. (2-4).

The theory of transient phenomena; polyphase circuits; the ransients with the oscillograph.

Laboratory fee, \$2.50 each term.

503. Electrical Machine Design. (1-4).

The design of electrical machines and the predetermination of their characteristics.

504. Electrical Plant Design. (2-4).

The design of power plants with special emphasis on the electrical machinery.

505, 506. General Electrical Engineering. (3-0).

The ap γ tion of electrical machinery to various industrial uses; other problems m; in the electrical field.

507, 508. Avanced Alternating Current Machinery. (2-4).

A study of the complicated alternating current machines. (Elective in V).

DEPARTMENT OF ENGINEERING RESEARCH

Professor Giesecke

701, 502. Research. (2 or 6 credit hours).

Project subject to the approval of the head of the department.

503, 504. Research. (1-4).

Project relating to the heating of buildings.

DEPARTMENT OF ENGLISH

Professor Summey, Professors Thomas, Cofer, Spriggs, Associate Professors Gunter, Mayo, S. S. Morgan, Assistant Professors Spahr, Key, Abbott, Mr. Cooney, Mr. Dobson, Mr. Hays

103, 104. Rhetoric and Composition. (3-0). Credit, three hours each term.

Composition both oral and written, and readings from standard and current literature.

203. Composition and Literature. (2-0).

Composition oral and written; readings from standard and current literature, especially the essay and the novel.

Prerequisite: English 103, 104.

(Required in I, III, IV, V, VI, VIII, IX groups 1, 2; XI, XIV, XV, XVIII, XX, XXII, XXIII).

210. Argumentation.* (2-0).

A study of the logical and rhetorical essentials of argument, with practice in outlining, writing, discussion, and parliamentary procedure; parallel readings.

Prerequisite: English 203 or 231.

(Required, except for substitutions specified in the footnote, in I, III, IV, V, VIII, IX groups 1, 2, XIV, XV, XVIII, XX, XXII, XXIII).

231, 232. English Literature. (3-0).

A survey of English literature from Chaucer to the late nineteenth century, with parallel readings and written reports; special attention given to the main currents of English thought as reflected in the literature.

Prerequisite: English 103, 104. (Required in X, XII, XVI, XIX).

305. Contemporary Civiliagtion, (2-0).

A composition and discussion course dealing with current tho, ght and with various phases of contemporary civilization. Restricted to students whose record in English shows that they can take the course with profit.

Prerequisite: English 203, 210 or 231, 232.

(Elective in III, IV, V, VI, VIII, IX, XXIII).

^{*}For English 210, Engineering students who have made an average grade of B in courses 103, 104, and 203 may substitute English 305, 310, 316, 325, or 328.

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307. Technical Writing.* (2-0).

A course in the composition of reports, recommendations, and scientific articles suitable for publication, with some opportunity for oral presentation.

Prerequisite: English 203 or 210.

(Required, except as substitutions are specified in the footnote, in I groups 2, 3, 4, 5, 7, 9, 11; XI, XIV groups 1, 2, 3, 4; XV, XVI, XX; elective in III IV, V, VI, VIII, IX, XXIII).

309, 310. The English Language. (2-0).

A study of the history, vocabulary, syntax, and sounds of the English language, with a view to better understanding and command of the mother tongue.

Prerequiste: English 203, 210 or 231,232.

(Elective in III, IV, V, VI, VIII, IX, XX111).

312. Shakespeare. (3-0).

A course in the life, environment, and major dramatic works of Shakespeare.

Prerequisite: English 231, 232, or 203, 210.

(Elective in III, IV, V, VI, VIII, IX, XX111).

315. English Literature of the Seventeenth Century. (2-0).

A period tourse in English poetry and prose of the seventeenth century, with the omission of Shakespeare.

Prerequisite: English 231, 232, or 203, 210.

(Elective in III, IV, V, VI, VIII, IX, XXIII).

316. English Literature of the Eighteenth Century. (2-0).

A period course in Eighteenth Century English literature, with special attention to poetry, the essay, and the novel, and to the social and intellectual movements reflected in the literature.

Prerequisite: English 231, 232, or 203, 210.

(Elective in III, IV, V, VI, VIII, IX, XXIII).

317. Commercial Correspondence. (2-0).

A course in the composition of the types of business letters most useful to technical students and graduates.

Prerequisite: English 203, 210.

(Elective in I, III, IV, V, VI, VIII, IX, XI, XIV, XV, XX, XXIII).

^{*}For English 307, Agricultural and Veterinary students may substitute course 317. Agricultural students who have made an average of B in English 103, 104, and 203 may, with the consent of the Dean of Agriculture, substitute for course 307 one of the following first-term or second-term courses: English 305, 309, 310, 315, 316, 325, 328.

321, 322. Nineteenth Century Literature. (3-0).

A study of the intellectual tendencies of the last century in England, as reflected in the poetry, essays, and novels of the period, including the work of Wordsworth. Shelley, Byron, Keats, Tennyson, Browning, Arnold, and Swinburne among the poets, Carlyle and Ruskin among the essayists, and the novels of Scott, Austen, Dickens, Thackeray, Eliot, and Hardy.

Prerequisite: English 231, 232.

(Elective in III, IV, V, VI, VIII, IX, XII, XXIII).

321a. 322a. Literature.* (3-0).

A travel course in English literature emphasizing the Romantic poets of the nineteenth century. The tour includes motor travel in England and Scotland (two weeks), Paris, the Rhine, Munich, the Passion Play at Oberammergau, Switzerland, Milan, Venice, Florence, Rome, and Naples. The party sails from New York on July 2, 1930, and returns on August 39. Lectures on literature and on the places visited, discussion groups, readings in English literature. Examination required at end of tour. Students may register for three or for six credits.

Prerequisite: English 231, 232, or 203, 210.

325. Creative Writing. (2-0).

A course in the writing of essays, editorials, and feature articles; especially intended to aid students in their extracurricular writing. Limited to students who have made an average of B in the prerequisite courses. (Not offered 1930-1931).

Prerequisite: English 103, 104, 203 or 231.

(Elective in I, XIV, XV, XX).

328. American Literature Since 1870. (2-0).

A study of recent American writings, chiefly prose, with attention to the intellectual and social movements reflected in the literature. Limited to students who have made an average grade of B in the prerequisite courses. (Not offered 1930-1931).

Prerequisite: English 103, 104, 203 or 231.

(Elective in I, III, IV, V, VI, VIII, IX groups 1, 2, XIV, XV, XX, XXIII).

401. Public Speaking. (2-0).

Practice in the use of the voice, in public discussion, and in the planning and delivery of speeches for special occasions; conferences with the instructor required.

Prerequisite: English 203, 210, or 231, 232.

(Required, first term, in V, VIII, X, XII, XIII, XIV groups 1, 2, 3, 4; XV,

^{*}Persons interested in this course should communicate with Professor S. S. Morgan, Department of English, College Station, Texas.

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XVI, XIX, XX; second term in I groups 2, 3, 4, 5, 7, 8, 9, 11, 12; III, IV, VI, IX groups 1, 2; XI, XXII, XXIII).

405. Public Speaking and Debate. (3-0).

A restricted course in debate for students interested in forensic work and likely to be of use as members of debate teams.

Prerequisite: English 203, 210 or 231, 232. (Elective in III, IV, V, VI, VIII, IX, XXIII).

406. Advanced Debating. (3-0).

A restricted course in debate continuing course 405 described above.

Prerequisite: English 405 or 401.

(Elective in III, IV, V, VI, VIII, IX, XXIII).

413, 414. Contemporary Literature. (2-0).

A study of the most significant British and American novelists, poets, and dramatists from about 1890 to the present, with lectures on the social, political, economic, and intellectual background. Among the authors studied are Bernard Shaw, Samuel Butler, John Galsworthy, Rudyard Kipling, H. G. Wells, Sinclair Lewis, Joseph Conrad, Eugene O'Neill, and Edna St. Vincent Millay.

Prerequisite: English 231, 232, or 203, 210.

415. Contemporary Continental Drama. (2-0).

A study of representative plays (in translation) by Ibsen, Strindberg, Hauptmann, Sudemann, Schnitzler, Maeterlinck, Rostand, Hervieu, Brieux, Benavente, and Pirandello. (Not offered 1930-1931.)

Prerequisite: English 231, 232, or 203, 210. (Elective in III, IV, V, VI, VIII, IX, XXIII).

416. Contemporary English Drama. (2-0).

A study of representative plays by Pinero, Jones, Wilde, Galsworthy, Shaw, Barrie, Synge, Yeats, Lady Gregory, Dunsany, and O'Neill. (Not offered 1930-1931).

Prerequisite: English 231, 232, or 203, 210. (Elective in III, IV, V, VI, VIII, IX, XXIII).

431. The Novel. (3-0).

Its origin and development and its reflection of life and personality. Readings, discussion, and research in English prose fiction from the romance of the sixteenth century through the great novels of the eighteenth and nine-teenth centuries.

Prerequisite: English 231, 232.

(Elective for seniors majoring in English).

432. The Essay. (3-0).

The essay in English literature: its source, development, types, and func-

tion. Reading, discussion, and research in the essay from Mandeville, Montaigne, Bacon, Ben Jonson, Dekker, Cowley, Taylor, Milton, Dryden, Addison, Johnson, and Goldsmith, through the great masters of the nineteenth century.

Prerequisite: English 231 232.

(Elective for seniors majoring in English).

FOR STUDENTS IN SHORT COURSES

31, 32. Practical Composition. (3-0). Credit, three hours.

A review of the fundamentals of composition, with special attention to business correspondence and other everyday uses of English; parallel readings in American literature.

(Required in C).

DEPARTMENT OF ENTOMOLOGY

Professor Bilsing, Associate Professor Little, Assistant Professor Johnston

201. General Entomology. (2-2).

The systematic position of the various insects; the relation of the anatomy of insects to control measures; the life histories of the more common insects; methods of control for injurious forms.

Text: Applied Entomology, Fernald.

Laboratory fee, 75 cents.

(Required in I, XI, XVI, XX; elective in XIV).

Offered both terms.

204. Insecticides and their Applications. (2-2).

The physical and insecticidal properties of arsenicals, fluorine compounds, lime sulphur, nicotine mixtures, etc., are considered in this course. Special emphasis is given to the preparation and application of dusts, and sprays; and methods of fumigation. Dusting, spraying and fumigating machinery are used in practice.

Text: Spraying, Fumigating and Dusting of Plants, A. Freeman Mason. Laboratory fee, 50 cents.

(Required in XII).

208. Animal Parasites. (2-2).

This course consists of a study of insects and other anthropodes which are parasitic upon domestic animals or which are concerned in the transmission of diseases of live stock. Methods of eradication and control are given due emphasis.

Text: Medical and Veterinary Entomology, Herms.

Prerequisite: Entomology 201.

Laboratory fee, 75 cents.

(Required in XI).

301, 302. Systematic Entomology. (2-4).

A thorough, systematic study of the various orders of insects is made in this course. The student has free access to the entomological library, which contains bound volumes of standard publications on entomology, keys, etc. The student also has access to a considerable insect collection for identification purposes.

Text: An Introduction to Entomology, Comstock. (Required in I group 8).

304. Apiculture. (Elementary) (2-2).

This is an elementary course in beekeeping open to all four-year students. The course is arranged so as to give the student a working knowledge of beekeeping which will prepare him for conducting a small apiary in connection with general farm work or for entering commercial beekeeping as a vocation. The course includes a study of the life history of the honey bee, methods of making hives and equipment, and the control of bee diseases. The department is equipped with an apairy, hives, tools, wax presses, automatic extractors, and the standard equipment used in beekeeping.

Text: Productive Beekeeping, Pellet. Laboratory fee, 50 cents.

305, 306. Morphology. (1-4).

The external and internal anatomy of insects; the exoskeleton, endoskeleton, mouth parts, wing veination, and other morphological characters of taxonomic value. The second term is devoted to a study of internal insect anatomy.

307, 308. Apiculture. (3-2).

This course is intended for those who wish to make a special study of beekeeping and should be followed by Entomology 408. A study is made of the biology of the honey bee. Working over out-of-date equipment, extracting honey and the preparation of wax are given due attention. Some time is given to studying the various methods of wintering, and swarm control, Special attention is given to the honey plants and the areas most suited to beekeeping.

Text: Beekeeping, Philips.

Laboratory fee, 75 cents each term.

312. Medical Entomology. (3-2).

A study of the life histories, habits, and control methods of insects which are directly concerned in the transmission of human diseases such as yellow fever, malarial fever, typhus fever, bubonic plague, etc.

Text: Medical Entomology, Johannsen and Riley.

Laboratory fee, 50 cents.

401, 402. Advanced Economic Entomology. (2-4).

This course is arranged for students who desire a knowledge of insect

life histories; the physical and chemical properties of insecticides and their effects on insects, and methods of etomological research.

Prerequisite: Entomology 201 or 301.

Laboratory fee, \$1.00.

(Required in I group 8).

405. Fruit Insects. (2-2).

A detailed study of the life history, habits and control of the insect pests of fruit and truck crops with special attention to control methods adapted to Texas conditions, and to the value of parasites and orchard management in the control of insect pests.

Text: Fruit Insects, Slugerland and Crosby

Laboratory fee, 75 cents.

408. Apiculture, Queen Rearing. (1-4).

The theory of the various methods of queen rearing; the methods of shipping, combless packages of bees; the management of apiaries.

Texts: Practical Queen Rearing, Pellet; Queen Rearing Simplified, Smith.

411. Cotton Insects. (2-2).

A study of the insects affecting the cotton plant. Life histories, structural characteristics and classification are stressed. Some time is devoted to dusting and spraying machinery and control by sterilization.

Laboratory fee, 75 cents.

Offered both terms.

412. Entomological Literature. (3-0).

A summary of the most important works on the classification of insects; a survey of the entomological publications of the United States Department of Agriculture, state experiment stations, etc.

416. Quarantine Measures and Inspection Methods. (3-0).

A study of the quarantines enacted by the Federal Government and the various states to prevent the dissemination of injurious insects.

FOR GRADUATES

501, 502. Systematic Entomology. (2-4).

A taxonomic study is made of the orders, families and sub-groups of the class Hexopoda. The student is required to make a special study of some particular group.

Laboratory fee, \$2.00 each term.

503, 504. Cotton Insects. (2-4).

A detailed study of the life histories of the most important insects affecting cotton, together with a thorough survey of the literature on this subject. The use of cultural methods, dusting and sterilizing machinery and insecticides are considered.

Laboratory fee, \$2.00 each term.

505, 506. Advanced Apiculture. (2-4).

A problem in apiary management or in the study of one or more of the diseases affecting bees: grading and marketing honey, foul brood laws, and methods of eradicating bee diseases.

507, 508. Economic Entomology. (2-4).

In this course a detailed study is made of the most important economic pests. A comparison is made of the structure of insects belonging to the same group which attack our more important crops. Cultural methods, trap crops, insecticides, and fumigation are discussed in connection with these insects.

Laboratory fee, \$2.00 each term.

509, 510. Microtechnique. (2-4).

In this course a study is made of insect tissue; methods of making microscopic slides, making sections and staining tissues.

511, 512. Research Entomology. (2-4).

A study of the distribution of insects and the ecological relationship to their environment.

Prerequisite: Taxonomic work. Laboratory fee, \$2.00 each term.

FOR STUDENTS IN SHORT COURSES

22. Elementary Economic Entomology. (2-2). Credit, three hours.

The control of our most common pests; the more common insecticides; the most common pests of cotton, wheat, oats, corn, fruits, and live stock.

Laboratory fee, 50 cents.

(Required in C).

56. Elementary Apiculture. (2-2). Credit, three hours.

A study of the habits of the honey bee, behavior in swarming and methods of increase; a study of the methods of manipulation, transfer and swarm control.

Laboratory fee, 50 cents. (Elective in C).

DEPARTMENT OF FARM AND RANCH MANAGEMENT

Professor McMillan

301. Farm Records and Cost Analysis. (2-2).

Objectives of farm record keeping; desirable and useless types of farm records, taking farm inventories; property valuation; preparation of financial statements; farm inventory analysis; measures of farm profits; labor records; live stock and crop accounts; cost production studies with intensive and extensive types of enterprises; complete farm cost system; the use of com-

plete cost data in planning the farm business.

Text: To be selected.

Prerequisite: Twelve hours of credit in technical Agriculture.

(Required in XIV group 3).

401. Farm Management. (3-2).

The relation of farm management to agricultural and economic sciences; farming as a business; farm profits; factors limiting farm profits; types of farming; agricultural regions; farm organizations; live stock in relation to farm management; the soil factor; labor distribution; farm capital; choice of equipment; size and shape of fields; farm buildings and improvements; cropping systems; farm labor; getting started in farming; choosing a farm; leases and tenants; duties and responsibilities of a farm manager.

Lectures, recitations, and assigned readings; laboratory work on farm problems; two or more field trips to near-by farms.

Text: To be selected.

Prerequisite: Twenty hours of credit in technical Agriculture. (Required in I groups 2, 3, 4, 5, 7; XIV groups 2, 3, 4).

404. Field Studies in Farm Management. (1-6).

Methods of analyzing the agriculture of a farming region; finding the facts as to its most outstanding advantages and deficiencies; building a constructive long-time program that will fit the needs of selected farms within the area.

Detailed studies are made of the farm resources, farm organization and practice of one or more important agricultural regions of Texas. Students who take this course should be prepared to spend several consecutive days doing field survey work.

Prerequisite: Farm and Ranch Management 301, 401.

(Required in XIV group 3).

FOR GRADUATES

501. Farm Management Surveys. (2-4).

FOR STUDENTS IN SHORT COURSES

51. Farm Organization and Management. (2-4). Credit, three hours.

Farming as an occupation, qualifications of a successful farmer, different types of farming, factors influencing the choice of type, choosing a farming region, selecting the farm, organizing the farm business, farm budgeting, buildings and field arrangement, business point of view relative to soil fertility and livestock problems, farm labor, farm management phases of the marketing problem, simple farm business records.

The terms "farm" and "farming" are interpreted in this course to apply to any sort of property producing crops, live stock, or live stock products GENETICS 205

for sale. The subject matter therefore applies as definitely to the business management of large units like ranches and plantations as to the management of family farms.

(Elective in C).

DEPARTMENT OF FORESTRY

Professor Siecke

No courses in forestry are available at present.

DEPARTMENT OF GENETICS

Professor Humbert, Associate Professor Horlacher, Assistant Professor Godbey

301. Genetics. (3-2).

Fundamental principles of genetics; heredity; variation; Mendelism; the expression and interaction of genes; the physical basis of inheritance; the chromosome theory of inheritance; linkage; sex and its inheritance; an introduction to biometrical methods; laboratory work with Drosophila.

Text: Principles of Genetics, Sinnott and Dunn.

Prerequisite: Biology 101, 102.

Laboratory fee, \$1.00.

(Required in I groups 4, 5, 7, 8, 9, 11; XI, XII).

(To be repeated in the second term).

304. Plant Breeding. (3-2).

Improvement of field, forage and horticultural crops.

Text: Breeding Crop Plants, Hayes and Garber.

Prerequisite: Genetics 301.

Laboratory fee, 50 cents. (Required in I groups 4, 9).

306. Animal Breeding. (2-2).

Genetics as applied to the problems of the animal breeder; reproduction; fertility; sterility; Mendelism in farm animals; quantitative characters; mutations; acquired characters; systems of breeding, such as grading, cross-breeding, inbreeding, linebreeding and outcrossing; selection.

Text: Breeding and Improvement of Farm Animals, Rice.

Prerequisite: Genetics 301.

Laboratory fee, 50 cents.

(Required in I group 5).

308. Poultry Breeding. (2-0).

Principles of genetics applied to the problems of the poultry breeder. Fecundity, plumage color, sex-linked inheritance, form.

Lectures and assigned readings. Prerequisite: Genetics 301. (Required in I group II). Not offered 1930-1931.

403. Eugenics. (2-0).

· Variation and heredity in human beings. The various phases of the problem of race betterment are studied from the biological point of view.

Text: Applied Eugenics, Popenoe and Johnson. Prerequisite: Genetics 301, senior classification. (To be repeated in the second term).

405. Survey of Eugenics. (3-0).

A general study of Eugenics and eugenic reform, and certain genetic principles underlying human heredity. Lectures and outside reading.

Text: Heredity, Shull..

(Elective in III, IV, V, VI, VIII, IX groups 1, 2; XXIII).

Offered both terms.

FOR GRADUATES

501, 502. Advanced Plant Genetics. (2-4).

Specialized study of plant genetics. Opportunity to specialize in some commercial crop. Standard text books and current scientific literature used.

503, 504. Advanced Animal Genetics. (2-4).

Specialized study of animal genetics. Opportunity to specialize on some breed of farm animals, guinea pigs, pigeons or Drosophila. Standard text books and current scientific literature used.

505, 506. Advanced Biometry. (2-4).

The application of certain biometric principles to the interpretation of genetic data.

507, 508. Genetic Studies in Cotton. (2-4).

This course is designed for graduate students especially interested in cotton and in it a detailed study of cotton genetics and breeding is made.

571, 572. Research in Cotton Breeding.

This is a thesis course only and is designed for students who are majoring in Genetics or Agronomy and who desire to become familiar with the method of commercial cotton breeding. The problem given to the student will cover, in its completion, in relation to cotton breeding, the biometrical methods; progeny analysis; germination, seedling and maturity tests procedure; stapling; ginning; etc. Students electing this course must first be familiar with the fundamentals of Genetics and Agronomy. Mr. Killough.

GEOLOGY 207

DEPARTMENT OF GEOLOGY

Professor Londsdale, Associate Professor Burt, Assistant Professor Stenzel.

201. General Geology. (3-2).

The agents and processes which have produced the surface features of the earth, and their influence upon human affairs.

The laboratory work consists of detailed study of topographic maps, minerals and rock types. Some field trips.

Text: To be selected.

Prerequisite: Chemistry 102.

Laboratory fee, \$1.50.

(Required in IV, IX group 2, XV, XXIII; elective in XIX).

202. Historical Geology. (3-3).

Hypotheses of the earth's origin. Principles of stratigraphy and paleon-tology. The physical and organic record of the earth's history.

The laboratory work consists of detailed study of geologic maps and folios. Some field trips.

Text: To be selected.

Prerequisite: Geology 201.

Laboratory fee, \$2.00.

(Required in XXIII; elective in XIX).

205, 206. Crystallography and Mineralogy. (2-4).

A first course in crystallography and determinative mineralogy. Occurrence and uses of the common minerals.

The laboratory work includes study of crystal models and crystals, and the determination of minerals by blowpipe methods.

Text: To be selected.

Prerequisite: Chemistry 102.

Laboratory fee, \$2.00 each term.

303, 304. Petrology. (2-4).

Rocks, their textures, mineral composition, chemical characters, classification, occurrence and origin.

The laboratory work includes a study of hand specimens and microscopic study of thin sections of rocks and minerals.

Text: To be selected.

Prerequisite: Geology 202, 206,

Laboratory fee, \$2.00 each term.

305, 306. Paleontology. (3-3).

An introductory study of the chief characteristics, successions, and environmental conditions of the animal life recorded in the rocks.

The laboratory work includes field trips and the preparation and study of specimens.

Text: To be selected.

Prerequisite: Geology 202; Biology 212 or equivalent.

Laboratory fee, \$2.00 each term.

307. Mineralogy and Petrology. (3-4).

A brief course in mineralogy and petrology. Description and determination of common rocks and minerals.

Text: To be selected.

Prerequisite: Chemistry 102.

Laboratory fee, \$2.00.

(Required in XXIII).

312. Structural Geology. (3-2).

The interpretation of rock structures caused by earth movements. The relation of rock structures to stratigraphic, physiographic and economic problems.

Text: Structural Geology, Leith.

Prerequisite: Geology 202.

Laboratory fee, \$2.00.

(Required in XXIII).

401. Geology for Engineers. (2-3).

An abbreviated study of crystallography, mineralogy, and general, and historical geology. Laboratory work on minerals and topographic and geologic maps.

Text: Lectures, laboratory work, assigned readings.

Laboratory fee, \$1.50.

Open only to Seniors in Engineering.

(Required in VIII).

404. Geology of Petroleum. (3-3).

A detailed study of the observed factors involved in the occurence of oil and gas. Theories as to the origin, migration and accumulation of these hydrocarbons. Detailed studies of certain productive areas. A brief consideration of future problems related to this important mineral resource.

Laboratory work on maps and other graphic methods of study of field problems.

Text: Geology of Petroleum, Emmons.

Prerequisite: Geology 312.

Laboratory fee, \$2.00.

(Required in XXIII).

405. Economic Geology. (3-2).

A study of the general nature of the application of geology to practical affairs.

Text: To be selected.

Prerequisite: Geology 202, 304.

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408. Geology for Engineers. (3-3).

A course designed to acquaint the engineering student with certain fundamental features of general economic geology with emphasis on the geology of petroleum petroleum accumulation and development.

Text: Lectures, laboratory work, and assigned readings.

Prerequisite: Geology 401. Laboratory fee, \$2.00.

Open only to Seniors in Engineering.

(Required in VIII).

415, 416. Field Methods. (1-4).

A theoretical and practical study of the field methods employed in geological surveying.

Geological profiles, stratigraphy, tracing of key horizons, mapping, use of compass and clinometer, plane table and alidade, barometer.

Field trips.

Text: Field Methods in Petroleum Geology, Cox, Dake, and Muilenburg. Prerequisite: Civil Engineering 206, Geology 305.

Laboratory fee, \$2.00 each term.

417, 418. Advanced General Geology. (3-2).

Text: To be selected.

Prerequisite: Geology 304, 306. Laboratory fee, \$2.00 each term.

FOR GRADUATES

501, 502. Advanced Mineralogy. (3-2).

A study of selected topics such as chemical relations, isomorphism, paragenesis, and synthesis of minerals applied to problems of petrology and mineral deposits. Mineralogic and petrologic technique.

503, 504. Advanced Petrology. (3-2).

Advanced petrographic-microscopic methods, microchemical reactions, petrogenesis, petrographic calculations, rock classification. Examination and description of well samples.

505, 506. Special Geology. (3-2).

Advanced work along specialized lines for properly qualified students. May include independent investigation of problems in various phases of geology. Primarily a thesis course.

507. 508. Ore Deposits. (3-2).

A study of the origin, classification, and exploitation of ore deposits. Open to properly qualified seniors.

DEPARTMENT OF HISTORY

Professor Gammon, Professor Sugareff, Associate Professor Fuller.

101, 102. The Development of Western Europe. (3-0). Credit, three hours each term.

A general survey of the political, religious, social and economic development of Western Europe from the decline of the Roman Empire in the West to date.

(Required in XIX, XX).

211, 212. Comparative Government. (3-0).

An introduction to the nature of political science, followed by a comparative study of the governments of England, France, Germany and Switzerland.

213, 214. History of England. (3-0).

British, Saxon and Norman origins; national development; struggles between church and state; crown and nobles; nobles and commons; Agrarian and Industrial Revolutions; relations with Ireland; evolution of democracy; growth of the Empire before, during and since the World War.

215, 216. History of the United States. (3-0).

Discovery and colonization; colonial government, economic and social institutions; the Revolution; adoption of the Constitution; growth of nationalism; cotton and the slavery problem; war for Southern independence; reconstruction; new social and industrial problems.

305. Citizenship. (3-0).

The organization, functions and nature of the national government; the rights, privileges and obligations of citizenship; the immigration and naturalization law; all as closely related to the Constitution of the United States as possible, are treated first. A similar treatment is then applied to the Constitution of Texas.

The course is given in every term, in long and in summer sessions alike. (Required in all four-year courses).

311, 312. Modern and Contemporary Europe. (3-0).

French Revolution; Napoleon; Restoration; Industrial Revolution; Revolutions of 1830 and 1848; struggle for democratic government; new nationalism; expansion and imperialism; alliances and ententes; causes and results of the World War.

(Elective in III, IV, V, VI, VIII, IX, XXIII).

321, 322. Industrial History of United States. (3-0).

Traces the industrial growth of the United States; emphasizes agricultural changes and development, economic expansion of United States in industries and commerce, rise of labor and capital organizations, the tarriff and banking. In this course the work of the second term may be taken without that of the first term.

423, 424. American Foreign Relations. (3-0).

The history of United States foreign relations and development of our leading foreign policies down to the Civil War in the first term; followed by a study of contemporary foreign policies and relations against the background of American political and industrial expansion since the Civil War.

(Open to all Seniors and to Juniors who have had one college course in history or government).

(Elective in III, IV, V, VI, VIII, IX, XXIII).

DEPARTMENT OF HORTICULTURE

Professor Kyle, Professor Adriance, Associate Professor Brison, Assistant Professor Jamison.

201. Plant Propagation and Orcharding. (2-2).

Lectures and recitations on the fundamental principles and methods of plant propagation, including vegetables, fruits, and ornamentals; methods of planting and managing the home orchard.

Practice: Propagation of plants from seed and bud; planning, planting, pruning, spraying, and general care of the home orchard.

Text: Plant Propagation and Orcharding, Adriance and Brison.

Prerequisite: Biology 101, 102.

Laboratory fee, 75 cents.

(Required in I, XII, XX; elective in XIV).

202. Vegetable Gardening. (2-2).

Planning, planting, equipping and operating vegetable gardens, with special reference to the needs of the home; also a study of the individual crop in reference to its soil and climatic requirements.

Text: Vegetable Growing, Knott.

Practice in planning, planting and cultivating a small garden, equipping fertilizing, spraying, harvesting, erection of hot-beds and cold frames.

Laboratory fee, 75 cents.

(Elective in I).

310. Commercial Vegetable Production. (2-2).

The production of vegetables for market. Consideration is given to climate, soil, equipment and storage, as affecting production and marketing in Texas and other states.

Text: Vegetable Crops, Thompson.

Practice: The production, harvesting and marketing of vegetable crops. Prerequisite: Horticulture 202.

Laboratory fee, \$1.50.

(Required in I group 9).

314. Floriculture. (2-2).

A course designed to give a working knowledge of the culture and use of

the annuals, perennials, and bulbous plants especially adapted to our climatic conditions.

Text: Home Floriculture, Voltz. Lectures.

Prerequisite: Horticulture 201.

Laboratory fee, \$1.00. (Required in XX).

317, 318. Principles of Fruit Production. (2-4).

Orchard management, including problems of location, soils, planting, cultivating, protection from insects and diseases, pruning, harvesting and marketing.

Practice: Practical orchard work from planting to marketing.

Text: Fundamentals of Fruit Production, Gardner, Bradford and Hooker.

Lectures and recitations.

Prerequisite: Horticulture 201.

Laboratory fee, \$1.00.

(Required in I group 9; XX).

401. Systematic Pomology. (3-2).

A technical course covering all fruits, their identification, classification, distribution, importance, and history, and a detailed study of the more important species and varieties.

Practice is given with such fruits as can be obtained during the season.

Text: Systematic Pomology, Hedrick.

Laboratory fee, \$2.50.

Prerequisite: Horticulture 317, 318.

(Required in I group 9).

404. Systematic Vegetable Crops. (2-2).

A systematic study of vegetable crops. The history, anatomy, taxonomy, breeding, seed production, and plant improvement of the crops are considered.

Text: Truck Crop Plants, Jones and Rosa.

The practice deals with a study of the actual plants as to type, variety, technique of breeding, selection of seed, taxonomy and anatomy of the various plants.

Prerequisite: Horticulture 202, 310.

Laboratory fee, \$1.00.

418. Nut Culture. (1-4).

Early history; distribution of native nuts; development of native groves to improved varieties.

Text: Pecan Growing, Stuckey and Kyle.

Lectures and recitations.

Practice: Budding and grafting pecans in the nursery row; top-working native pecans to improved varieties by means of the patch, chip and crown bud and by grafting. A systematic study is made of the standard varieties of nuts.

Prerequisite: Horticulture 201.

Laboratory fee, \$1.50. (Elective in C).

420. Experimental Horticulture. (1-4).

Research methods in the planning and execution of horticultural projects. The student is expected to become thoroughly familiar with all phases of his problem and to carry same to satisfactory conclusion. Project reports due week preceeding Commencement.

Lectures and assignments.

Laboratory fee, \$2.00, second term.

(Required in XX).

421. Commercial Horticulture. (2-2).

A study of the geography, methods of harvesting, grading, packing, shipping, storage and selling of fruits and vegetables.

Lectures and recitations.

Laboratory fee, 75 cents.

(Required in I group 9).

422. Subtropical Fruits. (3-2).

A study of subtropical fruits, with special attention to citrous fruits, figs, olives, and dates.

Lectures and recitations.

Practice: Study of varieties of sub-tropical fruits and their products; propagation and care of the various sub-tropical fruits.

Prerequisite: Horticulture 317, 318.

Laboratory fee, \$2.50.

FOR GRADUATES

501, 502. Advanced Fruit Growing. (2-4).

An advanced course in fruit production. Special attention is given to the problems of cultivation, fertilization, pruning, thinning of fruit and protetion from frost and insect pests and diseases; the improvement of fruit by means of bud selection and breeding.

Prerequisite: Horticulture 317, 318, or equivalent work.

503, 504. Advanced Vegetable Gardening. (2-4).

A systematic study of the recent developments in the production of vegetables for market and truck gardening purposes; irrigation; forcing plants for early market, and the development of plants by breeding and selection.

Prerequisite: Horticulture 310, 404, 420, or equivalent work.

507, 508. Horticultural Problems. (1-6).

Various problems concerning recent developments in horticulture are considered, both in theory and in laboratory. Recent work at other stations is reviewed.

FOR STUDENTS IN SHORT COURSES

21. Plant Culture and Propagation. (2-2). Credit, three hours.

Similar to course 201, except that orcharding is omitted.

Lectures and recitations.

Practice work in the propagation of seedlings and the different forms of budding and grafting, layering, etc.

Text: Principles of Plant Culture, Goff.

Laboratory fee, 75 cents.

(Required in C).

53. Tree and Vine Fruits. (3-2). Credit, four hours.

A practical study of fruit growing. This includes the problems of planting, cultivating, pruning, harvesting, and marketing.

Lectures and recitations.

Text: Principles of Fruit Growing, Bailey.

Practice is given in laying out orchards, planting, spraying, pruning, etc.

Prerequisite: Horticulture 21.

Laboratory fee, \$1.00.

(Elective in C).

DEPARTMENT OF INDUSTRIAL EDUCATION

Professor E. L. Williams. Assistant Professor Fern

Note.—The following courses in this department are offered in residence during the Summer Session only: 102, 202, 203, 301, 310, 320, 322, 414, 420, and 422.

102. Theory and Principles of Vocational Education. (2-0). Credit, two hours.

A brief history of the principles of education leading up to the needs of vocational education. A review of the Federal and State Laws pertaining to schools. The relation of the general education, manual training and industrial arts to vocational education. Attention is given to the problems of organization and administration of various types of vocational schools.

(Required in XIII).

104. Design and Construction in Woodwork. (0-3). Credit, one hour.

Selecting, designing and detailing of projects suitable for public school industrial arts classes and the drawing of projects to be made in Mechanical Engineering 105, 106.

202. Job Analysis. (2-2).

Several particular jobs of the various trades will be analyized, listing all the necessary tools, operations and related information connected with the job. This course is designed to help teachers to plan and route jobs through their shops making sure that none of the important instructional material is omitted.

(Required in XIII).

203. Trade Analysis. (2-0).

The student must know a trade; it will be divided into its several parts as: units, operations, jobs, sciences and mathematical content, etc.

The material will then be organized into teachable form.

Prerequisite: At least two years of trade experience. (Required in XIII).

204. Development and Practice in Industrial Education. (3-0).

This course deals with the history and development of industrial education and a study of the present practices as used in the junior and senior high school and in the vocational school.

301. Methods of Teaching and Class Management. (2-0).

Most effective organization of equipment and economic ways of securing materials as teaching aids, planning of daily programs; discipline and individual adjustment; grading, records and reports.

(Required in XIII).

301a. Methods of Teaching and Class Management. (3-0).

A modification of course 301 for Industrial Arts Education students.

308. A Study of Modern Industries. (3-0).

The political, historical and geographical factors which have a direct influence upon the development and distribution of industries. Specific studies of individual industries are made, such as: iron and steel, paper, automobiles, petroleum, cement, leather, textiles, etc. Essential features of these industries are considered: location, machinery, power, raw materials, market, labor, etc.

310. Course Making. (2-0).

A course designed especially for teachers who desire to study the basis of selecting subjects for industrial courses and methods of outlining courses of study to meet the various needs of the different types of classes. Each student will make a complete course for some particular subject he is teaching or interested in.

(Required in XIII). •

310a. Course Making. (3-0).

A modification of course 310 for Industrial Arts Education students.

312. Psychology Applied to Industry. (3-0).

A direct application of the fundamental principles of psychology to industry. The relation of the workers' nervous system to his mind, the cultivation of right habits in workers; instincts, imitation, memory, and imagination; interest factors and power of suggestion aid in increasing the quantity and qual-

ity of production; "association of ideas" as an aid in giving orders; development of initiative, reasoning and judgment in workers, psychology as an aid in reducing turnover.

(Required in XIII).

314. Observation and Criticism. (1-2).

Opportunity for observation of industrial teaching is provided. There are assigned observations in the various factors that should be taken into account as equipment, safety, records, discipline, methods of instruction and the handling of stock. These assignments and written reports are turned in and followed by discussion and conferences.

(Required in XIII).

320. Aims and Objectives of Part-Time Schools. (2-0).

Part-time laws; organization and administration of classes to meet the needs of junior workers; trade preparatory, trade extension and general continuation classes under compulsory and elective systems.

- 322. Occupational Analysis and Organization of Industrial Material. (2-0).

 Analysis of occupations and the organization of the teachable content.
- 323, 324. Methods of Teaching Mechanical and Machine Drawing. (1-4). The student should have completed courses equal to Drawing 111, 124, 201, 202 before attempting this work. First term: organizing problems, instructional material; making teaching plans in preparation for the teaching of high school general drawing.

Second term: same procedure as first, problems applying directly to machine drawing as taught in the last two years of high school. Either term may be taken separately.

325. Equipment and Supplies. (3-0).

A study of equipment and supplies for Industrial Arts Departments: selecting; specifying; ordering; installing; inventories, etc.

406 Vocational Guidance. (2-0).

A survey of the recent development of educational and vocational guidance within and outside of the schools, information on the common occupations and their requirements, an analysis of personal characteristics; try-out methods; value of cumulative school records; methods of keeping records; optional guidance through literature; needs for following up work in vocational counseling; a study of the psychological, industrial and commercial test.

(Required in XIII).

409. Methods of Introducing Industrial Organization and Management into Industrial Schools. (2-0).

A study of the history and development of industrial organizations and

managements up to the present, most efficient methods and how these systems can best be adapted in industrial schools to make them more practical.

(Required in XIII).

411. Lesson Planning. (2-0).

The emphasis is upon methods of presentation. Some of the topics taken up are: the lesson, its purpose and aim; the steps in lesson presentation; testing the effectiveness of instruction.

In this course each student is required to apply the principles taken up to specific lessons in the course he is teaching; such as shop subjects; related drawing; related mathematics; related science.

(Required in XIII, XXII).

414. Methods of Training Foremen and Workers in Industrial Plants. (3-0).

The aims of the course are to help teachers, supervisors and directors organize material and make out course outlines for training foremen and workers in plants.

415, 416. Practice Teaching. (0-6).

Arrangements will be made for the student to do practice teaching in the Bryan High School Manual Training Department, The Consolidated School, and in some of the departments of the College.

(Required in XIII, XXII).

418. General Shop Methods. (2-5).

In this course the student will organize material for general shop units and will practice those problems and projects which meet the requirements of the public school general shop teacher.

- 420. Follow-Up, Visitation, and Coordination in Part Time Schools. (2-0). Coordination between instruction given to the junior employee and the job, and the procedure in follow-up and promotional advancement.
- 422. Social, Economical and Educational Influences Affecting the Junior Worker. (2-0).

A study of the supply and demand of workers in various occupations; pay and opportunities for advancement and their relation to society as a whole.

FOR GRADUATES

505. Philosophy of Industrial Education. (4-0).

The social, economic, and political necessities back of the movement for industrial education; the relating of industrial education to general education; types of courses to meet the demands of the community; the relations of industrial education to capital, labor, Americanization, and the world competition in industry.

Available in the Summer Session only.

506. Basic Principles of Teaching. (4-0).

The fundamental psychological principles underlying the teaching processes, applied especially to industrial education.

Available in the Summer Session only.

507, 508. Organization and Management in Industrial Education. (4-0).

Problems in organizing and managing industrial schools and departments; making surveys; arranging courses; planning and purchasing of equipment and supplies; selecting instructors; making up efficient forms and records; types of shop jobs; placement of students; cooperation with employers.

EXTENSION COURSES

Under the Federal Vocational Educational Act, the College offers extension courses in Industrial Education in centers where a sufficient number of persons are interested in one subject to make such an arrangement possible. The time devoted to each course is thirty clock hours.

These extension courses are planned to meet the requirements of the State Board for Vocational Education for certification of teachers of all types of trades and industrial work. Students taking these courses must meet the qualifications set up by the State Board for Vocational Education.

A student completing satisfactorily any of these courses will be given College credit if he should later register as a resident student. Extension courses are offered at the present time in Galveston and Houston. Applications from other centers will be considered.

The list of extension courses now includes the following:

FOR SHOP AND RELATED SUBJECTS TEACHERS

- 102. Theory and Principles of Vocational Education.
- 202. Job Analysis.
- 203. Trade Analysis.
- 301. Methods of Teaching and Class Management.
- 310. Course Making.
- 314. Observation and Criticism.
- 406. Vocational Guidance.
- 411. Lesson Planning and Practice Teaching.

FOR PART-TIME GENERAL EDUCATION TEACHERS

- 301. Methods of Teaching and Class Management.
- 314. Observation and Criticism.
- 320. Aims and Objectives of Part-Time Schools.
- 322. Occupational Analysis and Organization of Instructional Material.
- 411. Lesson Planning and Practice Teaching.
- 420. Follow-up, Visitation, and Coordination in Part-Time Schools.
- 422. Social, Economic and Educational Influences Affecting the Junior Worker.

DEPARTMENT OF LANDSCAPE ART

Professor Hensel

202. Ornamentals. (2-2).

A study of the indigenous and exotic trees, shrubs and vines of landscape value found growing in this section.

Prerequisite: Horticulture 201.

Laboratory fee, \$1.00.

(Required in XX).

301. Introduction to Landscape Art. (2-4).

Open only to students specializing in Landscape Art or Architecture. This course covers the designing of the simpler landscape problems, including the making of plans, elevations, cross-sections, and planting plans.

Prerequisite: Landscape Art 202, Arch. 205, 206.

Text: To be assigned:

(Required in XX).

301a. Elementary Landscape Design. (2-4).

The planning of small gardens, home grounds, and the commoner public and semi-public properties. Designed especially for students not intending to specialize in Landscape Art, but who desire sufficient knowledge of this subject to enable them to plan the simpler out-door areas.

302. History of Landscape Art. (2-0).

The development of gardening; Egyptian, Western Asiatic, Greek, Italian, French, English, and American.

Illustrated lectures; recitations.

(Required in XX).

304. Landscape Design. (0-8).

Plans of arrangement, sketch plans, planting plans; a continuation of course 301.

Prerequisite: Horticulture 208, Landscape Art 301.

(Required in XX).

401, 402. Advanced Landscape Art. (3-8).

The development of large areas; private estates, parks, subdivisions, cemeteries, and other private, semi-private, and public properties. Major problems; landscape construction; detailed plans; professional practice; lectures; recitations.

Text: An Introduction to Landscape Design, Hubbard and Kimball.

Prerequisite: Landscape Art 301, 304.

(Required in XX).

FOR GRADUATES

505, 506. Landscape Design. (2-12).

Theory and practice in advanced landscape problems; research consultations; criticism.

DEPARTMENT OF MARKETING AND FINANCE

Professor Lee, Assistant Professor Hunt, Mr. J. F. Smith

302. Marketing. (3-0).

Description of the various services performed in marketing agricultural products, such as grading, standardizing, packaging, transportation, storage, financing, and risk-taking; marketing methods; marketing agencies; analysis of the operations of produce exchanges; price making; future trading; demand creation; adapting production to market conditions; government authority in relation to marketing.

Text: Marketing of Agricultural Products, Boyle.

Prerequisite: Economics 203 and 204, or Economics 403, or Agricultural Economics 312.

(Required in I groups 2, 3, 4, 5, 7, 9, 11, 12; XII, XIV group 4).

401. Cooperative Marketing of Farm Products. (3-0).

An intensive study of farmer cooperative selling organizations. A careful analysis of the organization, method, and underlying philosophy of the two prevailing types of cooperative enterprises, viz., the centralized type and the local federated type.

Text: To be selected.

Prerequisite: Marketing and Finance 302, or Agricultural Economics 312. (Required in XIV group 4, XII).

402. Agricultural Finance. (3-0).

Analysis of credit requirements of farmers; investors and depositors as sources of credit; description of financial institutions which serve agriculture, such as farm mortage companies, insurance companies, federal and joint stock land banks, intermediate credit banks, live stock loan companies, national and state banks, and the federal reserve banks; principles upon which credit is extended; credit forms; the cost of credit.

Text: Principles of Agricultural Credit, Lee.

Prerequisite: Economics 203 and 204, or Economics 403.

(Required in XIV group 4).

403. Cotton Marketing. (3-0).

Historical survey of the development of cotton marketing problems; the functions performed in marketing cotton; description of the local, central, and spinners' markets; the economic functions of cotton exchanges; future trading and speculation and their relation to the price of cotton; the evolution of cotton standardization; the origin and operation of cotton cooperative marketing associations.

Text: Readings in Cotton Marketing, Lee and Hunt.

Prerequisite: Marketing and Finance 302.

404. Transportation. (3-0).

An economic interpretation of the function and importance of transportation in our present economic order as related to agriculture. A comprehensive course dealing with the whole field of transportation, taking up the four great agencies of rail, water, motor, and air, both as separate agencies and as parts of a coordinated system. Regulation through the Interstate Commerce Commission and other governmental bodies is given due consideration. Special attention is given to rates affecting the movement of agricultural products.

Text: Priniciples of Transportation, Johnson, Huebner, and Wilson.

405. Wholesale and Retail Merchandising. (3-0).

A study of the wholesale and retail merchandising of goods bought by farmers; the different types of stores serving farmers; retail store costs, margins, and prices; the causes of the development of the chain store and the mail order house; the services of these stores to the agricultural community. Factors determining the size of the trade territory of agricultural towns; distribution of purchases between the small town and the larger center.

Text: To be selected.

Prerequisite: Economics 203 and 204, or 403.

FOR GRADUATES

501, 502. Advanced Marketing Problems. (2-4).

Price making; economics of future trading; adjustment of production to the market; the collection and dissemination of demand and supply information; the margin between local and central market prices; costs of marketing; individual versus cooperative method of price making and marketing.

Prerequisite: Agricultural Economics 312 and Marketing and Finance 302.

504. Cotton Marketing Problems. (2-4).

The potential supply of cotton; potential demand for cotton; price making in local, central, and spinners' markets; relation of spot and futures prices; problems of estimating current demand and supply; the economics of cotton standardization; analysis of the Cotton Futures Act; cooperative versus individual sale of cotton.

Text: To be selected.

Prerequisite: Marketing and Finance 302.

DEPARTMENT OF MATHEMATICS

Professor Puryear, Professors R. F. Smith, J. W. Mitchell, Halperin,
D. C. Jones, Porter, Associate Professor Martin, Assistant Professors Binney, T. R. Nelson, Mr. Blumberg, Mr. Ross, Mr. McGee, Mr. Chaney, Mr. Hall, Mr. Finlay, Mr. Camp.

1. Algebra. (3-0). No credit.

A review of certain topics in elementary Algebra. Students whose work in Mathematics 101 up to November 1 is very unsatisfactory are required to take this course.

101, 102. Algebra. (3-0). Credit, three hours each term.

A rapid review of elementary topics, followed by the study of quadratic equasions, the binomial theorem, variation, the progressions, complex numbers; elementary theory of equations, logarithms, limits, undertermined coefficients.

Review of certain topics of preceding courses.

Text: College Algebra, Palmer and Miser. Supplementary exercises. (Required in III, IV, V, VI, VIII, IX, XIV, XV, XVIII; course 101 in X, XIII, XVI, XIX, XXII, XXIII; 102 elective in XIX). Course 101 offered both terms.

103. Plane Trigonometry. (3-0). Credit, three hours.

Measurement of angles, review of logarithms, solution of right triangles, problems of heights and distances, properties of triangles, solution of oblique triangles, geometrical applications.

Text: Plane and Spherical Trigonometry, Young and Morgan. (Required in III, IV, V, VI, VIII. IX, X, XIII, XV, XIX, XXIII).

Offered both terms.

104. Analytics. (3-0). Credit, three hours.

The straight line, tranformation of co-ordinates, circle, ellipse, parabola, hyperbola, graphs of trigonometric, logarithmic and exponential functions.

Review of certain topics of preceding courses.

Text: Analytic Geometry, Wilson and Tracey. Supplementary exercises. Prerequisite: Mathematics 101, 103.

(Required in III, IV, V, VI, VIII, IX, XIII, XV, XIX, XXIII; elective in X).

118. Solid Geometry. (3-0). Credit, three hours.

Definitions, lines and planes in space, dihedral angles, polyhedral angles, polyhedrons, the cylinder, cone and sphere.

Text: Solid Geometry, Wentworth-Smith.

203, 204. Calculus. (5-0).

Differentiation, limits, infintesimals, integration, maxima, and minima, areas, volumes, water pressure, work, introduction to solid geometry, moment of inertia, center of gravity, radius of curvature, Taylor's theorem, elementary examples of diffential equations.

Review of certain topics of preceding courses.

Text: Differential and Integral Calculus, Love. Supplementary exercises.

Prerequisite: Mathematics 104.

(Required in III, IV, V, VIII, IX group 2; XV, XXIII; course 203 elective in VI).

Course 203 offered both terms.

207, 208. Mathematical Theory of Investment. (3-0).

Review, of progressions, limits, series, logarithms; graphs, interest. annuities, amortization, bonds, sinking funds and depreciation, probability, life insurance.

Text: The Mathematics of Investment, Hart.

Prerequisite: Mathematics 102.

305. Differential Equations. (2-0).

Definitions and preliminary notions; change of variables; ordinary differential equations; linear differential equations of the first order; linear differential equations of higher order with constant coefficients; exact linear differential equations. Particular forms of equations; total differential equations in more than two variables; systems of differential equations with two dependent variables; partial differential equations.

Text:

Prerequisite: Mathematics 204.

(Required in V).

FOR GRADUATES

- 501. Advanced Calculus. (3-0).
- 502. Differential Equations. (3-0).
- 503. Theory of Equations. (3-0).
- 505. Vector Analysis. (3-0).
- 507, 508. Theory of Functions of a Real Variable. (3-0).

DEPARTMENT OF MECHANICAL ENGINEERING

- Professor Crawford, Associate Professors Brewer, Faires, Assistant Professor J. G. Jensen, Mr. Downard, Mr. McCarter, Mr. Fleming, Mr. Wingren, Mr. Cheatham, Mr. Oakey, Mr. Trail.
- 101, 102. Engineering Problems. (1-2). Credit, one hour each term.

 Use of the slide rule; solution of problems involving engineering data;

problems involving trigonometry; elementary statics; work, power, and energy. (Required in III, IV, V, VI, VIII, IX, XXIII; course 101 required in XX11).

Course 101 offered both terms.

105. Bench Work in Wood. (1-6) Credit, three hours.

Designing and making layout of simple bench projects to be made by hand tools, wood turning, glueing, finishing; grinding and care of tools.

Laboratory fee, \$2.50.

(Required in XXII).

106. Cabinet Making. (1-6) Credit, three hours.

Design, rod making, construction, and finishing of cabinets, study of lumber, its manufacture, seasoning, etc.; glues, varnishes, and other finishing materials, mill work, the preparation of cutting tickets, the care of power wood-working machinery; and production methods.

Prerequisite: Mechanical Engineering 105 or the equivalent.

Laboratory fee, \$4.00.

(Required in XXII).

201. Pattern Making and Foundry Work. (0-3).

Simple pattern layouts and construction of patterns; pattern storage; costs and weights of patterns and castings; the patternmaking industry. Cupolas, gas fired furnaces, moulding sands, core making, foundry layouts, and practice in moulding and casting both ferrous and non-ferrous metals.

Laboratory fee, \$2.00.

(Required in III, V, XXII).

See note after course 214.

Note—The students spend half of the term in the pattern shop and the other half in the foundry.

202. Pattern Making and Foundry Work. (0-3).

A continuation of course 201, including advanced methods of pattern making and production.

Laboratory fee, \$2.00.

(Required in III).

212. Engineering Mechanics. (3-0).

A study of forces and force systems, equilibrium, frame structures, center of gravity, and moment of inertia.

Text: Analytical Mechanics, Seely and Ensign.

Must be preceded or acompanied by Mathematics 204.

Prerequisite: Mathematics 203.

(Required in III).

214. Machine Shop Practice. (0-3).

A modification of course 309, 310.

Laboratory fee, \$1.50. (Required in V).

Note.—For Sophomore electrical engineering students, courses 201 and 214 constitute a year's work in the shops. These students will be divided into two groups at the beginning of the first term. One group will begin with course 201, the other with course 214. At the beginning of the second term the groups will each change to the other work.

303, 304. Machine Design. (2-3)

A study of the theory and practice of machine design applied to machine elements and complete machines.

Text: Each student is required to have Mark's Handbook, or an approved substitute, also a text to be selected.

Prerequisite: Mechanical Engineering 307, 313 and Civil Engineering 305. (Required in III).

307. Kinematics. (2-3).

Motions, velocities, velocitiy ratio, and accelerations and their effects on machines; the transmission of motions by linkage, cams, belts, gears, etc.

Prerequisite: Physics 203.

(Required in III, VI).

Repeated in the second term.

309 Machine Shop. (0-3).

Practice in bench and machine tool work in metals. This includes chipping, scraping, filing, babbiting, pipe fitting, drilling, turning, boring, grinding, milling machine work, etc.

Laboratory fee, \$1.50.

(Required in III, VI, XXII).

310. Machine Shop. (0-3).

A continuation of course 309, including also tool making and heat treatment of steel; with application of factory production methods.

Laboratory fee, \$1.50.

(Required in III, XXII).

313. Engineering Mechanics. (3-0).

A continuation of course 212, including also dynamics of rotation, work, energy, friction, impact, etc.

(Required in III).

317, 318. Engineering Mechanics. (3-0, 2-0).

A modification of courses 212, 313, with the same prerequisites, and text. (Required in V; 317 required in XXIII).

320. Thermodynamics. (5-0).

A study of the laws of thermodynamics as they are applied to the behavior

of liquids, vapors and gases. Special emphasis is placed on the application of these laws to steam turbines, steam engines, refrigeration machines, internal combustion engines, air compressors, boilers and condensers.

Prerequisite: Mathematics 204, Physics 204,

(Required in III, VIII).

323. Thermodynamics. (4-0).

A modification of course 320 with the same prerequisites especially arranged for Electrical Engineering students.

(Required in V, XXIII).

324. Steam and Gas Power. (3-0).

The use of steam tables; theory of operation of steam engines, steam turbines, internal combustion engines, boilers and auxiliaries; computations involving heat balances, and efficiencies of power generating equipment.

(Required in IV, VI, IX group 2; XXIII).

403, 404. Engineering Laboratory. (1-3).

Instruction and practice in testing gauges, indicators, fans, pumps, boilers, engines, etc.; also a study of the actual mechanical operation of various machines.

In addition to the work with the apparatus, the student is expected to make calculations and written reports on the investigations and the results obtained.

Laboratory fee, \$1.00 each term.

Prerequisite: Mechanical Engineering 320 or 323.

(Required in III, IV, VIII, IX group 2, XXIII).

407. Mechanical Refrigeration. (3-0).

The application of the principles of thermodynamics to mechanical refrigeration. Also a study of different kinds of equipment and methods of practical production or refrigeration, ice making and cold storage.

Prerequisite: Mechanical Engineering 320 or 323.

(Elective in III, V).

417, 418. Power Engineering. (3-0).

Application of fundamental principles to the operation and testing of all types of power plant equipment. The selection and arrangement of such equipment from the standpoint of economics.

Prerequisite: Mechanical Engineering 320.

(Required in III).

419, 420. Industrial Engineering. (3-0).

Principles of management as applied in modern industry; location and layout of factories, control of production, systems of wage payment, cost keeping, human relations.

Prerequisite: Senior classification. (Required in III)

423. Industrial Administration. (3-0).

Problems involving material control, stores accounts, business statics and investments.

Prerequisite: Senior classification in Mechanical Engineering and accompanied by Mechanical Engineering 419.

(Required in III).

428. Aerodynamics. (3-0).

The fundamental principles of airplane design and construction. Recent articles on current practice and on research problems included.

Prerequisite: Mechanical Engineering 313.

(Elective in III).

430. Production Engineering. (2-2).

A study of the management and shop methods used in plants and factories whose output is largely the product of machine tools and similar equipment.

Prerequisite: Mechanical Engineering 419, and to be accompanied by Mechanical Engineering 420.

(Elective in III).

431. Industrial Engineering Problems. (0-2).

Sketches and drawings of plant layouts for definitely chosen problems; reports, materials and production scheduling.

Prerequisite: Credit on or registration in Mechanical Engineering 419.

FOR GRADUATES

503, 504. Power Plants. (2-6).

An advanced course in the design of central and isolated power plants with special attention to overall economic operation.

507, 508. Experimental Engineering Research. (1-8).

Methods and practice in Mechanical Engineering research, taking up extended problems specially chosen to meet the needs of the individual student.

509. Advanced Cabinet Making and Design. (1-6).

Advanced cabinet making, design, finishing, estimating, detailing, rod making, and one research problem on one of the above subjects or any subject that deals with cabinet making and design as applied to a school shop.

Prerequisite: Teaching experience in Cabinet Making, and courses equivalent to M. E. 105 and 106.

511, 512. Airplane Design. (1-6).

A complete stress analysis of the airplane.

513. Kinematics and Dynamics of Machines. (4-0).

Velocities and accelerations, with particular emphasis upon balancing and vibrations.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

Professor: Colonel C. J. Nelson. Professors: Major Sloan, Major Delamater, Major Wheeler, Capt. Pick. Assistant Professors: First Lieut. Neal, Capt. Walker, Capt. Lyons, Capt. Harry, Capt. Gibson, Capt. Richards, First Lieut. Carroll, First Lieut. McCullough, First Lieut. Seybold, First Lieut. Nachman.

INFANTRY UNIT

Professor: Major B. F. Delamater, Jr.

Assistant Professor: Captain E. L. Lyons.

Assistant Professor: First Lieutenant L. R. Nachman. Assistant Professor: First Lieutenant E. T. McCullough.

- 101. (1-2. Credit, one hour.
- (a) Theoretical: National Defense Act, military courtesy and discipline, Infantry drill, hygiene and sanitation.
 - (b) Practical: Infantry drill, physical training. Text: War Department Training Regulations.
- 102. (1-2). Credit, one hour.
 - (a) Theoretical: Rifle marksmanship, scouting and patrolling.
- (b) Practical: Physical training, Infantry drill, preliminary target practice, gallery practice, ceremonies.

Text: War Department Training Regulations.

- 201. (1-2).
 - (a) Theoretical: Musketry; automatic rifle.
- (b) Practical: Command and leadership as corporals; musketry; automatic rifle.

Text: War Department Training Regulations.

Prerequisite: M. S. 101, 102.

- 202. (1-2).
- . (a) Theoretical: Scouting and patrolling; interior guard duty; combat principles.
- (b) Practical: Command and leadership as corporals, scouting and patrolling.

Text: War Department Training Regulations.

301. (3-2).

(a) Theoretical: Machine guns, topography.

(b) Practical: Command as sergeants; machine gunnery; topography. Prerequisite: M. S. 201, 202.

Text: War Department Training Regulations.

302. (3-2).

- (a) Theoretical: Howitzer company weapons, machine guns, combat principles.
- (b) Practical: Command and leadership as sergeants; machine gunnery; Howitzer company weapons.

Text: War Department Training Regulations.

401. (3-2).

- (a) Theoretical: Combat principles; military history.
- (b) Practical: Command and leadership as officers and instructors; combat principles.

Text: War Department Training Regulations.

Prerequisite: M. S. 301, 302.

402. (3-2).

- (a) Theoretical: Military history and policy; administration; military law; rules of land warfare; field engineering.
- (b) Practical: Command and leadership as officers and instructors; combat principles; field engineering.

Text: Ware Department Training Regulations.

FIELD ARTILLERY UNIT

Professor: John E. Sloan, Major, Field Artillery.

Assistant Professor: Thomas C. Harry, Captain, Field Artillery.

Assistant Professor: C. S. Richards, Captain, Field Artillery.

Assistant Professor: James V. Carroll, First Lieutenant, Field Artillery.

- 103. (1-2). Credit one hour.
- (a) Theoretical: Fundamentals of Military Science; organization and administration. Military hygiene, first aid and sanitation; military courtesy and discipline; customs of the service; military leadership and morale; field artillery drill regulations to include School of Firing Battery.
- (b) Practical: School of the soldier, squad and battery, dismounted; standing gun drill, firing battery, interior guard duty, manual of the pistol, ceremonies.

Text: Field Artillery Manual, Wilson, Vol. I.

- 104. (1-2) Credit, one hour.
- (a) Theoretical: Field Artillery material and gunner's instruction, the French 75 mm. gun and carriage, construction, mechanical principles, principles

of design, tools, accessories, equipment, methods of carrying same; dissembling and assemblying various parts of gun, lubrication, cleaning, sights, quadrant, fuse setters, fire control instruments, care; ammunition; powders, explosives, detonators, primers, projectiles, fuses; description, care and use. The elements of Field Artillery gunnery; definitions; the military elements of trajectory and the calculation, determination of firing data and their use by cannoneers, duties of the cannoneer.

(b) Practical: Standing gun drill, gunner's instruction, firing battery, use and care of individual equipment, ceremonies, gunner's examination.

Text: Field Artillery Manual, Wilson, Vol. I.

203. (1-2).

- (a) Theoretical: Topography and orientation, stable management, artillery communications.
- (b) Practical: Draft, the battery mounted, orientation, wire maintenance, care of animals.

Text: Field Artillery Manual, Wilson, Vol. I.

204. (1-2).

- (a) Theoretical: Equitation and horsemanship.
- (b) Practical: Equitation, the soldier mounted, care of horses and equipment, adjustment of harness.

Text: Field Artillery Manual, Wilson, Vol. I.

303. (3-2).

- (a) Theoretical: Administration, equitation and horsemanship, field fortifications and liaison.
- (b) Practical: Use of fire control instruments, equitation, pistol marksmanship.

Text: Field Artillery Manual, Wilson, Vol. II.

Prerequisite: M. S. 103, 104, 203, 204.

304. (3-2).

- (a) Theoretical: Advanced gunnery, control of fire, observation of fire.
- (b) Practical: Conduct and observation of fire, terrain board, reconnaisance, non-commissioned officer with battery mounted.

Text: Field Artillery Manual, Wilson, Vol. II.

Prerequisite: M. S. 303.

403. (3-2).

- (a) Theoretical: Organization and tactical employment of Freid Artillery, advanced equitation.
- (b) Practical: Duty as battery officers and as assistant officers and instructors.

Text: Field Artillery Manual, Wilson, Vol. II.

Prerequisite: M. S. 304.

404. (3-2).

- (a) Theoretical: Military history and policy of the United States, military law, regulations of Officers' Reserve Corps.
 - (b) Practical: Same as 403 (b).

Text: Field Artillery Manual, Wilson, Vol. II.

Prerequisite: M. S. 403.

SIGNAL CORPS UNIT

Professor: Paul L. Neal, First Lieutenant, Signal Corps.

105, 106. (1-2). Credit, one hour each term.

- (a) Theoretical: Military courtesy and customs of the service, infantry-drill regulations, organization and administration of a company, military hygiene, first aid, sanitation. Code practice, telegraphy, military telephones, military switchboards and automatic pistol.
- (b) Practical: Infantry drill, tent pitching and display (f equipment, basic signal communication, and instruction as field linesmen and in communication installation.

Prerequisite: Enrollment in Electrical Engineering.

205, 206. (1-2).

- (a) Theoretical: Tactical radio procedure, function of various arms, army organization, map reading and sketching, radio sets and wavemeters.
- (b) Practical: Infantry drill, tent pitching and display of equipment, guard duty, switchboard operation, telephone and test station operation, working in communication nets, sketching.

Prerequisite: Enrollment in Electrical Engineering.

305, 306, (3-2, 0-2).

- (a) Theoretical: Message center, codes and ciphers, solution of mutilated code groups, signal plans and orders.
- (b) Practical: Infantry drill, leadership, message center operation, operation of radio sets in communication nets, instruction as radio operator.

In addition to the above the student must complete Electrical Engineering 309 and 310.

405, 406. (0-2, 1-4).

- (a) Theoretical: Staff organization and duties, company paper work, management and interior economy of a company, organization of various arms and their functions, Signal Corps organizations, general principles of signal communications for all arms, use and limitations of various signal agencies, combat orders, tactics and technique of Infantry and Signal Corps, military history.
 - (b) Practical: Infantry drill, leadership, practice in instruction of Sig-

nal Corps subjects, handling of message centers, radio nets, wire nets and combined problems.

In addition to the above the student must complete Electrical Engineering 409 and 410.

CAVALRY UNIT

Professor: John P. Wheeler, Major, Cavalry.

Assistant Professor: I. G. Walker, Jr., Captain, Cavalry.
Assistant Professor: H. B. Gibson, Captain, Cavalry.

107. (1-2). Credit, one hour.

- (a) Theoretical: Military courtesy and discipline; National Defense Act and local R. O. T. C. regulations; Cavalry drill regulations to include rifle platoon; elementary equitation; care of the horse.
 - (b) Practical: Cavalry drill, dismounted.

 Text: War Department Training Regulations.

108. (1-2). Credit, one hour.

- (a) Theoretical: Military hygiene and first aid; scouting and patrolling.
- (b) Practical: Cavalry drill, (mounted and dismounted); rifle marksmanship; scouting and patrolling.

Text: War Department Training Regulations.

Prerequisite: M. S. 107.

207. (1-2).

(a) Theoretical: Equitation.

(b) Practical: Cavalry drill, (mounted and dismounted), to include the rifle troop; care and use of Cavalry saber.

Text: War Department Training Regulations.

Prerequisite: M. S. 107, 108.

208. (1-2).

- (a) Theoretical: Musketry, conduct of fire; employment of Cavalry, minor tactics (leading the squad).
- (b) Practical: Cavalry weapons, use and care of saber, machine rifle, pistol; Cavalry drill; employment of Cavalry, (leading the squad).

Text: War Department Training Regulations.

Prerequisite: M. S. 207.

307. (3-2).

- (a) Theoretical: Cavalry drill; ceremonies and inspections; pistol marks-manship; employment of Cavalry (minor tactics); selection and care of animals.
 - (b) Practical: Cavalry drill (mounted and dismounted); command and

leadership as sergeants; pistol marksmanship; saber practice; map reading. Text: War Department Training Regulations.

Prerequisite: M. S. 208.

308. (3-2).

- (a) Theoretical: Military sketching, machine gunnery; equitation; employment of Cavalry, (minor tactics).
- (b) Practical: Command and leadership as sergeants; Cavalry drill (mounted and dismounted); mechanics of the machine gun.

Text: War Department Training Regulations.

Prerequisite: M. S. 307.

407. (3-2).

- (a) Theoretical: Military law and Organized Reserve Corps Regulations; military history and policy; administration; field engineering; Cavalry drill to include the troop; employment of Cavalry, (minor tactics); command and leadership as officers.
- (b) Practical: Cavalry drill (mounted and dismounted); field engineering.

Text: War Department Training Regulations.

Prerequisite: M. S. 308.

408. (3-2).

- (a) Theoretical: Military history and policy; equitation.
- (b) Practical: Employment of Cavalry (terrain exercises); Cavalry drill, to include the troop.

Text: War Department Training Regulations.

Prerequisite: M. S. 407.

ENGINEER UNIT

Professor: Lewis A. Pick, Captain, Corps of Engineers.

Assistant Professor: John S. Seybold, First Lieutenant, Corps of Engineers.

111. (1-2). Credit, one hour.

- (a) Theoretical: The National Defense Act and the R. O. T. C.; military courtesy and discipline; military hygiene and first aid; Infantry drill and command.
- (b) Practical: Military courtesy; Infantry drill, close and extended order; first aid.

Text: R. O. T. C. Manual, Vols. I and II.

112. (1-2). Credit, one hour.

(a) Theoretical: Drill and command; rifle marksmanship; Infantry weapons; scouting and patrolling; military bridges (fixed and floating).

(b) Practical: Infantry drill, close and extended order; rifle marksman ship; duties of scouts; knots and lashing and block and tackle in field operations.

Text: R. O. T. C. Manual, Vols. I and II.

211. (1-2).

- (a) Theoretical: Drill and command; map reading and military sketching; scouting and patrolling.
- (b) Practical: Command and leadership as corporals; Infantry drill, close and extended order; map reading, exercises in visibility of points, and areas; position and road sketching; duties of scouts and patrol leaders.

Text: R. O. T. C. Manual, Vols. I and II.

212. (1-2).

- (a) Theoretical: Musketry, drill and command; combat principles.
- (b) Practical: Command and leadership as corporals; exercises in musketry; Infantry drill, close order; ceremonies and inspections; combat principles of rifle squad.

Text: R. O. T. C. Manual, Vols. I and II.

311. (3-2)

- (a) Theoretical: Drill and command; combat principles of section and platoon; military explosives and demolitions.
- (b) Practical: Command and leadership as sergeants; tactical exercises and map problems of section and platoon; use and care of explosives.

Text: War Department Training Regulations.

Prerequisite: M. S. 111, 112, 211, 212.

312. (3-2).

- (a) Theoretical: Military roads and railways; military bridges (fixed and floating); fortifications.
- (b) Practical: Location and construction of roads and operations of railways: design and construction of military bridges; organization of the ground for defence, center of resistance, siting of trenches, trench construction, revetment, obstacles, shelter and camouflage.

Text: War Department Training Regulations.

Prerequisite: M. S. 311.

411. (3-2).

- (a) Theoretical: Military law; military history and policy of United States; administration and supply; drill and command.
 - (b) Practical: Command and leadership as officers and instructors. Text: War Department Training Regulations.

Prerequisite: M. S. 312.

412. (3-2).

(a) Theoretical: Drill and command; combat principles; military roads

and railways; Engineer organization and duties of Engineers.

(b) Practical: Command and leadership as officers and instructors; combat principles rifle and machine gun company and howitzer platoon and the combat Engineer company; roads and railways; military bridges and duties of Engineers.

Text: War Department Training Regulations.

Prerequisite: M. S. 411.

DEPARTMENT OF MODERN LANGUAGES

Professor Campbell, Associate Professor Woolket, Mr. Roberts.

In beginning courses a thorough drill in pronunciation, the essentials of grammar, and colloquial exercises are given through daily oral and written exercises. The reading of simple texts is taken up as early as possible.

The work of the advanced courses consists in the reading of selected texts and magazines, with incidental grammar review and drill in the use of colloquial idioms. Short dictation exercises are frequently given. Special stress is laid upon sight reading. Parallel reading of from 150 to 300 pages of selected prose works is required. In French and German, the reading is gradually adapted to the scientific work of other departments; the texts read in Spanish are literary and commercial.

A modern language is required throughout the freshman and sophomore years in courses X and XIX; French is required throughout the junior and senior years in course IX group 1; otherwise the work in modern languages is elective in all four-year courses.

- 101, 102. Beginning French. (3-0). Credit, three hours each term.

 Grammar and easy reading.

 (Required in IX group 1).

 Offeed both terms.
- 103, 104 Beginning German. (3-0). Credit, three hours each term.

 Grammar and easy reading.
- 105, 106. Beginning Spanish. (3-0). Credit, three hours each term. Grammar and easy reading.
- 201, 202. Intermediate French. (3-0).
 Reading of selected texts. Gramar review. Parallel reading.
 (Required in IX group 1).
- 203, 204. Intermediate German. (3-0).

 Reading of selected texts. Gramar review. Parallel reading.

205, 206. Intermediate Spanish. (3-0).

Reading of selected texts. Grammar review and conversation. Parallel reading.

301, 302, Modern French, (3-0).

A careful study of representative works from the beginning of the nineteenth century to the present time, with outside reading.

First term, the drama: plays by Hugo, Dumas, Augier, Labiche, Scribe, Rostand, and others.

Second term, the novel: texts selected from the works of Hugo, Balzac, Maupassant, Daudet, Zola, Loti, and France.

303, 304. Modern German. (3-0).

A careful study of representative works from the beginning of the nineteenth century to the present time, with outside reading.

First term, the drama: selections from the works of Kleist, Grillparzer, Hebbel, Ludwig, Hauptmann, and others.

Second term, the novel: selections from the works of Scheffel,, Freytag, Keller, C. F. Meyer, Sudermann, and others.

305, 306. Modern Spanish. (3-0).

The study of representative works from the beginning of the nineteenth century to the present time.

First term, the drama: plays by Guiterrez, Moratin, Martinez, Sierra, Tamayo y Baus, Hartzenbusch, Benavente, Echegaray, and the brothers Quintero.

Second term, the novel; texts selected from the works of Alarcon, Romanos, Ibanez, Valera, Galdos, Peredos, Caballero, Pardo Bazan, and Pio Baroja.

405, 406. Spanish Literature to 1800. (3-0).

A general survey of Spanish literature from its inception to the nineteenth century, with special emphasis on the literature of the "Golden Age." Careful study of selected texts, with outside reading.

First term, the drama: selections from the works of Lope de Vega, Ruiz de Alarcon, Triso de Molina, and Calderon de la Barca. Special study of the "Don Juan" legend and of "Celestina."

Second term, the novel: selections from the works of Cervantes, Quevedo, Guevera, and others. Special study of the picaresque novel.

DEPARTMENT OF MUNICIPAL AND SANITARY ENGINEERING

Professor Steel

401. Sewerage and Sewage Disposal. (3-0).

Determination of the quantity of storm water and domestic sewage; design and construction of sewer systems; principles of sewage treatment; methods of treatment; operation of sewage disposal plants.

Text: Sewerage and Sewage Disposal, Metcalf and Eddy.

Prerequisite: Civil Engineering 311.

(Required in IV).

402. Water Supply and Purification. (3-0).

Development of ground and surface water supplies; principles and methods of water purification; design, construction and operation of waterworks systems for municipalities.

Text: Water Supply Engineering, Babbitt and Doland.

Prerequisite: Civil Engineering 311, or taken at the same time.

(Required in IV).

403. Sanitary Design. (0-6).

Practical problems in the design of sewer systems and appurtenances; sewage disposal plants; water collection and distribution systems; water purification plants.

Text: To be selected.

Prerequisite: To be taken with Municipal and Sanitary Engineering 401 and 402.

(Elective in IV).

406. Sanitation and Public Health. (3-0).

Relation of sanitation to public health; municipal sanitary work, including garbage and refuse disposal; plumbing; control of food supplies; mosquito, fly and rodent control; sanitation of swimming pools and tourist camps; organization of health departments.

Text: Municipal and Rural Sanitation, Ehlers and Steel.

Prerequisite: Junior or senior classification.

(Elective in IV.)

408. Municipal Administration. (3-0).

City government, including the city manager plan; relation of city to state; administration of city departments; public utilities; city planning.

Text: An outline of Municipal Government, Maxey.

Prerequisite: Junior or senior classification.

(Elective in IV.)

FOR GRADUATES

501, 502. City Management. (4-0).

Development of European and American cities; forms of city government, functions of the city manager; administration of municipal affairs; organization of city departments; city finances; public utilities; fire prevention and protection; police administration; parks and playgrounds; public health and welfare; housing; city planning.

503, 504. Sanitary Engineering. (4-0).

Principles and methods of sewage treatment; principles and methods of water purification; recent developments in the treatment of water and sewage; garbage and refuse collection and disposal; mosquito control; sanitation and public health.

DEPARTMENT OF PETROLEUM ENGINEERING

Professor Joyce

201, 202. Drilling and Development. (3-0).

A study in oil field, lease location, preparation for prospecting, drilling and subsequent development after oil has been found.

Prerequisite: Mathematies 102, 104.

(Required in XXIII).

301. Oil and Gas Transportation. (2-0).

This course is intended to cover in as practical a manner as possible the natural gas industry, the manufacture of natural gasoline and the means of transporting crude oil and natural gas and the laws and regulations connected with pipe line transportation.

Prerequisite: Petroleum Engineering 201, 202, Physics 203, 204. (Required in XXIII).

302. Equipment and Applications. (3-2).

It is the intention of this course to familiarize the student, in as practical a manner as possible, with the equipment used in oil fields, and its application to a useful purpose.

Prerequisite: Petroleum Engineering 301.

(Required in XXIII).

401. Oil and Gas Measurement. (3-2).

Theory and practice of oil and gas measurements along with the accounting for oil and gas from the well to the point of consumption.

Prerequisite: Petroleum Engineering 301, 302, Geology 307, 312.

(Required in XXIII).

402. Oil Field Management. (3-2).

This course is intended to cover the management of oil field properties. Included in this course are field trips.

Prerequisite: Petroleum Engineering 301, 302, Geology 307, 312. (Required in XXIII).

403, 404. Petroleum Problems. (0-4).

Practical investigations: Investigations subject to approval of Head of Department.

Prerequisite: Petroleum Engineering 301, 302 and registration in 401, 402. (Required in XXIII).

DEPARTMENT OF PHYSICAL EDUCATION

Professor Bell, Professor Anderson, Associate Professors Penberthy, J. B.

Reid, Assistant Professor Higginbotham, Mr. Holmes, Mr. Sprague.

The work of the Department of Physical Education is given in the following divisions:

- 1. Phyisal Education and Corrective Gymnastics.
- 2. Intramural Athletics.
- 3. Freshman Athletics.
- 4. Intercollegiate Athletics.
- 5. Courses for Students who Desire to Major in Physical Education.

1. Physical Training and Corrective Gymnastics.

- (a) Physical examination of freshmen and individual advice regarding defects of any nature. Classification of each case according to physical exercise, capacity and needs.
 - (b) Health talks to freshmen at frequent intervals throughout year.
- (c) Freshman physical training correlated with the corrective program and the intramural program in such a way that every freshman participates in some form of physical activity suitable to his health and physical needs. This work is given two hours a week throughout the year.
 - (d) Individual gymnastics

2. Intramural Athletics.

Numerous intramural games and contests between classes and military organizations to utilize the competitive spirit in the development of sound bodies, self-control and athletic proficiency. Practically all students take part in some form of intramural athletics.

3. Freshman Athletics.

Teams known as "Freshman Teams" are organized from students who are in their first year in attendance at the College. These teams are supervised by members of the Department. Freshman teams are fostered in football, basketball, baseball, and track. Contests are scheduled with teams from institutions of non-collegiate rank.

4. Intercollegiate Athletics.

The Department of Physical Education has charge of all intercollegiate athletics, under the regulations laid down by the College and by the Southwest Athletic Conference. Intercollegiate contests are now held in the following sports: Football, basketball, track, baseball, tennis, cross country, and golf.

- 5. Courses in Physical Education.
- 101, 102. Physical Education for Freshmen. (0-2). No credit. Laboratory fee, \$1.00 each term.
- 203, 204. Methods in Physical Education. (2-4).

Study of the mental and physical growth of the child. Practice and teaching handball, volleyball, speedball, tennis, boxing, wrestling, swimming, diving and life saving methods.

Prerequisite: Sophomore standing and approval of instructor.

206. Health Education. (3-0).

Health education in schools; personal and community hygiene; symptoms and control of common school diseases.

Prerequisite: To be preceded or accompanied by Physical Education 203-204.

305, 306. Public School Physical Education. (3-0).

History of Physical Education, biological and educational aspects of physical education and organization of physical education programs in public schools.

Prerequisite: Junior standing and approval of instructor.

311, 312. Fundamentals of Athletic Coaching. (3-2).

Fundamentals of football, basketball, track and baseball. Individual technique.

Prerequisite: Junior standing and approval of instructor.

308. Athletic Training. (3-0).

Details of training and conditioning individuals and teams; care and prevention of injury and care of athltic equipment.

Prerequisite: To be preceded or accompanied by Physical Education 311, 312.

401, 402. Theory and Practice of Athletic Coaching. (3-2).

. Development of teams in football, basketball, track and baseball; offense, defense and strategy.

Prerequisite: Physical Education 308, 311, 312.

403, 404. Organization and Administration of Physical Education (3-0).

Organization and administration of interscholastic and intercollegiate athletics; intramural athletics in public schools and colleges, business administration of physical education and athletic sports.

Prerequisite: To be preceded or accompanied by Physical Education 401, 402.

DEPARTMENT OF PHYSICS

Professor Silvey, Associate Professors Vezey, Sanders, Assistant Professors McCorkle, E. G. Smith, Mr. Tarney

201, 202. College Physics. (3-2).

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A general course in physics for students in general science courses and those preparing to enter a medical school.

This course includes the mechanics of solids, liquids and gases; and the phenomena of heat, light, sound, electricity and magnetism. Instruction is given by recitations, quizzes, problems and demonstrated lectures. Emphasis is laid on the fundamental principles rather than the mathematical processes involved.

The practice includes about thirty experiments in the subjects named above.

Laboratory fee, 50 cents each term.

(Required in X; elective in XIX, XXII).

203, 204. General. (3-3).

A general course in mechanics, heat, light, electricity, and magnetism for engineering students.

Stress is laid on the derivation of the various formulas necessary for an understanding of the mathematical relations existing in physical determination. Emphasis is placed on practical problems.

The practice includes about thirty experiments in the subjects named above. The work is, in general, quantitative.

Text: General Physics, Ferry.

Prerequisite: Mathematics 101, 103.

Laboratory fee, \$1.00 each term.

(Required in III. IV, VI, VIII, IX groups 1, 2; XIII. XV, XXIII).

Offered both terms.

207, 208. General. (3-2).

This course is identical with course 203, 204, with the omission of electricity and magnetism.

Prerequisite: Mathematics 101, 103.

Laboratory fee, \$1.00 each term.

(Required in V).

301, 302. Heat; Properties of Matter. (3-3).

A discussion of universal gra tation, elasticity, surface tension, diffusion, viscosity, mechanics of fluids, laws of heat transfer, kinetic theory, critical points, isothermal and adiabatic changes and the thermodynamics of changes of state and radiation.

The work is more descriptive than mathematical, but ample opportunity is offered to study applications of the calculus to physics.

Texts: Properties of Matter, Heat; Poynting and Thompson, or equivalents.

Prerequisite: Physics 201, 202, 203, 204 or 207, 208, and Mathematics

203, 204.

Laboratory fee, \$1.00 each term.

305. Light. (2-0).

A discussion of the wave theory of light, optical instruments, dispersion, spectroscopy, aberrations, refractions, interference, diffraction, polarization, double refraction and theories of refraction and reflection.

The treatment is non-mathematical.

Text: Edser's Light for Students, or its equivalent.

Prerequisite: Physics 201, 202, 204 or 207.

401, 402. Optics; Electricity and Magnetism. (3-3).

A discussion of periodic motion, wave motion, the nature and propagation of light, interference, diffraction, theory of optical instruments, polarization, magnetism, magnetic induction and potential, current electricity, electrostatic induction and potential, electromotive forces, thermal effects; photoelectricity, electro-magnetic induction and electro-magnetic theory.

Texts: A Treatise on Light, Parts II and III, Houston; Electricity and Magnetism, Starling.

Prerequisite: Physics 201, 202, or 203, 204 and Mathematics 203, 204.

Laboratory fee, \$1.00 each term.

Not offered in 1930-31.

FOR GRADUATES

501, 502, Analytical Mechanics. (3-0).

A study of rectilinear motion; plane and solid motion of a point, plane and solid rotational motion, mechanisms, strains, kinetics of a particle, kinetics of a rigid body, statics, attraction and potential, plane and solid statics of a rigid body, hydrostatics and hydrokinetics.

Text: Analytical Mechanics, Barton, or the equivalent.

503, 504. Advanced Electricity and Magnetism. (3-0).

A study of the underlying principles of alternating electrical currents; the development of graphical methods of analysis as a basis for the solution of practical problems. The development of the equations for the propagation of an electromagnetic disturbance through a dielectric and for electromagnetic waves along wires and cables. A study of electrostatic and electromagnetic fields, the electromagnetic theory of light, thermal and electrical conduction in magnetic fields, discharge of electricity through gases, Roentgen rays, Becquerel rays and the theory of the structure of the atom.

505, 506. Theory of Thermodynamics and Thermal Radiation. (3-0).

An advanced course in thermodynamics and thermal radiation including Planck's thermodynamical basis of the quantum theory, the quantum theory of specific heats, Gibb's phase rule, Nernst's heat theorem, radiation and spectra. Also the subjects of chemical equilibrium and affinity, modern theories of osmotic pressure, properties of solutions and of voltaic cells.

Texts: Thermodynamics, Planck; Heat Radiation, Planck; Thermodynamics, Partington.

507, 508. Kinetic Theory; Electron Theory. (3-0).

A study of gas pressure, speed of gaseous molecules, Boyle's law, the law of Gay-Lussac, Graham's Law, mean free path, coefficients of diffusion and viscosity, Maxwell's distribution law, Vander Waal's equation and Brownian movements.

The phenomenon of conductivity of electricity through gases, mobility and diffusion of gaseous ions, measurement of the elementary charge, ratio of charge to mass of ions, positive ions and photo-electric action.

Texts: Kinetic Theory of Gases, Loeb; Ions, Electrons and Ionizing Radiations, Crowther.

Open to undergraduate students who have a grade of A or B in Physics 301, 302.

DEPARTMENT OF POULTRY HUSBANDRY

Professor D. H. Reid, Assistant Professor Munnerlyn.

201. Poultry Production. (2-2).

A general course in farm poultry. The breeds and types of poultry, culling of poultry for egg production, incubation, brooding and feeding for growth and egg production, winter and summer management, housing and hygiene, preparing poultry for market, methods of marketing; the practical application of these subjects to general farm conditions.

Text: Practical Poultry Management, Rice and Botsford.

The practice consists of the identification of breeds and varieties, judging poultry as to sex, age, constitutional vigor and egg production, plans for poultry farms and poultry houses, identification of feeds, methods of dressing poultry.

Laboratory fee, 50 cents.

(Required in XI, XII, XVI; elective in I, XIV).

Offered both terms.

301. Market Poultry. (2-2).

Pen fattening, crate fattening, fattening of the turkey flock, special feeds for ducks and geese, methods of dressing, trussing and deboning the fowls, candling eggs, preparing for cold storage and crating of poultry products.

Text: Productive Poultry Husbandry, Lewis.

The practice includes feeding two crates of fowls, dressing and preparing them for market, candling and grading eggs.

Laboratory fee, 50 cents.

(Required in I group II; elective in C).

302. Feeding and Brooding. (3-2).

Common grain mill feeds for poultry, chemical composition, vitamine content and value as poultry feeds, embryology of the chick and introduction to brooding from a commercial standpoint.

Text: Poultry Production, Lippincott. Prerequisite: Poultry Husbandry 201.

The practice includes methods in balancing poultry rations, different methods of determining the value of feeds, identification and mixing poultry feeds, anatomy of the common fowl, identification of digestion and egg production organs.

(Required in I group 11; XIV group 3; elective in C).

303. Turkey Production. (2-0).

Breeds of turkeys; care of the breeding flock; feeding the breeding flock; good hatching eggs; incubating turkey eggs; feeding the poults; raising turkeys in confinement; summer care of young stock; fattening the turkey flock.

304. Poultry Essentials. (2-2).

Starting with poultry; renewing the poultry flock; producing good market eggs; cost of producing hatching eggs; value of different feeds for the laying hen; principles of judging Rhode Island Reds, White Leghorns, and Barred Plymouth Rocks. Arrangement of a poultry farmstead; seasonal products of the poultry farm and their preparation for sale.

The practice consists of judging, feeding and culling poultry, also the working out of cost problems.

Text: Poultry Production, Lippincott. (Required in XII).

(ver-fames in erroy)

401. Culling and Management. (2-2).

The underlying principles of poultry culling, a study of literature, management of a large poultry flock on commercial poultry farms, selecting the breeding stock, qualities of a good breeding male.

Text: Practical Poultry Management, Rice and Botsford.

Prerequisite: Poultry Husbandry 201.

The practice includes a study of the relationship between psysiological characteristics and egg production of the domestic fowl, the standard type, weight and qualities of standard bred domestic fowls.

(Required in I group II): (Required in I group II):

402. Poultry Farming. (2-2).

The laying out of poultry farms, costs and management of raising a flock of one thousand or more, types of houses, incubators and brooders, raising of special types of poultry, teaching and demonstrating plans.

Text: Practical Poultry Farming, Hurd.

Prerequisite: Poultry Husbandry 201.

The practice consists of problems in organizing, financing and establishing a cemmercial poultry business.

(Required in I group II).

403. Judging. (2-2).

The judging of all standard breeds and varieties, special instruction to judges, methods of fitting for the show room, methods of breaking ties in poultry show, standard disqualifications and special disqualifications for the different varieties.

Text: American Standard of Perfection, American Poultry Association. Prerequisite: Poultry Husbandry 201.

The practice consists of judging classes of exhibition poultry raised on the College poultry farm and the judging of two or more small shows in the surrounding communities.

(Required in I group II).

421. Incubation and Hatchery Management. (0-4).

The running of two different mammoth incubators successfully and the adjustment of these machines under various conditions of heat and moisture in order to secure hatches of healthy chickens. The use of a hair hygrometer, the self recording thermometer, with practical lessons in the care and treatment of hatching eggs and the actual management of a hatchery.

Prerequisite: Poultry Husbandry 201.

422. Artificial Brooding. (0-4).

The actual brooding of several hundred baby chicks under close supervision. The pedigreeing, wing banding and culling of the growing chicks with lessons in the cost and best methods of mixing poultry feeds for young chicks.

Prerequisite: Poultry Husbandry 201.

FOR GRADUATES .

501, 502. Research Problems. (2-4).

This course includes a study of the recent investigations in poultry breeding and nutrition. Research methods are given attention. Experiment station literature, scientific journals and newer publications are to be read and reported by the student.

503, 504. Advanced Incubation and Brooding. (2-4).

Factors underlying the successful hatching of eggs. A study of the ef-

fects of various chemicals and disinfectants on the hatching of hens' eggs. Peculiar requirements of hatching eggs from different species of domestic fowl. Chickens, ducks, geese, turkeys and guinea fowl. Nutritive requirements of the young of the different species of domestic fowl. Optimum percentages of proteins and other nutrients in the ration. The vitamines necessary for growth. Results of vitamine deficiency in rations.

(These two courses are carried on in cooperation with the Chemistry Department).

Laboratory fee, \$1.00 each term.

FOR STUDENTS IN SHORT COURSES

26. Poultry Husbandry. (2-2). Credit, three hours.

Daily egg production; poultry feeding; poultry raising; feeding baby chicks; disposal of surplus stock.

(Required in C).

DEPARTMENT OF RURAL EDUCATION

Professor W. L. Hughes, Professor Wilcox.

121, 122. Elementary School Methods. (3-0). Credit, three hours each term. Methods of teaching the elementary school subjects, with special attention to the teaching problems of the rural teacher. Special attention is given to such problems as fitting the course of study to the small rural schools, daily programs, and correlation of subjects.

(Required in XVI).

221. Rural School Methods. (3-0).

This course covers such problems as organizations of the school, the daily program, general management, classifying and promoting pupils, keeping school records, and methods of teaching under rural school conditions.

(Required in XVI).

222. Rural School Administration. (3-0).

This course covers the administrative problems of rural and village schools, such as community leadership, evaluating the efficiency of teachers, financing the rural schools, cooperating with agencies for rural school improvement, consolidation, teachers institutes, etc.

(Required in XVI).

321. Secondary School Methods. (3-0).

This course is to meet the needs of students who expect to teach in city high schools. It covers methods of teaching high school subjects.

(Required in I group 12; XVI, XXII).

322. Secondary School Administration. (3-0).

The aim of this course is to meet the needs of teachers who expect to administer school systems. It covers the administrative problems of the city superintendent.

(Required in I group 12;XVI).

422. History of Education. (3-0).

This course covers the history of modern education, with special attention to history of education in the United States.

(Required in XVI).

423. The Junior High School. (3-0).

The organization and problems of the Junior High School.

425. Practice Teaching. (3-0).

(Required in XVI).

Offered both terms.

FOR GRADUATES

501. Problems in Rural Education. (4-0).

This course is designed to give the student a general background of the rural school problem in the United States, including problems in related fields.

502. Problems in Rural School Administration. (4-0).

This course treats of organization, supervision, and administration of rural schools.

503. Problems in Elementary Education. (4-0).

This course covers such problems as present tendencies, forms of organizations, the curricula, management, selection of subject matter, and teaching children how to study.

504. Development of Public School Education in Texas. (4-0).

The origin and development of public school education in Texas.

505. Principles of Educational Administration. (4-0).

The administration of state and county school systems is covered by this course.

506. Principles of Educational Administration. (4-0).

This course covers the problems of the city superintendent of schools.

DEPARTMENT OF RURAL SOCIOLOGY

Professor Russell.

201. Introduction to Social Problems. (3-0).

This course is an introduction to the study of societies. It is mainly

descriptive, but the ethical implications of some social relations are discussed. It covers such general subjects as human relations in the family—education, economic activity, politics, race contacts, and international affairs.

Text: Society and Its Problems, Dow. (Required in I group 11; XIV group 3). (Elective in I).

204. Introductory Rural Sociology. (3-0).

An attempt is made to acquaint the student with some of the underlying social problems of the country district. The human element in rural life and production; some disorganizing tendencies in rural life, as farm tenancy, communication, poor schools, decaying churches; progressive agricultural tendencies.

Text: The Sociology of Rural Life, Hawthorne. (Required in XIII; elective in I).

311. Social Psychology. (3-0).

The factors affecting group behavior together with methods of social control; the forces and influence which determine the mental attitudes of country people; the connections between a good understanding of the social mind and successful organization effort; methods of dealing with the problems involved; the many questions related to public opinion.

Text: Social Psychology, Bogardus. (Required in I group 12).

312. General Sociology. (3-0).

This course is designed to give the student a clear idea of the field of sociology. The position of sociology among the social sciences is defined. The subject matter of sociology is outlined under the following heads: Population, physical environment, cultural environment, human motivation, social organization and social pathology. Emphasis is placed upon methods of investigation and quantitative measurement of the data of sociology.

Text: Introduction to the Science of Sociology, Park and Burgess. (Required in I group 12).

404. Rural Organization. (3-0).

A study of community life in the rural districts with its natural organizing and disorganizing tendencies; a survey and evaluation of attempts at community organization as the survey, community club plan, community council plan, the school community center, the community church, the Y. M. C. A., the Red Cross in rural districts, etc.

Text: Community Organization, Steiner, and library readings. (Required in I group 12).

.405. Social Research Methods. (2-2).

A study of the technique of making, editing and publishing social science

studies; the social survey, the case study, the interview, the questionnaire, the monograph. Several completed surveys are studied with an idea of understanding method as well as content. Special attention is paid to research possibilities of rural social problems.

Text: Technical Social Surveys, Elmer; selected Surveys. (Required in I group 12).

407. Rural Sociology. (2-2).

An analysis of the conditions, forces and agencies influencing the life of the country dweller and the country community; a detailed study of a number of special problems related to the social side of country life, such as population questions; cityward drift; town and country relationships; rural health problems, recreation, rural leadership; community organizations and community planning. Attention is also given to the social problems connected with the home, the school, the church, the press and other social institutions.

Text: Rural Sociology, Taylor. (Required in I group 12, XVI).

415. Agricultural Journalism. (2-2).

The principles of newspaper writing, especially the preparation of material for agricultural papers and country weeklies; the part a county paper should play in country development; in the laboratory work, opportunity is given for actual writing for newspapers and farm pournals. The Publicity Office of the College, and Publicity Department of the Extension Service cooperate in the course.

Text: The Country Weekly, Ging; selected readings. Agricultural Journalism, Crawford.

(Required in I group 12).

416. Agricultural Journalism. (2-2).

A continuation of course 415. Additional practice in the preparation of articles for agricultural and country newspapers; news campaigns for special objectives; the business side of conducting a paper.

Texts: Special Feature Articles, Bleyer; Newspaper, in Community Service, Radder.

FOR GRADUATES

501, 502. Advanced Rural Sociology. (4-0).

An intensive study of some important aspects of the field of rural sociology. The first term is concerned mainly with the evolution of rural society; the second term with an analysis of some of the principles of rural social problems of today and proposed solutions.

511. History of Modern Social Thought. (4-0).

A study of the history basis, and foundation of modern systems of think-

ing, as to authors who advance the theories, and as to different theories themselves. Special emphasis is placed on the study of the mental attitudes of the farmers on social, political, and economic questions.

512. The Rural Community. (4-0).

A study of the rural community as to its geographic background, population, social institutions, and occupational attitudes. Different efforts at organizing the rural community as the county public welfare project, school and church community center projects, recreational and health projects, local, state and national agencies for rural community co-operation are studied.

DEPARTMENT OF TEXTILE ENGINEERING

Professor Bagley, Associate Professor Lichte, Assistant Professor Powers.

102. Cotton Classing. (0-2). Credit, one hour.

Practice in grading and stapling cotton, the methods of handling the crop from the field to the mill. Other subjects of general interest to a cotton student are presented in lecture form.

Laboratory fee, 50 cents each term. (Required in C).

107, 108. Cotton Classing. (2-5). Credit, four hours each term.

Classes of buyers found in interior towns; problems and methods of interior buying; detail office methods, keeping account of purchases and sales of cotton. Practice, same as in 102.

Text: Cotton Trade Procedure, Handrick & Dowd.

Laboratory fee, \$1.25 each term.

(Required in XVIII).

205. Cotton Exchanges. (3-0)

History and purpose of cotton exchanges, operation and details.

Text: Cotton and the Cotton Market, Hubbard.

(Required in XVIII).

206. Yarn Manufacture. (0-3).

Practice in the operation of machinery used in the manufacture of cotton yarns.

(Required in VI).

207. Weaving. (0-3).

Practice in operating plain looms.

(Required in VI).

211, 212. Cotton Classing. (1-5).

Lectures covering the larger problems of cotton marketing. Practice, same as in 107, 108.

Prerequisite: Textile Engineering 107, 108.

Laboratory fee, \$1.25 each term.

(Required in XVIII).

218. Foreign Cotton Markets. (3-0).

An intensive study of the production and marketing of cotton in foreign countries.

Text: Foreign Trade, Cooper.

(Required in XVIII).

301. 302. Yarn Manufacture. (3-2, 0-2).

Recitations on the machinery and processes in the manufacture of coarse cotton yarns. Instruction is given with a view of imparting a general knowledge of the machinery and processes, including the study of the raw material; mixing; construction and operation of picking machinery, carding drawing, slubbing, roving, ring spinning, spooling, reeling, and twisting; calculations to determine the necessary gearing to produce given numbers, speeds and production.

Text: Cotton Mill Processes and Calculations, Tompkins. (Required in VI).

303, 304. Fabric Designing. (0-3).

The classification of fabrics; the elementary principles of fabric structure; the explanation of various technical terms applied to designs and fabrics; the representation of drawing-in drafts and harness chains; the design of fancy shirting, madrases, dress goods, etc.

(Required in VI).

307, 306. Weaving. (3-3).

Recitations and lectures on the construction, operation and adjustments of plain, automatic, gingham, dress goods, and Jacquard looms.

Text: International Library of Technology, Vol. 80. (Required in VI).

401, 402. Yarn Manufacture. (3-2, 2-3).

A continuation and more exhaustive treatment of course 301, 302. A study of warp preparation, combers, mules, and organizations for the manufacture of all classes of yarns.

Text: International Library of Technology, Vols. 76, 77.

Prerequisite: Textile Engineering 301.

(Required in VI).

413, 414. Cotton Classing. (1-2, 0-2).

Recitations and lectures on classification and stapling of cotton, buying spot cotton, papers used in the cotton trade and cotton exchanges.

Laboratory fee, 50 cents each term.

Text: Cotton and the Cotton Market, Hubbard. (Required in VI).

415, 416. Fabric Design. (0-3, 1-3).

Dissecting samples of cloth for reproduction. The practice is a continuation of course 304.

Prerequisite: Textile Engineering 304.

(Required in VI).

419, 420. Weaving. (1-2, 0-3).

A study of loom fixing, cloth room machinery, and yarn dressing.

Text: Practical Loom Fixing, Nelson.

Prerequisite: Textile Engineering 307, 306.

(Required in VI).

422. History of the Textile Industry. (3-0).

The development of the textile industry of the United States, covering phases of technical manufacturing; labor, wages, education; associations and combinations. A comparison of these topics is made with English and European manufacturing.

Text: The Cotton Manufacturing of the United States, Copeland; Textile magazine articles.

(Required in VI).

DEPARTMENT OF VETERINARY ANATOMY

Professor Francis.

111. Anatomy of the Domestic Animals. (3-6). Credit, five hours.

A careful study of the bones, joints and muscles.

Text: Anatomy of Domestic Animals, Sisson.

Laboratory fee, \$2.00.

(Required in XI).

112. Anatomy of the Domestic Animals. (3-6). Credit, five hours.

A study of the thoracic and abdominal viscera.

Text: Anatomy of Domestic Animals, Sisson.

Laboratory fee, \$2.00.

(Required in XI).

211. Anatomy of the Domestic Animals. (3-6).

This course includes a dissection of the circulatory system, the nervous system and the organs of special sense.

Text: Anatomy of Domestic Animals, Sisson.

Laboratory fee, \$4.00.

(Required in XI).

213. Histology and Embryology. (2-4).

A lecture and laboratory course.

Texts: Normal Histology, Stohr; Embryology of the Chick and Pig. Prentiss.

Laboratory fee, \$2.00. (Required in XI).

302 Anatomy and Physiology of Domestic Animals. (2-2).

This course is intended as an introduction to the study of veterinary medicine. It treats the fundamental process of animal nutrition in detail, so that each student may be prepared to meet the problems that arise in the economic production of beef, pork, and dairy products.

Reference books: Physiology of Domestic Animals, Smith; Veterinary Anatomy, Sisson.

Laboratory fee, \$1.50. (Required in I group 5).

306. Animal Diseases. (3-2).

A popular course on the common diseases of animals on the farm.

Text: Prinicples of Veterinary Science, Hadley.

(Required in XII; elective in C).

FOR GRADUATES

511, 512. Veterinary Anatomy. (2-4).

DEPARTMENT OF VETERINARY MEDICINE AND SURGERY

Professor Marsteller, Associate Professors Lenert, Dunn.

351. Non-infectious Diseases. (3-0).

This course consists of lectures and demonstrations on physical diagnosis. (Required in XI).

352. Non-infectious Diseases. (3-0).

In this course instruction is given on diseases of the digestive, circulatory, respiratory and urinary organs.

(Required in XI).

361. General Surgery. (3-0).

In this course instruction is given in the principles of surgery, restraint of domestic animals, surgical diagnosis, surgical exercises and soundness.

(Required in XI).

362. General Surgery. (3-0). (Required in XI).

- 371. Clinics. (0-7). Laboratory fee, \$2.00.
- 372. Clinics. (0-12). Laboratory fee, \$2.00.
- 471. Clinics. (0-7). Laboratory fee, \$2.00.
- 472. Clinics. (0-7). Laboratory fee, \$2.00.

All students taking clinics are required to give attention daily to cases assigned, and if necessary laboratory diagnosis and post-mortem examinations must be conducted. When necessary students will be required to visit sick animals on farms, ranches, and other premises near the College. Trips to other parts of the State are required when outbreaks of diseases occur that can not be studied at the College. About five thousand cases of non-infectious diseases, infectious diseases and surgical diseases of animals and fowls are treated each year.

(All the clinics courses are required in XI).

403. Animal Diseases. (3-2).

A discussion of common infectious and non-infectious diseases of domestic animals.

Text: Veterinary Medicine, Vols. 1, 2, 3, 4, 5, Law.

Prerequisite: Veterinary Anatomy 302.

(Required in I group 5).

451. Diseases of Small Animals and Fowls. (3-0).

In this course special attention is given to non-infectious and infectious diseases in pet animals and domestic fowls.

(Required in XI).

452. Practice of Veterinary Medicine and Jurisprudence. (3-0).

The aim of this course is to acquaint the student with general business methods and State and national laws relating to the practice of veterinary medicine.

(Required in XI).

453. Infectious Diseases. (3-0).

This course involves the study of the symptoms, treatment and control of infectious diseases.

(Required in XI).

455. Diseases of Poultry. (2-0).

In this course instruction is given in diseases of poultry.

461. Obstetrics. (2-0).

This course treats of accidents of breeding, diseases incident to pregnancy, parturition and post-partum conditions. Attention is also given to diseases of the newly born.

Laboratory fee, \$1.00. (Required in XI).

462. Operative Surgery. (3-4).

In this course instruction is given in castrating, spaying, denistry, lameness, shoeing. Surgical exercises are required.

Laboratory fee, \$4.00. (Required in XI).

FOR GRADUATES

501, 502. Special Surgery. (2-4).

This course deals with problems of surgical conditions, surgical pathology, surgical technique and sterility of animals.

Laboratory fee, \$2.00 each term.

DEPARTMENT OF VETERINARY PATHOLOGY

Associate Professor Wharton

242. General Pathology. (3-2).

The elementary disease processes and their causes, including a study of the gross iand minute appearance of the diseased tissue. Such processes as inflammation, necrosis, gangreen, atrophy, hypertrophy, ulceration; the various degenerations, infiltrations, pigmentations and tumor formations are considered.

The practice consists of the microscopical study of these processes and instruction in laboratory technique.

Reference: General Pathology, Ziegler; Text-book of Comparative General Pathology, Kitt; Text-book of Pathology, Delafield and Prudden; Pathological Technique, Mallory and Wright.

Prerequisite: Veterinary Anatomy 213.

Laboratory fee, \$1.50. (Required in XI).

341, 342. Special Pathology. (2-0, 2-4).

Lectures on the special systematic pathology and morbid anatomy of the different organs and systems of organs. The pathology of the various infectious and contagious diseases is considered.

The practice includes the demonstration of museum and fresh specimens and an introduction to post-morten technique.

References: Pathology and Therapeutics of the Diseases of Domestic Animals, Hutyra and Marek; Veterinary Post-mortem Technic, Crocker.

Laboratory fee, \$4.00, second term.

Prerequisite: Veterinary Pathology 242.

(Required in XI).

343. Special Bacteriology. (2-4).

The pathogenic micro-organisms; their morphology, cultural characteristics and pathogenicity are considered.

The practice work consists of the study of the more important microorganisms which produce diseases in man and domestic animals.

References: Microbiology, Moore; Veterinary Bacteriology, Buchanan; A Text-book of Bacteriology, Hiss and Zinser.

Prerequisite: Biology 209, or its equivalent.

Laboratory fee, \$4.00.

(Required in XI).

441. Immunology and Serum Therapy. (2-2).

The fundamental principles of immunity. Special attention is given to the preparation of biologics used in the prevention of infectious diseases.

Prerequisite: Veterinary Pathology 343.

Laboratory fee, \$4.00.

(Required in XI).

442. Meat Hygiene. (2-2).

The abattoir inspection of meats and meat products; the Federal regulations governing such inspection, condemnation and disposal of carcasses, also the regulations governing interstate and foreign shipments of live stock.

Text: Meat Hygiene, Edelmann, Mohler and Eichorn, and current copy of B. A. I. Regulations Governing Meat Inspection.

Prerequisite: Veterinary Pathology 341, 342.

(Required in XI).

443. Parasitology. (2-2).

The parasites infesting the domestic animals and the pathological conditions produced by them. Attention is given to the treatment and control measures.

Text: Parasites and Parasitosis of Domestic Animals, Underhill.

Prerequisite: Biology 201, 202, or equivalent.

Laboratory fee, \$1.50.

(Required in XI).

444. Laboratory Diagnosis. (2-2).

The methods of procedure in the preparation of materials for laboratory examination; the technique of examination; biological tests of special im-

portance; animal inoculations; isolation of the organisms of diseases from lesions.

Prerequisite: Veterinary Pathology 341, 342, 343.

Laboratory fee, \$2.00.

(Required in XI).

FOR GRADUATES

541, 542. Advanced Special Pathology. (3-4).

Etiology, pathogenesis, lesions and results of diseases of organs and systems of organs; pathology of the infectious diseases.

Prerequisite: Veterinary Pathology 242, or equivalent.

Laboratory fee, \$2.00 each term.

543, 544. Advanced Special Bacteriology. (3-4).

A study of the pathogenic micro-organisms; their cultural and biological characteristics and pathogenicity.

Prerequisite: Biology 209, or equivalent.

Laboratory fee, \$2.00 each term.

DEPARTMENT OF VETERINARY PHYSIOLOGY AND PHARMACOLOGY

Associate Professor Burns

121. Physiology of the Domestic Animals. (2-0). Credit, two hours.

Lectures on the physical and chemical processes involved in the physiological functioning of the bodies of the domestic animals.

(Required in XI).

- 122. Physiology of Domestic Animals. (2-0). Credit, two hours.
- Lectures on the physiology of the circulatory, respiratory, muscular and locomotive systems.

Prerequisite: Course 121.

(Required in XI).

221. Physiology of the Domestic Animals. (2-0).

Lectures on the nervous system, including special senses, digestion, absorption, secretion and excretion.

Prerequisite: Course 122.

(Required in XI).

222. Physiology of the Domestic Animals. (3-4).

Lectures on physiological chemistry, with special reference to digestive juices. enzymes, hormones, internal secretions, milk, urine, and chemical composition of the body.

The practice consists of studying blood, milk, urine, and other body fluids, including the action of natural and artificial digestive juices (enzymes) on the various foodstuffs. The student also makes graphic records of the physiological functioning of the muscular, nervous respiratory, and circulatory systems.

Prerequisite: Course 221. Laboratory fee, \$2.50. (Required in X1).

333. Pharmacology. (3-4).

The general preliminary work in pharmacology, a detailed study in metrology, in the history of therapeutics, the source and composition of drugs, the methods of administration, the various factors influencing the action of drugs upon the individual, and the active constituents of medical plants and posology; the drugs affecting the circulatory and nervous systems, including anti-pyretics, are then studied.

The practice consists of laboratory work in examining and indentifying crude drugs, making tests for their purity, extracting their active constituents, making chemical tests for each. Pharamceutical methods used in the manufacture of medicinal preparations are carefully studied and each student is required to make a definite number of all types of official preparations, described in the Pharmacopoeia and in addition a number of non-official preparations. Prescription filling, preparing, compounding, and dispensing pharmaceutic preparations are all given ample consideration. The student is given an opportunity to observe the actions of drugs on experimental animals. The chemical and biological methods of standardization of medicinal preparations are taken up in details.

Text: Veterinary Pharmacology and Therapeutics, Milks; Veterinary Materia Medica and Therapeutics, Winslow.

Laboratory fee, \$3.00. (Required in XI).

334. *Pharmacology*. (3-0).

This course is a continuation of course 333 and takes up all the drugs not studied in that course.

Prerequisite: Course 333. (Required in XI).

432. Toxicology. (1-2).

The causes, symptoms, lesions, prevention and treatment of organic and inorganic poisons, including poisonous plants and endogenous poisons.

In the practice, each student is required to make microscopical, chemical and biological analysis of the more common organic and inorganic poisons and poisonous plants. The student also observes the symptoms, lesions and methods of treatment of cases produced by the more common poisons upon experimental animals.

Texts: Veterinary Toxicology, Lander; Medical Chemistry and Toxicology, Holland.

Laboratory fee, \$2.50. (Required in XI).

FOR GRADUATES

501, 502. Advanced Practical Physiology. (2-4).

This course affords opportunity for observations of the more intricate and recent phases of physiology. It is arranged for advanced students or teachers of physiology who wish to make a thorough study of modern experimental methods. The work is arranged to suit the needs of the student and in harmony with his previous training.

503, 504. Advanced Physiology of Nutrition. (2-4).

A detailed study of the modern theories of nutrition with special reference to vitamins.

505, 506. Advanced Poisonous Plants. (2-4).

Original investigations and detailed studies of the poisonous plants affecting domestic animals.

507, 508. Advanced Experimental Pharmacology. (2-4).

This course affords opportunity for studying the modern methods of research in pharmacology and pharmaceutical processes. It comprises original research in studying the actions and uses of drugs.

Part V

RESEARCH, EXTENSION, SUMMER SESSION, AND OTHER ACTIVITIES

THE TEXAS AGRICULTURAL EXPERIMENT STATION SYSTEM

A. B. CONNER, Director

The Texas Agricultural Experiment Station System is the research agency of the Agricultural and Mechanical College of Texas, and its function is the investigation and solution of agricultural problems. It consists of the central or Main Station at College Station with appropriate indoor laboratories and experiment station farms, and sixteen outdoor laboratories, or experiment station farms, located in various sections of Texas, as follows: Angleton, Beaumont, Beeville, Chillicothe, Denton, Lubbock, Nacogdoches, Balmorhea, Spur, Temple, Troup, Sonora, Llano Grande, Iowa Park, Winter Haven and College Station. In addition, there are beeyards at Dilley, Seguin, and Roxton, and a queenyard and the State Apicultural Research Laboratory located at San Antonio. Three additional substations authorized by the last legislature have not yet been established. The work of the Station System comprises. researches into the more important problems of veterinary science, chemistry, horticulture, animal industry, botany, entomology, agronomy, plant pathology and physiology, plant breeding, forestry, farm and ranch economics, rural home research, and the Feed Control Service. The substations and other outdoor or field laboratories are utilized for extending the work of the Main Station so that Statewide information may be secured upon the various phases. of the investigational work. The Station System is the source of valuable information for students of agriculture and the farmers and stockmen of the State. It is looked to for facts by the School of Agriculture, the Extension Service, and other agencies for the dissemination of agricultural information. The work on the Main station and on the Feeding and Breeding Substation (Substation No. 10) presents to students very unusual opportunities both in theoretical instruction and practical experience.

For the fiscal year, the Station System receives \$90,000.00 Federal funds and \$482,974.20 State appropriation.

A brief statement of the work of the Station System is as follows:

MAIN STATION

Veterinary Science:

The Division of Veterinary Science conducts researches covering the diseases of farm animals of various kinds. Special attention is being given to diseases affecting horses and mules, cattle, sheep, goats, and swine, and because of liberal appropriations by the legislature, emphasis is being placed upon the study of loin disease of cattle.

Chemistry:

The Division of Chemistry conducts researches relating to feeding stuffs,

soils, fertilizers, irrigation waters, minerals, paints, and miscellaneous analyses; the analysis of feeding stuffs for the Feed Control Service; and the enforcement of the State law regulating the sale of commercial fertilizers. The Chief of the Division is also State Chemist.

Horticulture:

The Division of Horticulture conducts investigations relating to fruits, vegetables, and ornamental trees and shrubs, and the introduction and propagation of new and promising varities of fruits, vegetables and shrubs, from foreign countries.

Range Animal Husbandry:

Under the Division of Range Animal Husbandry, researches are made with reference to the breeding, management, feeding, and grazing of range animals, such as sheep and Angora goats, and cattle. Special attention is being paid to inheritance and scientific breeding as related to the improvement of specially adapted types of animals and the improvement of wool and mohair. The Division operates the wool and mohair scouring and grading plant, which is located at the Main Station. Substations No. 7, 10, and 14 are used extensively for researches relating to range animal husbandry.

Soil Survey:

The Division of Soil Survey is operated in cooperation with the Bureau of Soils of the United States Department of Agriculture, and its work is the detailed and reconnoissance soil survey of the entire State of Texas, by counties and areas. Soil surveying is merely the recording of the soil resources by type, or an inventory of the soil. The value of a soil survey is generally recognized as an aid to agricultural advancement.

Feed Control Service:

The State law regulating the sale of concentrated commercial feeding stuffs and the materials from which they are manufactured, provides for defining them, prohibiting their adulteration; for correct weighing and marking, and for collecting of samples; it also provides for the expense of enforcing the law, and for fixing penalties; and places the enforcement of the act in the hands of the Director of the Texas Agricultural Experiment Station. The Director is empowered to adopt names, standards and definitions; to refuse registration of any feeding stuff under a name which would be misleading as to the materials of which it is made up, or which does not conform to the standards, and after ten days' notice to cancel such registration as may be found to be in violation of the law or contrary to the names, standards and definitions in effect.

The purpose of the Feed Control Service is to afford protection alike to buyers and sellers of feeding stuffs. Annual bulletins are issued, giving the names, standards and definitions; lists of firms registered for the purpose of

selling feeds in Texas, and the feeds offered by them, as well as the chemical composition of these feeds, as determined by the chemist for the Feed Control Service.

The Feed Control Service investigates problems encountered in the enforcement of the law, with reference to the feeding value of various feeds and combinations of feeds. The results of these investigation are given to the people of the State through bulletins and circulars, issued from time to time.

Entomology:

The Division of Entomology conducts researches relating to the insect pests affecting the crops grown in Texas, including life-history and methods of control of the various species. Special cotton insect investigations are being conducted with special emphasis on the cotton flea hopper and the boll weevil. The Chief of the Division is also State Entomologist, and as such has charge of the details of the enforcement of the law regulating fouldbrood in bees.

Agronomy:

The Division of Agronomy conducts researches with farm crops and soils, paying especial attention to the introduction of new and promising varieties and the improvement of field crops by breeding methods. Particular attention has been given to breeding work with the grain sorghums, cotton, wheat, and other crops, not only toward improving them, but in the determination of the modes of inheritance of characters. Investigations are made as to the tillage methods, methods of applying fertilizer and the use of green manure crops for soil improvement. Through the introduction of new varieties and strains and the improvement of these and others by selection, marked increases have occurred in the acreage and production of the grain sorghums in Texas. Another accomplishment of great economic importance to the State, is the extension of the cotton-growing area of the State, brought about through early trials and tests of varieties followed by breeding work in Northwest Texas, which has opened up an extensive new cotton-growing region which is not infested with the boll weevil.

Plant Pathology and Physiology:

The Division of Plant Pathology and Physiology conducts researches relating to the diseases affecting the plants of the State with a view to developing methods of combating them. Studies are made of the diseases of field crops, vegetables, trees, and ornamentals and shrubs of various kinds. Intensive cotton root rot investigations are being conducted at the Main Station and at the Central Cotton Root Rot Station in the Blacklands, as well as at other points in the State where this disease is prevalent.

Farm and Ranch Economics:

The activities of the Division of Farm and Ranch Economics are confined primarily to research in the business phases of the agricultural industry

of the State. Research conducted at present may be classified under three major groups; viz., Farm Management, Marketing, and Farm Taxation. Specific projects under way are: type-of-farming area studies, system-of-farming studies, economic factors influencing the marketing of vegetables in the Lower Rio Grande Valley of Texas, relation of quality to price in farmer's cotton market, and farm taxation. The chief objective of the research program of this Division is to assist farmers and ranchmen in the several agricultural areas of the State to make the most of their resources in land, labor, and equipment.

Botany:

The Division of Botany is engaged in the study of the flora of Texts as it relates both to ranching and crop farming in the different sections of the State. The diversity of vegetation on the range affects the quality and feed values produced. The flora in a section where cultivated crops are grown has an intimate relation to plant diseases and may oftentimes act as host plants for some virulent diseases, of which cotton root rot is an example. The study of the flora of Texas in all its relationships is a most important field of endeavor.

Swine Husbandry:

The Division of Swine Husbandry conducts investigations and researches in the feeding, breeding and management of swine. The swine husbandry plant is located on the grounds of the feeding and breeding substation near the College Campus.

Dairy Husbandry:

The Division of Dairy Husbandry also has its plant on the feeding and breeding substation, where researches into the feeding, management, and improvement by breeding, of dairy cattle are being conducted. *Poultry Husbandry*:

The Division of Poultry Husbandry is conducting investigations in connection with the feeding, breeding, and management of poultry, with special reference to the improvement of flocks by breeding, and increased egg-production through the judicious use of animal and vegetable protein feeding stuffs. The poultry plant is located on the grounds of the feeding and breeding substation near the College Campus.

Rural Home Research:

The Division of Rural Home Research is engaged in the study of nutrition as it relates to development and growth in children. Nutrition may affect not only the growth and development but as well the health of the individual and studies of diet in relation to the wellbeing of the individual are of the greatest importance. Studies are also being made of the influence of sunlight on the durability and fastness of cotton fabrics, which work not only has an

important relation to the utility of cotton fabrics but promises to develop information as to the possibility of deterioriation of cotton fibers in the field before harvesting.

Apicultural Research:

The Division of Apiculture has an especially equipped laboratory for the conduct of beekeeping investigations, located near San Antonio, in Bexar County. This laboratory is in charge of a competent Apiculturist who is conducting researches bearing directly on the successful continuation of the beekeeping industry of the State. A competent queen breeder is also located at this laboratory.

Main Station Farm:

The Main Station Farm at College Station is operated as a field laboratory for the conduct of tests of field crops and the researches having to do with soil fertility as well as those having to do with the introduction and propagation of valuable trees, shrubs, and grasses. Special attention is being given to the cotton breeding work, which is conducted by the Division of Agronomy on this farm. There is on the farm a modern gin-plant primarily for the ginning of the increase cottons for pure seed, but neighboring farmers have taken advantage of this gin-plant to have their increase seed ginned without danger of mixture with other non-pure cotton seed.

SUBSTATIONS

The substations or experiment farms, owned and operated by the Station System, are, as their name implies, subordinate to and a part of the Main Sation. In the location of these substations, due regard has been given to the needs of outlying work within the several agricultural regions of the State, and the principal lines of work are closely related to the problems peculiar to the region involved.

Cooperation with the School of Agriculture

Under the terms of a memorandum of understanding between the School of Agriculture and the Station, a number of teachers in the School of Agriculture are carrying cooperative projects of research on the Station, and certain research workers from time to time lecture to classes in the School of Agriculture.

Cooperation with the Graduate School

In cooperation with the Graduate School members of the Agricultural Experiment Station Staff offer the following graduate courses, which are described under the respective departments of instruction.

Agricultural Evonomics 571, 572. Agricultural Experiment Station Methods of Research. (2-4).

Agricultural Economics 573, 574. Research in Ranch Economics. (2-4). Animal Husbandry 571, 572. Wool and Mohair Research. (3-4).

Animal Husbandry 573, 574. Research in Animal Breeding.

Biology 571, 572. Research in the Physiology of the Cotton Plant. (2-4). Chemistry 571, 572. Special Topics in the Chemistry of Animal Nutrition. (2-6).

Chemistry 573, 574. Special Topics in the Chemistry of Animal Nutrition. (2-6).

Genetics 571, 572. Research in Cotton Breeding.

PUBLICATIONS

The reports, bulletins, and circulars issued by the Station System are distributed to the farmers and stockmen and other citizens of Texas free for the asking. Because of limited funds available for printing, it is necessary to practice strict economy in the distribution of these publications. All requests for bulletins, circulars, and reports should be directed to the following address:

The Director,
Texas Agricultural Experiment Station,
A. and M. College of Texas,
College Station, Texas.

THE ENGINEERING EXPERIMENT STATION

F. E. GIESECKE, Director

The Texas Engineering Experiment Station was organized in 1914 for the purpose of affording a service to the industries of Texas similar to that afforded by the Agricultural Experiment Station to the agricultural interests; of assisting the urban population of the State in solving the technical problems of urban life; of investigating engineering and industrial problems of especial importance to Texas; and of disseminating information relating thereto.

The Engineering Experiment Station Staff is selected from time to time from the teaching force of the following departments of the College, according to the particular projects under investigation.

Agricultural Engineering
Architecture
Chemical Engineering
Civil Engineering
Electrical Engineering
Engineering Research
Geology
Mechanical Engineering
Municipal and Sanitary Engineering
Petroleum Engineering
Physics
Textile Engineering

The heads of these departments constitute the Advisory Council of the Engineering Experiment Station.

Thirty-eight bulletins have been issued. So long as the supply lasts, bulletins are distributed free, except in a few cases, in which a small charge is made.

For copies of bulletins or for other information, address,
Texas Engineering Experiment Station
A. and M. College
College Station, Texas.

THE EXTENSION SERVICE

O. B. MARTIN, Director

Extension work in agriculture and home economics by the Agricultural and Mechanical College in cooperation with the United States Department of Agriculture was established under the terms of the Smith-Lever Act, the Texas Legislature formally accepting the terms of the Federal Act passed in May, 1914. The Board of Directors and the President of the College executed the first cooperative agreement under its terms with the States' Relations Service of the United States Department of Agriculture in 1914. Cooperative Demonstration Work was first developed in Texas, beginning in 1903. It grew into the Extension Service.

The general purpose is to carry information relating to agriculture and home economics from the College, the experiment station and other authentic sources, to farmers, farm women, farm boys and girls, and by practical demonstrations teach them how to apply this information in meeting their difficulties. In addition to the regular State and Federal Smith-Lever funds that are available for the conduct of the work, several cooperative activities are maintained by the United States Department of Agriculture under cooperative agreement between the College and the Department, these enterprises being correlated with and functioned through the Extension Service at the College. Besides the important undertakings of farm and home demonstration work through county agents, sustained jointly by the county, the College and the United States Department of Agriculture, the service disseminates information by demonstrations given by specialists in counties having no county agents and through bulletins and other printed material prepared and sent out from the institution. The demonstrations and the information sent out cover every phase of better farming and home making and promote improvement in rural welfare. The funds available from the counties, the State and the Federal Department have been sufficient to enable the College to maintain county agents in practically all of the more important agricultural counties in the State. The condition under which work is placed in a county is that the county commissioners court or other local organization pay from onehalf to two-thirds of the salary of the agent; the remaining portion of salary and expenses being borne by the College and the Department.

FARM DEMONSTRATION WORK

The farm demonstration work is conducted by district and county agents, and consists of applying scientific principles to the various steps in production and marketing farm and ranch products.

HOME DEMONSTRATION WORK

The farm home is an essential part of the farm establishment, and the

district and county home demonstration agents are disseminating information to farm housewives through demonstrations, lectures, publications, in home management, dairying, gardening, orcharding, poultry keeping, and other phases of home improvement; thus enabling the farm women to keep fully informed with reference to modern methods in dealing with household problems.

SPECIALISTS

In the growth and development of the work, trained specialists in certain phases of agricultural work have been found essential to the successful dissemination of information on improved agricultural methods. These men and women specialists keep in touch with the latest information obtainable regarding their particular specialty and assist the county and home demonstration agents in the solution of difficult problems in their work, requiring the service of specially trained men and women along certain lines, and compile information, answer correspondence, and emergency calls.

RURAL ORGANIZATION

The Extension Service, through its specialists, district and county agents, is encouraging organization of demonstrations in counties where agents are maintained, the purpose of these organizations being to stimulate cooperation among farmers in all matters of interest to farm families, and especially the cooperative handling of farm products through purchase and sale in such manner as to obtain the best returns.

BOYS' AND GIRLS' CLUBS

The primary mission of an educational institution is to look after the rising generation, and while the Extension Service would in no wise neglect the adult farmer, yet it has realized the importance of properly training the youth of the State during the formative period; therefore, special effort has been made under trained leadership and by diligent instruction to give the boys and girls the proper understanding of agriculture and home economics and to prepare them for successful and happy life in the country. The particular activities maintained are boys' agricultural and live stock club work, and girls' canning and poultry work.

PUBLICATIONS

Seasonal advice on farm problems is issued through bulletins, leaflets, circulars, newspaper articles, and the Monthly Extension Service Farm News, as well as correspondence and mimeographed letters and circulars.

THE TEXAS FOREST SERVICE

E. O. SIECKE, Director

Forestry activities in Texas were initiated by an act of the thirty-fourth Legislature. In accordance with the law the Director has supervision over all forest interests and matters pertaining to forestry within the jurisdiction of the State. He is charged with the duty of enforcing all laws pertaining to the protection of forests and woodlands, preventing and extinguishing forest fires, collecting data relative to forest conditions, and cooperating with counties, towns, corporations, and individuals in preparing plans for the protection, management and replacement of trees, wood lots and timber tracts.

The State is authorized to accept gifts of land to be used to demonstrate the practical utility of timber culture, water conservation and as refuges for game. The Board of Directors has the power to purchase lands in the name of the State, suitable chiefly for the production of timber, as State Forests, using for such purpose any special appropriations or any surplus money not otherwise appropriated which may be standing to the credit of the State forestry fund. Two State Forest areas, comprising 3,334 acres, have been purchased through legislative appropriations made for that purpose. A third State Forest of 2,360 acres, containing eight million feet of merchantable pine timber, was obtained in 1925, through legislative act transferring jurisdiction from the Prison Commission to the Texas Forest Service. Two of the State Forests are now under administration for the purpose of demonstrating deforestation and the proper management of timber lands.

For the current year \$89,750.00 of State funds and \$32,661.00 of Federal funds are available for carrying on the designated activities of the office. The personnel comprises six techn foresters, four inspectors, 47 forest patrolmen, and 50 forest guards.

DIVISION OF FOREST PROTECTION

This Division has charge of activities relating to the protection of timber from fire, insects and diseases. Pivision headquarters are at Lufkin, which is centrally located as regards the laber section of Texas.

DIVISION OF FOREST MANAGEMENT

The administration of the State Forest areas and the various demonstration projects pertaining to methods of reforestation and management fall in this Division. It also has charge of the cooperation extended to the owners of large tracts of timber land who desire to initiate forestry practices on their holdings.

DIVISION OF FARM FORESTRY

Under the terms of the memorandum of understandings between the Ex-

tension Service and the Texas Forest Service, the Farm Forester activities are conducted on a cooperative basis. The field of farm forestry comprises a stimulation of proper forest management on the part of farmers in the timbered portion of the State and the encouragement of tree planting for protection and utility purposes by the farmers in the treeless portions of Texas.

PUBLICATIONS

Twenty-one bulletins have been issued, which deal with practically all phases of forestry and, in addition, a large number of un-numbered forestry circulars have been prepared and published. Requests for forestry publications should be addressed to Director, Texas Forest Service, College Station, Texas.

OFFICE OF THE STATE ENTOMOLOGIST

F. L. THOMAS, State Entomologist

By act of the Legislature the entomologist of the Texas Agricultural Experiment Station is ex-offico State Entomologist and is charged with enforcing the law of the State relative to diseases of bees. This law provides for the protection of honey bees against foulbrood and other contagious diseases and empowers the State Entomologist to issue regulations as may be necessary to control, eradicate or prevent the introduction, spread or dissemination of diseases of honey bees, as far as may be possible. The regulations that have been issued prohibit the moving or shipping of bees across county lines without proper authority, provide for quarantining apiaries where disease may be found, make it unlawful to keep bees in hives or boxes not possessing movable frames, and prohibit the treatment of American foulbrood except by permission of the State Entomologist.

Inspectors from this office examine about thirty thousand colonies a year in protecting the beekeeping industry of Texas.

In the biennial reports which are published as circulars of the Texas Agricultural Experiment Station, much information is presented for the benefit of beekeepers as well as reports on the progress of the work.

FERTILIZER CONTROL SERVICE

G. S. FRAPS, State Chemist

The chemist of the Texas Experiment Station is designated by law as State Chemist, and has charge of the enforcement of the fertilizer law. Under his direction fertilizers are inspected, sampled for analysis, the samples analyzed and the results published as bulletins of the Experiment Station. It is also the duty of the State Chemist to investigate the composition, properties, and agricultural values of fertilizers, and of fertilizer materials, and to conduct experiments relative to the value of fertilizers. Such investigations are being made, and the results published from time to time. The people of the State are furnished with information concerning fertilizers by means of personal letters, bulletins, and otherwise.

Analyses are made of soils, irrigation and domestic waters, fertilizers, etc., when the analysis would be of public benefit along the line of agricultural chemistry, and when the samples are taken in accordance with the requirements necessary to secure a suitable sample. Persons who desire to secure an analysis should request further information and instructions for sampling, as samples must be properly taken if the analysis is to have any value. The State work occupies all the time and attention of the staff, so that it is not possible to accept private work.

Analyses of feeding stuffs for the Feed Control Service, and chemical investigations of their composition and properties, are also made by the Division of Chemistry of the Experiment Station.

SUMMER SESSION

The Regular Summer Session consists of two terms of six weeks each. The 1930 Summer Session opens Tuesday, June 3, and closes Saturday, August 23. Students may enroll for the full session or for either term.

The purpose of the Summer Session is:

- 1. To provide teachers and others denied the privilege of attending College during the regular session an opportunity to pursue courses for college credit.
- 2. To give students of the College and others an opportunity to shorten their college course by doing summer school work.
- 3. To offer those qualified to pursue graduate work an opportunity for study in courses leading to the Master of Science degree.
- 4. To provide opportunity for professional improvement through short courses of highly specialized character in certain trades and professions, as. Cotton classing; industrial education; a course for electric metermen; and a short course for graduate veterinarians.

Practically all departments of the College are open to students in the Summer Session. Detailed announcements of all the courses will be issued about the first of April. For further information and Summer School catalogue, address Director of Summer School, or the Registrar, College Station, Texas.

Part VI

REGISTER OF STUDENTS

REGISTER

GRADUATE STUDENTS

Andel, William Albert	IE	East Bernard
B. S., Sam Houston State		
Badgett, Walter Howard	Arch	Denison
B. S., A. and M. College o	f Texas, 1929	
Bailey, Charles Rudd	ChE	Abilene
B. A., Simmons Universit		
Bailey, Lewis Birdwell	ChE	Abilene
B. A., Simmons Universit		
Baker, Stanley James		: Ft Worth
B. S., A. and M. College of		
Binney, John Henry	-	Bryan
B. S., Sam Houston State		
Blum, Joseph Kelly		
B. S., North Carolina St.		
Blumberg, Albert Asa	Sci	College Station
B. A., University of Tex.		Conces Station
Boyer, Joseph Arlando	CE	Bryan
B. S., University of Kansa		
Byrom, Mills Herbert	AgEng	College Station
B. S., A. and M. College		9
Carlyle, Elmer Cardinal	Ag	Bryan
B. S., A. and M. College	of Texas, 1906	
Cheatham, James Charles		Abbeville, S. C.
B. S., Clemson College, 1		_
Coleman, William Thomas, J	rChE	Denton
B. S., A. and M. College	of Texas, 1929	
Cunyus, Paul Alonzo	Ag	Longview
B. S., A. and M. Colleg	e of Texas, 1987	P
Daup, William Wesley,		Bryan
De Bardeleben, James Mitch	all CE	Promoville
B. S., A. and M. College		Brownsvine
Dent, Joseph Baker	CE	Pulaski Va
R S Virginia Polytechni	ia Instituto 1094	
Dykes, Jefferson Chenowth	AgEd	College Station
B. S., A. and M. College	of Texas, 1921	
Eads, Richard Arthur	Sci	Bryan
M. S., A. and M. Colleg	e of Texas, 192 9	-
Farmer, William Harold	CE	Bryan
B. S., A. and M. College	of Texas, 1929	
Frank, M. P	CE	Bryan
B. S., A. and M. College	of Texas, 1929	
Fritze, Hilmer Alfred L.	ChE	San Antonio
B. S., A. and M. College	of Texas, 1929	, .

Cay Samuel Innions	Description of Auto-
Gay, Samuel Junious AgEd AgEd	Poughkeepsie, Ark.
B. S., A. and M. College of Texas, 1922 Germany, Fred JamesAg	De Worth
B. S., A. and M. College of Texas, 1926	Ft. Worth
*Gibson, Estell L. ME	Spongari Ala V
M. S., A. and M. College of Texas, 1926	Sponcari, Aia. 7
Givens, Harrison Crandall, Jr. CE	Remis Tenn "
B. S., A. and M. College of Texas, 1929	DCIIIIS, TCIIII.
Gore, Ulys Roy Sci	College Station
M. S., Iowa State College, 1926	Conege Station
Gorman, John AlexAg	Reaumont
B. S., A. and M. College of Texas, 1923	
Graham, Samuel StanleyAgEng	_ Huntsville
B. S., Iowa State College, 1921	
Harvin, Roy RichardRE	Nacogdoches
B. S., Stephen F. Austin Teachers College, 1927	3
Hemenway, Justin StanleyRE	Bryan
B. S., Mississippi A. and M. College, 1916	
Hyland, JosephChE	_College Station
B. S., A. and M. College of Texas, 1929	-
Jones, David Cluie Sci	_College Station
B. A., Emory College, 1908	
Jones, SeabornRE	_Commerce
B. S., East Texas State Teachers College, 1924	
Jones, Volney HurtRE	Memphis
B. S., A. and M. College of Texas, 1929	
Jones, William LeslieAgEd	Bryan
B. S., A. and M. College of Texas (To be awarded Ju	ne 1930).
Kerns, Albert HEE	_Bryan :
B. S., Kansas State Agricultural College, 1926	
Koenig, Louis AdolphRE	Bryan
B. A., University of Texas, 1917	
Langley, Byron CaldwellAg	Bullard
B. S., A. and M. College of Texas, 1929	_
Leverkuhn, William EdwardAgEd	Bryan
B. S., Oklahoma A. and M. College, 1925	
Lichte, Fritz ErnstME	Bryan
B. S., A. and M. College of Texas, 1906	0 " 0 "
Lokey, Clarence WaltersRE	College Station
A. B., Rice Institute, 1917	D
McCosh, Stanley ArmstrongCE	Bryan
B. S., Iowa State College, 1923	D
McGee, Rogers Valentine Sci	bryan
B. S., A. and M. College of Texas, 1922 McMurtray, Harvey DeaneEE	A rlington
McMurtray, Harvey DeaneE	Aililigioli
Mississippi A. and M. College, 1907 Martin, Albert DowSci	College Station
Martin, Albert Dow	Conege Station
Millington, Winfield ScottAgEd	Tolar
B. S., A. and M. College of Texas (To be awarded J	1 UIAI
B. S., A. and M. College of lexas (10 be awarded J	une 1000).

Mitchell, John WeemsSci	College Station
A. B., Maryville College, 1904	Conege Station
Morgan, John CalebChE	Ft. Worth
B. S., A. and M. College of Texas, 1929	
Munnerlyn, William FordAg	College Station
B. S., A. and M. College of Texas, 1926	J
Nelson, Thomas RobertSci	.College Station
M. A., University of Texas, 1922	-
Nichols, Clyde RussellEE	Timpson
B. S., A. and M. College of Texas, 1929	
Orr, Joseph Anderson CE	Pine Bluff, Ark.
B. S., A. and M. College of Texas, 1922	
Paine, Leland ShumwayAA	College Station
M. A., University of Wisconsin, 1926	
Palmer, Carl CameronEE	Chalmers, Ind.
B. S., Purdue University, 1927	
Peck, Flam AlphaAg	Bryan
B. S., A. and M. College of Texas, 1929	**
Privette, William PalmerCE	Howe
B. S., A. and M. College of Texas, 1929 Robertson, Percy OliverAg	Manafield La
B. S., Louisana State University (To be awarded June 1	
Sandstedt, Carl EdwardCE	College Station
M. S., A. and M. College of Texas, 1928	Gonege Station
Sherrill, William ReederAgEd	College Station
B. S., A. and M. College of Texas, 1928 Sikes, James Herbert	
Sikes, James HerbertRE	College Station
B. A., Abilene Christian College, 1922	
Smith, J. FishAA	.College Station
B. S., Utah Agricultural College, 1916 Spahr, Harry HowardAg	D 1
B. S., A. and M. College of Texas, 1929	bennams, va.
Starr, Luther JamesAgEd	Mumford
B. S., A. and M. College of Texas, 1929	Diominutes
Tate, James Norman AA	Marble Falls
B. S., A. and M. College of Texas, 1925	
*Thomas, Julian BaldwinEE	.Dallas
B. S., A. and M. College of Texas, 1911	
Thurmond, Milam FrankAgEng	.Bryan
B. S., A. and M. College of Texas, 1922	
Tisdale, Jennings Bryan AgEd AgEd	Ellisville, Miss.
B. S., Mississipp A. and M. College, 1925 Tull, Reginald PAgEd	Stanhanvilla
B. S., A. and M. College of Texas, 1928	-Stephenvine
*Underwood, Carl MiltonME	Oak Park III
R S A and M College of Texas 1925	
Vaughan, James WaverlyCE	Ardmore, Okla.
B. S., A. and M. College of Texas, 1928	

Ward, Robert Page	EE	Bryan
B. S., A. and M. Co	ollege of Texas, 1924	
Wick, Ronald Foster	EE	San Antonio
B. S., A. and M. Col	lege of Texas, 1928	
Williams, E. L.	RE	_College Station
B. S., University of	Pittsburgh, 1925	
*Wright, Samuel Robert	CE	Waco
M. S., A. and M. Col	lege of Texas, 1928	
Young, Ben Wilkins	IE	_ Huntsville
B. S., Peabody College	ge, 1919	

^{*}In Absentia

UNDERGRADUATE STUDENTS

ABBREVIATIONS

AA—Agricultural Administration
Ag—Agriculture
AgEd—Agricultural Education
AgEng—Agricultural Engineering
Ar—Architecture
CE—Civil Engineering
ChE—Chemical Engineering
EE—Electrical Engineering
IA—Industrial Arts

C—Two-year Course in Agriculture CM—Two-year Course in Cotton Marketing and Classing

IE—Industrial Education

LA—Liberal Arts

Land—Landscape Art

ME—Mechanical Engineering

PPE—Petroleum Production Engineering

RE—Rural Education

Sci—Science

TE—Textile Engineering

VM—Veterinary Medicine

4—Senior 3—Junior 2—Sophomore 1—Freshman Sp—Special Student

Abbey Dan Robert, 2 EEDel Rio
Abbey, Dan Robert, 2 EE
Abney, Cary McClure, Jr., 1 Sci
Abrams, Loyd Hamblen, 2 ME
Abu Karam, Salim 4 AgManabi,
Acord. Wesley Washington, 1 ME
Adams, Allen Franklin, 1EEFloresville
Adams, Cyril Samuel, 4 CE
Adams, Herbert Benjamin, 4 ME Laredo Adams, Harold Wilse, 1 EE Ft. Worth
Adams, Julius John, 2 CE Ferris
Adams. Leon Milton, I Che
Adams, Thomas Alvie, Jr., 1 CEBryan Adams, Troye Fowler, 1 CEForney Aday, Estell Reece, 2 IAForreston
Aday, Estell Reece, 2 IAForreston
Aday, Marvin Wilbur, 2 AgWaxahachie Adcock, Maldon Vollmer, 2 EEHouston
Addieks, Gibert Reimart, 1 La Grange Addington, George Richard, 1 LA Ft. Worth Adkins, Elbert Everett, Jr., 1 LA Houston
Ft. Worth
Adkins, Elbert Everett, Jr., 1 LA Houston
Adkins, Elbert Everett, Jr., 1 LA Houston Adkisson, Benjamin Harrison, Jr., 2 EE Dallas
Adkins, Elbert Everett, Jr., 1 LA Houston Adkisson, Benjamin Harrison, Jr., 2 EE Dallas Agerton, Tom Melvin, 1 CE Waco Salada Salada
Adkisson, Benjamin Harrison, Jr., 2 EE Dallas Agerton, Tom Melvin, 1 CE Wacc Aiken, James Herman, 3 CE Salado
Adkisson, Benjamin Harrison, Jr., 2 EE Dallas Agerton, Tom Melvin, 1 CE Waco Aiken, James Herman, 3 CE Salado Akre, Edward Olson, 2 EE Mexico City, Mexico
Adkisson, Benjamin Harrison, Jr., 2 EE Dallas Agerton, Tom Melvin, 1 CE Waco Aiken, James Herman, 3 CE Salado Akre, Edward Olson, 2 EE Mexico City, Mexico
Adkisson, Benjamin Harrison, Jr., 2 EE Dallas Agerton, Tom Melvin, 1 CE Waco Aiken, James Herman, 3 CE Salado Akre, Edward Olson, 2 EE Mexico City, Mexico
Adkisson, Benjamin Harrison, Jr., 2 EE Dallas Agerton, Tom Melvin, 1 CE Waco Aiken, James Herman, 3 CE Salado Akre, Edward Olson, 2 EE Mexico City, Mexico
Adkisson, Benjamin Harrison, Jr., 2 EE Dallas Agerton, Tom Melvin, 1 CE Waco Aiken, James Herman, 3 CE Salado Akre, Edward Olson, 2 EE Mexico City, Mexico
Adkisson, Benjamin Harrison, Jr., 2 EE Dallas Agerton, Tom Melvin, 1 CE Waco Aiken, James Herman, 3 CE Salado Akre, Edward Olson, 2 EE Mexico City, Mexico
Adkisson, Benjamin Harrison, Jr., Dallag 2 EE Dallag Agerton, Tom Melvin, 1 CE Waco Aiken, James Herman, 3 CE Salado Akre, Edward Olson, 2 EE City, Mexico Alamia, Alfonso Joseph, 1 EE Edinburg Alber, John Lorenz, 3 EE Houston Albert, Clarence Glynn, 3 ME San Angelo Albin, Henry Owens, 1 Ag Spur Aldape, Vicente, 3 EE Satillo, Coah, Mexico Aldrich, Jack Yeager, 3 LA Bonham
Adkisson, Benjamin Harrison, Jr., 2 EE Dallag Agerton, Tom Melvin, 1 CE Waco Aiken, James Herman, 3 CE Salado Akre, Edward Olson, 2 EE Mexico City, Mexico Alamia, Alfonso Joseph, 1 EE Alber, John Lorenz, 3 EE Houston Albert, Clarence Glynn, 3 ME San Angelo Albin, Henry Owens, 1 Ag Spur Aldape, Vicente, 3 EE Satillo, Coah, Mexico Aldrich, Jack Yeager, 3 LA Bonham Alexander, Dean Edward, 2 Che Canadian
Adkisson, Benjamin Harrison, Jr., 2 EE Dallag Agerton, Tom Melvin, 1 CE Waco Aiken, James Herman, 3 CE Salado Akre, Edward Olson, 2 EE Mexico Alamia, Alfonso Joseph, 1 EE Albert, John Lorenz, 3 EE Albert, Clarence Glynn, 3 ME San Angelo Albin, Henry Owens, 1 Ag Spur Aldape, Vicente, 3 EE Satillo, Coah, Mexico Aldrich, Jack Yeager, 3 LA Bonham Alexander, Dean Edward, 2 ChE Alexander, George W. Jr., 2 Arch Dalhart
Adkisson, Benjamin Harrison, Jr., 2 EE Dallag Agerton, Tom Melvin, 1 CE Wacc Aiken, James Herman, 3 CE Salado Akre, Edward Olson, 2 EE Ginburg Alber, John Lorenz, 3 EE Houston Albert, Clarence Glynn, 3 ME San Angelo Aldin, Henry Owens, 1 Ag Spur Aldape, Vicente, 3 EE Satillo, Coah, Mexico Aldrich, Jack Yeager, 3 LA Bonham Alexander, Dean Edward, 2 ChE Canadian Alexander, George W. Jr., 2 Arch Alexander, William 1 A A Gulf Alexander, William Oran, 2 LA Gulf Alexander, William Oran, 2 LA Gulf Alexander, William Oran, 2 LA Gulf
Adkisson, Benjamin Harrison, Jr., 2 EE Dallag Agerton, Tom Melvin, 1 CE Wacc Aiken, James Herman, 3 CE Salado Akre, Edward Olson, 2 EE Ginburg Alber, John Lorenz, 3 EE Houston Albert, Clarence Glynn, 3 ME San Angelo Aldin, Henry Owens, 1 Ag Spur Aldape, Vicente, 3 EE Satillo, Coah, Mexico Aldrich, Jack Yeager, 3 LA Bonham Alexander, Dean Edward, 2 ChE Canadian Alexander, George W. Jr., 2 Arch Alexander, William 1 A A Gulf Alexander, William Oran, 2 LA Gulf Alexander, William Oran, 2 LA Gulf Alexander, William Oran, 2 LA Gulf
Adkisson, Benjamin Harrison, Jr., 2 EE Dallag Agerton, Tom Melvin, 1 CE Waco Aiken, James Herman, 3 CE Salado Akre, Edward Olson, 2 EE Mexico Alamia, Alfonso Joseph, 1 EE Albert, John Lorenz, 3 EE Albert, Clarence Glynn, 3 ME San Angelo Albin, Henry Owens, 1 Ag Spur Aldape, Vicente, 3 EE Satillo, Coah, Mexico Aldrich, Jack Yeager, 3 LA Bonham Alexander, Dean Edward, 2 ChE Alexander, George W. Jr., 2 Arch Dalhart

Allen, William Gideon, 2 EE
Allen, William James, 1 PPEGroveton Allensworth, Jesse Oliver, 1 AA
Allison, Jack Edward, 4 AASan Angelo Almand, Francis Asbury, 1 AgEng
Alcohook Ode Dec 2 IA Levellerd
Alsabrook, Oda Dee, 2 LA Levelland Alterman, John August, 1 CE Dallas Altgelt, Franz Herman, 2 ME
Amburn, Elton Volney, 2 CMTexas City
Amburn, Elton Volney, 2 CM Texas City
Amis, James Alexander, 1 CE Emory Amos, Charles M. Jr., 1 CE Bay City
Amos, Charles M. Jr., 1 CE Ray City
Amos, William Madison, 2 EEBay City Anderlitch, Frank, 4 CESan Antonio
Anderson, Clifford Ernest, 4 ME
Mineola
Anderson, Crittenden H. C., 2 Land
Anderson, Ernest Leland, 1 ChE
Anderson, Louis Wilmer, 4 AA
Anderson Ralph 1 EE Front
Anderson, Roy Cason, 1 Ag Mt. Pleasant
Anderson, Virgil Daroty, 1 LA
Anderson, Vernon Sam, 1 ArchDallas
Anderson, Wayne Yeargan, 4 AAParis
Andrews, Hilma Felix, 4 AgBryan
Andrews, Thomas Joseph, 3 LAHouston
Andrews, Verne Cook, 1 AgBryan Andrews, William McIntosh, Jr., 3 ME
Andrews, william McIntosh, 31., 3 MEAbilene
Angus, Eugene Jackley, 1 CMDallas
Anthoni Maurice Henri 1 LA
San Antonio Apperson, Carl Cleveland, Jr., 4 AA Commerce Archer, Joseph Eugene, 1 Arch
Archer, Joseph Eugene, 1 Arch
Armstrong, Robert Markle, 4 EE
Texas City
Arnett, John Milborne, 1 CESan Antonio Arno, Howard Leroy, 1 CESan Antonio
Arnold, William Hale, 1 CEAustin
Arthur, Curtis Link, 4 ArchGroveton
Arthur, Dink Alonzo, 1 SciSpur
Ashbaugh, John Elliott, 1 EEGalveston

Askew, Wilburn Thomas, 3 ChE	Baskerville, Guyler Magruder, 1 EE
Aston, James William, 1 CE	Bassett, Edwin Lee, 2 SciWaco
Farmersville	Bateson, Joseph Weldon, 3 CECleburne
Atkinson, Richard Rudolph, 2 AA	Bateson, Joseph Weldon, 3 CE Cleburne Batjer, Attwell Linton, 2 CE Houston Batjer, John Francis. 1 ME Houston
San Antonio	Baucum, Archie Winford, 1 ME Groveton Baughn, Ford Lafayette, 1 AA Deport Baughn, Milton Hubert, 4 Sci Dallas
Austin, Tom Sikes, 2 PPE	Baughn, Ford Lafayette, 1 AADeport
Babin, Logan Henry, 1 SciNaborton, La.	Regird Robert Rruce 1 PPE Houston
Rackloung Joseph Jannings 1 EE	Beale, Arthur Clair, 1 EE
Bader, Madero Norman, 2 VMGalveston Badger, Marion H., 2 AAAustin Badgett, Lloyd Franklin, 4 AA	Beaird, Robert Bruce, 1 PPE
Bader, Madero Norman, 2 VMGalveston	Beard, Charles Birdwell, 1 Arch Ft. Worth Beard, Calvin Wayne, 4 EE Kurten Beard, William Harper, 2 Arch Galveston Beasley, James Otis, 2 Ag Wells Beaty, Ewing Willis, 1 Arch Woodson Beaty, Madison D., 1 ChE Arlington Beauchamp, George Dorrell, 1 EE Port Arthur
Radgett Lloyd Franklin 4 AA	Reard William Harner 2 Arch Galveston
	Beasley, James Otis, 2 AgWells
Baggett, Andy Lee, 2 AgBallinger Baggett, James Jackson, Jr., 3 AA	Beaty, Ewing Willis, 1 ArchWoodson
Baggett, James Jackson, Jr., 8 AA	Beaty, Madison D., 1 ChEArlington
Holland Baggett Richard Lewis 1 AA Holland	Beauchamp, George Dorren, 1 EEPort Arthur
Baggett, Richard Lewis, 1 AA Holland Bagley, Tom Bittle, 8 ChE College Sta. Bahme, Nathan, 1 CE Waco Baker, Altus Gratz, 1 PPE Abilene Baker, Denzil Laval, 1 LA Mathis	
Bahme, Nathan, 1 CEWaco	Beavers, Morris Griswold, 2 EEPlainview Bednar, Martin Ferdinand, 1 PPE
Baker, Altus Gratz, 1 PPEAbilene	Chickeche Oble
Baker, Denzii Laval, I LA	Beene, Roy Everette, 1 CESan Benito
Baker, Herbert Henry, 1 AgSomerville	Beeson, Charles Edward, 1 Ag
Baker, Herbert Henry, 1 AgSomerville Baker, Ivey, Maurice, 2 LAHouston	Beene, Roy Everette, 1 CE San Benito Beene, Thurman J., 1 PPE Allen Beeson, Charles Edward, 1 Ag St. Louis, Mo.
Baker, Landis Clyde, 3 ChEDale	Bell, Clifford Ellis, 2 MECorsicana
Baker, Vital Gleaves, I CEMauldin	Bell, Clarence Ward, 2 LAHouston
Balderach, Clarence Thomas, 3 EE	Bell. James Baylor, 1 LA Cotulla
Galveston	Bell, Joe Warren, 4 ME Sulphur Springs
Ball, Urban H., 1 EEYoakum	Bell, Luther Edward, 2 CEHarlingen
Ballanfant, John D'Orsey, 2 AAMercedes	Bell. Roy Chester, 3 AgGreenville
Ranks, James Oliver, 4 EE Austin	Rellamy, Walter Dwight, 1 ME Mission
Baker, Ivey, Maurice, 2 LA Houston Baker, Landis Clyde, 3 ChE Dale Baker, Vital Gleaves, 1 CE Mauldin Baldassari, Carlo, 2 EE Galveston Balderach, Clarence Thomas, 3 EE Galveston Ball, Urban H., 1 EE Yoakum Ballanfant, John D'Orsey, 2 AA Mercedes Banks, Clayton Charles, 2 IA Eustace Banks, Clayton Charles, 2 IA Eustace Banks, Thomas Gray, Jr., 3 EE Charles, Collabona City, Okla. Barbeck, William Randolph, 4 ME San Antonio Barbee, James Edward, 3 EE Bunke, La.	Bell, Clifford Ellis, 2 ME
Oklahoma City, Okla.	Benke, May Lee, 2 EESan Antonio
Barbeck, William Randolph, 4 ME	Bennett, George Palmer, 2 ChEDallas
Barbee, James Edward, 3 EEBunkie, La.	Rennett Robert Leslie 1 Ag. Decatur
Rarber Renismin Archie 2 AgEd	Bentley, Wesley Dent, 8 CEBryan
Dangerfield	Benton, Wade Hampton, 1 CENocona
Dangerfield Barclay, Lacey Chapman, 1 ME New Willard	Benz, Morris, 2 LandPort Arthur
	San Antonio
Barker, Elmer David, 2 AA	Bergstrom, Howard Raymond, 1 ME
Barker, Robert Edward, 2 CManchaca	Austin
Barring, Joy Gaines, I Unert. Worth	Berkeley, Rudolf Culmore, 1 EE Waco
Barnes, Charles Crabtree, 1 CE	Berry, Edwin Lee, 1 ChELufkin
Waxahachie	Berry, John Russell, 4 AA
Barnes, George William, 1 Sci	Berryhill, Earl John, 3 AgThrall
Barnes, Charles Crabtree, 1 CE Waxahachie Barnes, George William, 1 Sci Crystal City Barnes, Joe, 2 EE Waco Barnes, Jack Arron, 3 ChE Waco Barnes, Joe Christie, 1 CE Santa Anna Barnett, John Ruckman, 1 AA Karnes City	Berkeley, Rudolf Culmore, 1 EE Waco Berndt, Edgar, 1 EE Bellville Berry, Edwin Lee, 1 ChE Lufkin Berry, John Russell, 4 AA Houston Berryhill, Earl John, 3 Ag Thrall Bess, Forrest Clemenger, 1 Arch Bay City Besse, Celestine Paul, 1 CE Ennis Bethancourt, Francis Charles, 1 CE
Barnes, Jack Arron, 3 ChEWaco	Besse, Celestine Paul, 1 CEEnnis
Barnes, Joe Christie, 1 CESanta Anna	Bethancourt, Francis Charles, 1 CE
Barnett, John Ruckman, I AA	Bethancourt, Raoul Joseph, 3 EEDallas
Barnett, Willard Shepherd, 2 ME	Bethea. William Cade. 4 CEBryan
Wolfe Gity	Bethea, William Cade. 4 CEBryan Bianchi, Theodore Jacob, 2 MEDallas
Barnett, Willard Shepherd, 2 ME Wolfe Gity Baroudi, Subhi Rashid, 4 Ag Hama, Syria.	Bible, Hollis Ulysses, 4 EE
Rarr George Lawrence 1 Sci Houston	Jefferson City, Tenn. Bichsel, George Waja, 1 CESan Antonio
Barron, Duane, 2 MEKyle	Bierman, Henry Charles, Jr., 3 LA
Barron, Jack Claude, 1 CECenter	Bierman, Henry Charles, Jr., 3 LA
Barron, Julian Malcolm, 1 AABryan	Biffle, Roy E., 2 Sci
Rarron, Rupert Douglas 4 A A Wellhorn	Riles John Louis 2 Chk: Rig Springs
Bartel, Edwin, 2 EEComfort	Bilger, August Francis 3 MESherman
Bartlett, Roger Frost, Jr., 1 MERice	Bilger, August Francis 3 ME Sherman Billingsley, James Allen, Sp. AA Marlin Birthisel, Lawrence Hale, 1 CE Donna Bishop, Lipscomb Vaughan, 1 LA
Barton, Alfred Turner, 4 ArchClyde	Birthisel, Lawrence Hale, 1 CEDonna
Hama, Syria. Barr, George Lawrence, 1 Sci Houston Barron, Duane, 2 ME Kyle Barron, Jack Claude, 1 CE Center Barron, Julian Malcolm, 1 AA Bryan Barron, Rouble Curtis, 4 CE Wellborn Barron, Rupert Douglas, 4 AA Wellborn Bartel, Edwin, 2 EE Comfort Bartlett, Roger Frost, Jr., 1 ME Rice Barton, Alfred Turner, 4 Arch Clyde Barton, Mauris Uhlan, 1 PPE Tyler Basinger, Charles Spurgeon, 3 EE Dallas	Bishop, Lipscomb Vaughan, 1 LACrockett
Duringer, Charles Spargeon, 6 Lin Marian	Orockett

Bishop, William LeGory, 1 LA Crockett Bissell, Alfred Lindley, 4 Sci Giddings Bittle George Thomas, 1 Ag Eastland Bittner, Frank John, 2 CM Flatonia Black, Byron A., 3 ChE Bryan Black, Elton Estil, 1 EE Teague Black, Lawrence Earl, 3 Arch Ft. Worth Black, Paul Henry, 1 ME Dayton Blackburn, Archie Crozier, 2 CE Berclair	Breazeale, Lawrence Callier, 4 Ag
Bissell, Alfred Lindley, 4 SciGiddings	Breazeale, Lawrence Callier, 4 AgCrockett Breedlove, Homer Morrison, 1 LA
Rittner Frank John 2 CM Flatonia	Smithvilla
Black, Byron A., 3 ChEBryan	Breedlove, Iverson Delansen, Jr., 1 ME
Black, Elton Estil, 1 EETeague	Briggs, Burnham Pembroke, 2 ChE
Black, Lawrence Earl, 3 ArchFt. Worth	Briggs, Burnham Pembroke, 2 ChE
Blackburn Archie Crozier 2 CE	Briggs, Elmer Jay, Jr., 1 ME
Berclair	San Antonio
Blackburn, Cyrus Orion, 2 CE San Antonio Blackburn, Glynn Albert, 1 Ag	Briscoe, Roy Allen, 1 ChE Devine Bristol, George Lambert, 2 Sci McKinney
Plackburn Clum Albort 1 Ag	Bristol, George Lambert, 2 SciMcKinney
Blair, John Cambelton, 4 CE	Brock, Norman Howard, 4 LA
Blair, John Cambelton, 4 CECorsicana	San Antonio
Blair, John Francis, 3 EEHandley	Broiles, Francis Alfred, 1 CMFt. Worth
Blake Robert Henry 4 A A Houston	Brooks Marshall Edward 1 EE
Blanchette, Alwyn Joseph, 2 EE	Ft. Worth
Bland, Rophie Eugene, 3 ChE Dallas Blank, Harold Combs, 2 EE Ft. Worth Blanke, Waldo Rudolph John, 1 Arch	Bristol, George Lambert, 2 Sci McKinney Brite, Clay Webb, 1 LA Oklaunion Brock, Norman Howard, 4 LA San Antonio Broiles, Francis Alfred, 1 CM Ft. Worth Brokaw, Charles Austin, 3 CE Houston Brooks, Marshall Edward, 1 EE Ft. Worth Brooks, Russell Dillard, 4 EF Mt. Vernon Brown, Archie Scales, Jr., 1 ChE San Antonio San Antonio
Bland, Rophie Eugene, 3 ChEDallas	Mt. Vernon
Rlanke Waldo Rudolph John 1 Arch	San Antonio
San Antonio	Brown, Clifford L., Jr., 4 LA
San Antonio Blasienz, Earl Porter, 1 MERosebud Block, Charles Martel, 2 LAHouston Block, Milton Joseph, 1 LAFt. Worth Blodgett, Harold Furman, 1 EEOdessa Blodgett, William Serle, Jr., 1 Arch	Brown, Archie Scales, Jr., 1 Che. San Antonio Brown, Clifford L., Jr., 4 LA Corsicana Brown, Ewing Ernest, 2 RE
Block, Charles Martel, 2 LAHouston	Brown, Ewing Ernest, 2 RE
Blodgett, Harold Furman, 1 EEOdessa	Brown, Griggs Weldon, 4 AAPearsall
Blodgett, William Serle, Jr., 1 Arch	Brown, Griggs Weldon, 4 AA Pearsall Brown, Howard D., 1 Ag Garland Brown, Horace Kirtland, 3 EE Houston Brown, Joe Elmer, 4 EE Alvord Brown, John Hall, 1 Arch Houston
Diamen John Diamen 2 I A Deltan	Brown, Horace Kirtland, 3 EEHouston
Blount, Farest Theo. 1 ME Rice	Brown, John Hall, 1 Arch Houston
Bock, Morris, 1 ChEDallas	Brown, Jesse Moore, 2 CMNursery Brown, Jesse Thomas, 2 ArchLockhart
Boethel, Roy Henry, 4 AgHallettsville	Brown, Jesse Thomas, 2 ArchLockhart
Bogevold, Trygve, 1 Arch	Brown, Roselle, 1 EE
Bohn, Glenn Thomas, I MEGalveston	San Antonio
Blodgett, William Serie, Jr., I Arch Odessa Bloomer, John Pierce, 3 LA Belton Blount, Farest Theo, 1 ME Rice Bock, Morris, 1 ChE Dallas Boethel, Roy Henry, 4 Ag Hallettsville Bogevold, Trygve, 1 Arch Waco Bogle, Robert Gerald, 4 ME El Paso Bohn, Glenn Thomas, I ME Galveston Bohnenkamp, Henry George, 1 LA Moulton Bohuslav, Edward Joe, 2 IA Moulton Boland, Ellie Hugh, 4 EE May Bond, George Albert, Jr., 2 Ag San Angelo Bone, Robert S., 1 ME Dallas Bordages, Elliott Isadore, 2 AA Beaumont Borden, William Allee, 1 ME Galveston Boriskie, Theodore Frank, 2 EE Bryan Bortle, Frank Edward, 3 EE Longview Bostic, Thomas Gilmore, 1 ME Boswell, Arthur Dale, 4 ChE Ft. Worth Boswell, Arthur Dale, 4 ChE Ft. Worth	Brown, Raymond Kenneth, 2 Arch
Beharles Edward I.s. 9 IA Moulton	Brumleu, Edward Carl, 2 PPEHouston
Boland, Ellie Hugh, 4 EE May	Bruns, Christian Waldo, 2 EE Louise
Bond, George Albert, Jr., 2 Ag	Bruton, William Thomas, Jr., 1 LA
San Angelo	Bryan, Cecil Sherrill, 1 ME Dublin Bryan, Frank Louis, 1 ChE Dublin Bryan, William Jennings, 2 Ag Robstown
Rordages Elliott Isadore 2 AA Resument	Bryan, Cecii Sherrill, I ME
Borden, William Allee, 1 MEGalveston	Bryan, William Jennings, 2 AgRobstown
Boriskie, Theodore Frank, 2 EEBryan	Diyant, Anan Estes, I AgOursicana
Bortle, Frank Edward, 3 EELongview	Bryant, Alton Watson, 4 Arch
Boswell, Arthur Dale, 4 ChEFt. Worth	Bryant, Alton Watson, 4 Arch Sweetwater Bryant, Duncan Lamont, 2 EE
Boswell, Howard Gilmore, 1 ME	Bryant, Elmer Maurice, 1 EE
Botts Coreld Thornton 1 Ag Congeles	Privant Carlon Pandelph 2 CM Temple
Botts, Gerald Thornton, 1 Ag	Bryant, Richard Thomas, 1 Ag
Bounds, William Floyd, 1 AgTehuacana	Pleasantor
Bourland, Albert Reece, 2 EEClarendon	Buchan, Rudolph Carl, 4 ChEGalveston
Bowden, Clifton Morris 4 EE Granbury	Buchanan, Robert James, 2 AgEd Kurter Buckellew, Cleveland Oren, 1 CE
Bowling, Herman Alvin, 1 MEDallas	Buckellew, Cleveland Oren, 1 CE
Bowling, Herman Alvin, 1 MEGranoury Bowling, Herman Alvin, 1 MEDallas Bowman, Paul Adolph, 1 AAGeorgetown Box, Joseph, Elton, 1 PPEWaxahachie Boyer, Harry Luther, 2 AgStephenville Boykin, Starley Napoleon, 3 ME	Troy
Box, Joseph, Elton, 1 PPE Waxanachie Rover Harry Luther 2 Ag Stephenville	Buckley, Andrew Jackson, I ME Calver
Boykin, Starley Napoleon, 3 ME	Ft. Worth
Grapeland	Buckner, Travis Kerfoot, 1 CEDallas
Bradford, William Gordan, Jr., 1 Arch Dallas	Buford, Fred Seymour, 3 ArchDalla
Bradley, Elbert J., Jr., 4 MEFt. Worth	Bullock, Robert L., Jr., 3 EE Taylor
Bradshaw, Price, 4 ChE McGregor	Bumgarner, Leo Elliott, 1 AACrocket
Rrady George Myron, 1 EE Teyas City	Buckellew, Cleveland Oren, 1 CE Troy Buckley, Andrew Jackson, 1 MECalver Buckman, Thomas Robert, 2 CE Ft. Worth Buckner, Travis Kerfoot, 1 CEDalla Buford, Fred Seymour, 3 ArchDalla Buie, Eugene Cloy, 1 ChEGrandview Bullock, Robert L., Jr., 3 EETaylo Bumgarner, Leo Elliott, 1 AACrocket Bunzel, Blake Foster, 1 LA Mineral Well
Bragdon, Kerlin Joseph, 3 LADallas Brasher, Ray Vernon, 2 SciMission Bratton, David Jonathan, 3 CEHouston	Burchers, Louis, 2 ME Yoakun Burgess, Beaumont Edgar, 1 AA
Bratton, David Jonathan, 3 CEHouston	Burgess, Beaumont Edgar, 1 AA
Braunig, Elwyn Paul, 4 AA	Burgin, Claud Joseph, 3 AgEdHonde
Hallettsville	Burgin, Claud Joseph, 3 AgEdHonde

Burke, Royal Madison, 1 CMPittsburg
Burkhalter, Joseph Brunson, 1 CE
Shepherdsville, Ky.
Burleson, David Walter, 1 ChE
Burnett Welden Lankin 1 FF Cameron
Burney, James Henry, 2 EEBishop
Burnitt, Richard White, 4 AACalvert
Burns, Edward Hughes, I PPEDallas Burns John Wilbur 1 A A Brownsville
Burns, Louis Tom, Jr., 3 AgYoakum
Burns, Weldon Bailey, 2 LACatarina
Burns, Weldon Riley, 2 CEBig Springs
Burroughs, Charm Maurice, 3 Sci
Purrow Abnor Lawson 2 ChF Houston
Burrow, Don Alfred, 2 LandNavasota
Burton, Harry Donald, 2 CEEl Paso
Burton, Morris Sheppard, 2 EETyler
Bushnell, Ralph Winslow, 3 AAFreeport
Bussey, David Cole, 1 TELongview
Bustamante, Luis Gurza, 1 C
Butler, John Allen, 1 AA Houston
Butler, Walter Cecil, 3 VMCollege Sta.
Butterfield, Clayton Lester, 1 IA
Butts, James Alvis, Jr., 1 MEKilgore
Byrnes, George Handley, 2 EE
Caddess, James Harvey, 2 ME
Cain, Everett Harrison, 1 LALiberty
Caldwell, Richard Hanner, 4 AA
Caldwell, Robert Walker, 1 Land Houston
Calhoun, James Lee, 1 ChE Clarksville
Callander Everett Elten 2 AcEd
Junction
Callicoatte, Conrad Stanley, 2 CEJayton
Houston
Campbell, Carney Tom, 1 CEMt. Vernon
Hillsboro
Campbell, Tom Melvin, 2 MEOwens
Cannon, Earl H., 1 AgedShelbyville
Cannon, William Alston, 2 AgTexarkana
Card, Leland Poythress, 3 IAHouston
Lockhart
Carhart, Rufus Chamberlain, 2 CE
Carl, Edward Miller, Jr., 4 EE
Carlisle, Marvin Leroy, 4 AA
Burke, Royal Madison, 1 CMPittsburg Burkey, Fred Morrison, 3 VMHouston Burkhalter, Joseph Brunson, 1 CE
Carlson, Harry William 1 CM Brady
Carmichael, Wiley Enoch, 2 CEDenton
Carnahan, William Gordon, 3 LACenter
Carpenter, Charles Fred 1 EF Tyler
Carpenter, George Edward, 2 ME
Carpenter James Andrew 2 A Dellas
Carpenter, Lovis Linden, 1 ChE Denison

Carpenter, Robert William, Jr., 1 Land ... Carr, Joe Matt, 4 CE Stephenville Carson, George Fowler, 1 Arch ... Christian, Archie Hunt, 2 CEMalakoff Christian, Gideon Lawrence, 2 CE Christian, Jack Pegues, 2 LA Abilene Chromcak, Willie Frank, 1 Ag Louise Clanton, Ralph Francis, 4 EE Dallas Clapp, Earl Hamilton, 1 AA

Cochran, Berton Carlton, Jr., 1 ME	Cotton,
Cockrall, Angus Hardee, Jr., 1 ME Throckmorton Cockrell, Angus Hardee, Jr., 1 EE Pleasanton Cocks, Tilford William, 4 Ag Codrington, Charles Francis, 4 EE Comfort	Couch, Couch,
Pleasanton	Coulter,
Cocks, Tilford William, 4 AgSilsbee	Covingt
Cody, Raymond Albert, 4 AgCeleste Cohn, Albert Arthur, 1 ChEDallas Coke, William Broughton, 2 AgPittsburg Colbert, George Edmond, Jr., 1 LA	Coward
Cody, Raymond Albert, 4 AgCeleste	Cowart,
Coke, William Broughton, 2 Ag	Cox, D
Calbart Carra Edward In 1 I A	Cox, D
Orange	
Cole, Jesse Dillon, 1 MEEl Paso	Cox, E
Coleman, Edward Terrell, 2 LAEastland	Cox, E Cox, Ro Cox, W
Coleman, Glenn Winfred, 1 AgMcKinney	Coyle, V
Grand Prairie	Crabb,
Colbert, George Edmond, Jr., 1 LA Orange Cole, Jesse Dillon, 1 ME	Craddoc
Colley, Richard Stewart, 2 ArchYoakum	Craddoc
Collie, William Levinson, 1 EEPecos	
Collier, Robert Bailey, Jr., 2 MEHouston	Craig, J Crain, C Crass, C
Collier, William Johnson, Jr., 1 CM	Crain,
Collier, William Marion, Jr., 3 Arch	Crass, C
Collier, William Marion, Jr., 3 Arch	Cravens
Abilene	Craver,
Collins, James Powell, I AACrockett	Crawfor
Collins, Willis Elmer, 4 CE	Crawfor
Colson James Allison 1 AA College Ste	Creceliu
Collier, William Marion, Jr., 3 Arch Abilene Collins, James Powell, 1 AACrockett Collins, Willis Elmer, 4 CE Schenectady, New York Colson, James Allison, 1 AACollege Sta. Coltrin, Robert Barnett, 2 Arch	
	Cretsing
Colvin, Warner Edwin, 1 Ag	G:
Combest, William Lewers, 3 AAOlton Commons, Glenn Gurney, 1 MEMercedes Conboy, John Lincoln, 1 LA	Criner,
Compost, William Lewers, 3 AAOlton	Criswell Critz, H
Conhor Tohn Linear 1 I A	Crocker,
Chayanna Wyaming	Crockett
Condon, Buel Alvin 1 ME Taylor	Crockett
Condron, Cleo Bertram 1 Land	Cross, J
Throckmorton	Cross, J Crow, I
Coneway, Charles Richard, 3 ArchFriona	Croxton
Conitz, Alfred Edward, 1 AACalvert	Crozier,
Connally, James Thomas, 1 CMWaco	Crump,
Connell, Joe Edwin, 3 AAGilmer	~
Conner, Richard Roth, 4 LACollege Sta.	Crumpto
Conover, Brooks William M., 4 LA	Cruse,
Conrad. Fred Walter, 2 AA Houston	01400, 6
Conway, Edwin Bradbury, 1 LABryan	Crutchfi
Conway, Joseph Hendrix, Jr., 3 LA	Cucia, J
Bryan	
Cook, George Perry, Jr., 1 CEHouston	Cuellar,
Cook, Lawrence Milton, 2 ArchDallas	a
Cook, Lansford Silas, 3 LAGoose Creek	Cummin
Cooper, James Major, 8 AgEdCenter	Cummin
Cooper Sam Thomas 1 DDE Dollar	Cummin
Coots Arthur Cus 2 C Delbort	Cunning
Cone Jessie Tiner Jr 2 AA Karnes City	Oumming
Corbin, John Wesley, 1 AA Waco	Cunning
Condon, Gleo Bertram, 1 Land Condron, Cleo Bertram, 1 Land Throckmorton Coneway, Charles Richard, 3 ArchFriona Conitz, Alfred Edward, 1 AA Calvert Conneily, James Thomas, 1 CM Waco Conneil, Joe Edwin, 3 AA Gilmer Conner, Richard Roth, 4 LA College Sta. Conover, Brooks William M., 4 LA Dallas Conrad, Fred Walter, 2 AA Houston Conway, Edwin Bradbury, 1 LA Bryan Conway, Joseph Hendrix, Jr., 3 LA Bryan Cook, George Perry, Jr., 1 CE Houston Cook, Lawrence Milton, 2 Arch Dallas Cook, Lawrence Milton, 2 Arch Dallas Cook, Lawrence Milton, 2 Arch Dallas Cooper, James Major, 3 Aged Center Cooper, Robert Everett, 1 Sci Temple Cooper, Sam Thomas, 1 PPE Dallas Coots, Arthur Gus, 2 C Dalhart Cope, Jessie Tiner, Jr., 3 AA Karnes City Corbin, Dohn Wesley, 1 AA Waco Corbin, Ralph Edgar, 2 LA Evansville, Ind. Corman, Nathan Oscar, 2 ChE Dallas	
Evansville, Ind.	Cunning
Corbin, Ralph Edgar, 2 LA	Current
Cornelison, Harold B., Sp.AgSan Angelo	Curry, a
Cornenus, william rascal, 2 Arch	Curry, J Curry, F Curry, T
Cornett John Resument 1 FF Wass	Curry T
Corns. Isaac Cox. 2 AA Harlingen	Curtis
Costello, James Mathews, 1 Sci	Curtis, L Curtis, 1
Mt. Pleasant	Curtis,
Mt. Pleasant Cotton, James Arnold, 3 CEAbilene	

Cotton, Richard Howard, 2 AgAbilene Couch, James Russell, 3 AgGrandview Couch, Weldon Morris, 1 CEGrandview Coulter, Charles Allinder, 1 LA
Court Issues Bossell & Ass. Courties
Couch, James Russell, a Ag. Grandview
Couch, Weldon Morris, 1 CE Grandview
Coulter Charles Allinder 1 LA
Con Antonio
Covington Walden Harmon 9 EVE Almond
Covington, weldon Harmon, S EEAlvord
Coward, Chester Raymond, 4 AA
Austwell
Cowart, Fred Frazier, 3 AgRobstown
Cox, DeWitt Christopher, 2 Ag
Lampasas
Cox. Dudley Sewell, 4 Sci
Wichita Fells
Cor Flmor Olivor 4 IF Funtaville
Con Debent Francis A Co.
Cox, Robert Travis, 4 SciEastland
Cox, Wayne Aldon, 3 AgEd
Stephenville
Coyle, William Hunter, 4 EERowlett
Crabb, Ellis Edwin, 1 MEMirando City
Craddock, Thomas Drayton, 4 AA
Crockett
Craddock Truman Dubois 1 Ag Purnet
Crair Charles Christian 1 I A T-
Crois John College 9 ME
Craig, John Sellers, S ME
Crain, Oscar Lee, 3 CECumby
Crass, Clinton William, 2 EEPalestine
Cravens, James Wade, 2 CEAnna
Craver, Herman Casey, 1 AA Dallas
Crawford, Roy Maurice, 3 ChE
Nacordoches
Crawford Robert Sherrill 1 Arch Dellar
Crosoling Emore Cross 4 AA
Orecenus, Emory Speer, 4 AA
San Antonio
Cretsinger, James Osborne, 3 ChE
College Station
Criner, Joseph Cris, Jr., 1 ArchHouston
Criswell, Leonard Lucius, 2 AAForney
Critz, Harry Herndon, 1 CE Teague
Charles Alfred 4 Am
Crockett Curtis Chelcie 1 FF Donton
Crockett, Curtis Chelcie, 1 EEDenton
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Orville, 1 EE Denton
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Orville, 1 EE Denton Cross, James Robert, 1 EE Clarksville
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Orville, 1 EE Denton Crosk, James Robert, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Curtis Chelcie, 1 EE Denton Cross, James Robert, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Croxton, Carl Edwin, 2 EE Mt. Pleasant
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Orville, 1 EE Denton Croskett, Orville, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Croxton, Carl Edwin, 2 EE Mt. Pleasant Crozier, Pete Fay, 2 IA Ft. Worth
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Orville, 1 EE Denton Cross, James Robert, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Croxton, Carl Edwin, 2 EE Mt. Pleasant Crozier, Pete Fay, 2 IA Ft. Worth Crump, Brice Anthony, 1 AgEng
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Orville, 1 EE Denton Crockett, Orville, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Crow, Barney Melvin, 1 EE Mt. Pleasant Crozier, Pete Fay, 2 IA Ft. Worth Crump, Brice Anthony, 1 AgEng McKinney
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Orville, 1 EE Denton Cross, James Robert, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Croxton, Carl Edwin, 2 EE Mt. Pleasant Crozier, Pete Fay, 2 IA Ft. Worth Crump, Brice Anthony, 1 AgEng McKinney Crumpton, William Button, 1 TE
Crockett, Alfred, 4 Ag Center Crockett, Curtis Chelcie, 1 EE Denton Crockett, Orville, 1 EE Denton Cross, James Robert, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Croxton, Carl Edwin, 2 EE Mt. Pleasant Crozier, Pete Fay, 2 IA Ft. Worth Crump, Brice Anthony, 1 AgEng McKinney Crumpton, William Burton, 1 TE
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Orville, 1 EE Denton Crosk, James Robert, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Croxton, Carl Edwin, 2 EE Mt. Pleasant Crozier, Pete Fay, 2 IA Ft. Worth Crump, Brice Anthony, 1 AgEng Crumpton, William Burton, 1 TE Denison Cruse Jack Webster, Jr. 1 CM
Coyle, William Hunter, 4 EE Rowlett Crabb, Ellis Edwin, 1 ME Mirando City Craddock, Thomas Drayton, 4 AA Crockett Craddock, Thomas Drayton, 1 Ag Burnet Craig, Charles Christian, 1 LA Ingram Craig, John Sellers, 3 ME Hamilton Crain, Oscar Lee, 3 CE Cumby Crass, Clinton William, 2 EE Palestine Cravens, James Wade, 2 CE Anna Craver, Herman Casey, 1 AA Dallas Crawford, Robert Sherrill, 1 Arch Dallas Crawford, Robert Sherrill, 1 Arch Dallas Crecelius, Emory Speer, 4 AA Crestinger, James Osborne, 3 ChE Crestinger, James Osborne, 3 ChE Critz, Harry Herndon, 1 CE Teague Crocker, Alfred, 4 Ag Center Crockett, Curtis Chelcie, 1 EE Denton Cross, James Robert, 1 EE Denton Cross, James Robert, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Crox, Barney Melvin, 1 AgEng McKinney Crumpton, William Burton, 1 TE McKinney Crumpton, William Burton, 1 CM McKinney Cruse, Jack Webster, Jr., 1 CM
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Orville, 1 EE Denton Crosk, James Robert, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Croxton, Carl Edwin, 2 EE Mt. Pleasant Crozier, Pete Fay, 2 IA Ft. Worth Crump, Brice Anthony, 1 AgEng McKinney Crumpton, William Burton, 1 TE Denison Cruse, Jack Webster, Jr., 1 CM Crustofield Later Days New Willard
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Curtis Chelcie, 1 EE Denton Crosk, James Robert, 1 EE Denton Cross, James Robert, 1 EE Beeville Crow, Barney Melvin, 1 EE Beeville Croxton, Carl Edwin, 2 EE Mt. Pleasant Crozier, Pete Fay, 2 IA Ft. Worth Crump, Brice Anthony, 1 AgEng McKinney Crumpton, William Burton, 1 TE Cruse, Jack Webster, Jr., 1 CM New Willard Crutchfield, Jodie Bailey, 1 EE Baird
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Crville, 1 EE Denton Crockett, Orville, 1 EE Denton Cross, James Robert, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Croxton, Carl Edwin, 2 EE Mt. Pleasant Crozier, Pete Fay, 2 IA Ft. Worth Crump, Brice Anthony, 1 AgEng McKinney Crumpton, William Burton, 1 TE Denison Cruse, Jack Webster, Jr., 1 CM New Willard Crutchfield, Jodie Bailey, 1 EE Baird Cucia, James William, 1 ME
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Crville, 1 EE Denton Crosk, James Robert, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Croxton, Carl Edwin, 2 EE Mt. Pleasant Crozier, Pete Fay, 2 IA Ft. Worth Crump, Brice Anthony, 1 AgEng McKinney Crumpton, William Burton, 1 TE Cruse, Jack Webster, Jr., 1 CM New Willard Crutchfield, Jodie Bailey, 1 EE Baird Cucia, James William, 1 ME New Castle, Ps.
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Orville, 1 EE Denton Crosk, James Robert, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Croxton, Carl Edwin, 2 EE Mt. Pleasant Crozier, Pete Fay, 2 IA Ft. Worth Crump, Brice Anthony, 1 Ageng McKinney Crumpton, William Burton, 1 TE Denison Cruse, Jack Webster, Jr., 1 CM New Willard Crutchfield, Jodie Bailey, 1 EE Baird Cucia, James William, 1 ME Baird Cuellar, Pablo Mario, 3 CE
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Orville, 1 EE Denton Crosk, James Robert, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Croxton, Carl Edwin, 2 EE Mt. Pleasant Crozier, Pete Fay, 2 IA Ft. Worth Crump, Brice Anthony, 1 AgEng McKinney Crumpton, William Burton, 1 TE Crumpton, William Burton, 1 TE Cruse, Jack Webster, Jr., 1 CM New Willard Crutchfield, Jodie Bailey, 1 EE Baird Cucia, James William, 1 ME Cuellar, Pablo Mario, 3 CE Saltillo, Coah, Mexico
Crockett, Curtis Chelcie, 1 EE Denton Crockett, Orville, 1 EE Denton Crockett, Orville, 1 EE Denton Cross, James Robert, 1 EE Clarksville Crow, Barney Melvin, 1 EE Beeville Croxton, Carl Edwin, 2 EE Mt. Pleasant Crozier, Pete Fay, 2 IA Ft. Worth Crump, Brice Anthony, 1 AgEng Crumpton, William Burton, 1 TE McKinney Crumpton, William Burton, 1 TE Denison Cruse, Jack Webster, Jr., 1 CM New Willard Crutchfield, Jodie Bailey, 1 EE Baird Cucia, James William, 1 ME Cuellar, Pablo Mario, 3 CE Saltillo, Coah, Mexico Cummings, Charlie Mahry, 1 AA Bryan
Crutchfield, Jodie Bailey, 1 EE Baird Cucia, James William, 1 ME New Castle, Pa. Cuellar, Pablo Mario, 3 CE Saltillo, Coah, Mexico Cummings, Charlie Mabry, 1 AA Bryan Cunnings, Large Olivia, 2 CM
Crutchfield, Jodie Bailey, 1 EE Baird Cucia, James William, 1 ME New Castle, Pa. Cuellar, Pablo Mario, 3 CE Saltillo, Coah, Mexico Cummings, Charlie Mabry, 1 AA Bryan Cunnings, Large Olivia, 2 CM
Crutchfield, Jodie Bailey, 1 EE Baird Cucia, James William, 1 ME New Castle, Pa. Cuellar, Pablo Mario, 3 CE Saltillo, Coah, Mexico Cummings, Charlie Mabry, 1 AA Bryan Cunnings, Large Olivia, 2 CM
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Crutchfield, Jodie Bailey, 1 EE Baird Cucia, James William, 1 ME New Castle, Ps. Cuellar, Pablo Mario, 3 CE Cummings, Charlie Mabry, 1 AA Bryan Cummings, Logan Oliver, 2 CM Amherst Cummins, Harry Edgar, 1 CE Woodsboro Cunningham, Henry Elvidge, 1 EE Ft. Worth
Crutchfield, Jodie Bailey, 1 EE Baird Cucia, James William, 1 ME New Castle, Ps. Cuellar, Pablo Mario, 3 CE Cummings, Charlie Mabry, 1 AA Bryan Cummings, Logan Oliver, 2 CM Amherst Cummins, Harry Edgar, 1 CE Woodsboro Cunningham, Henry Elvidge, 1 EE Ft. Worth
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Crutchfield, Jodie Bailey, 1 EE Baird Cucia, James William, 1 ME New Castle, Pa. Cuellar, Pablo Mario, 3 CE Saltillo, Coah, Mexico Cummings, Charlie Mabry, 1 AA Bryan Cunnings, Large Olivia, 2 CM

Curtsinger, Eugene Bomba, 1 EEDallas
Cushman, George Arthur, 3 EE
Cuthrell, Antum Eugene, 4 MENavasota
Current Pour P 7 CF Whitney
Daeuble Louis Ir 2 Arch El Paso
Daeuble, Theodore Clinton, 1 ME
Cupert, Roy P., 2 CE
Dahlberg, Howard LeRoy, 1 SciTaylor
Dahlgren, Carl Arvid, 3 MEFt. Worth
Dahlman, Terrell Ludwig, 1 ChECuero
Dameyon Alton Bornard 9 I.A. West
Dameron, Zech Clifton 2 Ag Del Rio
Damon, Earl Burtran, 1 ChEHouston
Daniel, Charles Henry, Jr., 1 LA Houston
Daniel, Joseph Bailey, 1 ChE Cleburne
Daniel, James Elzie, Jr., 1 PPEDenison
Daniel, Robert Clinton, & EECleburne
Denshy Horace Putman Ir 2 AA Rryan
Darby, James Wilson, 4 EEBeeville
Darley, William George, 4 EE
San Antonio
Daughtrey, Elisha Robuck, 4 ME
Dauterive Carroll Anthony 3 ChE
Houston
Davenport, Leon James, 1 CE
San Antonio
David, William Lewis, 4 AgCorsicana
Davidson, John Frentice, 1 LA Winters
Davis, Daniel Rowland, 2 Ag
Mt. Pleasant
Davis, Floyd Basal, 1 Ag Santa Rosa
Davis, Francis Clark, 3 AgDenton
Davis, George Willzer, 2 Ag
Daeuble, Louis, Jr., 2 Arch
Dovis James Burns 1 Ag Mt Blooms
Davis, James Burns, I AgMt. Pleasant
Davis, James Trice 1 Ac Marfa
Davis, Lyn Earl, 1 CEDallas
Davis, Llewellyn Glynn, 1 CEDallas
Davis, Oscar Labron, Jr., 2 CM
Davis Borer Cullen 2 MF Mineral Wells
Davis, Fercy Cullen, 2 MEMineral Wells
Waxahachie
Davis, Vernon Glynn, 2 CMDallas
Davis, William Daniel, 1 AgGonzales
Davis, Walter Edward, 2 CEFt. Worth
Davis, William Luther, I Che
Davis Wallace Turnin 4 LA Mertens
Dawson, Oran, 2 AgEdCrockett
Day, John Frank, Jr., 4 TEEden
Dean, John Randolph, 4 EEAthens
Dean, Morris Sheppard, 4 Ag EdDenton
Deane, William Francis, 4 CEKingsville
Wortham
Dees, Allen DeWitt, 1 EEKaufman
Dees, Allen DeWitt, 1 EE Kaufman Delaney, Ralph Jerry, 1 LA Smithville
Dees, Allen DeWitt, 1 EE Kaufman Delaney, Ralph Jerry, 1 LA Smithville Delery, Hugh Bob, 1 CM Housen
Dees, Allen DeWitt, 1 EE Kaufman Delaney, Ralph Jerry, 1 LA Smithville Delery, Hugh Bob, 1 CM Housten Denby, Frank Honter, 1 LA Jacksonville Denison Releigh Edmond 2 CE Townload
Dees, Allen DeWitt, 1 EEKaufman Delaney, Ralph Jerry, 1 LASmithville Delery, Hugh Bob, 1 CMHouston Denby, Frank Honter, 1 LAJacksonville Denison, Raleigh Edmond, 2 CETemple Denman. Morris Samuel. 2 CE
Dees, Allen DeWitt, 1 EE Kaufman Delaney, Ralph Jerry, 1 LA Smithville Delery, Hugh Bob, 1 CM Houston Denby, Frank Honter, 1 LA Jacksonville Denison, Raleigh Edmond, 2 CE Temple Denman, Morris Samuel, 2 CE Brownwood
Davis, Henley Hardemän, 4 EE Davis, James Burns, 1 Ag

Dent, George Marshall, 1 Arch De Pasquale, Francis Robert, 4 IA De Pasquale, Joseph Albert, 3 AA Dickinson
Depew, Edwin Donald, 1 LA ... Ft. Worth
de Synek, Herbert Joseph, 1 CE
San Antonio Dewald, John Paul, Jr., 1 AgEng Dial, Joseph Smith, 3 AA Sulphur Springs
Diaz, Richard Edward, 1 EE
San Antonio
Dickinson, John Isidro, Jr., 1 ChE ...Marshall Ft. Worth
Diehl, Hugo Henry, 2 ME San Antonio
Dietel, Marvin Raymond, 1 ME Dallas
Dietz, Thomas Allan, 2 ME Forney
Dillon, Joseph Earl, 2 CE Dallas
Dillon, Roy Juan, 1 CE Dallas
Dipuccio, Charles Albert, 1 PPE Doche, Armand Madden, 1 ME Amarillo Dockum, Richard Swanson, 4 CE Durant Okla.

Deerge, Charles Herbert, 2 AA Bryan
Dollahite, John Calvin, 2 AA Bryan
Dollahite, James Walton, 1 VM
Dollahite, James Walton, 1 VM Dollinger, John III, 1 IA Beaumont
Donahue, Joseph William, 4 ChEVernon
Donaldson, Graham Philip, 1 ME Donaldson, Graham Philip, 1 ME

Rosebud

Donalson, Thomas Kyle, 1 Ag

Donegan, Madison Boyd, 1 EE

Donelson, Cone, 1 Ag

Doria, Juan C., 1 CE

Monterrey, Mexico

Dorman, George Madison, 1 AA

College Station

Dorman, Harvey Smith, 2 Ag

Dorsey, Ralph Robert, 4 LA

Dorward, Kelvin, 4 RE

Dosterschill, Walter Lloyd, 4 Arch

Dallas Dougherty, Thomas Brook, 4 Arch Palestine
Douglas, James Brock, 4 EE Commerce
Douglas, Joseph Pickens, Jr., 4 LA
Douglas, John Satabas 1 A-b Douglas, John Satcher, 1 Arch ...Commerce Douglas, Marvin Eugene, 1 Land ...Austin Douglas, William Jackson, 1 Sci ...Trinity Downard, Richard Walter, Sp IA ...Bryan Downing, Theodore Leslie, 1 ME

Downs, Jack, 1 AgSaragosa
Downs, Jack, 1 Ag Saragosa Doyle, Jack Franklin, 1 Arch Brownwood Dozier, Fred Sowell, 3 Sci Forney Draper, Milton Crawford, 1 EE Brownsville Dresser, Paul Alton, 4 Land Corsicana Drew, Thomas Montgomery, 2 Ag Livingston Driver, Roy, 4 CE Bryan
Brownsville
Drew, Thomas Montgomery, 2 Ag
Driver, Roy, 4 CE Bryan Duffield, Robert Foster, 1 ME Rantoul, Kansas Dufner, Romie Mark, 1 Sci San Antonio Duhon, Robert Earl, 2 EE Sour Lake Duke, Alvis Bryan, 4 ChE Handley Dulaney, Louie Pierce, 1 Arch Bonham Dullnig, William Henry, 1 Ag Asherton Duncan, Richard Best, 2 TE Greenville, Miss. Dunlap, Lawrence Bettes, 4 ME Dallas Dunning, Earl Ernest, 1 Arch
Dufner, Romie Mark, 1 Sci., San Antonio
Duhon, Robert Earl, 2 EESour Lake
Dulaney, Louie Pierce, 1 ArchBonham
Dullnig, William Henry, 1 AgAsherton Duncan, Richard Best, 2 TE
Dunlap, Lawrence Bettes, 4 MEDallas
Dunlap, Lawrence Bettes, 4 ME Dallas Dunning, Earl Ernest, 1 Arch San Antonio Dunten, Ralph Lovett, 1 EE Dallas Dupree, James Elbert, 2 EE San Antonio Durfey, William Merritt, 2 Ag Wellington Durham, DeWitt Clinton, 1 Ag Durst, Horatio III, 1 CE San Antonio Durst, Horatio III, 1 CE Crockett Dworkin, May Marvin, 1 ChE Ft. Worth
Dunten, Ralph Lovett, 1 EEDallas
Dupree, James Elbert, 2 EE San Antonio
Durfey, William Merritt, 2 Ag
Durham, DeWitt Clinton, 1 Ag
Durst, Horatio III, 1 CECrockett
Dworkin, May Marvin, I CheFt. Worth Dwyer, Roger Frank, 3 CEHouston
Eagleston, Tom Evans, 1 SciHouston
Earhart, Fred, Jr., 2 CM Houston
Easley, Gilbert Carlos, 3 MERosebud
Easley, Reagan Ennis, 1 EEMurchison Easley, Ralph Moody, 1 EEFt. Worth
Durst, Horatio III, 1 CE Crockett Dworkin, May Marvin, 1 ChE Ft. Worth Dwyer, Roger Frank, 3 CE Houston Eagleston, Tom Evans, 1 Sci Houston Eagleton, Foute, 4 EE Commerce Earhart, Fred, Jr., 2 CM Houston Earnest, Sam Houston, 1 AA Ft. Worth Easley, Gilbert Carlos, 3 ME Rosebud Easley, Reagan Ennis, 1 EE Murchison Easley, Ralph Moody, 1 EE Ft. Worth Easterling, Marcus Cleo, 4 ME Easterling, Marcus Cleo, 4 ME Easterling, Thomas Russell, 1 EE Memphis
Easterling, Thomas Russell, 1 EE
Eaton, Charles Barthold, 3 EE Weatherford
Eddins, Elbert E., 1 ME
Eddins, Robert Lee, 1 PPEMarquez
Eddins, Truman Charles, 1 CMGroesbeck Edenborough, Rudyard Kipling, 1 Ag
Edgar James Douglass 2 AA Cuero
Edmonds, Frank Rogers, 1 ChE Dublin
Edwards, Cicero Bethel, 3 AgEd
Eeds, Fred, 2 MELuling
Easterling, Thomas Russell, 1 EE Easterling, Thomas Russell, 1 EE Memphis Eaton, Charles Barthold, 3 EE Weatherford Eddins, Elbert E., 1 ME Eddins, Henry Adair, 3 EE Marquez Eddins, Robert Lee, 1 PPE Marquez Eddins, Truman Charles, 1 CM Eddenborough, Rudyard Kipling, 1 Ag White Deer Edgar, James Douglass, 2 AA Cuero Edmonds, Frank Rogers, 1 ChE Dublin Edmundson, Rufus Burwell, 1 EE Rice Edwards, Cicero Bethel, 3 AgEd Eeds, Fred, 2 ME Eeds, Fred, 2 ME Eeds, Fred, 2 ME Eeds, Fred, 3 CE Egbert, Ford, 3 CE Egbert, Ford, 3 CE Ehlers, Leslie, 4 Ag Ela Grange Ehlert, Edward, Jr., 3 Sci Brenham Eichelberger, David McFadden, 1 AA Waco Eidelbach, Andrew Albert, 1 CE Flatonia
Ehlers, Leslie, 4 AgLa Grange
Eichelberger, David McFadden, 1 AA
Eidelbach, Andrew Albert, 1 CE Flatonia
Ekrem, Moustapha, 4 AgAngora, Turkey
Elder, Donald Everett, 1 AgDayton Elder, Frank, Jr., 2 EEKilgore
Elder, Thomas Jefferson, 1 AgDecatur Elkins, Rollin Lafavette, 1 LA
Ekrem, Moustapha, 4 Ag. Angora, Turkey Elder, Donald Everett, 1 Ag. Dayton Elder, Frank, Jr., 2 EE. Kilgore Elder, Thomas Jefferson, 1 Ag. Decatur Elkins, Rollin Lafayette, 1 LA. Palestine Ellington, Bernard Osburn, 1 EE. Shelbeville
Ellington, Bernard Osburn, 1 EEShelbyville Elliott, Andrew Carnegie, 1 Sci
Pilot, Andrew Carnegie, 1 Sci

Ellis, Clyde Virgil, 3 ME Wichita Falls Elizabeth, Lamons, James Rufus, 4 Ag Plainview Emmons, Walter Mark, 3 AgEd Emmons, Walter Mark, 3 AgEd Plainview
English, Clifford Wade, 3 EE Dallas
English, Henry Hayse, 1 Arch
Enloe, Bourland Byron, 1 CE Houston
Enquist, Melvin Anderson, 3 ChE
Sugar Land
Epperly, Don, 4 Arch Ft. Worth
Ernst, Hugo, 3 EE Poteet
Erskine, James Christian, 1 ME Seguin
Erwin, Oscar, 1 Ag La Porte
Esparza, Bene Benito, 1 ChE Laredo
Estes, Harney, Jr., 1 TE Granbury
Eubank, Thomas Neel, 2 PPE Ballinger
Eulenfeld, Henry William, 1 Ag Taylor
Evans, Claude Mack, 2 CE Lamesa
Evans, William Stanton, 1 PPE Houston
Evans, William Stanton, 1 PPE Houston
Evans, William Thurman, 1 EE Corsicana
Everheart, Jack D., 3 AgEd Bells
Everts, Curtiss Mitchell, Jr., 4 CE
Houston
Evans Walter Leighton, 2 LA Dallas Everts, Curtiss Mitchell, Jr., 4 CE

Houston
Ewell, Walter Leighton, 2 LA Dallas
Ewing, Ben Delta, 1 EE Leonard
Ewing, Roy Francis, 4 AA Jacksonville
Ewing, Richard Selman, 3 AA Waco
Fabian, Lycurgus August, 1 AA Llano
Falk, Milton, 2 ChE Tyler
Falkenberg, Spencer Oscar, 1 Ag Taylor
Falley, Charles Frederick, 3 Sci
San Antonio
Fankhauser, Glenn Henry, 2 AA
Harlingen Farmer, Norman Kittrell, 2 Ag Junction
Farmer, Robert Ruffin, 4 AA
West Columbia Farmer, Robert Rullin, 4 AA

Farquhar, Bannister Well3, 4 CE ... Waco
Farquhar, James Thomas, 1 AA ... Jonesboro
Farquhar, Steve Madison, 4 CE ... Jonesboro
Faught, John Donald, 1 AA ... Argyle
Faulk, Walter Joseph, 2 ChE

Faust, William Robert, 1 CE ... Comfort
Fenner, Olen, 4 AgEd Stephenville
Ferguson, Charles Richard, 1 EE

Corsicana Ferguson, Cnarles Richard, 1 EE

Corsicana
Ferguson, Dee, 1 Ag Groesbeck
Ferguson, John Dickson, 1 Ag Hamlin
Ferrara, Jose Antonio, Sp. Ag

Monterrey, Mexico
Ferree, Edgar Garnett, 1 ME Stella, Mo.
Fichtner, Courtney William, 2 AA

San Antonio
Fields, Walter Smallwood, Jr., 2 PPE Filizola, Attilio Vincent, 1 Sci
San Antonio
Filizola, Umberto Daniel, 1 Sci Finkelstein, Leon, 1 ME Houston
Finley, Quintin Armen, 1 EE Liberty

Fiol, Pedro Celestino, 2 Ag
Fischer Harry Louis 2 CE Houston
Fischer, Harry Otto, Jr., 4 CEBryan
Fischer, Norman, 4 MECuero
Fischer, Richard Elwood, 3 MEHouston
Fitte, John Maria, 2 VM
Fiol, Pedro Celestino, 2 Ag Santiago, Cuba Fischer, Harry Louis, 2 CE Houston Fischer, Harry Otto, Jr., 4 CE Bryan Fischer, Norman, 4 ME Cuero Fischer, Richard Elwood, 3 ME Houston Fisk, Aubry Blanchard, 1 EE Houston Fitte, John Maria, 2 VM New Orleans, La. Fitz, Dilmas Vernon. 3 ChE Marquex Fitzgerald, Walter Hubert, 2 EE Sweetwater
Sweetwater
Sweetwater Fitzgerald, Zeb Hitton, 1 CE San Marcos Fritzhugh, Henry Allen, 1 Ag Tolar Fitzpatrick, James Brandon, 3 Land Sweetwater Fix, George Joseph, 2 ME Dallas Flannery, William Waring, 1 LA San Antonio
Sweetwater
Fix, George Joseph, 2 MEDallas Flannery, William Waring, 1 LA
Fleischmann, Carios Semlinger, 1 Sci ———————————————————————————————————
Fleming, David Winston, Sp. IE
Fleming, James Heflin, 1 AgAustin
Fleming, Robert Glenn, 1 Arch Weslaco
Fleming, Robert Jefferson, 2 LAHouston
Flood, Stephen John, 1 ME
Florence, Emmett Howe, 1 EEAtlanta
Florentin, Sterling Worth, 3 ME
Flournoy, Charles Hilton, 2 MEJasper
Floyd, Carlos Blair, 2 EE
Floyd, Gorden Russel, 2 AARosewood
Floyd, Robert Hyron, 3 MELongview
Fly, Frank Merriman, Jr., 2 CE
Focke, George Marckmann, 4 AA
Focke, George Marckmann, 4 AA
Focke, George Marckmann, 4 AA Galveston Focke, Robert Corder, 2 AAGalveston Fogleman, Lewis Conrad, 1 LA Colony, Kansas Colony, Kansas
Focke, George Marckmann, 4 AA Galveston Focke, Robert Corder, 2 AAGalveston Fogleman, Lewis Conrad, 1 LA Colony, Kansas Foley, James Walling, 2 PPE Sour Lake
Focke, George Marckmann, 4 AA Galveston Focke, Robert Corder, 2 AA Galveston Fogleman, Lewis Conrad, 1 LA Colony, Kansas Foley, James Walling, 2 PPE Sour Lake Follett, George Henry, 3 AgEng Houston
Focke, George Marckmann, 4 AA Galveston Focke, Robert Corder, 2 AA Galveston Fogleman, Lewis Conrad, 1 LA Colony, Kansas Foley, James Walling, 2 PPE Sour Lake Follett, George Henry, 3 AgEng Houston Fones, Raymond Albert, 1 CM Houston
Focke, George Marckmann, 4 AA Galveston Focke, Robert Corder, 2 AA Galveston Fogleman, Lewis Conrad, 1 LA Colony, Kansas Foley, James Walling, 2 PPE Sour Lake Follett, George Henry, 3 AgEng Houston Fones, Raymond Albert, 1 CM Houston Ford, Hollis Paul, 3 RE Turnersville
Focke, George Marckmann, 4 AA Galveston Galveston Focke, Robert Corder, 2 AA Galveston Fogleman, Lewis Conrad, 1 LA Colony, Kansas Foley, James Walling, 2 PPE Sour Lake Follett, George Henry, 3 AgEng Houston Fones, Raymond Albert, 1 CM Houston Ford, Hollis Paul, 3 RE Turnersville Ford, Norman Theron, 1 EE Dayton Ford, Oliver Edwin, 1 PPE Crockett
Focke, George Marckmann, 4 AA Galveston Focke, Robert Corder, 2 AAGalveston Fogleman, Lewis Conrad, 1 LA Colony, Kansas Foley, James Walling, 2 PFE Sour Lake Follett, George Henry, 3 AgEngHouston Fones, Kaymond Albert, 1 CMHouston Ford, Hollis Paul, 3 RETurnersville Ford, Norman Theron, 1 EEDayton Ford, Oliver Edwin, 1 PPECrockett Forester, Russell Vann, 2 EE
Focke, Robert Corder, 2 AA Galveston Fogleman, Lewis Conrad, 1 LA
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Focke, Robert Corder, 2 AA Galveston Fogleman, Lewis Conrad, 1 LA Colony, Kansas Foley, James Walling, 2 PPE Sour Lake Follett, George Henry, 3 AgEng Houston Fones, Raymond Albert, 1 CM Houston Ford, Hollis Paul, 3 RE Turnersville Ford, Norman Theron, 1 EE Dayton Ford, Oliver Edwin, 1 PPE Crockett Forester, Russell Vann, 2 EE
Focke, Robert Corder, 2 AA Galveston Fogleman, Lewis Conrad, 1 LA Colony, Kansas Foley, James Walling, 2 PPE Sour Lake Follett, George Henry, 3 AgEng Houston Fones, Raymond Albert, 1 CM Houston Ford, Hollis Paul, 3 RE Turnersville Ford, Norman Theron, 1 EE Dayton Ford, Oliver Edwin, 1 PPE Crockett Forester, Russell Vann, 2 EE
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Focke, George Marckmann, 4 AA Galveston Focke, Robert Corder, 2 AA

Frank, George Perry, 2 Ag Falfurrias
Franklin, David Edward, 1 Sci Houston
Franklin, William Floyd, 2 LA
Douglas, Arizona
Franks, Roye Wendell, 4 ChE Ennis
Fraps, George Saunders, Sp. ChE
College Station
Frazier, Clyde Cecil, 1 EE San Antonio
Frazier, Edell Everette, 1 CE Pasadina
Frazier, William Allen, 4 Ag
Carrizo Springs
Free, Walter Granville, 3 ME
New Orleans, La. New Orleans, La. Freeman, Robert Willis, 1 ChE Freidkin, Arnold Ralph, 1 Sci Waco
French, John Abner, 3 ME San Antonio
French, Malcolm Edward, 1 Ag
Winnsboro
Fridkin, Frank Edwin, 1 ChE Taylor
Frier, Walter Albert, 4 ChE Houston
Fritter, Daniel Andrew, Jr., 1 Sci
Brackettville ...San Antonio Fritze, Victor Otmar, 3 CE ...San Antonio Fuente, Ildefonso de la, 4 Ag _____Saltillo, Coah., Mexico Fugate, Ross James, 2 PPEWaco Fulgham, Jack Edgar, 3 ChE

Weatherford
Fyke, William Henry, 2 CM

Weatherford
Gabrysch, Claude John, 1 CE

Falls City
Gagnon, James Brainard, 1 ChE

Company IIII Fulgham, Jack Edgar, 3 ChE Savanna, Ill.
Gain, James Harvey, 1 Arch,Dublin
Gallagher, Tolman Michael, 1 CM Houston Gallenkamp, Edgbert Harry, 4 CE Galloway, James Harrison, Jr., 4 MEEdna Galloway, James Harrison, Jr., 4 ME

Edna
Galt, Sidney, 4 Sci Mt. Vernon
Gambill, Benjamin Franklin, 1 Ag

Denton
Gambrell, Arlus Lee, 1 Ag Farmersville
Gandy, L. M., 4 AA Bryan
Garbade, Lonnie Gilbert, 1 Ag Flatonia
Garcia, Arthur, 4 Ag

Teta, Honduras, C. A.
Garcia, Anastasio Gonzales, Jr., 1 CE

Hebbronville
Garcia, Evaristo, 1 ChE Harlingen Garcia, Evaristo, 1 ChE Hebbronville
Garcia, Jesus Maria, 3 CE Hebbronville
Garcia, Virgil Anthony, 2 Sci Rio Grande
Gardner, Felix Edwin, 1 PPE
Port Arthur
Gardner, Lyman Spencer, 1 Arch Waco
Gardner, William Howard, 1 Ag Uvalde
Garland, Lee Heard, 3 Ag
Hope, Arkansas
Carpor, Lester Ross, 1 ME
Ropham
Ropham
Ropham
Ropham Garrison, Seth Hamilton, Jr., 1 ME

Ft. Worth

Garst, Chester Raymond, 1 EE

Garvey, Robert Eugene, 1 Ag Livingston
Gaston, John Emory, 1 Arch Henderson
Gates, John Joseph, 1 LA Houston
Gatlin, Glen Ernest, 2 Ag Mobeetie
Gebhart, Julius Caesar, 1 ChE Dallas
Gee Frank Clifford, 1 CE Uvalde

Gelber, Isidore, 2 LandBryan	Graebner, C
Gensberg, Aaron, 1 MEBig Spring	
G TYPE G : 1 TA TE	Gragg, Jack
George, William Cozine, I LATeague	Graham, Jol
George, William Kellum, I Arch Waco	
Company Harbart Carl 9 CF Et Warth	Graham, Ro
Gibbons Tyoy John 1 Ag Kninns	Grant, Fran
Cibbons Feta 2 Ag Mt Vernon	Giant, Fian
Gibbs Barney B 1 Ag Dallag	Grantham,
Gibbs, Joseph Weldon, 2 ME Rosebud	
Gibbs, Peyton Selman, 1 Sci San Antonio	Grantham, I Grasham, J
Giberson, Eugene Paul, 1 AgDallas	Grasham, J.
Gibson, Carlton, 1 Land	***************************************
Burkburnett	Graves, Her
George, William Cozine, I LA League George, William Kellum, 1 Arch Waco Gerdes, Fred Rendor, 1 EE Alfred Gersbach, Herbert Carl, 2 CE Ft. Worth Gibbens, Ivey John, 1 Ag Knippa Gibbons, Fate, 2 Ag Mt, Vernon Gibbs, Barney B., 1 Ag Dallas Gibbs, Joseph Weldon, 2 ME Rosebud Gibbs, Peyton Selman, 1 Sci San Antonio Giberson, Eugene Paul, 1 Ag Dallas Gibson, Carlton, 1 Land Burkburnett Giddings, George LaVaughn, 1 Sci Ft. Worth	~
Ft. Worth	Graves, John Grebe, Erne
Gideon, Howard Wayne, 3 ArchDallas	Grebe, Erne
Gien, Harold Bernard, Z EEDallas	Green, Lynn Green, Rupe
Gideon, Howard Wayne, 3 Arch Dallas Gies, Harold Bernard, 2 EE Dallas Giesey, Sam Charles, 4 Sci Sherman Giffen, Emmett Donald, 3 ChE San Antonio	Green, Rupe
San Antonio	Greenwade, Greer, Willi
Gilbert Philip Pierce 1 Arch Port Arthur	Gregory M:
Gilbert, Philip Pierce, 1 ArchPort Arthur Gilbreath, John Constantine, 3 AgEng	Gregory, Ma Gregory, The Gregory, Rol
Hereford	Gregory, Rol
Gill, Jack Hale, 4 MESan Antonio	Gremillion,
Gill, William Doyle, 2 CEBellevue	***************************************
Gillette, Henry Cardwell, 2 EE	Gribble, Ris
Gill, Jack Hale, 4 ME San Antonio Gill, William Doyle, 2 CE Bellevue Gillette, Henry Cardwell, 2 EE Wrightsboro Girand, Charles Francis, 3 Sci San Antonio	Grider, Mad
Girand, Charles Francis, 3 Sci	Grider, Mad
San Antonio Glass, Donald Campbell, 1 ME San Antonio	Griffin, Boy
Glass, Donaid Campbell, 1 ME	Griffin, Jam
	Griffin, Wi Griffing, Ra
Glazener Lovic Lean 1 AgEd Fairfield	
Glazner, Charles Ernest, 1 AgEng Anson	Griffis, Yale
Glenn, Arthur Melvin, 1 CEFt. Worth	Groendes, A
Glenn, Edgar Wilson, 4 ArchBryan	Gross, Jack
Glass, Elmo H., 1 Ag	Gross, Lewi
Glover, Bob Haynes, 1 CEDe Leon	Grote, Milto
Glover, Joseph, Jr., 1 AgBaird	Grove, Samu Guelfi, Yosf Guerra, Arc
Goad, Byron Donald, 2 AA San Antonio	Guelfi, Yosf
Godsey, Lee, 3 MEJacksonville	Guerra, Arc
Godsey, Wilbur Rappleye, 2 ME Jacksonville Godwin, James Henry, 2 PPE Bryan Goedeke, Theodore Morgan, 2 SciAbilene Goforth, Allen Preston, 1 Ag Golasinski, Andrew Adolph, 2 IAHouston Golderg, Jake Gilbert, 2 ME San Antonio Golenternek, Joseph, 2 ChE Tyler Gomez, Jose Silver, 1 CE Goden, Carey Dwight, 1 AA Nevada Good, Don Ezra, 1 ME Goode, Benjamin Halbert, Jr., 2 EE Condean Richard Aller 9 VIII Godwin Jackson VIII	Gulledge, Le
Codwin James Hanry 2 PPE Rryan	Gunn, Sank Guseman, L
Goedeke Theodore Morgan 2 Sci Ahilene	
Goforth, Allen Preston, 1 Ag Tolar	Guseman, O
Golasinski, Andrew Adolph, 2 IAHouston	Gwin, Robe
Goldberg, Jake Gilbert, 2 ME	Harber, Hor
San Antonio	**********
Golenternek, Joseph, 2 ChETyler	Habib, Rasl
Gomez, Jose Silver, 1 CEGalveston	TT 11 TO 1
Gooch, Carey Dwight, I AANevada	Hable, Rob Haby, Walte
Coods Ponismin Holbert In 9 EV	Haby, Walte
Bortrom	Haggard, K
Goodnight, Richard Homer, 1 AgEd Holland	Hagius, Ho
Wichita Falls	Hagler, Do
Goodnight, Richard Homer, 1 AgEd	Hagner, Fre
Holland	Hagler, Don Hagner, Fre Hahn, Ira
Goodrich, Thomas Battle, 1 SciMarlin	Haimowitz,
Goodwin, John Milton, 1 EE Corsicana	Hairston, Fr
Gordon, Boyette Earl, 1 EELufkin	Hairston, Fr
Gordon, Carl Cocke, 1 LAHouston	Hairston, L Halbert, L.
Gordon, John B., 3 AgEdBurleson	Halbert, L.
Goodnight, Richard Homer, 1 AgEd Holland Goodrich, Thomas Battle, 1 Sci	Halbouty, M
Goraveki Paul Mondrick 1 I.A	Hall, Carl Hall, Frede
College Station	Hall, Henry
Gosch, Lenert Charles, 2 Ag Austin	Hall, James
Gosch, Lenert Charles, 2 Ag	
Grable, Jessie Clenton, 2 PPEFt. Worth	Hall, James
Grable, Jessie Clenton, 2 PPEFt. Worth	Hallaman,

Graebner, Charles Alexander, 3 LA
Graebner, Charles Alexander, 3 LA
Gragg, Jack Eugene, 4 ChEPalestine
Graham, John Roberts, Jr., 1 LADallas
C-l- D-l- D-l- 1 T A
Granam, Robert Porter, I LA
Wichita Falls
Grant, Frank Weik, Jr., 2 CE
Shreveport, La.
Grantham, Alvin Howard, 3 ME
McGregor
Crantham Richard Darrel 1 MF Clifton
Creakers Tomas Anthony 1 Am
Grasnam, James Anthony, 1 Ag
warren, Arizona
Graves, Henry Lee, Jr., 1 ChE
Corsicana
Graves, John Lucius, 1 MEDallas
Grebe, Ernest Leonard, 1 Sci Brenham
Green Lynn Fourt 1 AA Marshall
Croon Puport Wolsh 2 DDF Dellos
Customer J. Towner Welter A.A. Whiteness
Greenwade, James Walton, 4 Ag Whithey
Greer, William R., 1 EEBeaumont
Gregory, Marolf Preston, 4 EEStowell
Gregory, Thomas Mae, 2 CEDallas
Gregory Robert Philip 2 CE Ft. Worth
Cramillian Charles Payton 1 CM
Town City
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Gribble, Risdon Oliver, I Arch
Nacogdoches
Grider, Madison Lee, 1 EELeonard
Griffin, Boyd J., 3 CE Paducah
Criffin James William 9 PPE Harlingen
C. 'cc'. Will' Cl. 1 0 FFHarringen
Griffin, Willis Clyde, Z EEKilgore
Griffing, Ralph Clarence, 4 AA
Beaumont
Criffic Vale Berger 4 LA Dalles
Chandra Anthun Wilhelm 4 ME Mandr
Groendes, Arthur Wilhelm, 4 MEWoody
Gross, Jack, 3 ChEHouston
Gross, Lewis, 1 ChEWaco
Grote, Milton, 1 EESan Antonio
Grove Samuel Edward 2 VM Ft Worth
Cuelfi Veefi Paul 1 AA Colvector
Commendation of the Action
Guerra, Arcadio Marcelino, I ME Mission
Guiledge, Lee Jackson, 2 VMDallas
Gunn, Sankey Arthur, 1 CECorsicana
Gunenge, Lee Jackson, 2 VM
Gunenge, Lee Jackson, 2 vm
Gunn, Sankey Arthur, 1 CE
Gunn, Sankey Arthur, 1 CE
Gragg, Jack Eugene, 4 ChE
Gunn, Sankey Arthur, 1 CE
Gunn, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Beaumont Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Jennings, La.
Gunn, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Guseman, Oliver Joseph, 2 ME Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Jennings, La. Habib, Rashid Ra'uf, 4 Ag
Gunn, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Beaumont Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Jennings, La. Habib, Rashid Ra'uf, 4 Ag Bachdad Iraq.
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Gunn, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Beaumont Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Jennings, La. Habib, Rashid Ra'uf, 4 Ag Lampasa Haby, Walter Edward, 4 Ag Lampasas Haggard, Kenneth Lloyd, 3 Land
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Gunn, Sankey Arthur, 1 CE
Gune, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Beaumont Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Habib, Rashid Ra'uf, 4 Ag Hable, Robert Ernest, 4 CE Corsicana Haby, Walter Edward, 4 Ag Lampasas Haggard, Kenneth Lloyd, 3 Land Bonham Hagius, Homer Hugh, 3 ChE Terrell Hagler, Don, Jr., 2 ME Houston
Gunn, Sankey Arthur, 1 CE
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Gunn, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Beaumont Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Jennings, La. Habib, Rashid Ra'uf, 4 Ag Jennings, La. Hable, Robert Ernest, 4 CE Corsicana Haby, Walter Edward, 4 Ag Lampasas Haggard, Kenneth Lloyd, 3 Land Bonham Hagius, Homer Hugh, 3 ChE Terrell Hagler, Don, Jr., 2 ME Houston Hagner, Fred Genard, 2 Sci San Antonio Haimowitz, Hyman Marcel, 1 EE San Antonio San San Antonio San Antonio San Antonio San Antonio San Antonio San
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Gunn, Sankey Arthur, 1 CE
Gunn, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Beaumont Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Jennings, La. Habib, Rashid Ra'uf, 4 Ag Baghdad, Iraq, Hable, Robert Ernest, 4 CE Corsicana Haby, Walter Edward, 4 Ag Lampasas Haggard, Kenneth Lloyd, 3 Land Bonham Hagius, Homer Hugh, 3 ChE Terrell Hagler, Don, Jr., 2 ME Houston Hagner, Fred Genard, 2 Sci San Antonio Hahn, Ira Claude, 2 CM Houston Haimowitz, Hyman Marcel, 1 EE San Antonio Hairston, Francis Booth, 1 IA Houston Hairston, Leo Love, 1 EE Tyler
Gunn, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Beaumont Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Habib, Rashid Ra'uf, 4 Ag Baghdad, Iraq, Hable, Robert Ernest, 4 CE Corsicana Haby, Walter Edward, 4 Ag Lampasas Haggard, Kenneth Lloyd, 3 Land Hagius, Homer Hugh, 3 ChE Terrell Hagler, Don, Jr., 2 ME Houston Hagner, Fred Genard, 2 Sci San Antonio Halmowitz, Hyman Marcel, 1 EE San Antonio Hairston, Francis Booth, 1 IA Houston Hairston, Leo Love, 1 EE Tyler Hablett, L. T., Jr., 1 EE Milam
Gunn, Sankey Arthur, 1 CE
Gunn, Sankey Arthur, 1 CE
Gunn, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Beaumont Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Jennings, La Habib, Rashid Ra'uf, 4 Ag Baghdad, Iraq, Hable, Robert Ernest, 4 CE Corsicana Haby, Walter Edward, 4 Ag Lampasas Haggard, Kenneth Lloyd, 3 Land Banham Hagius, Homer Hugh, 3 ChE Terrell Hagler, Don, Jr., 2 ME Houston Hagner, Fred Genard, 2 Sci San Antonio Hahn, Ira Claude, 2 CM Houston Haimowitz, Hyman Marcel, 1 EE Haiston, Francis Booth, 1 IA Houston Hairston, Francis Booth, 1 IA Houston Hairston, Leo Love, 1 EE Tyler Halbert, L. T., Jr., 1 EE Milam Halbotty, Mike Thomas, 4 Sci Beaumont Hall, Carl Davis, 2 AA Milford
Gunn, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Habib, Rashid Ra'uf, 4 Ag Jennings, La. Habib, Robert Ernest, 4 CE Corsicana Haby, Walter Edward, 4 Ag Lampassas Haggard, Kenneth Lloyd, 3 Land Bonham Hagius, Homer Hugh, 3 Che Terrell Hagler, Don, Jr., 2 ME Houston Hagner, Fred Genard, 2 Sci San Antonio Hahn, Ira Claude, 2 CM Houston Haimowitz, Hyman Marcel, 1 EE Tyler Halbert, L. T., Jr., 1 EE Milam Halbouty, Mike Thomas, 4 Sci Beaumont Hall, Carl Davis, 2 AA Milford Hall, Frederic William, 4 Ag Eden
Gunn, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Beaumont Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Jennings, La. Habib, Rashid Ra'uf, 4 Ag Baghdad, Iraq, Hable, Robert Ernest, 4 CE Corsicana Haby, Walter Edward, 4 Ag Lampasas Haggard, Kenneth Lloyd, 3 Land Bonham Hagius, Homer Hugh, 3 ChE Terrell Hagler, Don, Jr., 2 ME Houston Hagner, Fred Genard, 2 Sci San Antonio Hahn, Ira Claude, 2 CM Houston Haimowitz, Hyman Marcel, 1 EE Milamthairston, Leo Love, 1 EE Tyler Halbert, L. T., Jr., 1 EE Milam Halbouty, Mike Thomas, 4 Sci Beaumont Hall, Carl Davis, 2 AA Milford Hall, Frederic William, 4 Ag Eden Hall, Henry Taylor, 1 ME Houston Houston Hall, Frederic William, 4 Ag Eden Hall, Henry Taylor, 1 ME
Gunn, Sankey Arthur, 1 CE
Gunn, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Beaumont Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Jennings, La Habib, Rashid Ra'uf, 4 Ag Hable, Robert Ernest, 4 CE Corsicana Haby, Walter Edward, 4 Ag Lampasas Haggard, Kenneth Lloyd, 3 Land Haglus, Homer Hugh, 3 ChE Terrell Hagler, Don, Jr., 2 ME Houston Hagner, Fred Genard, 2 Sci San Antonio Hahn, Ira Claude, 2 CM Houston Haimowitz, Hyman Marcel, 1 EE Halbert, L. T., Jr., 1 EE Milam Halbouty, Mike Thomas, 4 Sci Beaumont Hall, Carl Davis, 2 AA Milford Hall, Frederic William, 4 Ag Eden Hall, Henry Taylor, 1 ME Houston Hall, James Benjamin, 1 Arch Huntsville
Gunn, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Beaumont Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Jennings, La Habib, Rashid Ra'uf, 4 Ag Habib, Robert Ernest, 4 CE Corsicana Haby, Walter Edward, 4 Ag Lampassas Haggard, Kenneth Lloyd, 3 Land Hagius, Homer Hugh, 3 Che Terrell Hagler, Don, Jr., 2 ME Houston Hagner, Fred Genard, 2 Sci San Antonio Hahn, Ira Claude, 2 CM Houston Haimowitz, Hyman Marcel, 1 EE Milamiowitz, Hyman Marcel, 1 EE Halbert, L. T., Jr., 1 EE Halbert, L. T., Jr., 1 EE Halbouty, Mike Thomas, 4 Sci Beaumont Hall, Carl Davis, 2 AA Milford Hall, Frederic William, 4 Ag Eden Hall, James Benjamin, 1 Arch Huntsville Hall, James Josiah, 2 AA Houston Hall, James Josiah, 2 AA Houston Huntsville
Gunn, Sankey Arthur, 1 CE Corsicana Guseman, Lawrence Frank, 1 ME Guseman, Oliver Joseph, 2 ME Houston Gwin, Robert, Jewel, 1 Ag Oenaville Harber, Homer Philip, 2 EE Habib, Rashid Ra'uf, 4 Ag Jennings, La. Habib, Robert Ernest, 4 CE Corsicana Haby, Walter Edward, 4 Ag Lampassas Haggard, Kenneth Lloyd, 3 Land Hagius, Homer Hugh, 3 ChE Terrell Hagler, Don, Jr., 2 ME Houston Hagner, Fred Genard, 2 Sci San Antonio Hahn, Ira Claude, 2 CM Houston Haimowitz, Hyman Marcel, 1 EE Mairston, Francis Booth, 1 IA Houston Hairston, Leo Love, 1 EE Tyler Halbert, L. T., Jr., 1 EE Milam Halbouty, Mike Thomas, 4 Sci Beaumont Hall, Carl Davis, 2 AA Milford Hall, Frederic William, 4 Ag Eden Hall, Frederic William, 4 Ag Eden Hall, James Benjamin, 1 Arch Huntsville Hall, James Josiah, 2 AA Houston Hall, James Benjamin, 1 Arch Huntsville Hall, James Josiah, 2 AA Houston Hallaman, Joe Charles, 4 EE Dallae

Haller, Elmer Charles, 4 ME	Hawes, Albert Kennedy, 3 AADallas
Halliday Otia Thornton 9 FF	Hawkins, Douglas McCullough, 1 Arch
Haltom, Forrest Edward, 2 EE Flushing, N. Y. Halyard, A. B., 1 TE Crockett Hamilton Horses C. 4 IA Stanton	Hawley, James Leeper, 3 SciDallas Hawthorne, Leyton, 1 CEPollock, La Hay, Thomas Edgar, Jr., 2 ChEEnnis
Flushing, N. Y.	Hay, Thomas Edgar, Jr., 2 ChE Ennis
Hanilton, Horace C., 4 IAStanton	Hay, Thomas Edgar, Jr., 2 ChE
Hamlett, Robert Bradley, 1 EEFt. Worth Hamm, Jack Gordon, 2 CEFt. Worth Hampton, Ireland, Jr., 2 ChEFt. Worth	Hayes, Marshall Russell, 1 PPEHouston
Hamm, Jack Gordon, 2 CEFt. Worth	Hayes, Merwyn Noel, 1 Ag
Hampton, Ireland, Jr., 2 ChEFt. Worth	Havs Charles Scott 2 EE Dallac
Hampton, Lawrence Herbert, 1 CEDallas Handler, Isadore Albert, 1 CM	Hays, Marvin, 3 AAMt. Pleasan
Galveston	Hays, Marshall Ambrose, 3 Arch
Handley, Dock Hinton, Jr., 1 EETeague Haneman, Albert, Jr., 3 CEBryan Haney, Harold, O'Quinn, 1 AgRio Hondo Hanks Lestor A AASan Augustine	Hays, Oscar Homer, 1 AAMt. Pleasan
Haney, Harold, O'Quinn, 1 AgRio Hondo	Hebert, Jerrome Harry, 2 EEBeaumon Hedges, Howard Preston, 1 PPE
Hanks, Lester, 4 AASan Augustine Hanna, Henry Louis, 1 PPEAbilene	
Hannon, Edward Frank, Jr., 1 PPE	Hedrick, August, 2 PPE Houstor Hefley, Richard Finley, 1 CE Cameror Heger, Henry George, 1 Sci Shinei Heidrich, Everett Roy, 1 ME Houstor Heil, Boyce Ferdinand, 2 CE San Antonic Heinen, Emil BoDo, Jr., 1 LA
Hansen, Carl Jasper, 2 ME	Hefley, Richard Finley, 1 CECameror
Hansen, Carl Jasper, 2 MEAvoca	Heger, Henry George, 1 SciShines
Hanson, Raymond LeRoy, 1 AgTaylor Harben, Earle Blewett, 1 CERichardson	Heil. Boyce Ferdinand. 2 CE
Hardcastle, Robert Dalton, 2 IA	San Antonio
Hardin James Sidney 1 TE Tarrell	Heinen, Emil BoDo, Jr., 1 LA
Hardin, Robert Ross, Jr., 4 AATerrell	Heise, Werner Carl, 3 AA La Grange
Hardin, Shirley Law, 1 CM	Heldenfels, Frederick William, Jr., 1 CE
Hardy W Tyree 4 VM Rig Spring	Heldenfels, Frederick William, Jr., 1 CE Beeville Hellums, Earl Coleman, 2 PPE
Harlan, Herman Voss, 3 CEMaysfield	
Hardcastle, Robert Dalton, 2 IA ———————————————————————————————————	Hendril, Weldon Bailey, 2 EE
Harling, Robert Alvin, 2 AgHouston Harper, Everett Charles, 2 EEBrenham	Henck, William Charles, 1 EE Galvestor
	Henderson, Earl Crawford, 1 ME
Harrington, Jack Omar, 3 IA Plano Harrington, Jack Omar, 3 IA Plano Harrington, Jack Omar, 3 IA Terrell	Henderson, Herman Olen, 1 RE Kurter Henderson, Joseph Martin, 1 ME Calver
Harrington, Jack Omar. 3 IA Plano	Henderson, Joseph Martin, 1 MECalver
Harris, Charles Waller, Jr., 1 EETerrell Harris, Julian Chapin, 1 MEFt. Worth	Henderson, J. Y., 1 VMIngram
	Henderson, J. Y., 1 VM
San Antonio Harris, James Thomas, 1 CM Walnut Springs Harris, Kenneth Gale, 1 CE Austin	wickinnet
Harris, James Thomas, 1 CM	Hendrick, Robert Ellis, 3 AAFt. Worth Henrich, Wesley Earl, 1 Ag
Harris, Kenneth Gale, 1 CE Austin	Henry Horse Chastine 3 Arch Abilene
Harris, Marvin Lyle, 4 AA Llano Harris, Nathan, 4 EE	Henry, Horace Chastine, 3 ArchAbilene Henry, Robert Edgar, 2 CESan Antonio
Harris, Nathan, 4 EEDallas	Hensley Harry Simpson, 2 CE
Harris, Stone Datus, 1 MEDallas Harris, Thomas Briton, Jr., 1 ChE	Herbert, Robert Lafayette, 3 LALufkin
Odessa	Herbert, Robert Larayette, a LALurkin Herder, Charlie, Jr., 8 AAWeimen Herfurth, Carl Leroy, 1 AgEngGarland Herndon, Louis Williams, 2 CEDublir Herr, John Joseph, 1 PPEHouston
Harrison, Angus Albert, 1 AALufkin Harrison, Albert Grant, 4 AgEd	Herfurth, Carl Leroy, 1 AgEngGarland
Plainview	Herr. John Joseph. 1 PPEHouston
Hartman, Monroe Arthur, 4 AgEng	Herring, Clinton William, 2 AA
Hartman, Monroe Arthur, 4 AgEng Taylor Harvey, Alexander Thomas, 8 EE	Harrishan Gordon 2 LA Et Worth
Galveston Harvey, Robert Paschal, 1 EE	Hewitt, Wilmer Walter, 2 REGroesbeck
Harvey, Robert Paschal, 1 EE	Heyne, Daniel Henry, 3 LAGlen Flora
Harwell, Garrison Greenwood, 4 LA	Merring, Clinton William, 2 AA San Antonic Herrscher, Gordon, 2 LA Hewitt, Wilmer Walter, 2 RE Heyne, Daniel Henry, 3 LA Glen Flors Hickman, Hector Harrison, 1 LA Rising Stan Hiest Robot 1 LA Delles
Harwood, William Edmund, 3 TECuero	meate, modert, i da
Harwood, William Edmund, 3 TECuero	Hielscher, Charles Newton, 1 ChE
Haslbauer, Alfred, 4 MESan Antonio Hass, Herbert William, 1 CEMission Haswell, Harold Forrest, 1 Ag	Hielscher, Charles Newton, 1 ChE Beaumont Higginbotham, Roswell Gunby, Sp. LA College Station Hiler, Joshua Louis, 4 Ag Friotown Hilgers, Herbert Frederick, 2 Arch San Antonic Hill, Jack Jester, 1 EE Refugic Hill, Thomas Brady, 2 CM Wacc Hill, Thomas Fr, 1 LA Wills Pöint Hill, William Cohn, 1 CE Willis Hilliard, John Fred, 2 LA Rosebut
Haswell, Harold Forrest, 1 Ag	College Station
Haswell, Henry Matthew, 4 Ag Cadar Hill	Hilgers Herbert Frederick, 2 Arch
	. San Antonio
Hatch, Donald Wentling, 3 ChFDallas	Hill, Jack Jester, 1 EE Refugio
Hatch, Graham McFee, 3 CEDallas Hatch, Richard David, 1 ME	Hill. Thomas F., 1 LAWills Point
Hatcher, Craig Elmo, 1 ME	Hill, William Cohn, 1 CEWillis
Hatcher, Craig Elmo, 1 MEDayton	Hilliard, John Fred, 2 LARosebud

Hillin, Wayne Thomas, 2 AgCherokee Hillis, Hugh Wilcox, 4 ChE	Hubbell, Herbert Worthington, 1 ME
Hilamon Flord In 1 ChE Orange	Hudgins, Edgar Hinkle, 1 Ag Hudgerford Hudger Charles Edgar Hinkle, 1 Ag Hungerford
Hindman, Bernie Lain, 4 ME	
Hiner, Thomas Lynn, 3 EEGranbury	Hudson, George Potts, 1 LA
Hinojosa, Thomas, 1 EERio Grande	Hudson, Lester Ray, 1 EEDatura Hudspeth, Edgar Floyd, 1 EEKingsville
Hirons, Ray Acklam, 3 LAPharr	Hudspeth, Edgar Floyd, 1 EEKingsville
Hocker Otic Reverly Jr 2 EE	Huebel, Leon William, 1 LA
Clarksville	Mexico City, Mexico
Hockersmith, Elmo Thomas, 1 CE	Huff, David Harmon, 1 ChE Abilene Huffman, George Glenn, 3 CE Marshall Hughes, Glenn Davis, 2 PPE Taft Hughes, Henry Waters, Jr., 2 Ag Brenham
Hodges, Robert Spessard, 3 AATaft	Hughes Glong Dovie & DDEMarshall
Hoffmeister, Harold Maxwell, 2 ChE	Hughes, Henry Waters, Jr. 2 Ag
Cisco	Brenham
Hofstetter, Fred Ward, 4 LA San Antonio Hokanson, Harry Carl, 1 METexas City Hoke, Cecil Thomas, 2 CMShiro Holcomb, Alfred David, 1 AACollege Sta. Holcomb, Ernest James, 1 ChE	Hughes, William Lycurgus, Jr., 4 LA College Station Hulbert, William Palmer, 1 Sci
Hokanson, Harry Carl, 1 ME Texas City	Hulbert, William Palmer 1 Sei
Hoke, Cecil Thomas, 2 CMShiro	New Orleans, La.
Holcomb, Alfred David, 1 AACollege Sta.	Hull, Noble Lee, 1 Sci Pittsburg
Holcomb, Ernest James, I Chi	Humphris Robert Allen 2 Ag March
Holden, Horace, Jr., 8 EEFranklin	Hunnicutt, Joseph Weldon, 1 Arch
Holke, William Emory, 1 CEHouston	Ft. Worth
Holland, Eiton Allen, 8 MEBryan	Hunt James William 1 And
Holley, Robert James, 1 PPE	Hunt, L. B., Jr., 1 RE
San Antonio	Hunt, Stancil Brown, 1 EESterling
Holliday, Clyde Thomas, 1 EEBallinger Holliman, Charles Irving, 2 PPEVernon	Hunter Liele Rossi 1 ME
Holloway, Marshall Hancock, 2 AA	Hunter, Robert Lealand, 4 Arch
Weimar	Hulbert, William Palmer, 1 Sci New Orleans, La. Hull, Noble Lee, 1 Sci Pittsburg Humason, Dan Will 3 AA Houston Humphris, Robert Allen, 2 Ag Hunnicutt, Joseph Weldon, 1 Arch Hunt, Haskell Howard, 2 AA Houston Hunt, James William, 1 Arch Hunt, James William, 1 Arch Hunt, L. B., Jr., 1 RE Hunt, Kosse Hunt, Stancil Brown, 1 EE Hunt, Waldo Eugene, 1 CM Hunter, Lisle Berni, 1 ME Hunter, Robert Lealand, 4 Arch Hunter, Robert Lealand, 4 Arch Hunter, Ft. Worth
Holman, Burnam Kirk, 1 LADel Rio	Hurley, Jack Edward, Jr., 2 EE New Orleans, La.
Holmes, Frank Leslie, Jr., 4 Arch Waco	Hurst, Don Leo. 8 IA Forming
Holmes, Robert Lee, 1 EEWhite Deer Holsonbake, William B., 3 AgEd	Hurst, Don Leo, 3 IA Ferris Hutcheson, Guy Carlton, 1 EE Denton Hutchins, Donald Stephens, 1 CM Hutchins Course House II Houston
Farmersville Holt, Edward Garland, Jr., 1 CETyler Holt, George Hartzell, 4 EE	Hutchins, Donald Stephens, 1 CM
Holt, George Hartzell, 4 EE	Hutchins, George Harvey, Jr., 1 Sci
San Antonio	Crystal City
Honnell, Pierre Marcel, 4 EE	Hutchison, John Atkins, 2 EE
Horn. Earl Scherer. 1 ChEDallas	East Orange N J
Horn, Huley, B., 2 CMCollege Sta.	Hyde, William Strickland, 1 MEPampa
Horne, Roy Cliford, 2 Ag	Ilse, Lee August 2 AgSabinal
Hornsby Harold Richard 2 Ag Austin	Ilse, John Henry, 8 LA Sabinal Ilse, Lee August, 2 Ag Sabinal Ingle, Gilbert Benjamin, 1 EE
Horsak, Joe Louis, 3 IA	Chapman Ranch
Horton, Ulric Guy, 1 EESabinal	Irby, William Howard 1 DDE Et W
Hovey, Lawrence Merrill, 3 AgLaPorte	Irvin, Wade James, 1 AA Houston
Howard Charlie Cecil, 1 AgMartindale	Irwin, James Benjamin, 4 AA
Howard, Edwin Woodlief, I AgSanderson	Isaacs Alfred William 1 Arch Dall
Howard, Glenn Thompson, 3 SciPearsall Howard, John, 4 ChEDallas	Ish, Frank Welcker, 3 RE Waco
Howard, John, 4 ChE Dallas Howard, Lewis Benton, 1 LA Shreveport, La. Howard, Oswell Jefferson, Jr., 1 Arch	Inglish, Dan Sweeney, 1 EE Bonham Irby, William Howard, 1 PPE Ft. Worth Irvin, Wade James, 1 AA Houston Irwin, James Benjamin, 4 AA Isaacs, Alfred William, 1 Arch Dallas Ish, Frank Welcker, 3 RE Waco Jabbar, Mohàmmed Ali Abdul, 2 Ag Bagdad, Iraq.
Howard Oswall Infforson In 1 Arch	Jackson, Charles William, 4 EE Humble Jackson, Chester Warren, 1 Ag Ed Center Jackson, Horace Randal 1 PDF
Houston	Fostoria
Howard, Ryan Madden, 3 LandAustin	Jackson, Charles William, 4 EEHumble
Howder, James Douglas, 1 LA	Jackson, Unester Warren, 1 Ag Ed Center
Howdeshell, Harmon Martin, 2 ME	Jackson, Chester Warren, 1 Ag Ed Center Jackson, Horace Randal, 1 PPE San Antonio Jackson, Hirman Thomas B., 2 CM Houston Jackson, Judson George, 3 ME
Howe, Lillian Alfred, 1 EE Atlanta Howe, Roland John, 4 Ag Seymour Howe, Ralph Waldo, 4 Ag Seymour Howe, William Culberson, 1 EE Atlanta Hoyt, John Seymour, 4 ME Ft. Worth	Jackson, Hirman Thomas B., 2 CM
Howe, Lillian Alfred, 1 EEAtlanta	Jackson, Judson George, 3 ME
Howe, Ralph Waldo, 4 Ag Seymour	Gainecvilla
Howe, William Culberson, 1 EEAtlanta	Jackson, James Hayes, 1 REGroesbeck
Hoyt, John Seymour, 4 MEFt. Worth Hubacek, John Charles, 1 ME	Jackson, James Leroy, 1 MEBaird
	Jackson, Ralph Semmes, 4 ChE
Hubbard, Harry Jenkins, 1 PPE Marfa	Jackson, James Hayes, 1 RE

Jacobs, Phillip Emil, 4 EE Galveston Jaeggli, John Lewis, 1 LA Moulton Jahn, Frederick Adolph, 1 CE Gonzales Jahns, John Charles, 1 ME Ft. Worth James, Frank Pharis, 4 AA Sonora James, John Warford, 1 EE Livingston Janak, John James, Jr., 4 ME Weimar Janek, Harry William, 1 Ag West Jarratt, Frank Earl, 2 Ag Eola Jarvis, Joe Ben, 1 ChE Tyler Jecker, James Frank, 1 EE Refugio Jefferies, William John Cantrel, 1 ChE Laredo Jeffrey, Jack Cassels, 2 ChE
Jeffrey, Jack Cassels, 2 ChE
Jeffrey, Jack Cassels, 2 ChE Jelinek, Robert, 4 Arch, Granger Jenkins, Robert Elzina, 1 AA Bastrop Jennings, Audrey John, 1 CE Jennings, Joseph Weldon, 3 ME Kosse Jennings, John Will, Jr., 1 EE Brownwood Jernigan, Patrick Allen, 1 EE Lake Charles, La. Jessup, George Kenneth, 2 Ag Dallas
Jennings, Joseph Weldon, 3 MEKosse Jennings, John Will, Jr., 1 EE
Jernigan, Patrick Allen, 1 EE
Jernigan, Patrick Allen, 1 EE Lake Charles, La. Jessup, George Kenneth, 2 Ag Dallas Jett, John Absolum, 3 LA Houston Jimmerson, James Edwin, 2 Land Dallas Jinks, John Fort, 1 ChE Plano Jobson, Theron Simpson, 3 EE San Marcos Johanson, George Henry, 1 Ag Brady John, Philip James, 2 ChE Harlingen Johns, Gill Graham, 2 CM Ft. Worth Johnson, Alfred Peter, 1 LA Alvin Johnson, Curtis Elmer, 1 ChE Gordon Johnson, Curtis Elmer, 1 ChE Gordon Johnson, Charles Edwin, 1 Ag Johnson, Emerson Hubert, 2 AA Hull Johnson, Harold Eugene, 3 CE Yoakum Johnson, James Raymond, 3 CE Pharr Johnson, Louis Broughton, 1 Sci ———————————————————————————————————
Johanson, George Henry, 1 Ag Brady John, Philip James, 2 ChE Harlingen Johns, Gill Graham, 2 CM Ft. Worth Johnson, Alfred Peter, 1 LA Alvin Johnson, Arnold Richard, 2 AA
Johnson, Curtis Elmer, 1 ChE
Johnson, Emerson Hubert, 2 AA
Johnson, Luther Elman, 1 EE
Johnson, Thomas Paul, 4 EE
Johnson, Walter Frederick, 1 Ag
Johnson, Walter Frederick, 1 Ag Johnson, Walter Reynolds, 1 CE Taylor Johnston, Carl Cameron, 1 EE Victoria Johnston, James Alvin, 1 CE Trinidad Johnston, Lawrence Walton, 4 LA Johnston, Thomas Frazier, 4 EE Trinidad Jolly, Wyndal Robert, 2 EE San Antonio Jones, Arthur Schuyler, 1 ME Jones, Charles Ingram, 1 EE Jones, Casey Lavelle, 1 Arch Dallas Jones, Carol Lafayette, 4 Sci Lufkin Jones, E Bedford, 4 Arch Eastland Jones, Henry Murry, 4 AA San Antonio Jones, John Milton, 1 Ag Jones, Leonard Bonham, 2 AA Taft Jones, Lewis Henry, Jr., 1 CE Jones, Robert Steele, 4 Arch Eastland Jones, Robert Steele, 4 Arch Eastland Jones, Robert Steele, 4 Arch Eastland Jones, Welton Horace, 2 Ag Granbury Jones, Welton Horace, 2 Ag Granbury Jones, William Leslie, 4 AgEd Bryan
Johnston, Thomas Frazier, 4 EETrinidad Jolly, Wyndal Robert, 2 EE
Jones, Arthur Schuyler, 1 ME
Jones, Charles Ingram, 1 EE
Jones Casey Lavelle, 1 Arch Dallas
Jones, Carol Lafayette, 4 SciLufkin
Jones, E. Bedford, 4 Arch Eastland
Jones, Foster L., Sp. Ag
Jones, John Milton, 1 AgTeague
Jones, Leonard Bonham, 2 AATaft
Jones, Lewis Henry, Jr., 1 CE Corpus Christi
Jones, Robert Steele, 4 ArchEastland Jones, Welton Horace, 2 AgGranbury Jones, William Leslie, 4 AgEdBryan

Jones, Walter Telfair, 2 CEBelton
Joplin, Seth Ward, 1 ArchAmarillo
Jordan, Jack Merl, 2 EELufkin
Jorgensen, Roy Chilord, 2 EEGalveston Jovee Claude Patrick 1 EE Dallas
Kaddouri, Abdul Karim, 3 Ag
Bagdad, Iraq.
Hallettsville
Kamal, Salim Izziddin, 4 Ag
Kana, Fred John 1 AA La Grange
Kaper, John, Jr., 2 MENederland
Karsteter, Burton Wagner, 2 CE
Kasprowicz, Billie Joseph, 3 AA Brenham
Kauffman, Christian Dailey, 3 EE
Kauffmann Lowis Emile 1 FF Houston
Kavanaugh, Frank Eugene, 4 ME
Port Arthur
Keepers, Hugh Verner, 4 CEKarnes City
Keisling Willis Newton 3 EE Stanton
Keith, Fred Thomas, Jr., 2 CM Dallas
Keith, James Long, Jr., 8 Arch
Keith Beaumont
Keith, Paul Lattimore, 2 ChE Ft. Worth
Kelley, Jay Jackson, 2 MEWoodville
Kelly, Denzil Carl, 1 EERanger
Kelly, Myles Adrian, 1 EE
Kelsey, Mayis Parrott, 1 Sci Denort
Kelt, George Allen, 1 Ag Chatfield
Kenderdine, John Marshall, 1 ChE
Kenderdine, John Marshall, 1 ChE
Kenderdine, John Marshall, 1 ChE
Kenderdine, John Marshall, 1 ChE Ft. Worth Kendrick, Charles Wynne, 2 ME Amarillo Kendrick, Forrest Binford, 1 AA Kendrick, Forrest Binford, 2 Ag Taylor
Jones, Walter Telfair, 2 CE Belton Joplin, Seth Ward, 1 Arch Amarillo Jordan, Jack Merl, 2 EE Lufkin Jorgensen, Roy Clifford, 2 EE Galveston Joyce, Claude Patrick, 1 EE Bagdad, Iraq. Kaddouri, Abdul Karim, 3 Ag Kaddouri, Abdul Karim, 3 Ag Kallus, Vaclav Thomas, 4 Ag Kamal, Salim Izziddin, 4 Ag Nablus, Palestine Kana, Fred John, 1 AA La Grange Kaper, John, Jr., 2 ME Nederland Karsteter, Burton Wagner, 2 CE Bellevue Kasprowicz, Billie Joseph, 3 AA Brenham Kauffman, Christian Dailey, 3 EE Ft. Worth Kauffmann, Lewis Emile, 1 EE Houston Kavanaugh, Frank Eugene, 4 ME Port Arthur Keepers, Hugh Verner, 4 CE Karnes City Keeton, Harry Hampton, 4 LA Ft. Worth Keisling, Willis Newton, 3 EE Stanton Keith, Fred Thomas, Jr., 2 CM Dallas Keith, James Long, Jr., 3 Arch Beaumont Keith, Perry Jack, 1 ME Dallas Keith, Paul Lattimore, 2 ChE Ft. Worth Kelly, Denzil Carl, 1 EE Ranger Kelly, Myles Adrian, 1 EE Monroe, La. Kelsey, Mavis Parrott, 1 Sci Deport Kelt, George Allen, 1 Ag Chatfield Kenderdine, John Marshall, 1 ChE Ft. Worth Kendrick, Charles Wynne, 2 ME Kennedy, Matthew Ranken, 2 Ag Taylor Kennedy, Timothy Charles, 1 CE Latting Taylor Kennedy, Matthew Ranken, 2 Ag Taylor Kennedy, Matthew Ranken, 2 Ag Taylor
Kenderdine, John Marshall, 1 ChE Ft. Worth Kendrick, Charles Wynne, 2 ME Amarillo Kendrick, Forrest Binford, 1 AA Fyler Kennedy, Matthew Ranken, 2 Ag Taylor Kenney, Timothy Charles, 1 CE East St. Louis, Ill. Keppler, Arthur Milton, 2 EE Houston
Kenderdine, John Marshall, 1 ChE Ft. Worth Kendrick, Charles Wynne, 2 ME Kendrick, Forrest Binford, 1 AA Kendrick, Forrest Binford, 1 AA Kennedy, Matthew Ranken, 2 Ag Kenney, Timothy Charles, 1 CE East St. Louis, Ill. Keppler, Arthur Milton, 2 EE Houston Kerbow, Kenneth Walker, 1 LA
Kenderdine, John Marshall, 1 ChE Kendrick, Charles Wynne, 2 ME Amarillo Kendrick, Forrest Binford, 1 AA Tyler Kennedy, Matthew Ranken, 2 Ag Kenney, Timothy Charles, 1 CE East St. Louis, Ill. Keppler, Arthur Milton, 2 EE Kerbow, Kenneth Walker, 1 LA Clarendon Kowley, Odyo Chydo, 2 LA Clarendon
East St. Louis, Ill. Keppler, Arthur Milton, 2 EE
East St. Louis, Ill. Keppler, Arthur Milton, 2 EE
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East St. Louis, Ill. Keppler, Arthur Milton, 2 EE
Keppler, Arthur Milton, 2 EE Houston Kerbow, Kenneth Walker, 1 LA Clarendon Kerley, Odus Clyde, 2 IA Sherman Kerr, Raymond Lawrence, 1 Arch Amarillo Ketterson, Thomas Bagby, Jr., 3 LA Houston Kezeler, James Linden, 4 EE Manitou, Colorado Kidd, Jefferson Bennett, 1 Ag Katemcy Kidwell, Graber Henry, 1 Arch Dallas Kiles, Herbert Carroll, 4 EE Dallas Killough, John Michael, 4 CE
Keppler, Arthur Milton, 2 EE Houston Kerbow, Kenneth Walker, 1 LA Clarendon Kerley, Odus Clyde, 2 IA Sherman Kerr, Raymond Lawrence, 1 Arch Amarillo Ketterson, Thomas Bagby, Jr., 3 LA Houston Kezeler, James Linden, 4 EE Manitou, Colorado Kidd, Jefferson Bennett, 1 Ag Katemcy Kidwell, Graber Henry, 1 Arch Dallas Kiles, Herbert Carroll, 4 EE Dallas Killough, John Michael, 4 CE
Keppler, Arthur Milton, 2 EE Houston Kerbow, Kenneth Walker, 1 LA Clarendon Kerley, Odus Clyde, 2 IA Sherman Kerr, Raymond Lawrence, 1 Arch Amarillo Ketterson, Thomas Bagby, Jr., 3 LA Houston Kezeler, James Linden, 4 EE Manitou, Colorado Kidd, Jefferson Bennett, 1 Ag Katemcy Kidwell, Graber Henry, 1 Arch Dallas Kiles, Herbert Carroll, 4 EE Dallas Killough, John Michael, 4 CE
Keppler, Arthur Milton, 2 EE Houston Kerbow, Kenneth Walker, 1 LA Clarendon Kerley, Odus Clyde, 2 IA Sherman Kerr, Raymond Lawrence, 1 Arch Amarillo Ketterson, Thomas Bagby, Jr., 3 LA Houston Kezeler, James Linden, 4 EE Manitou, Colorado Kidd, Jefferson Bennett, 1 Ag Katemcy Kidwell, Graber Henry, 1 Arch Dallas Kiles, Herbert Carroll, 4 EE Dallas Killough, John Michael, 4 CE
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Keppler, Arthur Milton, 2 EE Houston Kerbow, Kenneth Walker, 1 LA Clarendon Kerley, Odus Clyde, 2 IA Sherman Kerr, Raymond Lawrence, 1 Arch Amarillo Ketterson, Thomas Bagby, Jr., 3 LA Houston Kezeler, James Linden, 4 EE Manitou, Colorado Kidd, Jefferson Bennett, 1 Ag Katemcy Kidwell, Graber Henry, 1 Arch Dallas Kiles, Herbert Carroll, 4 EE Dallas Killough, John Michael, 4 CE
Keppler, Arthur Milton, 2 EE Houston Kerbow, Kenneth Walker, 1 LA Clarendon Kerley, Odus Clyde, 2 IA Sherman Kerr, Raymond Lawrence, 1 Arch Amarillo Ketterson, Thomas Bagby, Jr., 3 LA Houston Kezeler, James Linden, 4 EE Manitou, Colorado Kidd, Jefferson Bennett, 1 Ag Katemcy Kidwell, Graber Henry, 1 Arch Dallas Kiles, Herbert Carroll, 4 EE Dallas Killough, John Michael, 4 CE
Keppler, Arthur Milton, 2 EE Houston Kerbow, Kenneth Walker, 1 LA Clarendon Kerley, Odus Clyde, 2 IA Sherman Kerr, Raymond Lawrence, 1 Arch Amarillo Ketterson, Thomas Bagby, Jr., 3 LA Houston Kezeler, James Linden, 4 EE Manitou, Colorado Kidd, Jefferson Bennett, 1 Ag Katemcy Kidwell, Graber Henry, 1 Arch Dallas Kiles, Herbert Carroll, 4 EE Dallas Killough, John Michael, 4 CE
East St. Louis, III. Keppler, Arthur Milton, 2 EE
East St. Louis, III. Keppler, Arthur Milton, 2 EE
Keppler, Arthur Milton, 2 EE Houston Kerbow, Kenneth Walker, 1 LA Clarendon Kerley, Odus Clyde, 2 IA Sherman Kerr, Raymond Lawrence, 1 Arch Amarillo Ketterson, Thomas Bagby, Jr., 3 LA Houston Kezeler, James Linden, 4 EE Manitou, Colorado Kidd, Jefferson Bennett, 1 Ag Katemcy Kidwell, Graber Henry, 1 Arch Dallas Kiles, Herbert Carroll, 4 EE Dallas Killough, John Michael, 4 CE

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Kirby, Howard Leburn, 1 EE	Laughlin, Elmo Burgess, 3 LAHouston
Milby, Howard Debuth, I Did	Taughin, Einio Burgess, & DAIouston
Chapman Ranch	Laughin, Joseph Grady, I AATurney
Kirk, Bernard, 1 ChEAbilene	Laughlin, Joseph Grady, 1 AATurney Laughter, Pyron Dix, 2 ChEMatagorda
Kirk, Bernard, 1 ChEAbilene Kirk, W. T., 1 VMTemple Kirkham, Harry Lee, 1 ME	Lawson, Lester Farris, 2 AgEngDenison Lawson, John Edward, 1 LAGalveston
Winds Trans. Too 1 MP	Towner Taba Edward 1 TA Calmenter
Kirknam, marry Lee, I ME	Lawson, John Edward, I LAGaiveston
Harrisburg, Ill. Kitley, Dayton Victor, 3 PPEEastland	Lawson, John Mack, 1 Sci Bowie Lea, Norman Jared, 2 EE Marshall Lecoq, Clarence Almon, Jr., 1 CE
Kitley Dayton Victor 3 PPE Eastland	Lea Norman Jared 2 EE Marchall
Kiney, Dayton Victor, o 1111 Dastand	Tica, Morman vareu, 2 1212
Kittredge, Maurice flodges, Sp. FFE	Lecoq, Clarence Almon, Jr., 1 CE
Houston	
Kleber, Fred Michael, Jr., 4 AADallas	Ledhetter William Lutle 1 Sci Ennis
richer, Fred Michael, 61., 4 1111	T. D. J. D. J. C. T. C.
Klein, Theodore Whitham, 2 CE	Lee, Burton Donald, 2 EELaGrange
Klein, Theodore Whitham, 2 CE	Ledbetter, William Lytle, 1 Sci Ennis Lee, Burton Donald, 2 EE LaGrange Lee, Gabriel Jordan, 1 ME Houston Lee, John William, 1 Ag Sherwood Lee, Sidney Claudius, 2 CE Texarkana Leger, Robert Joseph, 1 CM China Leigh Horsen Budgely, 1 PEF
Kleinwort, Edward Earl, 2 AgDonna	Lee John William 1 Ag Shorwood
	Lee, John William, 1 Ag
Knight, Gaylord Arthur, 1 EE	Lee, Sidney Claudius, 2 CETexarkana
Athens, Tenn.	Leger, Robert Joseph, 1 CM
Knight, James Thomas, 1 ChEGary	Leigh, Horace Rudgely, 1 PPE
Kinglie, James Thomas, I One	Deign, Horace Rudgery, I III
Knipling, Edward Fred, 4 Ag	Huntsville
Port Lavaca	Leigh, Mack Fisher, 1 AAAustin
	Lentz, Cody, 4 AARed Rock
Knippa, Edwin William, o 1EKnippa	Lentz, Cody, 4 AARed Rock
Knudson, Monroe Clarence, 2 ME Clitton	Lentz, Dennis Curry, 4 AAKed Rock
Knudson, Monroe Clarence, 2 MEClifton Koch, Malford Christian, 1 EESchertz Koehler, Albert Ernest, 3 AADickinson Koehler, Henry Emil, 1 MEWeimar Koehler, Rudolph Hugo, 2 PPEWeimar	Lentz, Dennis Curry, 4 AARed Rock Leslie, Irby Lee, 1 IATerrell
Washlan Albert Francet 2 AA Diekingen	Leslie, Sydney Clyde, 4 CEHouston Lester, Charles James, 2 EEBeaumont
Koenier, Albert Ernest, & AADickinson	Desile, Sydney Clyde, 4 CE110dstoil
Koehler, Henry Emil, 1 ME Weimar	Lester, Charles James, 2 EEBeaumont
Koehler Rudolph Hugo 2 PPE	Lester, Felix Berkeley, 2 Ag
Diekingon	Now Orleans To
Koerth Robert Lee I AA 102Kum	Levene, Frank, 2 Sci
Kolar John Joe 1 CM Flatonia	Levine Isadore 2 Arch Et Worth
Tr. T.L. Then I A T A Deven	LaVrier William Harren 1 CE
Kolar, John Joe, 1 CM Flatonia Konecny, Johnny Frank, 4 LA Bryan	Levene, Frank, 2 Sci Dallas Levine, Isadore, 2 Arch Ft. Worth LeVrier, William Herman, 1 CE
Kothmann, Henry Fritz, 2 AgMason	
Krezdorn Roy Rankin, 2 EESeguin	Levy, Elehugh 1 EE Waco
Kiezdoin, 100y Italiani, 2 22 miniogani	Levis Coarse Dillin 2 EE Coinselle
Krumbnoiz, Earl Paul, Z Arcii,	Lewie, George Finnip, 5 EEGamesville
East Point, La.	Levy, Elehugh, 1 EE Waco Lewie, George Phillip, 3 EE Gainesville Lewis, George Todd, 1 EE Marshall
Krumbolz David Victor 2 ChE Tyler	Lewis, Gabe William, Jr., 4 Arch
Tr 1 Ale 1 Al-lab 4 Tel Towler	C A-1
Kuehn, Airred Adolph, 4 E.E laylor	San Antonio
Kunkel, Turner Lee, 1 EEMegargel	Lewis, Mitchell Meyer, 1 ChEHouston
Kutner Allan Jack 1 ME Dallas	Lightfoot, James Herbert, 1 CE
Kuther, Allah Dack, I Mil	Designation, values recipere, r OE
Koneeny, Johnny Frank, 4 LA Bryan Kothmann, Henry Fritz, 2 Ag Mason Krezdorn, Roy Rankin, 2 EE Seguin Krumbholz, Earl Paul, 2 Arch, East Point, La Krumholz, David Victor, 2 ChE Tyler Kuehn, Alfred Adolph, 4 EE Taylor Kunkel, Turner Lee, 1 EE Megargel Kutner, Allan Jack, 1 ME Dallas Kuykendall, William Elton, 2 EE Sulphur Springs	Rockdale
Sulphur Springs	Lienz, Edwin Mound, 1 AgCenter Lighthouse, Terrence Summitt, 2 PPE
Kyser, Eugene Elliott, 4 AAMarlin La Boa, Victor, 2 ChEHouston Lacey, Haden Eugene, 2 CMCushing	Lighthouse Terrence Summitt 2 PPE
T. D. Witten & Ch.E. Houston	San Antonio
La Boa, Victor, 2 Chrnouston	San Antonio
Lacey, Haden Eugene, 2 CMCushing	Lightsey, Virgil Raymond, 2 EELuling
Lackey Hubert Byron 4 Sci Ft. Worth	Ligon Lenox Mahan 3 Ag Llano
T. 1: William Ont O AA Con Antonio	Tillia End Vence 1 CE Con Antonia
Lackey, Hubert Byron, 4 SciFt. Worth Lackie, William Ort, 2 AASan Antonio	Ligon, Lenox Mahan, 3 Ag
Lacy, Francis Hickman, Jr., 3 AA	Lindsay, Allen Weldon, 1 EE Sweetwater
Lacy, Francis Hickman, Jr., 3 AA	Lindsey, Reginald Forest, 4 Ag
Tare Maron Door 4 Ag Marble Falls	College Station
Lacy, Myron Dean, 4 Ag	Conlege Station
Lacy, Myron Dean, 4 AgMarble Falls Lagow, Charles Marshall, 1 CEDallas	Lindsley, Wilmer Allen, 1 EE
	Zimmerman. La. Lines, Richard Curry, 1 EE Tyler Linkenhoger, Edgar Morton, 1 AA
Loganoport La	Lines Richard Curry 1 FF Tyles
	Tilling Tillin
Lahourcade, Sidney Frederic, Z AA	Linkennoger, Edgar Morton, I AA
San Antonio	Robstown
Leir Jack 2 Ag San Angelo	
Lian, vaca, 2 Mg	Litchfield, William Howard, 1 ChE
	Litchfield, William Howard, 1 ChE
Laird, Orville, 4 EE Mineral Wells	Litchfield, William Howard, 1 ChEOrange
Lamb, Morris Emberton, 2 AgAsherton	Litchfield, William Howard, 1 ChEOrange Lively, Richard Price, 3 LandDallas
Laird, Orville, 4 EEMineral Wells Lamb, Morris Emberton, 2 AgAsherton Lamb, Newton Willard, 2 SciDallas	Litchfield, William Howard, 1 ChE Orange Lively, Richard Price, 3 Land Livingston, John Henry, 1 ME Alnine
Laird, Orville, 4 EEMineral Wells Lamb, Morris Emberton, 2 AgAsherton Lamb, Newton Willard, 2 SciDallas	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Lamb, Morris Emberton, 2 AgMineral Wells Lamb, Morris Emberton, 2 AgDallas Lamb, Newton Willard, 2 SciDallas Land, Lenior Marlin, 1 AAVivian, La.	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
La Grone, Winfred Cooper, 3 AA Logansport, La. Lahourcade, Sidney Frederic, 2 AA San Antonio Lair, Jack, 2 Ag San Angelo Laird, Orville, 4 EE Mineral Wells Lamb, Morris Emberton, 2 Ag Asherton Lamb, Newton Willard, 2 Sci Dallas Land, Lenior Marlin, 1 AA Vivian, La. Lander, Raphael Heber, 2 AA Dallas	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Laird, Orville, 4 EE	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Laird, Orville, 4 EE	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Laird, Orville, 4 EE	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Laird, Orville, 4 EE	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Laird, Orville, 4 EE	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Laird, Orville, 4 EE	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Laird, Orville, 4 EE	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Laird, Orville, 4 EE	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Laird, Orville, 4 EE	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Laird, Orville, 4 EE	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Laird, Orville, 4 EE	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Landrum, John Marcus, 2 Ag	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Landrum, John Marcus, 2 Ag	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Landrum, John Marcus, 2 Ag	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Landrum, John Marcus, 2 AgTaylor Lane, Robert Bruce, 4 CEJoaquin Laney, Jack Eugene, 3 ChEEastland Lang, Howard Anson, 3 AADallas Lang, Howard Fred, 4 AALlano Langford, Henry Lee, 1 PPEHillsboro Langford, Stuart Smith, 4 EEFt. Worth Langham, Noel Thomas, 1 ChEMission Langley, Roy Martin, 1 EEBlox Langston, Oscar Mathews, 1 CMGarrison Laster, Lawrence Lafayette, 4 ChECuero	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine
Landrum, John Marcus, 2 AgTaylor Lane, Robert Bruce, 4 CEJoaquin Laney, Jack Eugene, 3 ChEEastland Lang, Howard Anson, 3 AADallas Lange, Howard Fred, 4 AALlano Langford, Henry Lee, 1 PPEHillsboro Langford, Stuart Smith, 4 EEFt. Worth Langham, Noel Thomas, 1 ChEMission Langton, Roy Martin, 1 EE	Lively, Richard Price, 3 Land Dallas Livingston, John Henry, 1 ME Alpine Locke, Howard William, 1 Land New Braunfels Locke, Thomas Royal, 1 EE Hightower Locke, Wallace Drummond, 2 LA Bryan Lockey, Nolan Houston, 1 EE Crockett Lockhart, Johnnie E., 3 AgEd Stephenville Loessin, Oscar, Jr., 2 CE Granger Logan, Röbert Stanley, 1 Arch Houston Logsdon, Edward Cowger, 2 Arch Palo Pinto Logwood, Eddie Givens, 1 Ag Atlanta Long, Charles Anderson, 2 CE Dallas Long, Newman Elwayne 3 Ag Como
Landrum, John Marcus, 2 Ag	Lively, Richard Price, 3 Land Dallas Livingston, John Henry, 1 ME Alpine Locke, Howard William, 1 Land New Braunfels Locke, Thomas Royal, 1 EE Hightower Locke, Wallace Drummond, 2 LA Bryan Lockey, Nolan Houston, 1 EE Crockett Lockhart, Johnnie E., 3 AgEd Stephenville Loessin, Oscar, Jr., 2 CE Granger Logan, Röbert Stanley, 1 Arch Houston Logsdon, Edward Cowger, 2 Arch Palo Pinto Logwood, Eddie Givens, 1 Ag Atlanta Long, Charles Anderson, 2 CE Dallas Long, Newman Elwayne 3 Ag Como
Landrum, John Marcus, 2 Ag	Lively, Richard Price, 3 Land Dallas Livingston, John Henry, 1 ME Alpine Locke, Howard William, 1 Land New Braunfels Locke, Thomas Royal, 1 EE Hightower Locke, Wallace Drummond, 2 LA Bryan Lockey, Nolan Houston, 1 EE Crockett Lockhart, Johnnie E., 3 AgEd Stephenville Loessin, Oscar, Jr., 2 CE Granger Logan, Röbert Stanley, 1 Arch Houston Logsdon, Edward Cowger, 2 Arch Palo Pinto Logwood, Eddie Givens, 1 Ag Atlanta Long, Charles Anderson, 2 CE Dallas Long, Newman Elwayne 3 Ag Como
Landrum, John Marcus, 2 Ag	Lively, Richard Price, 3 Land Dallas Livingston, John Henry, 1 ME Alpine Locke, Howard William, 1 Land New Braunfels Locke, Thomas Royal, 1 EE Hightower Locke, Wallace Drummond, 2 LA Bryan Lockey, Nolan Houston, 1 EE Crockett Lockhart, Johnnie E., 3 AgEd Stephenville Loessin, Oscar, Jr., 2 CE Granger Logan, Röbert Stanley, 1 Arch Houston Logsdon, Edward Cowger, 2 Arch Palo Pinto Logwood, Eddie Givens, 1 Ag Atlanta Long, Charles Anderson, 2 CE Dallas Long, Newman Elwayne 3 Ag Como
Landrum, John Marcus, 2 Ag	Lively, Richard Price, 3 Land Dallas Livingston, John Henry, 1 ME Alpine Locke, Howard William, 1 Land New Braunfels Locke, Thomas Royal, 1 EE Hightower Locke, Wallace Drummond, 2 LA Bryan Lockey, Nolan Houston, 1 EE Crockett Lockhart, Johnnie E., 3 AgEd Stephenville Loessin, Oscar, Jr., 2 CE Granger Logan, Robert Stanley, 1 Arch Houston Logsdon, Edward Cowger, 2 Arch Palo Pinto Logwood, Eddie Givens, 1 Ag Atlanta Long, Charles Anderson, 2 CE Dallas Long, Robert Bird, 1 AA Dallas Long, Richard Pate, 2 CE Dallas Long, Rex Talmadge, 1 Ag Midland
Landrum, John Marcus, 2 Ag	Orange Lively, Richard Price, 3 LandDallas Livingston, John Henry, 1 MEAlpine

Loper, Frank Alton, 1 Sci Neches Lord, George Pleasant, 1 Ag Jourdanton Lorraine, George Bruce, 2 CM *Losey, John Jacob, 1 EE Louisville, Ky. Loupot, Judson Emile, 1 AA Dallas Love, Allan Cavitt, 2 CE Ennis Love, Allan Cavitt, 2 CE Ennis Love, Edward Wendell, Jr. 1 LA Love, George Elliott, Jr., 4 Ag Del Rio Love, Joseph Neel, 1 CE Sherman Lovett, George Dare, 1 Arch Groveton Lowe, George Morrison, 1 EE Balboa, Panama Lowrey, Robert Dyer, 4 AA Smithville Lowry, Burris Howard, 4 AA Smithville Lowry, Burris Howard, 4 AA Smithville Lowry, Robert Dyer, 4 AA Smithville Lowedecke, Alvin Roubal, 2 ChE Luedecke, Alvin Roubal, 2 ChE Luedecke, Alvin Roubal, 2 ChE Luedecke, Alvin Roubal, 2 ChE Lumpkin, John Alton, 1 EE Burkburnett Lynch, Warren Harvey, 1 EB McAdams, Ronald Earl, 2 Sci McAdams, Ronald Earl, 2 Sci McAdeman, Roscoe Dow, 4 EE McBride, Lee Burton, 1 EE McBride, Lee Burton, 1 EE McBride, Lee Burton, 1 EE McCalman, Roscoe Dow, 4 EE McCalman, Roscoe Dow, 4 EE McCalman, Francey, 1 Cleburne McClendon, Ernest Andrew, 1 ChE McClendon, Ernest Andrew, 1 ChE McClendon, Ernest Andrew, 1 ChE McCleburne McClendon, Ernest Andrew, 1 ChE McCleburne
*Lesey, John Jacob, 1 EE
Louisville, Ky.
Loupot, Norman Arthur, 1 AADallas
Love, Edward Wendell, Jr. 1 LA
Love George Elliott, Jr., 4 AgDel Rio
Love, Joseph Neel, 1 CESherman
Lowe, George Morrison, 1 EE
Lowrey, Robert Dyer, 4 AASmithville
Lowry, Burris Howard, 4 AA
Luckett, Paul Herbert, Jr., 1 ChE El Paso
Marysville
Luedecke, Alvin Roubal, 2 ChEEldorado
Lumpkin, John Alton, 1 EE
Lynch, Warren Harvey, 1 EE Somerville
McAdams, J. T., Jr., 1 AA Liberty
MeAdams, Ronald Earl, 2 Sci Pilot Point
McAlpine, Richard Leftwick, 3 MEDallas McBride, Ernest Jefferson, 1 AgEd New Baden
McBride, John Vivian, 1 ArchPharr
McBride, Lee Burton, 1 EE
McCalman, Roscoe Dow, 4 EE Caddo, Okla,
McCaughan, John Barnett, 1 AgYancey
McClendon, Ernest Andrew, 1 ChE
McClendon, Perry Thomas, 1 EE
McCluney, Samuel Robert, 2 IA
McConnell, Herbert Clyde, 2 ChE Waco
McCorkle, Claude Henry, Sulphur Springs
McCorquodale, Wilmer Elmer, 5 Chin
McCoun, Ernest Truth, 2 LA San Antonio
McClendon, Ernest Andrew, 1 ChE Cleburne McClendon, Perry Thomas, 1 EE Dothan, Alabama McCluney, Samuel Robert, 2 IA Waxahachie McConnell, Herbert Clyde, 2 ChE McCorkle, Claude Henry, 1 Sci Sulphur Springs McCorquodale, Wilmer Elmer, 3 ChE Orange McCoun, Ernest Truth, 2 LA McCown, Jack, 2 AA Whitney McCubbin, Richard Jackson, 2 Ag WcCubbin, Richard Jackson, 2 Ag McCubbin, Marshall Max, 1 PPE Eastland McCube, Elton Lewis, 4 ME Dallas McCube, San Androio Dallas McCube, Science,
McCullough, Marshall Max, 1 PPE
McCune, Elton Lewis, 4 ME Eastland McCure, Elton Lewis, 4 ME Dallas McCurdy, Clifford Offer, 1 San Antonio McDavitt, Jerome Alleyene, 1 LA San Antonio McDonald, Andrew Hughes, 4 CE Pilot Point McDonald, A. P., 4 EE Leesville, La. McDonald, Edward Owen, 3 ME Jefferson McDonald, Pohest Dungan, 1 ME Abliene
McDavitt, Jerome Alleyene, 1 LA
McDonald, Andrew Hughes, 4 CE
McDonald, A. P., 4 EE Leesville, La.
Jefferson
McDonald, Edward Owen, 3 ME McDonald, Robert Duncan, 1 MEAbilene McDowell, Thomas Harry, 2 TEBonham McElroy, Robert Allan, 1 AgVictoria

McElroy, Raymond Plaxco, 2 AgFt. Worth McEowen, James Herschel, 1 AgEng. McEvoy, Webster, Jr., 3 CE Harlingen McFadden, Paul Marion, 2 PPE Cleburne McFarland, Warden Richardson, 1 PPE McGee, Clarence Albert, 3 EE ... Ft. Worth McGee, Paul Lafayette, 2 PPE ... Bryan McGee, W. C., Jr., 3 CE ... Dodd City McGilvray, LaRue Cooke, 1 ChE ... McGinnis, Francis Kaine, ..., Dallas McGregor, Samuel Emmett, 2 Ag Bryan McGuffin, James Robert, 1 EE Dinero McGuire, John Gilbert, 1 EE Pottsboro McGuire, Jesse Hamilton, 3 EE Austin McGuire, Noel Charles, 1 EE Pottsboro McGuire, Thomas Campbell, 3 ME Houston McJuire, Thomas Campbell, 3 ME Houston McJuirosh. Forrest Raymond, 3 EE McGinnis, Francis Kamp, Jr., 2 Land McIver, Alton Brooks, 1 CM
San Antonio
McKain, Albert Gilchrist, 2 Arch
College Station
TylerCovina, California McKain, Albert Gliefrist, 2 Arcii
College Station
McKay, Edwin Oliver, 2 ME Tyler
McKelvy, Carl, 3 AA Valley Mills
McKenzie, Oswald Kenneth, 1 EE Alba
McKenzie, William Henry, 1 Sci
New Orleans, La.
McKerall, Arthur, 1 EE Elm Mott
McKibbin, Donald Lynway, 1 CE Convoe
McKim Hoke 1 Ag BishopBishop McKinney, William Leslie, 1 EE Anna
McKnight, Arthur Lee, 3 ME El Paso
McKnight, Cyrus, 4 EE Pampa
McKnight, Felix Roy, 2 LA San Antonio McKnight, Reginald Seaman, 1 ChE McLarry, Weldon Gray, 1 EE McMillan, Jesse Marcus, 2 CE McMillian, Noel George, 1 EEAurora, Colo. McMurrey, William Cruse, 3 CE .. McMurtry, Lee Helvey, 1 ME Tulia McNemara, Guy Wolcott, 1 ME Waco McNeel, Day Pattison, 3 Land McNeill, T. D., 1 LA Dallas McNerney, David Boyd, 2 EE Dallas McReynolds, James Harry, Jr., 1 ChESan Antonio ...Sherman McVey, George Walter, Jr., 1 ME _______Denison McWatters, Herman Thornton, 2 CMPittsburg Mabry, Benjamin Bradley, 1 ME San Antonio

Mabry, Hampton, 1 MEBeaumont Machemehl, Louis Arnold, 4 AA	Mayfield, Henry Day
Machemehl, William Paul, 1 AA Bellville Machen, Henry Bailey, 4 Ag Seymour MacNeely, Charles, 1 EE Weatherford Maddox, Warner Vance, 4 Ag Era Madeley, Claude Lewis, 1 EE Conroe Maedgen, Malcolm Allen, 1 Ag Mathis Magrill, Otis Byrom, 1 Ag Marshall Maier, Elmer Alvin, 2 VM Fredericksburg Malore, Clyde Williams, 1 CM Waco Malaise, Lawrence Louis, 3 EE Handley Mailepell, Jack, 1 ME San Antonio Mallory, Cecil Fieldon, 4 Che Dallas Malone, Charles Caldwell, 1 CE Dallas Malone, Charles Caldwell, 1 CE Dallas Malone, Thomas Henry, Jr., 1 ME E! Paso	Mayhugh, John Orin Maynard, Albert An
Machen, Henry Bailey, 4 AgSeymour	
MacNeely, Charles, 1 EE Weatherford	Mayo, Louis Carl, 1 Meadows, Edwin L
Maddox, Warner vance, 4 AgEra	messdows, Edwin L
Maddren Malcolm Allen 1 Ac Mathis	Mebane, Robert Eug
Magrill Otis Byrom 1 Ag Marshall	Mechler, John Louis
Maier, Elmer Alvin, 2 VMFredericksburg	Mecom, William H.
Mainer, Clyde Williams, 1 CMWaco	Meharg, Edgar Lee,
Malaise, Lawrence Louis, 3 EEHandley	Mecom, William H Meharg, Edgar Lee, Meharg, Jack, 2 Ag
Mallepell, Jack, 1 MESan Antonio	Meharg, Joe, 3 Ag Meharg, Sam Grigsb
Mallory, Cecil Fieldon, 4 ChEDallas	Meharg, Sam Grigsb
Malone, Charles Caldwell, I CEDanas	Melcher Pohert Loo
Malone, Thomas Henry, Jr., 1 ME E! Paso Manly, James Hinton, 1 AA Abilene Manning, Ellis Jerome, 1 AA Rusk Manning, James Calaway, 2 EE Dallas Manuel, Forrest Winston, 1 LA Big Spring	Meharg, Travis Byr Melcher, Robert Lee, Melden, Charles Lar Melden, Theodore M
Manly, James Hinton, 1 AAAbilene	Melden. Theodore M
Manning, Ellis Jerome, 1 AARusk	
Manning, James Calaway, 2 EEDallas	Mellor, Walter Scot Melton, Thurman Je
Manuel, Forrest Winston, 1 LA	Melton, Thurman Je
Big Spring	Metz, Milam Sutton
Manuel, vernon Leon, 1 ME Dig Spring	Meyer, George Staf
Manles Homer D 4 ChE Dallas	Meyers, James Mars
Marcum, Clarence Edwin, 1 CEEstelline	Meymarian, Albert
Marion, George Thomas, 2 EEDallas	
Markle, Walter Horace, 8 ME	Michael, Jeo Burke, Michal, Emil Jaros
Port Neches	Michal, Emil Jaros
Marquez, Robert Felipe, 2 EE Yorktown	Middleton, L. D., J
Marra Cacil Douglas 3 ChE College Sts.	Milburn, Jesse Levi,
Marrs, George Robert, 1 AAHarlingen	Miles, Oscar Keith,
Manuel, Forrest Winston, 1 LA Manuel, Vernon Leon, 1 ME Big Spring Manzanera, Lorenzo, 1 CE San Antonio Maples, Homer D., 4 ChE Dallas Marcum, Clarence Edwin, 1 CE Estelline Marion, George Thomas, 2 EE Dallas Markle, Walter Horace, 3 ME Marquez, Robert Felipe, 2 EE Yorktown Marquez, Salvador, 1 LA Yorktown Marrs, Cecil Douglas, 3 ChE College Sta. Marrs, George Robert, 1 AA Harlingen Marshall, Alfred James, 2 ME	Miller, Alvin Julius
Marshall, Berry Luther, 4 AgEdGilmer Marshall, Carroll LaVerne, 4 Sci	Miller, Arthur Oliv Miller, Daniel Bern
Marshall, Berry Luther, 4 AgEdGilmer	Miller, Daniel Bern
Marshall, Carroll LaVerne, 4 Sci	Miller, Earl Camp, Miller, George Earl Miller, Hilmer Alex
Marshall, Robert Pleasant, 1 Ag Heiden beimer	Miller, Hilmer Alex
Marshall, Robert Pleasant, 1 Ag Heidenheimer Marshall, William Neill, 4 AA	Miller, Joe Paul, 1
Marshall, William Neill, 4 AAGilmer	Miller, Joe Paul, 1 Miller, Joseph Holi
Martin, Brice B., Jr., 3 SciWoodville	3.5737 T
Martin, Charles Early, 1 CEAustin	Miller, Louis, 1 La Miller, Richard Gard
Martin Fred William 2 IA Sinton	Miller Virgil Oscar
Martin, George Washington, 4 EEBryan	Milliff, John Henry
Martin, Harvey Bedford, 4 AA Houston	Miller, Virgil Oscar Milliff, John Henry Mills, Ernest Ephra
Martin, John Don, 3 AgEdBryan	Mille Tom Will 2
Martin, John Farris, 2 ArchMorgan	Milner, George LeRe
Martin, Joe Morris, 2 AgMt. Vernon	Mimms, Otho LeRoy Mims, Joe Bryan,
Martin, Oliver William, 1 CM	Mims James Willi
Martinez, Ernesto Gomez, 1 ME	Mims, James Willi Mims, Percy James,
Martin, Harvey Bedford, 4 AA	Miner, Nelson Arm
Mason, Arnold Barbee, 1 EEHouston	
Massingale, John Thomas, 2 1A Sherman	Minnis, Harold Mor
Masterson, Austin Seymour, 1 Mr	Mitcham, John Dun Mitchell, Charles Ed
Mastin Harold Minner, 1 ME Harlingen	Mitchell Christie M
Mathews, Hubert Lynn, 4 RECeleste	Mitchell, Christie M Mitchell, Willis Bry Mitchell, William E Mitchell, William
Mathis, John A., Jr., 2 SciGilmer	Mitchell, William E
Mathis, L. T., 3 ChEWaco	Mitchell, William
Matthews, Will Clifford, 3 EEFt. Worth	
Mattiza, Odes Otto, Z EESiisbee	Mitchell, Willis Wi Modisette, Marion I
Masterson, Austin Seymour, 1 ME San Antonio Mastin, Harold Minner, 1 ME	
San Antonio	Moehlman, C. B
Maxwell, Thomas Marshall, 2 ME	Moehlman, C. B., Moeller, Edwin Je
Ft. Worth	
Maxwell, Thomas Marshall, 2 ME Ft. Worth Maxwell, Walter Earl Syphrett, 3 ME Houston	Mohler, Frank Lee
Mayfield George Malcolm 1 ME	Molkenbur, Fred J Moncrief, Hubert V
El Campo	

Mayfield Henry Davis, 1 Arch
Mayfield, Henry Davis, 1 Arch San Antonio Mayhugh, John Orin, 1 EE Ft. Worth Maynard, Albert Andrew, 1 ME Mayo, Louis Carl, 1 EE Richardson Mayo, Louis Carl, 1 EE Richardson Meadows, Edwin Lionel, 1 EE Mebane, Robert Eugene, 4 ME Lockhart Mechler, John Louis, Jr., 1 CE Hondo Mecom, William Hardy, 1 Ag Spur Meharg, Edgar Lee, 2 C Chillicothe Meharg, Jack, 2 Ag Chillicothe Meharg, Jack, 2 Ag Chillicothe Meharg, Sam Grigsby, 3 Sci Plainview Meharg, Sam Grigsby, 3 Sci Plainview Meharg, Travis Byrom, 3 Ag Gatesville Melden, Charles Larun, 1 CE Mission Mellor, Walter Scott, 1 EE Amarillo Mellor, Thurman Jefferson, 1 ME Ranger Metz, Milam Sutton, 4 Sci Kenedy Meyer, George Staffel, 2 ChE Mayan Meymarian, Albert Thomas, 4 Ag Michael, Jeo Burke, 4 ChE Ft Worth Michael, Emil Jaroslav, 2 ChE Flatonia Middeton, L. D., Jr., 1 Arch San Antonio Milburn, Jesse Levi, 1 EE Corsicana
Lakewood, Ohio
Mayo, Louis Carl, 1 EERichardson Meadows, Edwin Lionel, 1 EE
Mehane, Robert Eugene, 4 ME Lockhart
Mechler, John Louis, Jr., 1 CE Hondo
Meharg, Edgar Lee, 2 CChillicothe
Meharg, Jack, 2 Ag
Meharg, Sam Grigsby, 3 SciPlainview
Melcher, Robert Lee, 2 AALa Grange
Melden, Charles Larun, 1 CEMission
Mission
Melton, Thurman Jefferson, 1 MERanger
Metz, Milam Sutton, 4 SciKenedy
San Antonio
Meyers, James Marshall, 1 MEBryan Meymarian. Albert Thomas. 4 Ag
Michael Ico Purks 4 ChE Et Worth
Michal, Emil Jaroslav, 2 ChEFlatonia
Middleton, L. D., Jr., 1 Arch
Milburn, Jesse Levi, 1 EECorsicana
Miller, Alvin Julius, 2 ChECorsicana
Miller, Arthur Oliver, 4 AAKaty Miller, Daniel Bernard, 3 ME. Hilley
Miller, Earl Camp, 4 ME Denison
Miller, George Earl, 1 MEPort Neches Miller, Hilmer Alex, 4 AAKyle
Miller, Joe Paul, 1 PPEPrinceton
San Augustine
Miller, Louis, 1 LandCorsicana Miller, Richard Gardner, 2 AgFalfurrias
Miller, Virgil Oscar, 4 AgSan Gabriel
Mills, Ernest Ephrain, 1 Ag Del Rio
Mills, Tom Will, 2 LAGroesbeck Milner, George LeRoy, 8 AgWinnsboro
Minms, Otho LeRoy, 1 AARalls
Mims, James Willis, 3 EECleburne
Mines, Percy James, 2 CMFt. Worth Miner, Nelson Armstrong, 1 ME
Minnis Hareld Mouris 1 FF Collinsville
Mitcham, John Dunklin, 3 EEMurchison
Mitchell, Christie Mike, 1 ChE Galveston
Mitchell, Willis Bryan, 1 AgCanton
Mitchell, William Gardiner, 3 AA
Michael, Jeo Burke, 4 ChE Ft. Worth Michal, Emil Jaroslav, 2 ChE Flatonia Middleton, L. D., Jr., 1 Arch San Antonio Milburn, Jesse Levi, 1 EE Corsicana Miles, Oscar Keith, 2 ME Ft. Worth Miller, Alvin Julius, 2 ChE Corsicana Miller, Arthur Oliver, 4 AA Katy Miller, Daniel Bernard, 3 ME Utley Miller, Earl Camp, 4 ME Denison Miller, Earl Camp, 4 ME Denison Miller, Earl Camp, 4 ME Denison Miller, George Earl, 1 ME Port Neches Miller, Hilmer Alex, 4 AA Kyle Miller, Joe Paul, 1 PPE Princeton Miller, Joseph Holman, 4 AA Grieben Miller, Joseph Holman, 4 AA Grieben Miller, Louis, 1 Land Corsicana Miller, Richard Gardner, 2 Ag Falfurrias Miller, Virgil Oscar, 4 Ag San Gabriel Millis, Tom Will, 2 LA Groesbeck Miller, George LeRoy, 3 Ag Winnsboro Mimms, Otho LeRoy, 1 AA Ralls Mims, Joe Bryan, 1 VM Cleburne Mims, James Willis, 3 EE Cleburne Mims, Percy James, 2 CM Ft. Worth Miner, Nelson Armstrong, 1 ME Cleburne Mitcham, John Dunklin, 3 EE Murchison Mitchell, Christic Mike, 1 ChE Galveston Mitchell, Willis Bryan, 1 Ag Canton Mitchell, Willis Bryan, 1 Ag Longview Modisette, Marion Harrison, 1 EE Longview Modisette, Marion Harrison, 1 EE MC Mc Modisette, Marion Harrison, 1 EE Mc
Modisette, Marion Harrison, 1 EE
Mitchell, William Gardiner, 3 AA Longview Mitchell, Willis Wilson, 1 Ag Longview Modisette, Marion Harrison, 1 EE Moehlman, C. B., 3 EE Bryan Moeller, Edwin Jens, 2 ME Larchmont, N. Y. Mohler, Frank Leon, 4 CE Cameron Molkenbur, Fred Julian, 1 Ag Houston Moncrief, Hubert Wilson, 1 Arch Beaumont
Moeller, Edwin Jens, 2 ME
Mohler, Frank Leon, 4 CECameron
Moncrief, Hubert Wilson, 1 Arch
Beaumont

Monroe, James Edward, Jr., 3 Arch	Morton, Ch
El Faso	Manalan M
Monroe, James William, 1 MELockhart Montague Walter Russell 2 EE	Moseley, M
	Moseley, S
	Moser, Aug
Montemayor, Mario, 4 Ag	Moser, Chri
Jaumave, Tamps, Mexico	***************************************
Montfort Frank Edwards, 2 Arch	Moser, Will Moses, Term Moss, Kenn
Corsinana	Moses. Ter
7 7 7 7 600	Moss Kenn
Corsicana Montgomery, James Robert, Jr., 1 CE Waco	Mother paw
Manual Collins of ME	incomer span
Montrief, Richard Oldham, 3 ME Moody, Dwight L. 4 EE Tehuacana	Moughon,
Ft. Worth	moughon,
Moody, Dwight L., 4 EETehuacana	37. 11 0
Moody, Ernest Kendall, 1 Ag	Moulden, Ca
Tlahualilo, Mexico	Mowery, Cr
Moody, Garland Elisha, 1 EE	Mowery, Ir
Moody, Ernest Kendall, 1 Ag	Moulden, Ca Mowery, Ch Mowery, Ir Mueller, Fr Mullins, Si
Moody, Joseph Calvin, 1 ChE	Mullins, Si
Corpus Christi	
Moon Lemuel Harold, 4 TE Troup	Munnerlyn,
Moon, Lemuel Harold, 4 TE Troup Moon, Thomas Jefferson, 3 Ag Harlingen	Murchison,
Harlingen	Murchison,
Mooney John Butler 1 AA Hearne	
Moon Charles Manly 9 TF Calveston	Murphy Co
Moore Alven Augustus 9 Ag Itages	Murphy, Cy Murphy, Ja
Moore, Alvan Augustus, 2 Ag	
Moon, Inomas Jeilerson, 6 Ag Marlingen Mooney, John Butler, 1 AA Hearne Moor, Charles Manly, 2 TE Galveston Moore, Alvan Augustus, 2 Ag Itasca Moore, David Dunbar, 2 EE Houston Moore, Edwin Mathes, 3 LA Houston Moore, Frank Varney, Jr., 1 ChE Pelly Moore, Forrest Whatley, 1 Ag Somerville Moore, John Wright, 2 ChE LaGrange Moore, Leslie Stewart, 4 ChE College Station Moore, Martin Andrew, 1 Ag College Station Moore, Percy Hastings, 1 PPE Dallas Moore, Samuel Ausburn, 4 Ag Mt. Vernon Moore, Thomas Franklin, 4 Ag Ed Perrin Moore, Thomas Guy, 1 CE Oakwood Moore, Thomas Khleber, 1 ME Texas City Moore, Warren Neal, 2 Ag Alvin	Murphy, Pr Murphy, W Murray, Hu Murray, He
Moore, Edwin Matnes, 5 LAnouston	Mumphy, Ti
Moore, Frank Varney, Jr., 1 Che Pelly	Murphy, W
Moore, Forrest Whatley, 1 Ag	Murray, H
Somerville	Murray, He
Moore, John Wright, 2 ChELaGrange	Murray, To Muzquiz, Ju
Moore, Leslie Stewart, 4 ChE	Muzquiz, Ju
College Station	
Moore, Martin Andrew, 1 Ag	Myers, Clye Myers, Wil
College Station	Myers, Wil
Moore, Percy Hastings, 1 PPEDallas	
Moore, Samuel Ausburn, 4 Ag	Nagy, Fran Nagy, John
Mt. Vernon	Nagy, John
Moore, Thomas Franklin, 4 Ag Ed Perrin	Nahas, Jack
Moore, Thomas Guy, 1 CEOakwood	Nance, Alte Nance, Wil
Moore, Thomas Khleber, 1 METexas City	Nance, Wil
Moore, Walter Curham, Jr., 1 Arch	Nanigian,
Austin	***************************************
Moore, Walter Curham, Jr., 1 Arch Austin Moore, Warren Neal, 2 Ag Alvin Morehead, Arthur Owen, 1 LA College Station Morgan, Charles Emmett, 1 Sci Houston Morgan, George Pierce, Jr., 1 EE McAllen	Nanney, No
Morehead Arthur Owen, 1 LA	
College Station	Nash, Cleve
Morgan Charles Emmett 1 Sci Houston	Neal, Rayn Neale, Joh Nealon, Cla Nebergall,
Morgan Coorgo Diorgo Ir 1 FE	Neale Joh
Modllon	Manlon Cla
Till I Anal	Noborgoll
Morgan, Lilbourn Grey, 1 Arch	Menergan,
To I I will to MIT	Nr. Jb. 1.1. 1
Morgan, Paul Luton, & M.E	Nedbalek, I Needham, I
Leesville, La. Morgan, Robert Alvin, 1 ME	Neednam,
Morgan, Robert Alvin, I MEAmarillo	Neff, Henr Neff, Willi
Morgan, Robert Edward, 1 PPE	Neff, Willi
Amarillo	Neilson, Jo
Morgan, Thomas Denman, 1 LAHamlin	
Morgan, Robert Edward, 1 PFE	Nelson, Osc Nettles, Ro
Ft. Worth	Nettles, Ro
Morris, Anson Padget, 2 AgForreston	Neuhaus, C Neuman, V
Morris, Paul Edward, 1 ChE	Neuman, V
San Antonio	Neumann, I Neumann, E
Morris, Richard Enoch, Jr., 3 CE	Neumann. 1
Rig Spring	Neumann E
Morris Tom Clint 1 Ag Forreston	Neumann 1
Morris Weldon R 2 Ag Winnshows	Neumann, New, Jesse
Morris William Otho 1 CF Unstavilla	Mouman T
Morrison Eugene Legranes 1 MF	Newman, J
Morris, Richard Enoch, Jr., 3 CE Big Spring Morris, Tom Clint, 1 Ag Forreston Morris, Weldon B., 2 Ag Winnsboro Morris, William Otho, 1 CE Huntsville Morrison, Eugene Lawrence, 1 ME Abilene	newman, J
Morrison Herman Rush 4 Ag	Newnam, F
Morrison, Herman Rush, 4 Ag Sutton, W. Va. Morse, George Wesley, 4 AA Linden Mortellra, Ross Lee, 2 AA Houston	newnam, F
Moreo Coorge Wesley A AA Tinden	Newport, V
Mortellra Ross Lee 2 AA Houston	Newsom, A
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Morton, Charles Gilbert, 3 Ag Ed
Moseley, Matt Martin, Jr., 1 EE Dallas Moseley, Sam Leon, 4 EE Italy Moser, August Charles, Jr., 2 AA Dallas Moser, Christopher Otto, Jr., 1 AA Dallas Moser, William Leich 2 AA
Moseley, Sam Leon, 4 EEItaly
Moser, August Charles, Jr., 2 AADallas
Moser, Christopher Otto, Jr., 1 AA
Mosey William Teach 2 AA Dellas
Moses Terry Wayne 1 EE: Rockdale
Moss, Kennard Simon, 3 EE Port Arthur
Mother paw, Jack Martin, 2 ME
Moughon Tom Stewart 2 ChF
Shreveport, La.
Moulden, Carl Dabney, 2 AgCisco
Mowery, Unaries Leslie, 4 AgAimeda
Mueller Frederick Walter 1 Sci Kenedy
Mullins, Sidney Thomas, 1 Arch
Houston
Munnerlyn, James Mouzon, 2 AgWaco
Murchison, Robert Grady, 2 AgHaskell
Murchison, Weldon Octavious, 4 LA
Murphy, Cyrus Burrill 1 ME Mission
Murphy, James Lawrence, 1 Sci
Ft. Worth
Murphy, Prince Leer, 1 AgEldorado
Murphy, Wince Leerd, I AgEldorado
Murray, Hubert, I ArchHouston
Murray Tom Reed 1 Ag McKinney
Muzquiz, Juan Raul, 1 Arch
Eagle Pass
Myers, Clyde Purvis, 3 SciFloresville
Myers, Willie Homer, 3 EE
Nagy Frank 1 Ag Dillor
Nagy, John, 1 Ag Dilley
Nahas, Jack Nichols, 3 EEBeaumont
Nance, Alton Alonzo, 3 Sci Houston
Nance, William Elma, 3 EELometa
Nance, William Elma, 3 EELometa Nanigian, Bedros, 1 ME
Nance, William Elma, 3 EE Lometa Nanigian, Bedros, 1 ME Alexandria, Egypt Nanney, Nunan Henry, 2 Arch
Nance, William Elma, 3 EE Lometa Nanigian, Bedros, 1 ME Alexandria, Egypt Nanney, Nunan Henry, 2 Arch Breckenridge
Nance, William Elma, 3 EE Lometa Nanigian, Bedros, 1 ME Alexandria, Egypt Nanney, Nunan Henry, 2 Arch Breckenridge Nash, Cleve Crumby, 2 EE Dallas Nash, Cleve Crumby, 2 Tombol
Moseley, Matt Martin, Jr., I EE Dalias Moseley, Sam Leon, 4 EE 1taly Moser, August Charles, Jr., 2 AA Dallas Moser, Christopher Otto, Jr., 1 AA Dallas Moser, Christopher Otto, Jr., 1 AA Dallas Moser, William Jacob, 2 AA Dallas Moses, Terry Wayne, 1 EE Rockdale Moss, Kennard Simon, 3 EE Port Arthur Mother paw, Jack Martin, 2 ME San Antonio Moughon, Tom Stewart, 2 ChE Shreveport, La. Moulden, Carl Dabney, 2 Ag Cisco Mowery, Charles Leslie, 4 Ag Almeda Mowery, Irvin Claude, 2 Ag Almeda Mowery, Irvin Claude, 2 Ag Almeda Mueller, Frederick Walter, 1 Sci Kenedy Mullins, Sidney Thomas, 1 Arch Houston Murnerlyn, James Mouzon, 2 Ag Waco Murchison, Robert Grady, 2 Ag Haskell Murchison, Weldon Octavious, 4 LA Grapeland Murphy, Cyrus Burrill, 1 ME Mission Murphy, Drince Leer, 1 Ag Eldorado Murphy, Prince Leer, 1 Ag Eldorado Murphy, Wince Leerd, 1 Ag Eldorado Murphy, Hubert, 1 Arch Houston Murray, Hubert, 1 Arch Houston Murray, Tom Reed, 1 Ag McKinney Muzquiz, Juan Raul, 1 Arch Eagle Pass Myers, Clyde Purvis, 3 Sci Floresville Myers, Willie Homer, 3 EE Beaumont Nance, Alton Alonzo, 3 Sci Houston Nance, William Elma, 3 EE Beaumont Nance, William Elma, 3 EE Beaumont Nance, William Elma, 3 EE Beaumont Nance, William Elma, 3 EE Lometa Nanigián, Bedros, 1 ME Breckenridge Nash, Cleve Crumby, 2 EE Dallas Neal, Raymond Edwin, 4 AA Temple Neale, John J 4 LA
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Nance, William Elma, 3 EE Lometa Nanigian, Bedros, 1 ME Alexandria, Egypt Nanney, Nunan Henry, 2 Arch Breckenridge Nash, Cleve Crumby, 2 EE Dallas Neal, Raymond Edwin, 4 AA Temple Neale, John J., 4 LA Denton Nealon, Clark Lionel, 3 LA Sar Antonio Nebergall, Harvey Hugo, 1 LA New Braunfels Nedbalek, Ben William, 4 ME Bryan Needham, Earlie Buren, 4 CE Coleman Neff, Henry Carson, 2 ME Laredo Neff, William Deyerle, 4 EE Dallas Neilson, John Warren, 1 Ag Spearman Nelson, Oscar, 2 Ag Aldine Netheles, Robert Clarke, 2 ME Dallas
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Nance, William Elma, 3 EE Lometa Nanigian, Bedros, 1 ME Alexandria, Egypt Nanney, Nunan Henry, 2 Arch Breckenridge Nash, Cleve Crumby, 2 EE Dallas Neal, Raymond Edwin, 4 AA Temple Neale, John J., 4 LA Denton Nealon, Clark Lionel, 3 LA San Antonio Nebergall, Harvey Hugo, 1 LA New Braunfels Nedbalek, Ben William, 4 ME Bryan Needham, Earlie Buren, 4 CE Coleman Neff, Henry Carson, 2 ME Laredo Neff, William Deyerle, 4 EE Dallas Neilson, John Warren, 1 Ag Spearman Nelson, Oscar, 2 Ag Aldine Nettles, Robert Clarke, 2 ME Dallas Neuman, Vincent John, 3 Arch Lukavice, Czecho-Slovakia Neumann, Edwin Robert, 1 RE Marlin Neumann, Erwin Reinhard, 4 AgEd Perry
Nance, William Elma, 3 EE Lometa Nanigian, Bedros, 1 ME Alexandria, Egypt Nanney, Nunan Henry, 2 Arch Breckenridge Nash, Cleve Crumby, 2 EE Dallas Neal, Raymond Edwin, 4 AA Temple Neale, John J., 4 LA Denton Nealon, Clark Lionel, 3 LA San Antonio Nebergall, Harvey Hugo, 1 LA New Braunfels Nedbalek, Ben William, 4 ME Bryan Needham, Earlie Buren, 4 CE Coleman Neff, Henry Carson, 2 ME Laredo Neff, William Deyerle, 4 EE Dallas Neilson, John Warren, 1 Ag Nelson, Oscar, 2 Ag Nettles, Robert Clarke, 2 ME Dallas Neuhaus, Orval Henry, 1 ChE Yoakum Neuman, Vincent John, 3 Arch Neumann, Edwin Reinhard, 4 AgEd Perry Neumann, Erwin Reinhard, 4 AgEd Perry Neumann, West Lared Lared Lared Lared Perry Neumann, West Lared Perry Neuman
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Nance, William Elma, 3 EE Lometa Nanigian, Bedros, 1 ME Alexandria, Egypt Nanney, Nunan Henry, 2 Arch Breckenridge Nash, Cleve Crumby, 2 EE Dallas Neal, Raymond Edwin, 4 AA Temple Neale, John J., 4 LA Denton Nealon, Clark Lionel, 3 LA Sar Antonio Nebergall, Harvey Hugo, 1 LA New Braunfels Nedbalek, Ben William, 4 ME Bryan Needham, Earlie Buren, 4 CE Coleman Neff, Henry Carson, 2 ME Laredo Neff, William Deverle, 4 EE Dallas Neilson, John Warren, 1 Ag Spearman Nelson, Oscar, 2 Ag Aldine Nettles, Robert Clarke, 2 ME Dallas Neuhaus, Orval Henry, 1 ChE Yoakum Neuman, Vincent John, 3 Arch Lukavice, Czecho-Slovakia Neumann, Edwin Robert, 1 RE Marlin Neumann, Erwin Reinhard, 4 AgEd Perry Neumann, Wesley John, 3 AgEd Perry New, Jesse Lee, Jr., 1 Sci Lockhart Newman, John Anton, 1 CM Houston Newman, Jack Lewis 4 CE
Nance, William Elma, 3 EE Lometa Nanigian, Bedros, 1 ME Alexandria, Egypt Nanney, Nunan Henry, 2 Arch Breckenridge Nash, Cleve Crumby, 2 EE Dallas Neal, Raymond Edwin, 4 AA Temple Neale, John J., 4 LA Denton Nealon, Clark Lionel, 3 LA San Antonio Nebergall, Harvey Hugo, 1 LA New Braunfels Nedbalek, Ben William, 4 ME Bryan Needham, Earlie Buren, 4 CE Coleman Neff, Henry Carson, 2 ME Laredo Neff, William Deyerle, 4 EE Dallas Neilson, John Warren, 1 Ag Spearman Nelson, Oscar, 2 Ag Nelson, Oscar, 2 Ag Nettles, Robert Clarke, 2 ME Dallas Neuhaus, Orval Henry, 1 ChE Yoakum Neuman, Vincent John, 3 Arch Lukavice, Czecho-Slovakia Neumann, Edwin Robert, 1 RE Marlin Neumann, Erwin Reinhard, 4 AgEd Perry Neumann, Wesley John, 3 AgEd Perry New, Jesse Lee, Jr., 1 Sci Lockhart Newman, John Anton, 1 CM Houston Newman, John Anton, 1 CM Houston Newman, Jack Lewis, 4 CE
Neale, John J., 4 LA Denton Nealon, Clark Lionel, 3 LA San Antonio Nebergall, Harvey Hugo, 1 LA New Braunfels Nedbalek, Ben William, 4 ME Bryan Needham, Earlie Buren, 4 CE Coleman Neff, Henry Carson, 2 ME Laredo Neff, William Deyerle, 4 EE Dallas Neilson, John Warren, 1 Ag Spearman Nelson, Oscar, 2 Ag Aldine Nettles, Robert Clarke, 2 ME Dallas Neuhaus, Orval Henry, 1 ChE Yoakum Neuman, Vincent John, 3 Arch Neumann, Edwin Robert, 1 RE Marlin Neumann, Erwin Reinhard, 4 AgEd Perry Neumann, Wesley John, 3 AgEd Perry Neumann, Wesley John, 3 AgEd Perry Neumann, Wesley John, 3 AgEd Perry Neumann, Wesley John, 1 CM Houston Newman, John Anton, 1 CM Houston Newman, Jack Lewis, 4 CE Newnam Frank Hastings Lr 3 CE
Neale, John J., 4 LA Denton Nealon, Clark Lionel, 3 LA San Antonio Nebergall, Harvey Hugo, 1 LA New Braunfels Nedbalek, Ben William, 4 ME Bryan Needham, Earlie Buren, 4 CE Coleman Neff, Henry Carson, 2 ME Laredo Neff, William Deyerle, 4 EE Dallas Neilson, John Warren, 1 Ag Spearman Nelson, Oscar, 2 Ag Aldine Nettles, Robert Clarke, 2 ME Dallas Neuhaus, Orval Henry, 1 ChE Yoakum Neuman, Vincent John, 3 Arch Neumann, Edwin Robert, 1 RE Marlin Neumann, Erwin Reinhard, 4 AgEd Perry Neumann, Wesley John, 3 AgEd Perry Neumann, Wesley John, 3 AgEd Perry Neumann, Wesley John, 3 AgEd Perry Neumann, Wesley John, 1 CM Houston Newman, John Anton, 1 CM Houston Newman, Jack Lewis, 4 CE Newnam Frank Hastings Lr 3 CE
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Newton, Guy Allison, 1 EEFarrell, Penn.	Parker, Floyd Bond, 2 ME
Nicholl, Worth Howard, 2 METulia	
Nichols, Thomas Arthur, 1 EE	Parker, Finley Murdall, 2 PPE
Corpus Christi	Galveston
Nixon, Angus Gray, 1 CECanton	Parker, Forrest Rupert, 1 Arch Dallas
Nixon Daniel Decatur 3 CE Gonzales	Parker, Harry Everett, 1 MEOrange
Nixon, Daniel Decatur, 3 CEGonzales Noake, Bulis Newton, 1 CM	Parker, John U., 2 IA Sherman Parker, William Henry, 2 EE Milford Parker, William Louis, 1 ME Hereford Parker, William Vale, 3 LA Dallas
San Antonio	Parker, William Henry, 2 EEMilford
Nolan, Willis, 1 AgSanta Rosa	Parker, William Louis, 1 MEHereford
Nored, Eugene, 1 AAFt. Worth	Parker, William Vale, 3 LADallas
Nolan, Willis, 1 Ag Santa Rosa Nored, Eugene, 1 AA Ft. Worth Norman, George Henry, 4 TE Kaufman	Parkhill. Joseph Brooks. 1 CE
North Harvey Steinle, 3 Chr.	Huntsville
San Antonio	Parmesan, Daniel Joseph, 2 ME, Houston
Northup, Claude Brown, Jr., 4 MEDallas	Parr, Irvin Glenn, 1 SciSabinal
Northup, Claude Brown, Jr., 4 MEDallas Norton, Adolphus Blackwell, 1 EE	Parr, Irvin Glenn, 1 Sci
Grandview	Parsons, William Blaine, 1 Sci
Norton, Jesse Leo, 4 Arch,Greenville	San Antonio
Norwood, Jack Kyle, 2 ArchBeaumont	Parsons, Waiter Herbert, Jr., 4 Arch
Noton, Robert Peirson, 1 CEAustin	Palestine
Novosad, August Joe Thomas, 3 AA	Pate, James Hendrix, 1 CEHidalgo
Nowotny, Berthold Eugen, 3 IA	Patrick, Thomas Edison, 2 PPE
Nowotny, Berthold Eugen, 3 IA	Beaumont
New Braunteis	Patterson, James Alexander, 4 LA
Nutt, James Doyle, Z EE	Pettoron Comusi Walles 1 As
	Patterson, Samuel Walker, 1 AgSan Saba
Observed Februard Albert 2 ChE	Patton, Robert Lyle, 1 MELockhart
O'Bannon, Frank Burdette, 2 CMDallas Obergfell, Edward Albert, 2 ChE San Antonio	Payne Jake Ren 1 Ac Denton
O'Bryan, John Edward, 3 CEEl Paso	Payne, Jake Ben, 1 AgDenton Payne, Leland Dixon, 1 SciEddy
O'Connell, Robert Emitt, Jr., 1 Arch	Payne, Vestal Self, 3 AgEd
Waco	Stephenville
Oden Andrew Curry I MR ATISTIS	Peabody, Joseph Burton, 1 LA Houston
O'Dowd William Charles, 2 AgCleburne	Peace, Roy Jones 2 Ag Paris
O'Dowd, William Charles, 2 AgCleburne O'Farrell, Vernon Lee, 2 ChEGonzales	Pearson, Allen V., 3 AgDel Rio
O'Grady, John Aidan, 1 SciCleburne	Pearson, Allen V., 3 Ag Del Rio Pearson, John Hammond, 1 Sci
Ohls, William Arthur, 2 AgMercedes	Sulphur Springs
O'Grady, John Aidan, 1 Sci	Pearson, Lawrence William 2 LA Alvin
Oliver, Charles Spurgeon, 1 ME	Pearson, Morse Samuel, 3 Arch Bryan Pease, Fred William, 2 VM Austin
Oliver, Gale, Jr., 4 AA San Antonio	Pease, Fred William, 2 VMAustin
Oliver, Gale, Jr., 4 AASan Antonio	Pechacek, Emil Frank, 1 EEFlatonia Peek, Robert Boon, Jr., 2 ChEDallas
Oliver, John Calvin, 3 CESan Angelo	Peek, Robert Boon, Jr., 2 ChEDallas
O'Neal, George DeLongy, 2 CM	reets, George Halsey, Jr., 2 LA
Oliver, Gale, Jr., 4 AA San Annello Oliver, John Calvin, 8 CE San Angelo O'Neal, George DeLongy, 2 CM Mena, Arkansas Orchard, John Malcolm, 1 Ag Bishop Orem, Arthur Buchanan, 4 LA Houston	
Orchard, John Malcolm, I AgBishop	Pellett, Leon Lawrence, 2 ME Dallas
Orem, Artnur Buchanan, 4 LA Houston	Pendleton, Alfred Moore, 2 AADallas
	Pendleton, Homer Alexander, Jr., 3 AA
Orman, James Melvin, 2 CE	Pennington, Harry, Jr., 2 ME
Orton Lowis William 1 EE Bellyne	
Ochorna Russell A Sci Jefferson	Pennington, Thomas, 2 PPE
Oshman Ancil I Sci Richmond	Pennycuick, James McKay, 1 Ag
Overton Merritt Eugene, 3 Ag	
Osborne, Russell, 4 Sci Jefferson Osborne, Russell, 4 Sci Richmond Overton, Merritt Eugene, 3 Ag Stamford Owen, Corbin Ransom, 4 Ag Magnelia Ark	Pepper, Edward Horton, 3 LA
Owen, Corbin Ransom, 4 Ag	Perkins, Glen Lannon, 1 AgEng
Magnolia, Ark.	Perkins, Glen Lannon, 1 AgEng
Owens, Richard Stephen, 1 AgDallas Owens, Thomas Dodson, 1 PPEBonham	
Owens, Thomas Dodson, 1 PPEBonham	Perkins, Holloway Wardlow, 1 ChE
Owsley, Henry Furlow, Jr., 2 MEFt. Worth	Dallas
Ft. Worth	Perkins, James Howard 2 TE Rastron
Paddock, Henry Robert, 1 AAMidland	Perkins, Marshall Dorsey, 1 CE Sulphur Springs Perkins, Malcom Gilbert, 3 AgEd
Padgett, Herbert Augustus, Jr., 3 Arch	Sulphur Springs
Page, Melvin Cleo, 1 CEFt. Worth Page, Melvin Cleo, 1 CEFt. Worth Paggi. Mechel William, 1 PPEBeaumont	Perkins, Malcom Gilbert, 3 AgEd
Page, Melvin Cleo, I CEFt. Worth	Mt. Pleasant
Paggi, Mechel William, 1 PPE Deaumont	Perrin, Weldon George, 1 ME
Paggi, Mechel William, 1 PPEBeaumont Paine, Henry Curtis, 1 SciNacogdoches Palmer, Albert Luther, 3 PPETerrell Palmer, Doyle Hepler, 2 EEHitchcock	San Antonio
Polmer Dovle Henler 9 FF Hitchesele	Perry, Fred Raymond, 1 ME
Palmer, Hal Whitworth, 1 EENavasota	Perry, Robert Terrell, 2 CM
Pelmer Willie K 1 AA Corciona	Logan, New Mexico
Palmer, Willie K., 1 AACorsicana Pampell, Vernon Collet, 2 LAFt. Worth	Perry, Thomas Milton, 1 LA
Parent Frank Watson, 3 Sci Houston	Aronna Dan
To the Transfer France to DDE Market	
Parish. Houston Forrest, I PPE IVIET	Persons, Robert John, 1 EE Brush
Parent, Frank Watson, 3 Sci Houston Parish, Houston Forrest, 1 PPE Tyler Parker, Edward Gardner, 1 VMDallas	Persons, Robert John, 1 EE Bryan Peterson, John Monroe, 1 C Kiomitia

Peterson, Malcolm Laurance, 1 METemple	Powers, William Benton, 3 PPE Beaumont
Petrie, Benjamin Russell, 4 CEElkton, Ky.	Praeger, Charles Eustace, 1 ArchParis Pranglin, John Andrew, 1 PPEPearsall Prassel, Frank Gustave, 1 Arch
Petty, S. J., Jr., 4 EEDecatur Pevton, Andrew Hollingsworth, 4 Ag	Prassel, Frank Gustave, 1 Arch San Antonie Pratorius, Wallace Kramer, 1 Sci
Peyton, Francis Keith, 3 Sci	(¿a lyeston
Pfeiffer, Elbert Halcyon, 2 PPE	Pratt, William Carlton, 2 AACommerce Pratt, Wallace Marvin, 2 ChEJennings, La.
Pfeuffer, Tug Somers, 4 AA	Preddy, William Barker, 1 MEBryan Pressler, Joe Morris, Jr., 1 CEMarshall Price, Charles Gordon, 4 EE
Pfluger, Walter, 1 LA Bishop Pharo, Walter Lafayette, 1 ME Trinidad Phelps, William Hal, Jr., 3 Arch Little Rock, Arkansas Philippi, Olof Ahlen, 1 ChE San Antonio	Price, Charles Gordon, 4 EE San Antonio
Phelps, William Hal, Jr., 3 Arch	Price, Sterling R. Dee, 4 AgEd De Leon
Philippi, Olof Ahlen, 1 ChESan Antonio	Price, Charles Gordon, 4 EE San Antonio Price, Oscar Daniel, 2 CE Garland City, Ark. Price, Sterling R. Dee, 4 AgEdDe Leon Price, Tom Adolph, 1 PPEKingsville Price, Wallace John, 1 AgAlice Provost, O'Neil Edward, 1 ChE
Phillips, Ewell Curtis, 3 ME	Provost, O'Neil Edward, 1 ChE Port Arthur
Phillips, Joe Bailey, 1 SciCrockett Pickard, George Henry, 1 CMCrockett	Pullen Dick Rurnley 2 LA
Pickard, Wilford Frank, 2 ME San Antonio	Provost, O'Neil Edward, 1 ChE Port Arthur Prude, James William, 3 Ag Waxahachie Pullen, Dick Burnley, 2 LA San Antonio Punteh, Guy William, 2 AA Carmona Purl, Robert Hugo, 1 EE Georgetown Pustejovsky, Edwin Roy, 2 CE Runge Putman, Jack Gideon, 1 CE Dallas Pyle, Charles Myron, 2 Land Edinburg Qualls, Thurston Randolph, 2 EE Hillsboro Quillen, George Robert, 4 ME Ft. Worth
Pickett, Charles Lewis, Jr., 3 CE Post Pickle, Chesley Benjamin, Jr., 1 EE	Purl, Robert Hugo, 1 EEGeorgetown Pustejovsky, Edwin Roy, 2 CERunge
Pierce, George Edward, 1 EE Lubbock Pierce, John Foster, 1 PPE Bowie Pietzsch, Louis Robert, Jr., 1 CE	Putman, Jack Gideon, 1 CEDallas Pyle, Charles Myron, 2 LandEdinburg
Pietzsch, Louis Robert, Jr., 1 CE	Quillen, George Robert, 4 ME Ft. Worth
Pietzsch, House Robert, St., Vederland Pigg, Calvin, 4 AgWaxahachie Pigott, Edward Lawrence, 1 AA	Quinn, Thomas Dennis, 1 ArchAustin
Pinchback, Rube Thomas, 1 CE	Rabb, Clarence Eber, 2 ME
Pinnell, Dorsie Montgomery, 1 AA Midland	Rabb, Clarence Eber, 2 ME Rabb, Carl Richard, 1 Ag Rabb, Carl Richard, 1 Ag Raback, Edward Herbert Lawrence, 1 ME Control of the control
Piner Lon Price 1 LA San Antonio	Radack, Henry Eugene, 1 EE Glidden
Pirie, James Edward, 2 Ag EngAlbany Platzer, Harmon Eugene, 1 EESeabrook Pless, Armand Elbert, 1 ChE	Ragsdale, Elmer Martin, 1 AgMcAllen Ragsdale, Lucien Guyton, 2 ME
Pliler, Darwin Milton, 2 IAMineola Pluenneke, Daniel Benjamin, 1 Ag	Ragsdale, William Pleasant, Jr., 1 Ag
Pluenneke, Daniel Benjamin, 1 Ag	Ralph, Donald Ray, 2 Ag
Pluenneke, Henry, 1 Ag	Ramirez, Vincent Cosme, 1 ME
Pool, Harvie Day, 2 Ag	Ramsey, Alfred Richard, 1 CE Bryan Ramsey, Charles August, 1 CMJunction Ramsey, Edward William, 1 Land
Poole, James Everette, 1 CEPort Arthur Pope, Jack, 1 Ag	Garland
Pope, Jack, 1 Ag	Ramsey, James Nelson, 1 LA
Porcher, John Stoney, 2 AgEl Paso Porter, Daniel Boone, Jr., 2 AABelton	Randolph, Frederick Hunter, 4 Land Laredo
Porter, Granville Loomis, 4 EECason Porter William Albert. 4 AA Terrell	Randolph, Leslie Hollis, 1 EE Bryan Randow, Melvin Henry, 4 ME Humble Rankin, Emmett Robert, 4 CE Paris Rankin, Harry Duke, 1 Ag
Posgate, James Charles, 1 PPETexon	Bonkin Emmett Debet 4 CD
Potts, Warren Andrew, 1 ME	Rankin, Harry Duke, 1 AgParis
Porter, Granville Loomis, 4 EE	Rankin, Harry Duke, 1 Ag
Powell, Allen Perie, 3 LACenterville Powell, Jerrell Raymond, 4 EERed Oak Powell, Pohert Jefferson A AgEd	Ratliff, Lewis Edward, 1 AgEldorado Rawlins, Alfred Henry, 3 MEEnnis Rawlins, Francis Marion, 2 Arch
Potts, Warren Andrew, 1 ME Wichīta Falls *Powell, Allen Perle, 3 LACenterville Powell, Jerrell Raymond, 4 EERed Oak Powell, Robert Jefferson, 4 AgEdBlewett Powell, Thomas Hardy, 2 METerrell Powers, Edward Seabury, 1 LA	Rankin, Hammett Robert, 4 UE Paris Rankin, Harry Duke, 1 Ag San Antonio Ratliff, Lewis Edward, 1 Ag Eldorado Rawlins, Alfred Henry, 3 ME Ennis Rawlins, Francis Marion, 2 Arch Lancaster Ray, Claris Boyd, 3 Ag Lamesa Ray, John Allen, 2 ME San Antonio Ray, James Bass, 1 Ag Temple

Ray, John Wesley, 2 EEDallas
Ray, William Oliver, 4 EEHereford
Read, Nathaniel Barkstell, 3 IAWaco Reagin, Leonard Chandler, Jr., 1 ME
Keagin, Leonard Chandler, Jr., 1 ME
Reaser, Vernon Neal, 1 ArchSealy
Reasoner, Mackie Burney, 1 LA
Rechenthin, Calvin Anthony, 2 Ag
Reagin, Leonard Chandler, Jr., 1 ME Reaser, Vernon Neal, 1 Arch Reasoner, Mackie Burney, 1 LA Rechenthin, Calvin Anthony, 2 Ag Reckenthin, Clarence Andrew, 2 Ag Rector, Fred Julius, 2 EE Redding, Egbert Forbes, 1 AgEng Redfearn, Percy Randolph, 2 TE Mt. Pleasant
Waring
Rector, Fred Julius, 2 EEEddy
Redding, Egbert Forbes, I Ageng
Redfearn, Percy Randolph, 2 TE
Rosebud Redfearn, Percy Randolph, 2 TE Mt. Pleasant Redinger, Joe Anthony, 3 ChE Texarkana Reed, Charles O'Conner, 2 AA Temple Reed, Ernest Jesse, Jr., 1 Arch San Antonio
Texarkana
Reed Ernest Jesse Jr 1 Arch
Reed, Ernest Jesse, Jr., 1 Arch Reed, Joe King, 2 EE Clyde Reed, Kenneth Anderson, 1 EE Newport, Ark. Reed, Paul Burton, 1 ChE Bowie Reed, Podge McCauley, 2 LA Moody Reed, Roy Clinton, 2 Mg Marlin Rees, William Nelson, 2 ME Dallas Reese, Carl Evans, 2 Ag Hillsboro Reese, George Gordon, 1 Ag Hillsboro Reeves, William Byron, 1 EE Ranger Reichert, Fred Henry, 3 CE Fort Sam Houston Reid, Andrew Forest, 3 Ag Cólege Sta. Reid, Charles Clifford, 1 CM Alice Reid, Rosson Nat, 1 EE Ft. Worth Reiffert, Ralph Frank, 1 AA Cuero Renfro, John Edwin, 4 AA West Columbia Rettiger, John Finis, 2 CE Temple Revak, Joseph Anthony, 4 IA Beaumont Reynolds, Elbert David, 2 EE Beaumont Reynolds, Jack Allen, 2 ME Sherman Reynolds, James Arthur, 2 AA Bastrop Reynolds, Jordan Kennon, 3 EE Pittsburg Pittsburg Pittsburg
Reed, Joe King, 2 EEClyde
Newport, Ark.
Reed, Paul Burton, 1 ChEBowie
Reed, Podge McCauley, 2 LAMoody
Rees, William Nelson, 2 ME Dallas
Reese, Carl Evans, 2 AgHillsboro
Reese, George Gordon, 1 AgHillsboro
Reeves, William Byron, 1 EE Ranger
Fort Sam Houston
Reid, Andrew Forest, 3 AgConlege Sta.
Reid, Charles Clifford, 1 CMAlice
Reiffert, Ralph Frank, 1 AA Cuero
Renfro, John Edwin, 4 AA
West Columbia
Revak. Joseph Anthony. 4 IABeaumont
Reynolds, Elbert David, 2 EE
Beaumont Sharman
Reynolds, James Arthur, 2 AA Bastron
Reynolds, Jordan Kennon, 3 EE
Reynolds, Morris Sheppard, 1 EE Pittsburg Reynolds, Ray Allan, 1 ME Reynolds, Ray Allan, 1 ME Reynolds, Ray Allan, 1 I EE San Antonio
Pittsburg
Reynolds, Ray Allan, 1 MEEl Campo
Rhine, George Ruffini, Jr., 1 EE
Rhodes, Omer, 1 Sci Houston
Rich, George Clinton, Sp. AgEl Campo
Richards, George Howe, 1 AgGrapeland
Richards, Joseph Webster, Jr., 1 Ag
New Willard
Richards, Wilton Dru, 1 ChECombes
Rhine, George Ruffini, Jr., 1 EE San Antonio Rhodes, Omer, 1 Sci San Houston Rich, George Clinton, Sp. Ag El Campo Richards, George Howe, 1 Ag Grapeland Richards, John Wallace, 4 Ag Waco Richards, Joseph Webster, Jr., 1 Ag New Willard Richards, Wilton Dru, 1 ChE Combes Richardson, Henry Phillip, 1 AgEd Perryton Richardson, Leon, 2 ME Buna Richardson, Percival Charles, 1 EE San Antonio
Richardson, Leon, 2 ME Buna
Richardson, Percival Charles, 1 EE
Richey, Harrell Orrell, 3 Ag San Antonio Richmond, Thomas Rollin, 3 Ag Richter, Charles Edward, 4 LA Richter, James Donald, 3 ME Moulton Rickard, Leonard Wingate, 1 EE San Antonio
Bishmond Thomas Politic 2 As
Richter, Charles Edward 4 LA Laredo
Richter, James Donald, 8 MEMoulton
Rickard, Leonard Wingate, 1 EE
San Antonio

Ridout, Thomas Henry, Jr., 1 EE Rinn, Ralph Elliott, 1 AA Yoakum Rippstein, Raymond Charles, 3 Arch San Antonio Rippy, Charles Calvin, 2 ME Bryan
Risley, Henry Clyde, 1 Ag Asherton
Roark, Frank Lee, Jr., 2 AA Cleveland
Robbins, Philip Leonard, 1 Sci Roberts, James Arthur, Jr., 1 ChE Houston Roberts, Thomas Cruden, I FFE

Eagle Lake
Roberts, Thomas Hyram, 1 ChE __Rosebud
Robertson, Gustav Robert, 3 EE ___Temple
Robertson, Percy Oliver, 4 Ag ____
Mansfield, La. Robinson, Alfred Arnold, 3 ME Robinson, Francis LeRoy, 1 ChE Robinson, Francis LeRoy, 1 ChE

Robinson, Frank Wallace, 1 EE

Eagle Pass
Robinson, Jesse Edwin, 2 EE

Spring
Roden, Howard, 3 ChE

Yoakum
Roderick, Commy Fuller, Jr., 2 ArchDallas Rodgers, James O'Donnell, 1 CE Rodgers, James O'Donnell, 1 CE
Rodgers, Rathbun Alden, 1 Sci ... Waco
Rodieck, Frank Emmett, 1 TE ... Ft. Worth
Rodriquez, Domasco Cavazos, 1 ME ...
Saltillo, Mexico
Rodriquez, Estelan Chapa, Jr., 1 ChE ...
Harlingen
Roelofs, Sam Adams, 4 CE ... San Antonio
Roensch, Julius Damon, 2 EE ...
Smithville .Smithville Rogers, Alexander Swasey, 1 EESan Antonio Roosth, Isadore, 2 ChE Tyler
Roots, Logan Chester, 1 ChE Denison
Roots, Tom Smith, 1 Arch Marshall
Rosenbach, Lawrence John Joseph, Sp. Ag
Rosenbush, John Edward, 2 EE Houston
Ross, Thomas M., 2 ME Waxshachie
Ross, Winfred Graham, 1 EE Gainesville
Rosser, Samuel LeGrande, 1 LA Anson

Rotrekl, Jerrie Julius, 2 CMDallas Rowe, Sidney Elgin, Jr., 1 CE	Schuenemann, Hilmer Walter, 2 RE
San Antonio	Schuessier, Ernest Andrew, 1 EELland
Rowland, Melvin, 1 Ag Del Rio Rowland, Marvin Thompson, 4 CE	Schuessler, Norman George, 3 AgLland Schultz, William Kopple, 3 Arch
Rowley, Ralph Whitaker, 2 ChE	Schumann, Gerald Robert, 4 AABellville Schunior, George Emmanuel, 2 EE
Roy, Edward Day, 1 AASweetwater Ruhland, Erwin James, 1 SciDallas	Edinburg
Rulfs, Carl Henry, 1 EESan Augustine	Schurig, Max Herman, 1 CEGonzales Schwab, William Otho, 1 MEMarlin
Rumfelt, Henry Frederick Coats, 3 ME	Schwope, Chester Adolph, 3 CEWaring
Dallas	Scott, Calvin Thomas, 1 AgCooper
Runyon, John William, Jr., 1 EEDallas	Scott, Calvin Thomas, 1 AgCooper Scott, Frank Stedman, 2 Arch
Russell Ernest Morton 3 Arch	Little Rock, Ark
Ft. Worth	Scott, Joe Edwin, 4 MEPlainview Scully, William Thomas, 2 LADenisor
Russell, Jess Miller, 1 AA Hereford Russell, Walter Doyle, 1 Ag Granbury	Scully, William Thomas, 2 LADenisor
Russell, Walter Doyle, 1 AgGranbury	Seaberg, Ivan, 3 EEDaytor
Rutleage, Jack, I CMKenedy	Seaman, Charles Knight, 2 PPEHouston
Rutleage, John Henry, I CMAlice	Sebastian, Temple Brown, 1 AgHouston
Ryall, Oscar L., 2 AgEdJasper Ryan, Jack Harold, 1 MESan Antonio	Sebesta, Albert Louis, 2 AgMarlin Sechrist, Robert Jaycox, 2 AA
Bylander Dudley Furence 1 CF Colled	Corpus Christ
Rylander, Budiey Eugene, 1 OfGollad Rylander Halley Garison 3 Ag Ruda	Secord, Harold Maynard, 2 REBryan
Sahayrac, Louis, 1 AgEng Houston	Seekatz, Louis Otto, 1 EE
Sadler, Albert Thomas, 1 ME Gatesville	New Braunfels
Rylander, Dudley Eugene, 1 CEGoliad Rylander, Halley Garison, 3 AgBuda Sabayrac, Louis, 1 AgEngHouston Sadler, Albert Thomas, 1 MEGatesville Saenger, Alfred Otto, 3 LABeaumont Safley, David Ward, 1 PPEHouston Salbaye, Bebort 3 EEWebston	Seekatz, Louis Otto, 1 EE
Safley, David Ward, 1 PPEHouston	Sellers, John Dunbar, 3 AgMexis
Saibara, Robert, 3 EEWebster	Sellers, John Dunbar, 3 AgMexis Sellers, Jack Maurice, 1 AADel Ric
Saibara, Robert, 3 EE Webster Saiman, Shakir Taha, 2 Ag Basrah, Iraq. Sait, Samuel Drayton, 1 EE Ft. Worth Sairoz, Bobort Cyc. 1 CE Destry III	Sergeant, Herbert Petrie, 1 ChE
Basrah, Iraq.	Beaumont
Salt, Samuel Drayton, I EEFt. Worth	Sessions, Clyde Dean, 1 Ag
Salyers, Robert Gene, 1 CEDecatur, Ill. Sampson, Joe Welborn, 1 CESaint Jo	Sessions, Hugh, 4 AA
Samuels, George Henry, 1 EE	Settle. Joseph Romeo, 1 LA
San Antonio	Settle, Joseph Romeo, 1 LA Miami, Oklahoms
Sanders, Robert William, 2 ChEDallas	Settles, James Edward, I ME Big Spring
San Antonio Sanders, Robert William, 2 ChEDallas Sanders, Weldon Arthur, 1 Sci	Sewell, Fred Perry, 2 MEDallar
San Antonio	Sewell, Jay L., 2 AgBlooming Grove
Sanders, William Olin, Jr., 1 ArchBryan	Sharrer Dhund Mohley 1 TA
Sandison, Donald Clifford, 1 IA San Antonio Sands, Herschel Walter, 1 Sci East Bernard Sasse, Bruce Eckhardt, 1 CE	Sewell, Fred Perry, 2 ME Dallat Sewell, Jay L., 2 Ag Blooming Grove Shaffer, Thomas Dayton, 4 CE Dallat Shannon, Dhurrd Mobley, 1 LA Normangee Shannon, Ivan Maurice, 2 LA Normangee Sharp, Percy Arnold, Jr., 1 AA Mooringsport, La Shaw, Albheus Jennings, 1 ChE
Sands, Herschel Walter, 1 Sci	Shannon, Ivan Maurice, 2 LA
East Bernard	Normange
Sasse, Bruce Eckhardt, 1 CE	Sharp, Percy Arnold, Jr., 1 AA
Saunders, Jack Emmett, 2 ArchDallas	Shaw, Alpheus Jennings, 1 ChE
Sawyer, Ralph Mershon, 3 CEBeaumont	Henderson
Saxon Merl 2 EE Lifkin	Shaw, Donald Francis, 1 CESomerset Shaw, Freddie Marshall, 1 AgEnnis
Saxon, Merl, 2 EE	Shaw, Freddie Marshall, 1 Ag Ennis
Scaling, George Burford, 1 AA	Shaw, Millard, 2 CE
Scaling, George Burford, 1 AAFt. Worth Scarborough, William Edmond, 1 ME	Shaw, Wade Hampton, 1 EE
Scarborough, William Edmond, 1 ME	Carrizo Springs Shawver, Kermit Dale, 1 AgWillis Shear George 2 ChE
Scarlett, Wendell Ewing, 4 ChE	Shear, George, 2 ChEBryan
Los Fresnos	Shearer, Louis Hollis, 2 PPE
Schaeler, Chester Chris, 2 AA	San Antonio
Scharlach, Arthur Benjamin, 2 Ag	Sheckles, Jack Weathers, 1 MEYoakum Sheckles, Robert Williams Gentry, 1 Ag
Bishop	Yoakum
Scheer, Robert Harold, 2 AgEdMarshall	Sheehy, James Harold, 1 EEFloresville
Schepps, Issie, 2 ChEDallas Schiller, Joseph Robert, 1 AgWest	Shellberg, John August, Jr., 3 EE
Schiller, Joseph Robert, 1 AgWest	Ft. Worth
Schilling, Edward, 1 EEFt. Worth	Shelton, James Davis, 1 IASherman
Schlather Mar Folin 2 MF Cibalo	Shepardson, Frank Albert, 4 CE Waco
Schlather, Max Felix, 2 MECibolo Schmidt, Eugene Joseph, 3 ArchRosebud	Shepherd, Earl Thomas, 1 CE
Schnurr, Carl Edward, I ME	Shepherd Frank Hohner 2 LA Houston
Manitou. Colo.	Sherrill, David Winfred, 3 Ag Kerens
Schoenfeid, Charles Gillett, 1 CE San Antonio Schott, Oscar Joseph, 2 ChE Ballinger	Shepherd, Frank Hobner, 2 LA Houston Sherrill, David Winfred, 3 Ag Kerene Shifflett, George Hardin, Jr., 3 ME
San Antonio	Marble Falls
Schott, Uscar Joseph, 2 ChEBallinger	Shipley, Reuben Commodore, 1 CE
Schriever, Bernhard Adolf, 3 Arch	Shive Bert Davis 1 Sci Rig Spring

Shoemaker, Clarence Young, 4 AA	Smith, Kenneth Campbell, 3 Ag
Jacksonville Shoemaker, Ray Longmire, 1 AA	Smith, Melton, 2 ME Sulphur Springs
Shone, Louis Albert, Jr., 1 Ag	Smith, Melton, 2 MESulphur Springs Smith, Robert Edwin, 2 AABrenham Smith, Richard Marvin, 2 CEHouston Smith, Russell Percy, 2 Arch
Shoultz, James Elwyn, 2 Ag	Smith, Russell Fercy, 2 Arch Corsicana Smith, Ross Weldon, 1 LA Dallas Smith, Samuel Burke, 1 LA Rusk Smith, Samuel Cecil, 2 ChE Catarina Smith, Thomas Field, 3 RE Dallas Smith, Travis Logan III, 4 CE Houston Smith Thomas Masterson Ir, 2 Arch
Sibson, Walter William, 2 Ag	Smith, Samuel Cecil, 2 ChECatarina Smith Thomas Field 3 RE Dallas
Siddall, Cameron, 3 Ag	Smith, William Melville, 1 Sci
Simank, Kermit Ernst, 4 Ag Ellinger Simmons, John Walton, 3 ChE Orange Simms, Clarence Jackson, 2 AA	Snover, Ralph Thomas, 2 CEHouston Snover, Ralph Alexander, Jr., 2 ME
Simpson, Charles Emerson, 3 EE	Snyder, Maurice Paul, 1 EE Dallas Solomon, Harry James, 1 Ag Blossom
Simpson, Kos Morgan, 2 Ag	Solovey, Isadore Lee, 1 ME
Simpson, Newby Clinton, 1 Sci	Gainesville Sorenson, Paul Clark, 1 ME Rockport
Simpson, Raymond Rodell, Jr., 2 EE	Sonners, Lawrence Edwin, 1 EE
Dallas Simpson, William Maurice, 1 AA Harlingen	Ft. Worth
Sims, Joseph Anthony, 1 LAHouston	Spears, Joe Brooks, 1 AgFt. Worth Speed, John Evander, 1 LAKerens Speed, John Murphy, 1 EEMidland Speer, Charles Robert, 1 Arch
Sledge, Marvin, 3 Ag Godley Sleeper, Frederick George, 3 ME Alexandria, La.	San Antonio Spellmann, Rudolph Randall, 2 EE
Sloan, Paul Joseph, 3 AASan Saba Slocomb, Don B., 3 RECameron Slocomb, Edward Milton, 1 EE	Spencer, Henry Cecil, Sp. ArchWaco Spencer, Marston Clyde, 1 EE Amarillo Spiars, Early Nesmith, 2 PPE
Slover, George Baskin, 2 ME Pecos Small Guy Weller 1 Arch Palestine	Spiars, Marshall Lewis, 1 AA
Small, Guy Waller, 1 ArchPalestine Smith, Augustus Barnwell, 3 AgJasper	Sprott, Charlie Montgomery, 2 CM
Smith, Alvin James, 2 ME Knippa Smith, Bill, 1 Arch Ft. Worth Smith, Clyde Brooks, 3 EE Dallas Smith, Clyde Hadley, 1 Ag Bunkie, La. Smith, Curtis Kenneth, 4 EE	Squires, Howard Lynn, 1 MEFt. Worth Stacks, John Allen, 2 CERanger Staffel. Eugene Otto. Jr 2 ChE
Smith, Curtis Kenneth, 4 EEArk	Stafford, Joseph Walker, Jr., 1 LA
Smith, Charles Royal, 1 EE	Stafford, Ralph Leonard, 3 EE Pasadena
Smith, Dyer Stephen, 1 SciBig Spring	Stakes, Harry Carlyle, 1 CEOrange Stanchos, Alvin Arthur Emil, 2 ME
Smith, Earl Frank, 1 ChELancaster Smith Edward James, Jr. 2 ChE	Staples, William Duncan, 4 CE
Smith, Erwin James, 1 ME	Stapp, Edward Long, 2 CMDallas Starcke, Eugene Paul, Jr., 2 EE
Smith, George Garrette, 4 Arch	Stark, Atmar Robert, 2 Sci Groveton
Smith, George Jefferson, 2 EEGonzales Smith, Houston Edward, 1 Ag	Stark, Wilfred Richard, 4 AgPortland Starkey, Thomas Westlake, 1 LALa Feria
Smith, Halton Frederick, 1 CMHouston	Starnes, Robert Edgar, 3 VM Dallas Starnes, Robert Edgar, 3 VM Dallas Starr, A. G., 1 CE Sugarland Standt, Everett Vance, 1 EE Ft. Worth
Smith, Henry James, 2 EE Pecos Smith, Hunter Leslie, 2 ME Dallas	Standt, Everett Vance, 1 EEFt. Worth Steele, Ernest Jack, 1 CEDenison
Smith, Hunter Leslie, 2 ME Dallas Smith, James Bradley, 3 EE Dallas Smith, John Lyle, 1 ME Dallas Smith, John Williamson, 1 VM	Steele, Ernest Jack, 1 CEDenison Steele, Seth Hockett, 4 CEChilton Steele, William Ernest, Jr., 1 EEAlvin
Smith, John Williamson, 1 VMPort Arthur	Steidley, James Jackson, 1 LA

Stein, Alfred Ernest, 3 CE
Stein, Alfred Ernest, 3 CE New Braunfels Steinmann, Weldon Aubrey, 1 AA Grange Stenzel, Leroy George, 1 LA Stephens, Lonnie C., 1 ChE Stephens, Turney Vertrees, 4 CE Stephenson, Clayton, 1 ChE Stephenson, Ernest Robert, 2 Ag Stephenson, Felix Lee, 4 CE Stephenson, Felix Lee, 4 CE Clyde Clyde Clyde Clyde Clyde Clyde Steinmann, Nemond Clyde Clyde Clyde Clyde Clyde Clyde Clyde La Grange Gedon Stephenson, Clayton, 1 Che Bremond Stephenson, Felix Lee, 4 CE Clyde Clyde Clyde Clyde Clyde
La Grange
Stenzel, Leroy George, I LAHouston
Stephens, Lonnie C., 1 ChEGordon
Stephens, Turney Vertrees, 4 CEDallas
Stephenson, Clayton, 1 ChEFloresville
Stephenson, Ernest Robert, 2 Ag
Bremond
Stephenson, Felix Lee, 4 CE Whitesboro
Stephenson, Nunnally Pierce, 4 AgEd
Stephenson, Walter Pickett, 2 ME
Stephenson, Walter Pickett, 2 ME
Floresville
Stewart, Howard Denver, 1 ME
Angleton
Stewart, Heber Thomas, 3 AgEng
Poplarville, Miss.
Stewart, Lonzo Floyd, 1 Ag Temple
Stewart Mortimer Henry 3 EE Bay City
Stewart Sim Brooks 2 EE
New Waverly
Stiles Maurice Valentine A Ag
Wayahachie
Stimen Homer James 1 DDF Houston
Stingen Milton Advisor 1 Ag Itages
Chitalan Dahant II 0 TA Caritalian
Stiteler, Robert Harry, & LA Smithville
Stobart, Edward Alexander, 2 EE Orange
Stockett, John Henry, 1 ChE
Centerville, Miss.
Stockton, Bragg Alexander, 4 IA
Stephenville
Stoerner, Oswald Richard, 3 ME Waller
Stokes, William Bayard, 1 Sci
San Antonio
Stone, Charlie Joe, 2 ArchSan Angelo
Stone, Stephen Philip, 1 PPEHouston
Storey, Arthur Lipscomb, 4 CEHouston
Storey, Bruce Allen, 2 PPE
San Antonio
Stewart, Howard Denver, 1 ME Angleton Stewart, Heber Thomas, 3 AgEng Poplarville, Miss. Stewart, Lonzo Floyd, 1 Ag Temple Stewart, Mortimer Henry, 3 EE Bay City Stewart, Sim Brooks, 2 EE New Waverly Stiles, Maurice Valentine, 4 Ag Waxahachie Stimson, Homer James, 1 PPE Houston Stinson, Milton Adrian, 1 Ag Itasca Stiteler, Robert Harry, 3 LA Smithville Stobart, Edward Alexander, 2 EE Orange Stockett, John Henry, 1 ChE Centerville, Miss. Stockton, Bragg Alexander, 4 IA Stephenville Stobart, Stephenville Stoerner, Oswald Richard, 3 ME Waller Stokes, William Bayard, 1 Sci Stone, Charlie Joe, 2 Arch San Antonio Stone, Stephen Philip, 1 PPE Houston Storey, Arthur Lipscomb, 4 CE Houston Storey, Bruce Allen, 2 PPE Storms, Louis Wilson, Jr., 1 EE Storms, Louis Wilson, Jr., 1 EE Ann Antonio Stransky, Jason Upson, 2 LA Savanna, Ill. Straube, William Glenford, 1 ME Ann Arbor, Michigan Strickland, C. H., 4 AA Garrison Strickland, George Washington, 2 CM Dallas Striegler, Harvey Riley, 4 EE
San Antonio
Stovall, Guy Carl, 1 LAEl Campo
Stransky, Jason Upson, 2 LA
Savanna, Ill.
Straube, William Glenford, 1 ME
Ann Arbor, Michigan
Stribling, John Wilson, 4 MELlano
Stricker, Eugene Nelson, 3 LAWaco
Strickland, C. H., 4 AAGarrison
Strickland, George Washington, 2 CM
Dallas
Striegler, Harvey Riley, 4 EE
Fredericksburg
Stripling, Allen Adair, 1 EE Big Spring
Stripling, Robert Erastus, 1 Sci
San Augustine
Stripling, Ralford Leak, 3 Arch
San Augustine
Stripling, William Benjamin, 1 Ag
Nacogdoches
Stroman, Ewing Melvin, 2 AA
Ardmore, Okla.
Stromberg, Jack Elmer, 1 Ag Lockhart
Stromberg, Roland E., 4 IALockhart
Stroud, Clark Clarence. 3 CEFt. Worth
Stryker, James Timothy, 1 EE Woodville
Stuart, Omar Guinn, 2 EE College Sta
Stubblefield, Warren Dan, 1 CE
San Antonio
Sudderth, Earle Ward, 2 CE Leonard
Suggs, Robert Leslie, 2 EE San Antonio
Strickland, George Washington, 2 CM

Sullivan, Robert Augustus, Jr., 4 EE ... Shreveport, La. Summar, Charles Marion, 3 EEDallas Summers, Elbert Joseph, Jr., 1 LA Palestine

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Pales _____Palestine Taylor, Samuel Douglas, 3 AA Clarksville
Taylor, Barney Buck, 1 LA Belton
Taylor, Charlie Andrew, 2 Ag Dublin
Taylor, David Frank, 1 EE Mt. Pleasant
Taylor, Delbert Harry, 3 Ag Victoria
Taylor, Floyd, 1 AgEd Center
Taylor, John Henry, 3 Ag Dublin
Taylor, Joseph Harry, 4 EE Dallas
Taylor, Joseph Storie, 1 EE Ft. Worth
Taylor, Lewis, 2 Ag Center
Taylor, Murell Kenton, 1 EE

Taylor, Oliver Byrd, 2 Ag Nixa, Mo.
Taylor, Samuel Ardis, 1 EE Tyler
Taylor, Samuel Ardis, 1 EE Tyler
Taylor, Samuel Rudolph, 2 C San Marcos
Teague, James Eldric, 2 Arch Ft. Worth
Teague, Olin Earl, 2 AgEd Mena, Ark
Teasley, Samuel A., 4 Sci Dallas
Teer. Howard Lee, 2 CM Mart
Terry, William Seth, Jr., 1 Sci

Thariot Thomas Handan, 1 AA Theriot, Thomas Hayden, 1 AANome
Thigpen, Robert Loren, 1 AgEng Thomas, Daniel Craig, 1 MECommerce Thomas, Frank Winan, Jr., 3 AASan Antonio Thomas, Gerald Gaines, 1 Arch ... Thomas, Moses Lodwick, 1 EE
Big Spring
Thomas, Norman Drue, 1 Sci El Campo
Thomason, Wayne Elgene, 3 Ag
Decatur Thompson, Charles Noel, 1 ME

Waxahachie

Thompson, Ed, Jr., 2 AA

Cameron

Thompson, Henry Durward, 2 Land

Beeville

Thompson, Homer Edwin, 3 AA

Vernon

Thompson, Oliver Webb, 4 Ag

Winnsboro

Thompson, Perry, 1 EE

Longview

Thompson, Russell Howard, 2 CE

Ft. Sam Houston

Thompson, Reuben Ralph, 1 Ag

Hubbard

Thompson, Thomas Bunnell, 4 Arch San Antonio Thompson, William Henry, 2 AA — Dallas Thomson, Jesse Talmadge, 2 Arch San Augustine Thornal, Reuben Bruce, 4 Sci — Silsbee Thorp, Joseph Lewis, Jr., 2 Sci — Dallas Threadgill, Cecil, 1 ChE — Taylor Thurston, Cecil Ernest, 2 LA — Ardmore, Okla. Timmerman, Henry, 3 EE — Pflugerville
Thompson William Henry 2 AA Dallas
Thomson, Jesse Talmadge, 2 Arch
San Augustine
Thornal, Reuben Bruce, 4 SciSlisbee
Threadeill Cooil: 1 ChE Taylor
Thurston, Cecil Ernest, 2 LA Ardmore, Okla. Timmerman, Henry, 3 EE Pflugerville Tindell, Clyde, 1 CM Rosebud Tingley, Clarence Harvey, Jr., 1 ChE Tinney, Joe Clifford, 4 Ag College Sta. Tippett, John Milton, 2 Ag San Angelo Tittle, Homer B., 1 Ag Hillsboro Tobin, Mylin Patrick, 2 LA Bonham Todd, Aubrey Russel, 3 AA Jacksonville Todd, John Allen, 1 ME Santa Anna Todd, Marvin Cullen, 3 Ag Austin Tolbirt, Ruthven Champion, 1 Sci Columbus Tolhurst, Charles Edward, 2 Ag
Ardmore, Okla.
Timmerman, Henry, 3 EEPflugerville
Tindell, Clyde, 1 CM
Sand Springs, Okla.
Tinney, Joe Clifford, 4 AgCollege Sta.
Tippett, John Milton, 2 AgSan Angelo
Tittle, Homer B., 1 AgHillsboro
Tooln, Mylin Patrick, 2 LABonnam
Todd, John Allen, 1 ME Santa Anna
Todd, Marvin Cullen, 3 AgAustin
Tolbirt, Ruthven Champion, 1 Sci
Tolbirt, Ruthven Champion, 1 Sci
San Antonio
Tolles, Richard Morrell, 1 MEAlamo
Tomme, James Marion, Jr., 4 EE
Cleburne
Tottenham, Kinion Woodson, 3 Ag
Touchstone, Otha Otis, 1 EE
Turnersville
Tottenham, Kinion Woodson, 3 Ag Brenham Touchstone, Otha Otis, 1 EE Turnersville Towery, Charles Dixon, Jr., 2 ChE Crockett
Townsend, William Barton, 1 AA Bastrop
Bastrop
Townsend, William Samuel, 1 ChE
Corpus Christi
Tracy, Carroll Adrian, 3 LAHouston
Trail. James Arthur. Sp. ME
College Station
Trapp, Jim Sims, Jr., 2 MEFt. Worth
Trapp, Wallace William, 4 AAMission
Sherman
Travis, Robert Orlando, 2 Arch Mexia
Tribble, Ray Lowery, 3 CEDallas
Trotter, John Turner, 1 METyler
Trulock, James Smiley, 1 ME Paris
I.a Grange
Tucker, Ivan, 3 CERichland
Tucker, Joseph Henry, 2 CEDallas
Tucker, Royce Edwin, 1 CEPittsburg
Tuffly, Randolph Alton, 1 Ag Houston
Tunstall, David Perry, 4 EEWaco
Turbeville, Arthur Roy, 4 IAYoakum
Turbeville, Lester Edwin, 2 AgYoakum
Turbyfill, Charles William, I TEBonham
Turner, John Henry, 4 Arch
San Antonio
Turner, Lloyd B., 1 PPEHouston
Turrentine, Charles Donald, 2 1A
Tyus, Walter Vernon, 1 EE Meria
Uhr, Robert Jones, 1 EESan Antonio
Uhr, Thomas Lloyd, 1 EE San Antonio
Urbanovsky, Elo Joe, 4 ArchWest
Townsend, William Barton, 1 AA Bastrop Townsend, William Samuel, 1 ChE Corpus Christi Tracy, Carroll Adrian, 3 LA Houston Tracy, Percy Lee, 4 LA Houston Trail, James Arthur, Sp. ME Trapp, Jim Sims, Jr., 2 ME Trapp, Jim Sims, Jr., 2 ME Trapp, Wallace William, 4 AA Mission Travis, Porter McFarland, Jr., 2 LA Travis, Robert Orlando, 2 Arch Mexia Tribble, Ray Lowery, 3 CE Dallas Trotter, John Turner, 1 ME Tyler Trulock, James Smiley, 1 ME Paris Tschiedel, Harvey Frank, 2 AA La Grange Tucker, Ivan, 3 CE Richland Tucker, Joseph Henry, 2 CE Dallas Tucker, Royce Edwin, 1 CE Pittsburg Tufly, Alfred Andrew, 2 AA Houston Tuffly, Randolph Alton, 1 Ag Houston Tunfly, Randolph Alton, 1 Ag Turbeville, Arthur Roy, 4 IA Yoakum Turbeville, Lester Edwin, 2 Ag Yoakum Turbyfill, Charles William, 1 TE Bonham Turner, James Rivins, 2 CE Longview Turner, John Henry, 4 Arch Turner, Lloyd B., 1 PPE Houston Turrentine, Charles Donald, 2 IA McKinney Tyus, Walter Vernon, 1 EE Mexia Uhr, Tobert Jones, 1 EE San Antonio Urbanovsky, Elo Joe, 4 Arch West Vahrenkamp, Robert Henry, 1 AgEng Killeen Valek, George Charles, 1 ME Ennis
Valek, George Charles, 1 MEEnnis

.....San Antonio Van de Putte, John Frank, 1 CMSan Antonio Van Eaton, Raymond Andrew, 1 ChE Vestal, William Jerry, 1 EE Vestal, William Jerry, 1 EE

Athens, Tenn.
Vick, Gilbert Martin, 4 ME

Vines, Wiley Clifton, 3 AgEd

Comanche
Vittrup, Lawrence Julian, 2 Sci

Dallas
Voelkel, Kermit Ernest, 4 AA

Shelby
Vogt, Charles Clifford, 4 EE

San Autorio Wallace, James Lucius, 1 Arch Wallin, Daniel Jackson, 1 EEBryan
Walton, Marion Martin, 4 AACorsicana
Wamble, Albert Cecil, 3 ChE Greenwood, Miss. Wanja Lawrence Frank, 2 EE Weimer Want, Virgil Dee, 2 EE San Antonio Ward, Delbert Russell, 2 CE Harlingen Ward, John Clayton, 3 ChE Weatherford Ward, W. T., 1 Ag Abilene
Ware, Walter Scott, 2 ME Monroe, La.
Wareing, Leslie Kelton, 1 ME Corsicana
Warren, Clifton Court, 2 Ag
San Antonio
Warrick, Thomas Roscoe, 4 Sci Pittsburg
Washburn, John Newton, 2 ME
Catesville Wasson, George Ware, 1 PPEEl Campo Wathen, Ben Southern, 4 LADallas

Watkins, Davis, 4 ChEBay City
Watkins, Davis, 4 ChEBay City Watkins, Leonidas Allyn, 2 ME
Watson, Arthur James, 2 AAMathis
Watson, Leonard J., 4 LAThorp Springs
Watson, Arthur James, 2 AA Mathis Watson, Leonard J., 4 LA Thorp Springs Watson, William Franklin, Jr., 2 AA Watson, William Franklin, Jr., 2 AA Watson, William Hall, 2 LA Tyler Watterson, Travis Karl, 4 AA Bastrop Watts, Albert Byron, 1 Sci. San Antonio Watts, Richard George, 3 CE Dallas Waugh, Malcolm Latimer, 2 CE Strawn Weatherford, Roy Alexander, 1 ME San Antonio Weaver, James Alan, 2 Arch Houston Weaver, William Timothy, 4 Ag Dallas Weaver, William Timothy, 4 Ag Dallas Webb, Hiram Cyrus, 3 ChE Pollville Webb, Lester Ira, 1 RE Flatonia Webb, Rufus Mac, 2 LA Deport Weber, Chester Herman, 1 Arch Beaumont Weber, George Herman, 1 Arch Houston
Watson, William Hall, 2 LATyler
Watterson, Travis Karl, 4 AABastrop
Watts, Richard George, 3 CEDallas
Waugh, Malcolm Latimer, 2 CE Strawn
Weatherford, Roy Alexander, 1 ME
Weaver, James Alan, 2 Arch Houston
Weaver, Joseph Reuben, 4 Ag Dallas
Webb Hiram Cyrus 2 ChE Pollville
Webb, Lester Ira, 1 REFlatonia
Webb, Rufus Mac, 2 LADeport
Weber, Chester Herman, 1 Arch
Weber, George Herman, 1 ArchHouston
Webster, Mason, 1 LAGalveston
Weeks Carl Curtis 1 CF San Benito
Weil, Alex, Jr., 2 Ag
Weisinger, Winifred Burton, 2 AgEng Montgomery
Weller, William Olen, 1 EEBrownsville
Wells, James Esli, 3 Ag
Wells, Rexford, 1 CMRosebud
Welsh, Reuben Maverick, 3 RE
Wenck, August William, 4 EEHearne
Webb, Rufus Mac, 2 LA Deport Weber, Chester Herman, 1 Arch Beaumont Weber, George Herman, 1 Arch Houston Webster, Mason, 1 LA Galveston Wedegartner, Van Dorn, 1 CE San Benito Weeks, Carl Curtis, 1 CE Dallas Weil, Alex, Jr., 2 Ag Corpus Christi Weisinger, Winifred Burton, 2 AgEng Montgomery Weller, William Olen, 1 EE Brownsville Wells, James Esli, 3 Ag Kerens Wells, Jack Werden, 1 ChE San Antonio Wells, Rexford, 1 CM Rosebud Welsh, Reuben Maverick, 3 RE San Antonio Welsh, Reuben Maverick, 3 RE Hearne Wendt, Pier Ernest, 4 AA Brenham Wemoth, Pier Ernest, 4 AA Brenham Wemoth, Pier Ernest, 4 LA San Antonio West, James Daniel, 1 CE Princeton West, James Daniel, 1 CE Princeton Weston, Fred Herman, 2 LA San Antonio Weston, Fred Herman, 2 LA San Antonio Weston, William Ray, Jr., 1 CE San Antonio Wetmore, Harry Davis, Jr., 1 CE Galveston Whaley, Bert Kirkman, 2 ME Dallas
Werner, Elmer Charles, 4 LA San Antonio
West, James Daniel, 1 CEPrinceton
Westbrook, Joseph Weldon, 2 Land
Weston, Fred Herman, 2 LASan Antonio
San Antonio
Wetmore, Harry Davis, Jr., 1 CE
Whaley, Bert Kirkman, 2 MEDallas
Wharton, Harry Graham, Jr., 2 Arch
Whiteless Flord Dolman 1 Ag Worldon
Whitcher, Jack Page, 1 MEDallas
White, Brown Weaver, Jr., 1 AA
White Frank Marries 2 Ag Amborst
White, John William, 1 CEUvalde
White, Robert Lynn, 1 ME Dallas
Whitener W A 2 Ac Purton
Whitley, Clauzell C., 1 SciDayton
Wetmore, Harry Davis, Jr., 1 CE Galveston Whaley, Bert Kirkman, 2 ME Dallas Wharton, Harry Graham, Jr., 2 Arch San Antonio Whitaker, Floyd Delmar, 1 Ag Weslaco Whitcher, Jack Page, 1 ME Dallas White, Brown Weaver, Jr., 1 AA San Benito White, Frank Marrion, 2 Ag Amherst White, John William, 1 CE Uvalde White, Robert Lynn, 1 ME Dallas White, William Howell, 1 ME Dallas White, William Howell, 1 ME Dallas White, Clauzell C., 1 Sci Dayton Whitmire, Harwell Calloway, 1 Ag Midland Whitmire, Milas Witzel, 1 Ag Midland Whitsitt, Charles Dalton, 2 RE Shannon Wiedermann, Bernard, 1 ME Wiggins, John Orr, 1 CM Houston Wiley, Thomas Walter, 1 Ag McKinney Wilkinson, Samuel Lawrence, Stephenville
Whitmire, Milas Witzel, 1 Ag Midland
Whitsitt, Charles Dalton, 2 REShannon
New Braunfels
Wiggins, John Orr, 1 CM
Wiley, Thomas Walter, 1 AgMcKinney
Stephenville

Willenbróck, Raymond, 2 EESan Antonio Williams, Carroll Lee, 2 SciSan Antonio Williams, Ernest Leroy, 1 Ag Williams, George Samuel, 1 EE

Williams, Harvey Joe, 3 EE

Williams, Henry Swan, 4 EE

Sept. Appleads

Dodd City Williams, Ira Lawson, 4 AgEng Dallas Williams, John Cornelius, Jr., 2 EE Williams, James Kenneth, 4 AgEdDenison Williams, Marvin Reuben, 3 ChEHumble Williams, Paul Leslie, 1 RE
San Marcos
Williams, Wilton Edward, 2 AgEd Williams, Wilton Edward, 2 AgEd Florence
Williamson, U. L., 1 EE Bloomburg
Williamson, William Raymond, 1 ChE Florence
Ft. Worth
Willingham, Juddie Johnson, 3 Ag College Station
Willis, Fred Cope, 1 Ag Hubbard
Willke, Herbert Louis, 4 EE Boerne
Willmann, Walter Clarence, 4 Ag Mason
Willoughby, Roy Lynn, 4 AA Voth
Willson, Elmer James, 3 CE Sherman
Wilson, Carl, 1 Ag Moore Wilson, Carl, 1 Ag Moore
Wilson, Edward Wheelock, 4 ChE
Cleburne
Wilson, Frank McDaniel, Jr., 1 EE Wimberly, James Rector, 4 CE Wolford, Henry Rollins, Jr., 2 Sci
San Antonio
Wolf, William Monroe, 2 ME
Corpus Christi
Woltz, Robert P., 4 Arch
Wood, Alan Gabert, 2 ChE
Wood, Harrison DeLos, 3 Ag
Wood, John Fielding, 4 Ag
Waco

Wood, Leonard Temple, 1 Ag
Wood, William Biles, 1 ChE
Hazlehurst, Miss.
Woodall, Harry Lee, Jr., 1 CE
Port Arthur
Woodall, Russell Arvalee, 8 CECelina
Woodland, Sully S., 1 AgCordel Woodley, Noel Henry, 2 ChEShamrock
Woodlief, Wallace Hill, 4 EE
Woodman, James Otis, 2 AgAustin
Woodman, James Otis, 2 AgAustin
Woods, Bryant Crawford, 2 CE
Woolley, Hershel Pinckney, 3 EE
Woolverton, Blake Marcelle, 1 CE
Woolverton, Blake Marcelle, 1_CE
Wooton, Taylor Edward, 2 RE
Thorndale
Word, Calvin Ross, Jr., 1 Ag
worden, raul, 4 DAratmersvine
Worden, Robert Francis, 1 Arch
Arrey, New Mexico
Wotipka, Eli Oscar, 1 AASmithville
Motipka, Eli Oscar, 1 AA
Motipka, Eli Oscar, 1 AA Smithville Wright, Claud William, 1 AgAustin Wright, James Travis, 2 AA Ft. Worth Wright, Madison Brown, 3 Arch Throckmorton Wright, Marion Fendall, 1 LA Red Rock Wright, Robert Alexander, Jr., 1 Ag Lampasas Wright, Richard Howell, 1 Ag Alfred Wright, Willard Morris, 2 EE
Motipka, Eli Oscar, 1 AA

*
Wupperman, Walter Ernest, 2 Ag
Wurzbach, Ellis Otto, 1 Ag
Wurzbach, Ellis Otto, 1 Ag San Antonio Yarbrough, Henry Bowen, 1 EE Galveston
Yates, Max. Gene. 1 CEKaufman
Nederland
York, Otho Van Beuren, 1 CEForney Young, A. William, 2 CMSmithville
Young, Clarence Clinton, 3 VMGraham Young, Charles Hamilton, 2 MEKyle Young, Edward Burleson, 1 LandAustin
Young Laurence Mistrot, 1 CM
Young, Ray Hubert, 2 Ag Lockhart
Young, Vernon Graham, 1 PPEKilgore Young, Wilburn Henry, 1 CMFlorence
Young, Waymon Robert, 1 ChE
Zachry, Guy Rowan, 2 ChEKerrville Zarafonetis, George Harry, 2 ChE
Zertuche, Pedro Rios, 1 Ag
Zertuche, Pedro Rios, I Ag
Zesch, Milton, 4 AA Mason Zieschang, Leroy Elmer, 1 PPE
Zimmerman, Bennie Gus, 2 ChEShiner
Zimmerman, Donald Delloss, 1 LA Pampa Zumwalt, Robert William, 1 Arch
Zumwalt, Robert William, 1 Arch

^{*}Deceased.

SUMMARY OF ENROLLMENT, REGULAR SESSION 1929-30

(Excluding short courses and extension courses)

By States and Foreign Countries

Texas	25	64	Brazil
Alabama		1	China
Arizona		3	Cuba
Arkansas		17	Czecho-Slovakia
California			Ecuador
Colorado		2	Egypt
Illinois		6	Honduras
Indiana		2	Iraq
Kansas		2	Mexico 1
Kentucky		3	Palestine
Louisana		45	Panama
Maine		i	Salvador
Michigan	_	2	Syria
Minnesota		. !	Turkey
Mississippi		11	
Missouri		4	•
New Jersey		1	
New Mexico			
New York			
North Carolina		3	
Ohio	-	1	
Oklahoma			
Pennsylvania		4	
South Carolina		1	
Tennessee		2	
Virginia		7	
Wyoming		1	
West Virginia		1	
TOTAL			2720

SUMMER SESSION 1929

e—College
ec—Cotton Classing
eso—Cotton Seed Oil Mill Operators
p—Plumbers
pu—Public Utilities
v—Veterinarian's Course

Abu Karam, S. G., e	Robie de Caraques
Au Kalam, S. G., C	Ecuador
A 1 TTT WY	Ecqador
Acord, W. W., C	College Station
Adair, Mrs. M. L., c	Galveston
Adams, C. S., c	Waco
Adams E V c	Bryan
Adamson C V	Charman
Adamson, G. V., V	
Aday, E. R., C	rorreston
Adcock, M. V., c	Houston
Addison. J. M., c	Willis
Akre E O c	Mexico City Mex
Alba C T	Woneton
Alba, S. J., CC	nouston
Alber, J. L., C	Houston
Allen, G. H., v	Dallas
Allgood, E. M., c.,,	Forestburg
Anderlitch F. c	San Antonio
Anderson D R v	College Station
Anderson, D. D., V	Dania
Anderson, W. I., C	Taris
Andrews, H. F., c	Bryan
Andrews, Mary, c	College Station
Andrus, J. H., cc	Freeport
Antones A P a	Algrete Brazil
America, A. Io., C	Dishland
Armentrout, A. D., c.	Richianu
Arnold, R. W., c	San Antonio
Arthur, C. L., c	Groveton
Aymond, S. C., y	Bunkie, La.
Barley T R c	College Station
Dagley, I. D., C	Chalbarrilla
Balley, E. J., C	Sneibyvine
Baker, I. M., c	Houston
Balcar, V. J., cc	Dime Box
Ball. Julia. c	College Station
Bandy G cc	Lancaster
Danker T F	Punisia La
Barbee, J. E., C	Dulikie, Da.
Barber, B. A., c	Daingerfield
Bardwell, J. E., pu	Port Arthur
Barr. J. H., c	Denton
Barron R C e	Wellborn
Darron, D. D.	Wellhorn
Darron, R. D., C	D
Barry, W. T., cc	Kunge
Bassett, E. L., c	Waco
Bateman, A. R., c	Quanah
Baucum, A. W., c.	Groveton
Baughman M A co	College Station
Daughman, M. A., co	Dellas
Daugnii, M. H., C	The state
Baxter, Marie, c	Franklin
Beason, Emma, c	Bryan
Beason, Frances, c	Bryan
Bell. C. E., c	Corsicana
Bentley W D	Rryan
Dentitey, W. D., C	Throll
Berrynill, E. J., C	I nran
Berryman, H. B., cc	Brookeland
Besse, C. P., c	Ennis
Bethea. W. C., c	Bryan
Rible H II c Je	fferson City Tenn.
Diamon U C In	Pidgowey N C
Dicela D E	Coince-11
Billie, R. E., C	Gainesville
Bird, J. M., c	Post
Birkelbach, G. H., ec	Thrall
Rishon, E. R., c	Commerce
Dlaskburn E S a	Corrienne
Diackburn, E. S., C	TA TO
Biackburn, H. L., V	rtwortn
Blake, R. H., c	Houston
Abu Keram, S. G., e	Bryan
Rleving, W. L., c	Dallas
,,	

Bloomer, J. P., e	Belton
Bogue, J. A., cc	Timpson
Bohuslav, E. J., e	Moulton
Booth, T. O., v	Temple
Bordages, E. I., c	Beaumont
Borrison, N. K. A., cc	Ulricchamn,
Royd R W w	Sweden Sen Antonio
Boykin, S. N., c	Grapeland
Boyle, L. F., c	Gilmer
Bradford O B	Beaumont
Bradshaw, I. P., c	
Branson, G. W., e	College Station
Bratton, D. J., e	Houston
Brison R H c	Houston
Britton, O. F., cso	Waco
Brock, W. G., v	Dallas
Brown, A. K., ec	Bryan
Brown, C. H., e	Seymour
Brown, C. L., e	Ft. Worth
Brown, G. W., e	Pearsall
Brown I. V Z	Et Worth
Brumfield, D. C., c	Hempstead
Bryan, W. J., c	Robstown
Bryant, G. R., e	Temple
Buchan, R. C., e	Galveston
Buchanan, R. J., e	Kurten
Buckman, T. R., c	Ft. Worth
Bullock R L Jr c	Taylor
Burford, L., cso	Dallas
Burgin, C. J., c	Hondo
Burks I c	San Antonio
Burks, S. V., c	Poteet
Burnam, S. A., v	Ft. Worth
Burney, J. H., c	Bishop
Burns, A. C., v	Cleburne
Burns, W. R., c	Big Spring
Burrow, A. L., c	Houston
Byrom Mrs. M. H. c	College Station
Cahill, Ella F., c	Bryan
Caldwell, R. H., c	Muskogee, Okla.
Campbell S M c	Owens
Campbell, W. J., cc	Campbellton
Cantrell, R., c	Tulia
Carl, E. M., c	San Antonio
Carlton, R. W., c	Sierra Blanca
Carpenter, J. A., c	Dallas
Carr, J. M., c	Stephenville
Carson, A. D., c	L. Pedro, Mex.
Carter, C. B., cc	Franklin
Case, J. H., c	Ada, Okla.
Casey, L. E. v	Tuscola
Cash, P. W., pu	San Marcos
Booth, T. O., v Bordages, E. I., c Borrison, N. K. A., cc Boyd, B. W., v Boyle, L. F., c Bradshaw, I. P., c Bradshaw, I. P., c Bradshaw, I. P., c Bradshaw, I. P., c Breadlove, I. D., c Breadlove, I. D., c Brestlon, O. F., cso Brock, W. G., v Brown, A. K., ec Brown, G. H., e Brown, G. H., e Brown, G. W., c Brown, G. W., c Brown, G. W., c Brown, L. V. Z., c Brown, L. V. Z., c Bryant, W. J., c Bryant, W., pu Buchanan, R. J., c Buchanan, R. J., c Buchanan, T. R., c Buchanan, T. R., c Buchanan, T. R., c Burk, L. C., c Burks, S. V., c Burford, L., cso Burgin, C. J., c Burray, J. H., c Burney, J. H., c Burnay, W. R., c Burns, W. R., c Burnell, S. M., c Candbell, R. H., c Carlillo, J. J., cso Cart, J. M., c Carrillo, J. J., cso Case, J. H., c Cadedle, T. G., c Chamberlain, F. A., c Chamberlain, F. A., c Chandler, C. L., c	St. Joseph
Chamberlain F A	Stephenville
Chandler, C. L., c	Mt. Vernon

Chappell, R. F., vNavasota	Deering, Mrs. P. A., c New Ulm
Childers, P. A., cCotulla	Dees. A. D., c Kaufman
Christensen, S. H., cHouston	DeMaret, A. N., c Bryan Denison, R. E., c Temple
Clark, H. O., puWaco	Denison, R. E., c Temple Denny, A., cso Plainview Denson, J. D., c Bryan Denson, Mrs. J. D., c Bryan DePasquale, F. R., c Dickinson DePasquale, J. A., c Dickinson De Pue, J. C., c San Antonio Dewey, H. C., c Amarillo Dial, J. S., c Sulphur Springs Dickman, G., v Jeanerette, La. Dietz, T. A., c Forney
Clark, J. B., c Ft. Worth Cleveland, E. D., cc Buda Cleveland, E. J., Jr., cc Buda Cleveland, R. B., c Dublin Clive May Louise A Bryan	Denny, A., csoPlainview
Cleveland, E. D., ccBuda	Denson, J. D., c
Cleveland, E. J., Jr., ccBuda	Denson, Mrs. J. D., c
Cleveland, R. B., c	DePasquale, F. R., CDickinson
Cline, Mary Louise, cBryan	De Pas I CDickinson
Cloud, L. G., v	Derror H C . Amerilla
Clota W P a Cabanastady N V	Diel I C a Culphus Cosings
Clute, W. B., c Schenectady, N. Y. Cobb, C. A., c Franklin Codrington, C. F., c Comfort Cole, F., v El Passo Coleman, H. J., pu Childress Collie, M. W., c Pecos Collins, W. E., c Pampa Colson, Ora, c College Station Coltrin, P. B.	Dickman G v Ionnovette I
Codmington C F . Comfort	Dietz, T. A., c
Colo E " El Paso	Dillon T R c San Antonio
Coloman H I nu Childress	Dodge, J. H. c Beaumont
Collie M W e Pecos	Dollahite, J. C., c Johnson City
Collins W. E. c. Pampa	Dillon, T. R., c. San Antonio Dodge, J. H., c. Beaumont Dollahite, J. C., c. Johnson City Dollinger, J. III, c. Beaumont Donalson, T. K., c. Kyle
Colson Ora c College Station	Donalson, T. K., c Kyle
Coltrin, R. B., c	Donges, N. A., C
Combest, W. L., cOlton	Dorman, Ellen, c
Compton. G. W., puDallas	Dorman, G. M., c College Station
Compton, W. Z., cDeLeon	Dorsey, R. R., cFt. Worth
Compton, G. W., pu Dallas Compton, W. Z., c DeLeon Coneway, C. R., c Frions	Dougherty T R . Polestine
Connally, J. T., c	Douglas, J. B., cCommerce
Connally, J. T., c	Douglas, J. P., CJacksonville
Conner, R. A., cCollege Station	Douglas, O. H., cso Ballinger Drake, C. L., c San Antonio
	Drake, C. L., cSan Antonio
Conover, B. W., c Dallas Conway, E. B., c Bryan	Dresser, P. A., c
Conway, E. B., cBryan	Drummet, P. W., c Houston Dryman, Gertrude, c New Baden Duffey, Grace, c Franklin
Conway, J. H., c Bryan	Dryman, Gertrude, cNew Baden
Cook, F. G., v Paris Cook, Cora Emma, e Bryan	Duffey, Grace, CFranklin
Cook, Cora Emma, eBryan	Dufner, R. M., c
Cooper, J. B., c Sidney Cooper, J. M., c Center	Dunn S P w Houston
Cooper, J. M., C	Durham I I as I sakhart
Cooper, J. T., c Temple Copeland, O. C., c College Station	Dwyer R F c Houston
Corley, Q. M., cDel Rio	Dufner, R. M., c San Antonio Dunn, Cecyle, c Wellborn Dunn, S. R., v Houston Durham, J. J., cc Lockhart Dwyer, R. F., c Houston Dyer, J. E., e Marlin Dykes, J. C., c College Station Eads, Mrs. May Belle, c Bryan Eargle, R. G., pu Dallas Easterling, M. C., c Megargel Eaton, C. B., c Weatherford Ebensheger, R. E. W. Jr., cso New Braunfels
	Dykes, J. C., c College Station
Cotten, J. A., c Ablott Counts, R., cc Abbott Covey, W. B., c Ft. Hancock Covington, C. R., v Ft. Worth Coward, C. R., c Austwell Cowart, F. F., c Robstown Covart, F. F., c Robstown Ruda	Eads. Mrs. May Belle. c Bryan
Covey W. B. c Ft. Hancock	Eargle, R. G., pu Dallas
Covington, C. R., vFt. Worth	Easterling, M. C., c Megargel
Coward, C. R., cAustwell	Eaton, C. B., cWeatherford
Cowart, F. F., cRobstown	Ebensheger, R. E. W., Jr., cso
Cowart, F. F., c Robstown Cox, J. L., ce Buda Craddock, T. D., e Crockett Crain, O. L., c Lone Oak Crapp, J. B., pu Navasota Crawford, R. M., c Nacogdoches Crenshaw, Mrs. Willie, e Bryan Cretsinger, J. O. a Bryan	
Craddock, T. D., eCrockett	Eddins, H. A., cMarquez
Crain, O. L., cLone Oak	Eddins, J. M., pu Bryan Eddins, R. J., c Center
Crapp, J. B., puNavasota	Eddins, R. J., cCenter
Crawford, R. M., cNacogdoches	
Crenshaw, Mrs. Willie, cBryan	Edwards, T. H., vEl Paso
Cretsinger, J. O., aBryan	Egbert, F., c Waco
Crook, R. C., cGranbury	Ekrem, M., cAngora, Turkey
Crook, R. C., c	Ekrem, M., cAngora, Turkey Elam, W. N., cTaylor
Crook, R. C., c Granbury Crowder, Mrs. Charlie, c Dalles Cuellar, P. M., c Saltillo, Mex.	Edwards, T. H., v El Paso Eghert, F., c Waco Ekrem, M., c Angora, Turkey Elam, W. N., e Taylor Elder, R. M., c Karnes City
Cretsinger, J. O., c Bryan Crook, R. C., c Granbury Crowder, Mrs. Charlie, c Dallas Cuellar, P. M., c Saltillo, Mex. Curry, J. H., c Gatesville	Ekrem, M., c Angora, Turkey Elam, W. N., e Taylor Elder, R. M., c Karnes City Ellington, B. O., e Shelbyville
Curry, J. H., C	Ekrem, M., c Angora, Turkey Elam, W. N., e Taylor Elder, R. M., c Karnes City Ellington, B. O., e Shelbyville Ellis, F. P., e Waxahachie
Curry, J. H., C	Ekrem, M., c Angora, Turkey Ellam, W. N., c Taylor Elder, R. M., c Karnes City Elliston, B. O., e Shelbyville Ellis, F. P., c Waxahachie Ellisor, R. P., c Port Arthur
Curry, J. H., C	Ekrem, M., c Angora, Turkey Elam, W. N., e Taylor Elder, R. M., c Karnes City Ellington, B. O., e Shelbyville Ellis, F. P., e Waxahachie Ellisor, R. P., c Port Arthur Elmer, Colgate, c Houston
Curry, J. H., C	Ekrem, M., c Angora, Turkey Elam, W. N., e Taylor Elder, R. M., c Karnes City Ellington, B. O., e Shelbyville Ellis, F. P., e Waxahachie Ellisor, R. P., c Port Arthur Elmer, Colgate, c Houston Elmer, Esther W., c Houston
Curry, J. L., c Franklin Cushman, G. A., c San Antonio Cuthrell, A. E., c Navaseta Cyrus, C., c Ft. Worth Cyrus, Mrs. Vivian, c Ft. Worth	Ekrem, M., c Angora, Turkey Elam, W. N., c Taylor Elder, R. M., c Karnes City Elliston, B. O., e Shelbyville Ellis, F. P., c Waxahachie Ellisor, R. P., c Port Arthur Elmer, Colgate, c Houston Elmer, Esther W., c Houston Elrod, H. W., e Houston Elmon, A. R. c Plainview
Curry, J. L., c Franklin Cushman, G. A., c San Antonio Cuthrell, A. E., c Navaseta Cyrus, C., c Ft. Worth Cyrus, Mrs. Vivian, c Ft. Worth	Ekrem, M., c Angora, Turkey Elam, W. N., e Taylor Elder, R. M., c Karnes City Ellington, B. O., e Shelbyville Ellis, F. P., e Waxahachie Ellisor, R. P., c Port Arthur Elmer, Colgate, c Houston Elmer, Esther W., c Houston Elrod, H. W., e Houston Emmons, A. B., c Plainview Emmons, W. M. c Plainview
Curry, J. L., c Franklin Cushman, G. A., c San Antonio Cuthrell, A. E., c Navaseta Cyrus, C., c Ft. Worth Cyrus, Mrs. Vivian, c Ft. Worth	Ekrem, M., c Angora, Turkey Elam, W. N., e Taylor Elder, R. M., c Karnes City Ellington, B. O., e Shelbyville Ellis, F. P., e Waxahachie Ellisor, R. P., c Port Arthur Elmer, Colgate, c Houston Elmer, Esther W., c Houston Elmons, A. B., c Plainview Emmons, W. M., c Calveston
Curry, J. L., c Franklin Cushman, G. A., c San Antonio Cuthrell, A. E., c Navaseta Cyrus, C., c Ft. Worth Cyrus, Mrs. Vivian, c Ft. Worth	Ekrem, M., c Angora, Turkey Elam, W. N., e Taylor Elder, R. M., c Series City Ellisgton, B. O., e Shelbyville Ellis, F. P., e Waxahachie Ellisor, R. P., c Port Arthur Elmer, Colgate, c Houston Elmer, Esther W., c Houston Elmons, A. B., c Plainview Emmons, W. M., c Plainview Erhard, F. W., c Galveston Ernst. H. e Poteet
Curry, J. L., c Franklin Cushman, G. A., c San Antonio Cuthrell, A. E., c Navaseta Cyrus, C., c Ft. Worth Cyrus, Mrs. Vivian, c Ft. Worth	Ekrem, M., c Angora, Turkey Elam, W. N., e Taylor Elder, R. M., c Karnes City Ellington, B. O., e Shelbyville Ellis, F. P., e Waxsahachie Ellisor, R. P., c Port Arthur Elmer, Colgate, c Houston Elmer, Esther W., c Houston Elrod, H. W., e Houston Emmons, A. B., c Plainview Emmons, W. M., e Plainview Erhard, F. W., c Galveston Ernst, H., e Poteet Eubank, N., c Ballinger
Curry, J. L., c Franklin Cushman, G. A., c San Antonio Cuthrell, A. E., c Navaseta Cyrus, C., c Ft. Worth Cyrus, Mrs. Vivian, c Ft. Worth	Ekrem, M., c Elam, W. N., e Elam, W. N., e Elder, R. M., c Elder, R. M., c Ellis gton, B. O., e Shelbyville Ellis, F. P., e Ellisor, R. P., c Elmer, Colgate, c Elmer, Colgate, c Elmer, Esther W., c Houston Elrod, H. W., e Houston Elmons, A. B., c Plainview Emmons, W. M., e Erhard, F. W., c Galveston Ernst, H., e Eubank, N., c Ballinger Evans, C. M., c Lamesa
Curry, J. L., c Franklin Cushman, G. A., c San Antonio Cuthrell, A. E., c Navaseta Cyrus, C., c Ft. Worth Cyrus, Mrs. Vivian, c Ft. Worth	Ekrem, M., c Angora, Turkey Elam, W. N., e Taylor Elder, R. M., c Series City Elliston, B. O., e Shelbyville Ellis, F. P., e Waxahachie Ellisor, R. P., c Port Arthur Elmer, Colgate, c Houston Elmer, Esther W. c Houston Elmons, A. B., c Plainview Emmons, W. M., e Plainview Erhard, F. W., c Galveston Ernst, H., e Poteet Eubank, N., c Ballinger Evans, C. M., c Lamesa Everheart, J. D., c Bells
Curry, J. L., c Franklin Cushman, G. A., c San Antonic Cuthrell, A. E., c Navaseta Cyrus, C., c Ft. Worth Cyrus, Mrs. Vivian, c Ft. Worth Dameron, Z. C., c Del Rio Daniel, R. C., c Cleburne Dansby, Ferne, c Bryan Darigh, G. G., c Marble Falls Daup, W. W., c Bryan Daup, Mrs. Ada H., c Bryan David, W. L., c Corsicana	Ekrem, M., c Angora, Turkey Elam, W. N., e Taylor Elder, R. M., c Karnes City Ellington, B. O., e Shelbyville Ellis, F. P., e Waxsahachie Ellisor, R. P., c Port Arthur Elmer, Colgate, c Houston Elmer, Esther W., c Houston Elmons, A. B., c Plainview Emmons, W. M., e Plainview Erhard, F. W., c Galveston Ernst, H., e Poteet Eubank, N., c Ballinger Evans, C. M., c Lamesa Everheart, J. D., c Bells Everts, C. M., Jr., c Houston
Curry, J. L., c Franklin Cushman, G. A., c San Antonio Cuthrell, A. E., c Navaseta Cyrus, C., c Ft. Worth Cyrus, Mrs. Vivian, c Ft. Worth Dameron, Z. C., c Del Rio Daniel, R. C., c Cleburne Dansby, Ferne, c Bryan Darsaby, H. P., c Bryan Darragh, G. G., c Marble Falls Daup, W. W., c Bryan David, W. L., c Corsicana David, W. L., c Corsicana	Ellis ton, B. O., e Shelbyville Ellis, F. P., e Waxahachie Ellisor, R. P., c Port Arthur Elmer, Colgate, c Houston Elmer, Esther W., c Houston Elmons, A. B., c Plainview Emmons, W. M., c Plainview Erhard, F. W., c Galveston Ernst, H., e Poteet Eubank, N., c Ballinger Evans, C. M., c Lamesa Everheart, J. D., c Bells Everts, C. M., Jr., c Houston
Curry, J. L., c Franklin Cushman, G. A., c San Antonio Cuthrell, A. E., c Navaseta Cyrus, C., c Ft. Worth Cyrus, Mrs. Vivian, c Ft. Worth Dameron, Z. C., c Del Rio Daniel, R. C., c Cleburne Dansby, Ferne, c Bryan Darragh, G. G., c Marble Falls Daup, W., c Bryan David, W. L., c Corsicana Davis, C. C., c Ft. Worth Corsicana Davis, C. C., c Ft. Worth	Ellis ton, B. O., e Shelbyville Ellis, F. P., e Waxahachie Ellisor, R. P., c Port Arthur Elmer, Colgate, c Houston Elmer, Esther W., c Houston Elmons, A. B., c Plainview Emmons, W. M., c Plainview Erhard, F. W., c Galveston Ernst, H., e Poteet Eubank, N., c Ballinger Evans, C. M., c Lamesa Everheart, J. D., c Bells Everts, C. M., Jr., c Houston
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Farmier Florence F . Chience III
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Fotte T M - Nom Onland To
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Fitzpatrick, D. B., v Falfurrias
Floor Laws E . Caller's Station
riagg, Laura E., cConlege Station
Fleming, D. W., c
Elementin C W . Callery Station
riorentin, S. W., CConlege Station
Floyd, J. G., c. Rosewood
Fasher B C
rocke, R. C., CGaiveston
Foley, R., pu San Antonio
Pollett C U
Follett, G. H., C
Ford, S. S., ccNormangee
Hans D and Ding Pluff Anie
Fore, B., cso Fine Bluff, Ark.
Forehand, D. H., ccCaddo Mills
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Proping C V a Polystown
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Freis, II. II., C
French, A. W., Jr., cso
French I A a San Antonio
French, J. A., C
Freytag, W. P., cFlatonia
Evitro V O a San Antonio
Tittze, V. O., C Ball Mittonio
Fugate, R. J., c
Cable F H cc Memphia
Gable, F. II., Co
Galloway, Rhoda, E., cFranklin
Candy I. M c Bryan
dandy, L. H., C
Garcia, I. E., c
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Garretson R. R. cc. Quinton Okla.
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Gentry P. C. c. Thrall
Gentry, P. C., c
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Gartrell, N., cc Gentry, P. C., c Thrail Gerbens, H. B., c Gibbons, I. J., c Gibbons, F., c Mt. Vernon Gibtons, F., c Mt. Vernon Gibtons, F., c Mt. Vernon Gibtons, F., c Mt. Vernon Gibton, H. W., c Dallas Gierisch, W. C., pu Houston Giffen, B. D., c San Antonio Gilt, C. F., c San Antonio Gist, H. W., c Charco Gleason, M. E., v San Antonio Glenn, E. W., c Bryan Gooden, B. H., Jr., c Bertram Goodman, R. A., c Goodnight, H. F., c Quanah Goodnight, R. H., c Holland Goodwin, J. A., v New Iberia, La. Gordon, J. B., c Burleson Burleson
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Humbert, Bertha E., c	College Sta.
Humphris, R. A., c	Marfa.
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Ingranam, C. W., pu	Dalles
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Irwin, J. B., C	777
Ish. F. W., c	vv aco
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James, W. I., Chamber	Tyler
Jarrel, E. F., V	C A-tonio
Jefferson, J. R., c	San Antonio
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Lively, R. Lloyd, Mr. Lloyd, J. Lockey, J. Logan, J. Long, N. Lord, G. Losey, J. Loving, L. Ludolph, Lundelius, Lyons, Mr. Lyons, Mr. Lyons, Mr. McCarthy McCotter, McCuistio McDaniel McDaniel McDonell McDowell McDowell	P., c rs. Joe, Jr., e B., Jr., c N.,	Dallas Bryan Bryan acogdoches ephenville —Como ourdanton sville, Ky. Cleveland Post Marshall —Austin Houston El Campo —Houston Ennis Houston Ft. Worth Waco Pilot Point —Bonham Zo Springs
Lively, R. Lloyd, Mr. Lloyd, J. Lockey, J. Long, N. Lord, G. Losey, J. Love, E. Loving, Lundelius, Lyons, Mr. Lyons, W. McAdams McBride, McCarthy McCotter, McCuistio McDaniel McDonald McDowell McEacher	P., c rs. Joe, Jr., c B., Jr., c I. H., cc Ni. M., c E., c J., c J., c Loui W., c J. B., c J.	Dallas Bryan Bryan acogdoches ephenville — Como ourdanton sville, Ky. Cleveland — Post Marshall — Austin — Houston El Campo — Houston — Ennis — Houston — Ft. Worth — Waco Pilot Point — Bonham zo Springs
Lively, R. Lloyd, Mr. Lloyd, J. Lockey, J. Logan, J. Long, N. Lord, G. Losey, J. Love, E. Loving, Lundelius, Lyons, Mr. Lyons, Mr. Lyons, W. McAdams McBride, McCarthy McCotter, McCustio McDaniel, McDonald McDowell McEacher McEvoy,	P., c rs. Joe, Jr., e B., Jr., c L., c N., c St E., c J., c	Dallas Bryan Bryan acogdoches ephenville Como ourdanton sville, Ky. Cleveland Austin Houston El Campo Houston Ennis Houston Ft. Worth Waco Pilot Point Bonham zo Springs Houston
Lively, R. Lloyd, Mr. Lloyd, J. Lockey, J. Logan, J. Long, N. Lord, G. Losey, J. Love, E. Loving, Ludolph, Lundelius, Lyons, Mr. Lyons, W. McAdams McBride, McCarthy McCotter, McCuistio McDaniel, McDowell McDowell McDowell McEacher McEvoy, McGee. F	P., c rs. Joe, Jr., c B., Jr., c N.,	Dallas Bryan Bryan acogdoches ephenville Como ourdanton sville, Ky. Cleveland Post Marshall Austin Houston El Campo Houston Ennis Houston Ft. Worth Waco Pilot Point Bonham Zo Springs Houston Bryan
Lively, R. Lloyd, M. Lloyd, J. Lockey, J. Logan, J. Long, N. Lord, G. Losey, J. Love, E. Loving, Ludolph, Lundelius, Lyons, M. Kadams McBride, McCarthy McCotter, McCuistio McDaniel, McDaniel McDowell McEacher McEacher McEacher McEacher	P., c rs. Joe, Jr., c B., Jr., c L., c N., M., c E., c J., c J., c J., c Loui W., c J. B., c	Dallas Bryan Bryan acogdoches ephenville Como ourdanton sville, Ky. Cleveland Post Marshall Austin Houston El Campo Houston Ennis Houston Ft. Worth Waco Bonham zo Springs Houston Bryan Bryan Bryan Bryan
Lively, R. Lloyd, Mr. Lloyd, J. Lockey, J. Logan, J. Long, N. Lord, G. Losey, J. Loving, L. Luoving, L. Luoving, Mr. Lundelius, Mr. Lyons, W. McAdams McBride, McCarthy McCotter, McCuistio McDaniel McDaniel McDowell McDowell McDowell McEacher McEvoy, McGee, W. McGee, W.	P., c rs. Joe, Jr., e B., Jr., c N. H., c N. M., c St E., c J. J., c Loui W., c J. A. A., pu O. E., pu rs, Rosa, c V. C., c O., W., cso J. B., c O., G. P., c G. E., c On, W. R., v J. A. A., c J. A. A., c J. C. C J. C J. C J. C J. C J. C J. C J	Dallas Bryan Bryan acogdoches ephenville —Como ourdanton sville, Ky. Cleveland Post Marshall —Austin Houston El Campo —Houston Ennis Houston Fit Worth Waco Pilot Point —Bonham zo Springs Houston Bryan Dodd City
Lively, R. Lively, R. Lively, R. Lloyd, Mr Lloyd, J. Lockey, J. Logan, J. Long, N. Lord, G. Losey, J. Love, E. Loving, Lundelius, Lundelius, Lundelius, McAdams McBride, McCarthy McCotter, McCuistio McDaniel, McDonald McDowell McEacher McGee, F McGee, McG	P., c rs. Joe, Jr., c B., Jr., c Loui M., c St E., c J., c J., c Loui W., c J. W., c	Dallas Bryan Bryan Bryan acogdoches ephenville Como ourdanton sville, Ky. Cleveland Post Houston El Campo Houston Ennis Houston Ft. Worth Bonham zo Springs Houston Bryan Dodd City Austin
Lively, R. Lloyd, M. Lloyd, J. Lockey, J. Logan, J. Long, N. Lord, G. Losey, J. Love, E. Loving, Lundelius, Lyons, Mr Lyons, Mr Lyons, Mr Lyons, Mr Carthy McCarthy McCarthy McDaniel, McDaniel McDaniel McDowell McEacher McEvoy, McGee, W McGee, W McGuire,	P., c rs. Joe, Jr., e B., Jr., c L., c N., c St E., c St E., c J., c J., c J., c Loui W., c J. B., c	Dallas Bryan Bryan acogdoches ephenville Como ourdanton sville, Ky. Cleveland Austin Houston El Campo Houston Ennis Houston Austin Bonham Dodd City Austin Louders Eters Ete
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Lively, R. Lloyd, M. Lloyd, J. Lloyd, J. Lockey, J. Long, N. Lord, G. Losey, J. Love, E. Loving, Ludolph, Lundelius, Lyons, W. McAdams McBride, McCarthy McCotter, McCustio McDaniel McEacher McEvoy, McGee, W. McGuire, McKee, J. McKenzie	P., c rs. Joe, Jr., e B., Jr., c L., c N., M., c E., c J., c	Dallas Bryan Bryan acogdoches ephenville Como ourdanton sville, Ky. Cleveland Post Marshall Austin Houston El Campo Houston Ennis Houston Ft. Worth Waco Bonham zo Springs Houston Bryan Dodd City Austin ollege Sta.
Lively, R. Lloyd, M. Lloyd, J. Lockey, J. Logan, J. Logan, J. Lord, G. Losey, J. Loving, L. Luoting, L. Luoting, L. Luoting, M. Lyons, M. Lyons, M. McCarthy McCotter, McCarthy McCotter, McCarthy McCotter, McCarthy McCotter, McCarthy McCotter, McGarthy McGotter, McGarthy McGotter, McGarthy McGotter, McGarthy McGotter, McGarthy McGotter, McGee, M. McGee, M. McGee, M. McGee, M. McGee, M. McKenzie	P., c rs. Joe, Jr., c B., Jr., c H., cc Ni M., c St E., c J., c J., c Loui W., c J.	Dallas Bryan Bryan acogdoches ephenville Como ourdanton sville, Ky. Cleveland Post Marshall Austin Houston El Campo Houston Ennis Houston Expan Dodd City Austin Dodd City Austin Dollege Sta. ontgomery
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Lively, R. Lively, R. Lloyd, Mr. Lloyd, J. Lockey, J. Logan, J. Lorgan, J. Lorgan, J. Love, E. Loving, Ludolph, Lundelius, Lyons, Wn Cadarby McCarthy McKenzie McKenzie McKenzie McKenzie McKenzie McKenzie McKinley McKinley McKinley McKinley McKinley McMillan	P., c rs. Joe, Jr., c B., Jr., c N., c N., c N., c N., c N., c St E., c N., c	Dallas Bryan Bryan acogdoches ephenville Como ourdanton sville, Ky. Cleveland Post Marshall Austin Houston Houston Houston Houston El Campo Houston Funis Houston Funis Houston Serville Austin Bryan Lodd City Austin ollege Sta. ontgomery Abilene Abilene Pearsall Beevillee Franklin
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Lively, R. Lloyd, M. Lloyd, J. Logan, J. Logan, J. Logan, J. Lond, G. Losey, J. Loving, L. Luoving, L. Luoving, L. Luoving, M. Lyons, W. McAdams McBride, McCarthy McCotter, McCuistio McDaniel McDaniel McDaniel McBanel McKenzie McKenzie McKenzie McKenzie McKenzie McKenzie McKenzie McKinley McKinl	P., c rs. Joe, Jr., c B., Jr., c L. H., cc Nr. M., c St E., c St E., c J., c Loui W., c J. W.	Dallas Bryan Bryan acogdoches ephenville Como ourdanton sville, Ky. Cleveland Post Marshall Austin Houston El Campo Houston Ennis Houston Bryan Dodd City Austin Ollege Sta. ontgomery Abilene Abilene Abilene Pearsall Beeville Franklin Id Springs
Lively, R. Lively, R. Lively, R. Lloyd, Mr Lloyd, J. Lockey, J. Logan, J. Long, N. Lord, G. Losey, J. Love, E. Loving, Ludolph, Lundelius, Lyons, Mr Lyons, Mr Cotter, McCarthy McCarthy McCarthy McCotter, McCarthy McKenzie McKenzie McKenzie McKenzie McKenzie McKenzie McKinney McKinney McMillan McMurre McNallen McNalle	P., c rs. Joe, Jr., c B., Jr., c N., t., c N., t., c N., c N	Dallas Bryan Bryan acogdoches ephenville Como ourdanton sville, Ky. Cleveland Post Marshall Austin Houston El Campo Houston Ennis Houston Ennis Houston Ennis Houston Ennis Houston El Campo Houston Bryan Zo Springs Houston Bryan Lodd City Austin ollege Sta. ontgomery Abilene Abilene Pearsall Beeville Franklin ld Springs Amarillo
Lively, R. Lloyd, M. Lloyd, J. Lockey, J. Logan, J. Long, N. Lord, G. Losey, J. Love, E. Loving, L. Ludolph, Lundelius, Lyons, M. Lyons, M. Lyons, M. Cotter, McCarthy McCotter, McCarthy McCotter, McCuistio McDaniel McDaniel McDaniel McDaniel McDaniel McDaniel McCarthy McGotter, McGuire, McGee, J. McKenzie McKenzie McKenzie McKenzie McKenzie McKenzie McKinney McKinney McKinney McMillan McMurre McNallen	Emma, c . T., c . T., c . T., c . A. H., v . A. K., v . T., cc . H., D., c . J. H., c . S. S., c . E. F., v J. L., c . S. S., c . E. F., v J. L., c . S. S., c . E. F., v J. L., c . S. S., c . L., cc . L. J., v . S. S., c . E. A., c . J. J., c . S. E. A., c . Saide, c . L., pu . L., pu . L., pu . L., pu . L., c . L.,	Dallas Bryan Bryan Bryan Bryan Bryan Bryan Como Ourdanton Sville, Ky. Cleveland Austin Houston El Campo Houston Ennis Houston Bryan Dodd City Austin Abilene Abilene Abilene Abilene Hearsall Beeville Franklin Id Springs Amarillo

Mackford, J. P., v	Greenville
Magee, L. F., nu	New Theria, La.
Major M E -	Orange
Maier, M. E., V	Orange
Mallepell, J., c'	San Antonio
Maloney J H c	Bryan
Maioney, C. II., C.	Dant Marker
Markle, W. H., C	Port Necnes
Marney, W. E., v	San Antonio
Marra Mrs N M o	Wago
Mails, Mis. N. M., C	Cil
Marshall, B. L., c	Gilmer
Marshall, C. B., c	College Sta.
Marchall C I .	Houston
Maishall, C. D., C	Ilouston
Marshall, E. E., c	Perryton
Marshall, W. N., c.	Gilmer
Mortin R R Ir c	Woodville
Martin, D. D., 01., C	D
Martin, D., c	Bryan
Martin, J. F., c	Morgan
Martin T M a	Mt Vernon
77 D. 41	D
Martin, Ruth, c	Bryan
Martin. S. L., c	Austin
Mather G A Jr c	San Antonio
Mathematical Transfer	D
matnews, n. L., c	Bryan
Mathews, M. P., c	Bryan
Mathis, Mrs. H. L.,	Bryan
Mathin T T	Wass
Mathis L. I., C	w aco
Maxwell, R. H., c	Hale Center
Mayo Ruth c	Kirvin
Makana D. F.	Loglehowt
Medane, R. E., C	LOCKHATE
Mefferd, R. B., c	Walnut Springs
Meharg, J., c	Chillicothe
Wahang Too	Chilliantha
Menarg, Joe, C	Unincotne
Merrell, C. N., C	Huckabay
Meymarian, A. T., c	Bagdad, Iraq.
Mishael Adole a	Rryan
Michael, Adele, C	Diyan
Milam, W. E., cc	Caddo Milis
Miller E. C., c	Denison
Willer T W	San Augustine
Miller, J. 11., C	Dan Augustine
Miller, O. N., c	Burkeville
Miller, V. O., c	San Gabriel
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	Colvert
Miller, W. Z., c	Calvert
Miller, W. Z., c	Calvert
Miller, W. Z., c	Calvert Tolar Bastrop
Miller, W. Z., c	Calvert Tolar Bastrop
Miller, W. Z., c Millington, W. S., c Milton, T., c Minkert, W. F., c	Calvert Tolar Bastrop Bryan
Miller, W. Z., c	Calvert Tolar Bastrop Bryan Oklahoma City, Okla.
Miller, W. Z., c	Calvert Tolar Bastrop Bryan Oklahoma City, Okla. San Antonio
Miller, W. Z., c Millington, W. S., c Milton, T., c Minkert, W. F., c Minter, J. O., c Minter, M. P. J., pu Mitter, M. P. J., pu	Calvert Tolar Bastrop Bryan Oklahoma City, Okla. San Antonio Canton
Miller, W. Z., c Millington, W. S., c Milton, T., c Minkert, W. F., c Minter, J. O., c Minter, M. P. J., pu Mitchell, W. B., c	Calvert Tolar Bastrop Bryan Oklahoma City, Okla. San Antonio Canton
Millington, W. Z., c Millington, W. S., c Milton, T., c Minkert, W. F., c Minter, J. O., c Minter, M. P. J., pu Mitchell, W. B., c Modisette, M. H., c M.	Calvert Tolar Bastrop Bryan Oklahoma City, Okla. San Antonio Canton Jennings, La.
Miller, W. Z., c	Calvert Tolar Bastrop Bryan Oklahoma City, Okla. San Antonio Canton Jennings, La. Sealy
Millier, W. Z., c	Calvert Tolar Bastrop Bryan Oklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan
Millington, W. Z., c Millington, W. S., c Milton, T., c Minkert, W. F., c Minter, J. O., c Minter, M. P. J., pu Mitchell, W. B., c Modisette, M. H., c Moebes, A. H., cso Moehlman, C. B., c	Calvert Tolar Bastrop Bryan Oklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan
Millington, W. S., c Milton, T., c Minkert, W. F., c Minter, J. O., c Minter, M. P. J., pu Mitchell, W. B., c Modisette, M. H., c Moebes, A. H., cso Moehlman, C. B., c Moffett, F. L., c	Calvert Tolar Bastrop Bryan Oklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center
Millington, W. Z., c	Calvert Tolar Bastrop Bryan Dklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron
Millington, W. S., c Milton, T., c Milton, T., c Minkert, W. F., c Minter, J. O., c Minter, M. P. J., pu Mitchell, W. B., c Modisette, M. H., c Moebes, A. H., cso Moehlman, C. B., c Moffett, F. L., c Mohler, F. L., c Monorief H. A. Jr.	Calvert Tolar Bastrop Bryan Oklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron
Millington, W. Z., c	Calvert Tolar Tolar Bastrop Bryan Dklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron Cameron Cance
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Millier, W. Z., c	Calvert Tolar Tolar Bastrop Bryan Dklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron c Kosse Crockett New Waverly
Miller, W. Z., c	Calvert Tolar Bastrop Bryan Clahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron c Kosse Crockett New Waverly Corsicana
Millington, W. S., c Milton, T., c Milton, T., c Minter, W. F., c Minter, J. O., c Minter, M. P. J., pu Mitchell, W. B., c Modisette, M. H., c Moebes, A. H., cso Moehlman, C. B., c Moffett, F. L., c Mohler, F. L., c Moncrief, H. A., Jr., Monk, J. G., c Montfort, F. E., c Montfort, F. E., c Montfort, F. E., c	Calvert Tolar Tolar Bastrop Bryan Dklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron c Kosse Crockett New Waverly Corsicana Hamlin
Miller, W. Z., c	Calvert Tolar Bastrop Bryan City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron c Kosse Crockett New Waverly Corsican Hamlin
Millington, W. S., c Milton, T., c Milton, T., c Milton, T., c Minter, W. F., c Minter, J. O., c Minter, M. P. J., pu Mitchell, W. B., c Modisette, M. H., c Moebes, A. H., cso Moehlman, C. B., c Moffett, F. L., c Mohler, F. L., c Monorief, H. A., Jr., Monk, J. G., cc Montfort, F. E., c Montfort, F. E., c Mondy, J. E., cso Moody, J. E., cs Moody, J. E., cs Moody, J. E., cs Moon, T. J., c	Calvert Tolar Bastrop Bryan Dklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron C Mosse Crockett New Waverly Corsicana Hamlin Harlingen
Miller, W. Z., c	Calvert Tolar Bastrop Bryan City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron c Kosse Crockett New Waverly Corsican Hamlin Harlingen
Miller, W. Z., c	Calvert Tolar Bastrop Bryan Dklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron C Kosse Crockett New Waverly Corsicana Hamlin Harlingen Texas City
Miller, W. Z., c	Calvert Tolar Tolar Bastrop Bryan Dklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron c Kosse Crockett New Waverly Corsicana Hamlin Harlingen Texas City College Sta.
Miller, W. Z., c	Calvert Tolar Tolar Bastrop Bryan Oklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron c Kosse Crockett New Waverly Corsicana Hamlin Harlingen Texas City College Sta. Mt. Vernon
Miller, W. Z., c	Calvert Tolar Tolar Bastrop Bryan Dklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron c Kosse Crockett New Waverly Corsicana Hamlin Harlingen Texas City College Sta. Mt. Vernon College Sta.
Miller, W. Z., c	Calvert Tolar Bastrop Bryan Oklahoma City, Okla. San Antonio Jennings, La. Sealy Bryan Center Cameron Center Cameron Corsicana Hamlin Harlingen Texas City College Sta. Mit Vernon College Sta. Winnboro
Miller, W. Z., c	Calvert Tolar Tolar Bastrop Bryan Dklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron c Kosse Crockett New Waverly Corsicana Hamlin Harlingen Texas City College Sta. Mt. Vernon Cotter Wu Vo
Milling W. Z., c	Calvert Tolar Bastrop Bryan Canton Jennings, La. Sealy Bryan Center Cameron Center Cameron Corsicana Hamlin Harlingen Texas City College Sta. Winnboro Sutton, W. Va.
Miller, W. Z., c	Calvert Tolar Tolar Bastrop Bryan Dklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron c Kosse Crockett New Waverly Corsicana Hamlin Harlingen Texas City College Sta. Mt. Vernon College Sta. Winnboro Sutton, W. Va. Lubbock
Miller, W. Z., c	Calvert Tolar Bastrop Bryan Canton Jennings, La. Sealy Bryan Center Cameron Conter Concett New Waverly Corsicana Hamlin Harlingen Texas City College Sta. Winnboro Sutton, W. Va. Lubbock Mt. Ven. Lubbock Mt. Velasant
Miller, W. Z., c	Calvert Tolar Tolar Bastrop Bryan San Antonio Canton Jennings, La. Sealy Bryan Center Cameron c Kosse Crockett New Waverly Corsicana Hamlin Harlingen Texas City College Sta. Mt. Vernon College Sta. Winnboro Sutton, W. Va. Lubbock Mt. Pleasant Langer
Miller, W. Z., c	Calvert Tolar Tolar Bastrop Bryan Oklahoma City, Okla. San Antonio Canton Jennings, La. Sealy Bryan Center Cameron c Kosse Crockett New Waverly Corsicana Hamlin Harlingen Texas City College Sta. Mt. Vernon College Sta. Winnboro Sutton, W. Va. Lubbock Mt. Pleasant Houston
Millington, W. S., c Milton, T., c Milton, T., c Milton, T., c Minter, W. F., c Minter, J. O., c Minter, M. P. J., pu Mitchell, W. B., c Modisette, M. H., c Moebes, A. H., cso Moehlman, C. B., c Moffett, F. L., c Mohler, F. L., c Monorief, H. A., Jr., Monk, J. G., cc Monroe, J. B., c Montfort, F. E., c Moody, J. E., cso Moore, I. R., c Moore, Ruth Irene, c Moore, S. A., c Morrison, H. R., c Morrisset, J. B., pu Moses, J. L., c Mosk, F. E., c Morelsset, J. B., pu Moses, J. L., c Mosk, F. E., c Mourge, F. H., c	Calvert Tolar Bastrop Bryan Canton Jennings, La. Sealy Bryan Center Cameron Cameron Conkett New Waverly Corsicana Hamlin Harlingen Texas City College Sta. Winnboro Sutton, W. Va. Lubbock Mt. Pleasant Houston Lubbock Mt. Pleasant Houston San Antonio
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Mackford, J. P., v Magee, L. F., pu Maier, M. E., v Mallepell, J., c Mallepell, J., c Mallepell, J., c Marke, W. H., c Marke, W. H., c Marke, W. H., c Marke, M. E., v Marrs, Mrs. N. M., c Marshall, B. L., c Marshall, B. L., c Marshall, C. L., c Marshall, C. L., c Marshall, C. L., c Marshall, D., c Martin, D., c Martin, D., c Martin, J. M., c Martin, J. M., c Martin, J. M., c Martin, J. F., c Martin, Ruth, c Martin, Ruth, c Martin, Ruth, c Mather, G. A., Jr., c Mathews, M. L., c Mathews, M. P., c Miller, C. N., c Megred, R. B., c Meharg, J., c C. Miller, C. N., c Meymarian, A. T., c Miller, J. H., c Miller, J. H., c Miller, J. H., c Miller, W. Z., c Miller, W. Z., c Miller, W. Z., c Miller, W. J., pu Mitchell, W. B., c Moother, F. L., c Mohler, F. L., c Mohler, F. L., c Mohler, F. L., c Mohler, F. L., c Montfort, F. E., c Morrison, H. R., c Murray, G. W., c Murray, F. A., v Murray, F. A., v Murray, F. A., v Murray, F. A., v Murray, T. R., c Musgraves, Mrs. B. V	Calvert Tolar Tolar Bastrop Bryan Canton Canton Jennings, La. Sealy Bryan Center Cameron c Kosse Crockett New Waverly Corsicana Hamlin Harlingen Texas City College Sta. Mt. Vernon Sutton, W. Va. Lubbock Mt. Pleasant Houston San Antonio Houston College Sta. Grapeland Austin Austin Austin Marlinney

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O'Neil, D. H., cGreenville
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Pennington, H., cSan Antonio
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Pickett C. L. c. Doct
Pinson, R. c Corpus Christi
Pirie, J. E., c Albany
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Pool, F. L., c Troy
Pool, L. R., cDallas
Popham, I. W., cManor
Porter, A. L., cDickinson
Porter, F. D., vFt. Worth
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roston, F. W., cc
Powell I P
Powell T H Red Oak
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Pressler J M c
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Price, O. D., C Garland City Ark
Price, R. T., pu Amarillo

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Pruitt, G. V., cc	Tatum
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Quillen, G. R., c	Ft. Worth
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Radack, H. E., c	Glidden
Randall, R., v	Ft. Sam Houston
Randan, R., V	Ft. Sam Houston
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Randolph, L. H., c	Bryan
Rankin, C. W., cso	Brenham
Rankin, E. R., c	Paris
Rawley, W. F., v	Palestine
Rawley, W. F., V	D - l i
Rawlings, W. H., c	
Rawlins, A. H., c	Ennis
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Rawls, R. D., c	Palacios
Rawls, S. S., c	Penelone
D C D	Lames
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Reese, Lois E., c	Brenham
Reese, Martha E., c	Brenham
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Reid, A. F., c	T
Reid, B. A., C	Jasper
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Robertson, G. R., c	D41-44
Robinson, C. A., c	Bartiett
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Robinson, J. E., c	Spring
Robichaux, E. J., c	Saragota
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Rodgers, P. A., e	Waco
Roelofs, S. A., c	San Antonio
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Rogers, A. M., C	Bryan
Romero, C. M., c	Washin
Ross, T. M., c	vy axanacme
	Houston
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Rosenbush, J. E., c Rowland, M. T., e Russell, D. M., c	Houston DeLeon
Rosenbush, J. E., c	Houston DeLeon College Sta.
Rosenbush, J. E., c	Houston DeLeon College Sta.
	Ft. Sam Houston Bryan Brenham Paris Palestine Rocksprings Ennis Lancaster Palacios Penelope Lamesa Bryan Texarkana Saint Jo Temple Moody Hillsboro Brenham Brenham Brenham Brenham Brenham Gollege Sta. Jasper Ft. Worth West Columbia Temple Beaumont Bastrop Pittsburg San Antonio Yoskum College Sta. Moulton Port Arthur Ennis Austin San Antonio Terrell Temple Bartlett Minden, La. Spring Saragota Yoskum Palestine Longview Longview Waco San Antonio Brenham Palestine Longview Waco San Antonio Brenham Houston Houston Deleon Gollege Sta. Cleveland, Ohio
Ruchti, P., cso Saibara, R., c Saiman, S. T., c Salsbery, C. E., v Salter, F. J., cc Solter Madeline, c	
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	Houston DeLeon College Sta. Cleveland, Ohio Bryan Webster Basrah, Iraq. Kansas City. Mo, Florien, La. Houston Wills Point Sanger

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De Leon	Sandahl, E. L., pu Sanderson, W. R., v Sasser, J. J., c Saunders, J. E., c Savage, E. P., v Sawyer, R. M., c Schaefer, C. C., c Schaefer, C. C., c Schaefer, C. C., c Schaefer, C. J., c Schott, O. J., c Schott, O. J., c Schott, O. J., c Schott, J. G., cc Schott, J. G., cc Scott, J. E., c Scott, J. E., c Scott, J. E., c Scott, J. E., c Scott, T. O. v Scott, V. A., v Secord, H. M., c Seekatz, L. O., c Self, R. A., v Sessions, H., c Severn, S. S., v Seward, J. H., c Shaffer, T. D., c Shay, J. J., c Shepherd, E. W., c Shepherd, N., c Shepherd, N., c Shepherd, N., c Shepherd, E. W., c Shoultz, J. C., c Siecke, P., c Siva, I. J., c Sickes, L. E., cso Skees, W. L., cso Smith, A. C. L., c Smith, B. L., c Smith, B. L., c Smith, J. E., c Smith, J. C., c Smith, J. F., c Smith, J. H., c Smith, J. F., c	Austin
De Leon Tatum	Sanderson, W. R., v	Brownwood
Tatum Snook Waller Waller Ft. Worth Charles, La. Gilliam, La. Gilidden am Houston Bryan Bryan Brenham Paris	Sasser, J. J., c	Sour Lake
Waller	Savage, E. P. v	Weslaco
Ft. Worth	Sawyer, R. M., c	Beaumont
Charles, La.	Schaefer, C. C., c	San Antonio
Gilliam, La.	Schaedel, F. W., pu	Dallas
m Houston	Schott O I c	Rallinger
Bryan	Schriever, B. A., c	San Antonio
Bryan	Schuessler, E. A., c _	Llano
Brenham	Schulz, J. G., cc	Three Rivers
Paris Palestine Rocksprings	Scott H L cc	Navacota
Rocksprings	Scott, J. E., c	Plainview
Ennis Lancaster Palacios Penelope Lamesa	Scott, T. O. v	Waco
Lancaster	Scott, V. A., v	Stephenville
Penelone	Seekatz I. O. c	New Braunfels
Lamesa	Self, R. A., v	Dallas
Bryan	Sessions, H., c	Wells
Bryan Texarkana Saint Jo	Severn, S. S., v	Seguin
Temple	Shaffer T D c	Dallas
Moody	Shaw, J. J., c	Mt. Pleasant
Hillsboro	Shepardson, F. A., c _	Waco
Temple Moody Hillsboro Brenham Brenham	Shepherd, E. W., c	Abilene
Bryan	Sherrill W R c	College Sta.
College Sta.	Shoemaker, C. Y., c	Jacksonville
Jasper	Shoultz, J. C., c	Crockett
Bryan College Sta. Jasper Ft. Worth	Siecke, P., c	College Sta.
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an Antonio	Skelton, E. V., e	Bryan
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College Sta.	Slocomb, D. B., c	Cameron
Moulton Port Arthur	Smith A C I.	Elliquille Miss.
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Ennis	Smith, C. W., c	Amarillo
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Temple	Smith, H. E., c	San Angelo
Bartlett	Smith, J., c	Tabor
Minden, La. Spring	Smith, J. B., c	Center
Saragota	Smith, J. E., c	Amherst
Minden, La	Smith, J. F., 6	
Palestine	Smith, J. H., c	Weatherford
Waco	Smith M c	Sulphur Springs
an Antonio	Smith. T. F., c	Dallas
Brenham	Smith, T. L., c	Houston
Bryan	Smotherman, E. C., v	Hillsboro
Bryan Waxahachie Houston	Snarks, G. C., e	Ft. Worth
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DeLeon	Spencer, H. C., c	Waco
politege Sta.	Spencer, H. L., c	College Sta.
Houston — Houston — DeLeon College Sta. eland, Ohio — Bryan — Webster asrah, Iraq.	Stallard, J. H., cso	Waco
Webster	Stanchos, A. A. E., c	Yorktown
asrah, Iraq.	Standlift, R. J., v	Ft. Sam Houston
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Sanger	Starr, P. P., v	Gainesville

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Steinman, F. C.,	Harrold
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Stricker E N c	Waco
Strickland C H a	Carrison
Stripling P T.	San Augustina
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Stromberg R E	Lockhart
Strond C C c	Ft Worth
Stuarmer W C ce	Nordheim
Stuart O G c	College Sta
Studbalter E. O. c	San Antonio
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Sullivan F R	Bartlett
Sullivan R A c	Shrevenort La
Surovec E S cc	Ganado
Sutton B K c	Corsicana
Swank W R c	Wills Point
Swearengen, Alma, c	Ft. Smith. Ark.
Swearenge, Mary, c	Ft. Smith. Ark.
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Swenke, D. B., cc	West
Swengel G. M. c	Houston
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Talbott, R. N., c	Miles
Taliaferro, L. E., c	Donton
Tate. J. N., c	Marble Falls
Tate, J. N., c	Marble Falls Houston
Tate, J. N., c	Marble Falls Houston Houston
Tate, J. N., c	Marble Falls Houston Houston Center
Tate, J. N., c Taylor, B. G., c Taylor, H. C., pu Taylor, L., e Teague, F. M., eso	Marble Falls Houston Houston Center Giddings
Tate, J. N., c	Marble Falls Houston Houston Center Giddings Bryan
Tate, J. N., c	Marble Falls Houston Houston Center Giddings Bryan Wellington
Tate, J. N., c Taylor, B. G., c Taylor, H. C., pu Taylor, L., e Teague, F. M., cso Terry, Icy Inez, c Thacker, F. W., v Thomas, L. E., e	Marble Falls Houston Houston Center Giddings Bryan Wellington Pecos
Tate, J. N., c Taylor, B. G., c Taylor, H. C., pu Taylor, L., e Teague, F. M., eso Terry, Icy Inez, c Thacker, F. W., v Thomas, L. E., e Thompson, E., Jr., c	Marble Falls Houston Center Giddings Bryan Wellington Pecos Cameron
Tate, J. N., c	Marble Falls Houston Center Giddings Bryan Wellington Pecos Cameron Vernon
Tate, J. N., c Taylor, B. G., c Taylor, H. C., pu Taylor, H. C., pu Taylor, L., e Teague, F. M., eso Terry, Icy Inez, c Thacker, F. W., v Thomas, L. E., e Thompson, E., Jr., c Thompson, H. E., c Thompson, Mrs. J. C., c	Marble Falls Houston Center Giddings Bryan Wellington Pecos Cameron Vernon College Sta
Tate, J. N., c Taylor, B. G., c Taylor, H. C., pu Taylor, L., e Teague, F. M., eso Terry, Icy Inez, c Thacker, F. W., v Thomas, L. E., e Thompson, E., Jr., c Thompson, Mrs. J. C., c Thorp, J. L., Jr., e	Marble Falls Houston Center Giddings Bryan Wellington Pecos Cameron Vernon College Sta. Dallas
Tate, J. N., c Taylor, B. G., c Taylor, H. C., pu Taylor, L., e Teague, F. M., eso Terry, Icy Inez, c Thacker, F. W., v Thomas, L. E., e Thompson, H. E., c Thompson, Mrs. J. C., c Thorp, J. L., Jr., c Thurmond, M. F., c	Marble Falls Houston Center Giddings Bryan Wellington Pecos Cameron Vernon College Sta. Dallas Bryan
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Tate, J. N., c Taylor, B. G., c Taylor, H. C., pu Taylor, L., e Teague, F. M., eso Terry, Icy Inez, c Thacker, F. W., v Thomas, L. E., e Thompson, E., Jr., c Thompson, Mr. J. C., c Thorp, J. L., Jr., e Thurmond, M. F., c Timmerman, H., c Tindell, C., c	Marble Falls Houston Center Giddings Bryan Wellington Cameron Vernon College Sta. Dallas Bryan Bryan Pflugerville Rosebud
Tate, J. N., c Taylor, B. G., c Taylor, H. C., pu Taylor, H. C., pu Taylor, L., e Teague, F. M., eso Terry, Icy Inez, c Thacker, F. W., v Thomas, L. E., e Thompson, E., Jr., c Thompson, Mrs. J. C., c Thorp, J. L., Jr., e Thurmond, M. F., c Timmerman, H., c Timdell, C., c Tinney, J. C., c	Marble Falls Houston Center Giddings Bryan Pecos Cameron Vernon College Sta Dallas Bryan Pflugerville Rosebud
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Tate, J. N., c Taylor, B. G., c Taylor, H. C., pu Taylor, H. C., pu Taylor, L., e Teague, F. M., eso Terry, Icy Inez, c Thacker, F. W., v Thomas, L. E., e Thompson, H. E., c Thompson, H. E., c Thompson, Mrs. J. C., c Thorp, J. L., Jr., e Timmerman, H., c Timmerman, H., c Timney, J. C., c Tinpel, J. C., c Tippit, H. A., pu Tobias, Emma R., c	Marble Falls Houston Center Giddings Bryan Wellington Cameron Vernon College Sta. Bryan Pflugerville Rosebud College Sta. San Antonio Bryan
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Tate, J. N., c Taylor, B. G., c Taylor, H. C., pu Taylor, H. C., pu Taylor, L., e Teague, F. M., eso Terry, Icy Inez, c Thacker, F. W., v Thomas, L. E., e Thompson, H. E., c Thompson, Mrs. J. C., c Thorp, J. L., Jr., c Thurmond, M. F., c Tindell, C., c Tinney, J. C., c Tinpit, H. A., pu Todias, Emma R., c Todd, M. C., c Tottenham, K. W., c	Marble Falls Houston Center Giddings Bryan Wellington College Sta. Dallas Bryan Pflugerville Rosebud College Sta. San Antonio Bryan Austin Brenham
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Steele, S. H., c Stein, A. E., c Steinman, F. C., v Steinman, F. C., c Stephenson, N. L., c Stephenson, F. L., c Stephenson, N. P., c Stephenson, N. P., c Stephenson, N. P., c Stephenson, N. P., c Stewart, M. H., c Stockett, J. H., c Stockett, J. H., c Stockett, J. H., c Stockett, J. H., c Storey, A. L., c Storey, A. L., c Stribling, J. W., c Stricker, E. N., c Stricker, E. N., c Stricker, E. N., c Stripling, R. L., c Stromberg, J. E., c Stromberg, J. E., c Stromberg, R. E., c Stromberg, R. E., c Strowart, O. G., c Studhalter, E. O., c Studhalter, E. O., c Sudge, H. P., pu Sullivan, F. B., c Sullivan, F. B., c Sullivan, R. A., c Surovec, E. S., cc Sutton, B. K., c Swearengen, Alma, c Swearenge, Mary, c Sweatman, L. E., c Sweatman, L. E., c Sweengel, G. M., c Swearenge, G. M., c Swearenge, G. M., c Syptak, Miladie, F., c Taliaferro, L. E., c Taliaferro, L. E., c Tate, J. N., c Taylor, H. C., pu Taylor, J. L., Jr., c Thompson, H. E., c Thom	Marble Falls Houston Center Giddings Bryan Wellington Clollege Sta. Dallas Bryan Pflugerville Rosebud College Sta. San Antonio Bryan Austin Brenham Houston Dallas Rishland Houston Bryan Levelland Houston Bryan Levelland Houston Mission Dallas Richland Houston Mission Dallas Richland Houston Mission Dallas Richland Houston Mission Dallas Richland Houston Sonora Levelland Houston West Gonzales Denton Bryan De Leon Bryan De Leon Bryan De Leon Bryan Mercedes Brownsville

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Von D. R., CSONew Brauntels
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Walton Ethyl a
Womble A CCollege Sta.
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Ward, S. J., pu
Ward W I a
Ware C. C. Alvin
Wale, C. S., cSan Antonio
warner, C. G., vPaducah. Kv.
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Washam W as Harlingen
Washbarn C. DWaco
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Watts B C a
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Weddington, Louise, c Bryan
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Welch, L. M. Du
Wellborn C F
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White, T. c
White T D Tahoka
Whitten W. ASan Angelo
Wilder, W. A., puBeaumont
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Williams, N. F. v
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Williamson, J. W., V
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Willingham, K. D., e Tenaha
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Winchester, C. L., v
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Winchester, C. L., v — Amarillo Winders, R. N., c — Houston Wingo, W. T., c — Sulphur Springs
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Winchester, C. L., v Texarkana Winders, R. N., c Houston Wingo, W. T., c Sulphur Springs Wingren, H. M., c Denison Winterborne, A. W., c San Antonio Wipprecht, C., c Bryan Witherspoon, A., c Bryan Witherspoon, B. W., c Ector Witherspoon, B. W., c Fetor Witherspoon, B. W., c Ft. Worth Wood, J. F., c Yoakum Woltz, R. P., c Ft. Worth Wood, J. F., c Ft. Worth Wright, J. T., c Ft. Worth Wright, M. B., c Throckmorton Wright, R. O., pu Texarbrane Asia
Winchester, C. L., v Texarkana Winders, R. N., c Houston Wingo, W. T., c Sulphur Springs Wingren, H. M., e Denison Winterborne, A. W., c San Antonio Wipprecht, C., e Bryan Witherspoon, A., c Ector Witherspoon, B. W., e Hereford Witte, H. B., c Yoakum Woltz, R. P., c Ft. Worth Woltz, R. P., c Ft. Worth Wight, J. T., c Ft. Worth Wright, M. B., c Throckmorton Wright, R. O., pu Texarkana, Ark. Wuest, C. N., c
Winchester, C. L., v Texarkana Winders, R. N., c Houston Wingo, W. T., c Sulphur Springs Wingren, H. M., c Denison Wiproecht, C., c Esan Antonio Wipprecht, C., c Estor Witherspoon, A., c Ector Witherspoon, B. W., C Estor Witherspoon, B. C Texarkana Woltz, R. P., c Ft. Worth Wood, J. F., c Waco Wright, J. T., c Ft. Worth Wright, M. B., c Throckmorton Wright, R. O., pu Texarkana, Ark Wuest, C. N., c San Antonio
Winchester, C. L., v Texarkana Winders, R. N., c Houston Wingo, W. T., c Sulphur Springs Wingren, H. M., e Denison Winterborne, A. W., c San Antonio Wipprecht, C., e Bryan Witherspoon, A., c Ector Witherspoon, B. W., e Hereford Witte, H. B., c Yoakum Woltz, R. P., c Ft. Worth Wood, J. F., e Waco Wright, J. T., c Ft. Worth Wright, M. B., c Throckmorton Wright, M. B., c Throckmorton Wright, R. O., pu Texarkana, Ark. Wuest, C. N., c San Antonio Wukasch, R., cc Austin Zemzulk A P
Winchester, C. L., v Texarkana Winders, R. N., c Houston Wingo, W. T., c Sulphur Springs Wingren, H. M., c Denison Wipprecht, C., e Bryan Witherspoon, A., c Ector Witherspoon, A., c Ector Witte, H. B., c Yoakum Woltz, R. P., c Ft. Worth Wood, J. F., c Waco Wright, J. T., c Waco Wright, M. B., c Throckmorton Wright, R. O., pu Texarkana, Ark Wuest, C. N., c San Antonio Wukasch, R., cc Austin Zemaulk, A. P., c Benchley
Vick, G. M., c Smiley Vick, H. G., c Smiley Voges, C. R., cso New Braunfels Von Rosenberg, H. O., v Halletsville Wadley, F. H., c Palmer Walker, B. J., c Austwell Walton, Ethyl, c College Sta. Ward, C. H., c New Orleans, La. Wamble, A. C., c Greenwood, Miss, Ward, C. H., c New Orleans, La. Ward, J. C., c Weatherford Ward, S. J., pu Houston Ward, W. L., c Alvin Ware, C. S., c San Antonio Warner, C. G., v Paducah, Ky. Warren, C. C., c San Antonio Warrick, T. R., c Pittsburg Washam, O. F., cc Harlingen Washam, O. F., cc Harlingen Washurn, G. B., c Santa Rosa Watson, J. S., v Mexia Watson, L. J., c Thorp Spring Watterson, T. K., c Bastrop Watte, R. G., c Dallats Way, E. N., pu Navasota Weir, A. M., c San Marcos Weir, A. M., c San Marcos Weir, A. M., c San Marcos Welborn, C. F., c Beeville Wenck, A. W., c Hearne Wennohs, J. R., c Marble Falls White, H. C., c Center Point White, H. C., c Center Point White, H. C., c Center Point Williams, J. R., c San Angelo Whitten, W. A., pu Beaumont Wild, H. H., cc Nordheim Willoit, W., c San Annonio Williams, J. C., c San Antonio Williams, J. C., c San Candon Williams, J. C., c San Antonio Williams, J. C., c San Antonio Williams, J. C., c San Candon Williams, J. C., c San Antonio Williams, M. E., c San Antonio Windor, R., c San

SUMMARY OF ENROLLMENT, SESSION 1929-30 (June 1, 1929 to April 1, 1930)

.0	AGRICO	DLIUKAL AN	או עו	ECHANICAL C	JLLEGE	OF TE	XAS		
	Totals 72 418 474 733 1018	2733 . 6	2790	798	3657	3226	24 3369	51 51	1100
Regular Session, 1929-30: (June 1, 1929 to April 1, 1930)	Graduate Agr AAABEng Land LA Sci Arch Che Che Che En En ME PPE TE CM VM Agred 1A IE RE Senior 57 69 3 4 15 23 844 68 37 5 1 18 6 1 5 Junior 67 52 3 4 1 22 29 38 56 6 44 68 37 6 1 7 9 5 6 1 5 9 5 6 1 9 6 1 9 6 6 39 33 32 67 69 123 79 44 6 45 7 9 5 6 7 7 1 9 1 <td>Non-Collegiate Two-Year Course in Agriculture: First Year, 2; Second Year, 4.</td> <td>Total Regular Session, 1929-30</td> <td></td> <td></td> <td>mer Session, 1929</td> <td>Summer Session, 1929: Cotton Seed Oil Mill Operators Farmer's Short Course Graduate Veterinarians</td> <td>Public Utilities Total, Short Courses, Summer Session, 1929</td> <td></td>	Non-Collegiate Two-Year Course in Agriculture: First Year, 2; Second Year, 4.	Total Regular Session, 1929-30			mer Session, 1929	Summer Session, 1929: Cotton Seed Oil Mill Operators Farmer's Short Course Graduate Veterinarians	Public Utilities Total, Short Courses, Summer Session, 1929	

DEGREES CONFERRED FEBRUARY 1, 1929

Bachelor of Arts

In Liberal Arts (3)

Charles Ralph Knapp Carl Wesley Miller Marcellus August Walker

Bachelor of Science

Kartar Singh Garcha

Henry Irvin Baggett Bertran August Moers In Agricultural Engineering (1)

In Agriculture (3)
Guadalupe Ramires

Edward Walker Middlebrook

In Architecture (2)
Lott Lanham Taylor

Earl Applewhite Dillon William Harold Farmer In Civil Engineering (3)
Tom Ingle Jones

Frank Merriwell Mabry

In Electrical Engineering (1)

Walter Danhoff

In Textile Engineering (1)

Doctor of Veterinary Medicine (1)

Burks Wilmore, Jr.

DEGREES CONFERRED AT THE FIFTY-THIRD ANNUAL COMMENCEMENT June 4, 1929

Master of Science

In Agricultural Administration (2)

John Franklin Blount B. S., A. and M. College of Texas, 1928

Thomas Lee Gaston, Jr. B. S., A. and M. College of Texas, 1924

In Agriculture (4)

Dorris David Giles

D. V. M., A. and M. College of Texas, 1922 Paul Rufus Johnson

B. S., A. and M. College of Texas, 1927

Sloan Earl Jones B. S., Clemson College, 1928

Arthur Burnett Kennerly B. S., A. and M. College of Texas, 1928

In Chemical Engineering (1)

Blake Marable Caldwell B. S., A. and M. College of Texas, 1927

In Civil Engineering (3)

Sam Ab Nixon B. S., A. and M. College of Texas, 1925

Walter Albert Ortolani

B. S., A. and M. College of Texas, 1924

George Davis Williams B. S., A. and M. College of Texas, 1926

In Electrical Engineering (1)

Norman Frederick Rode

B. S., Clemson College, 1919

In Science (1)

Richard Arthur Eads B. S., East Texas State Teachers' College, 1923

Civil Engineer

Edwin Percival Arneson B. S., A. and M. College of Texas, 1910

Electrical Engineer

Henry Lee Ingram
B. S., A. and M. College of Texas, 1910

Bachelor of Arts

In Liberal Arts (21)

Robert Grandison Abernethy, Jr.
Zenas Wilson Bartlett, Jr.
Stanton Forrest Bell
James Robert Brummett
Hershel Edwin Burgess
Russell Henry Byars
Jack Placete Clark
George Willard Dear George Willard Dear Clarence Mathew Flory John Benson Heafer, Jr. Henry Frederick McGinney

W. C. Morris, Jr. Samuel Benjamin Myers Samuel Benjamin Myers
Joe Bailey Parr
Robert Wilkes Scott
R. Henderson Shuffler
James Harold Slaughter
Robert Nealy Talbott
Herman William Toepperwein
Benjamin Claiborne Varner, Jr.
Hermann Wren

Bachelor of Science

In Agricultural Administration (39)

Joe Henry Ashy Denzil H. Beaty John August Earl Bergstrom Laban Edward Berry Jay Bertrand Jay Bertrand
Austin Coleman Bray
Hilbert Clayton Brinkoeter
Hiram Broiles
Vastine August Buescher
George Franklin Callaghan
William Edwin Davis
Verlyn Hudson Duncan
Eugene Thomas Fuller, Jr.
John Cullen Garison John Cullen Garison Hilmer Bernard Haegelin Paul Frederick Harder Louis Adolph Hartung Charles Edwin Heartsill Jennings Humphries Jack Crawford Hunnicutt

Jack William Kelly Alfred Raymond Kroulik Justin Pearman McCollum Cliff Benton Marshall Clyde Culberson Mayo Charles Albert Roland Walter Schutze John William Scott
Ralph Smith
Edward Howard Stevens
Orville Hugh Sullivan James S. Todd, Jr. James S. 1000, 51.
Felix Frank Tomek
Kurt August Welcehausen
John Clark Wright
John Milton Yarborough Winston Kyle Young William Rufus Zinn

In Agricultural Education (9)

Otho Osborn Bell Willie Oscar Cox Thomas Morrison Keating Byron Caldwell Langley Gus Adolph Lehmann

Raymond Hicks Mathis Howard Grey Robinson Virgil Austin Underwood Doyle Williams

In Agricultural Engineering (3)

Reginald Farquhar Creed Olin Monroe Geer

Claude Vernon Phagan

In Agriculture (36)

William Davis Armstrong
Thomas Glenn Caudle
James Watts Coffin
Paul C. Colgin
Samuel Taylor Davis
Ahmed Rafat-Arbit Doughrameji Roy Earl Duckworth William John Fields, Jr. George Guilford Gibson Frank Matlock Gracey Gus Harold Haycock Joseph Marvin Jackson Volney Hurt Jones Dudley Thomas Mann Roy Marvin Monk
Cline Eugene Morris
James Meredith Noel
William Pannell Patton, Jr.

Samuel Emmitt Bunton, Jr. Elam Alpha Peck Earl Boswell Porter Eugene Powell Reagan Raymond Rudolph Roberts Mahmud Saleh Shawwaf Joseph Lawson Sowell Harry Howard Spahr J. Dunlap Stafford Luther James Starr Augustus Alexander Storey, Jr. Weldon Bailey Stromberg Robert House Sweatman Clarence Elwood Tisdale
John B. Waide, Jr.
Hurshel Heywood Weatherby Seth Wood Ralph Harris Young

W. Howard Badgett Raymond M. Bradford John William Burgess Herman Grahm Cox Meredith Card Engel
Clarence Edwin_Epp

Jorge Gerardo Esparza Wilfred Albert Fischer James Lucius Fox, Jr.

In Architecture (19)

George Haskell Glover Millard R. Hudnall Forrest Coram James Ben Hershel Johnson Thomas Kenneth Lagow Abe Meinstein Jackson Charner Skains John Lawrence Smith Royall Maurice Strode

In Chemical Engineering (25)

Preston P. Briggs
Gayle Lee Brock
Roy Cochran
William Thomas Coleman, Jr.
James Vance Cowan
Irb Haskell Fooshee
Hilmar Alfred Louis Fritze
Henry Luther Howard
Joseph Hyland
James Robert Keith, Jr.
Frank Andrew Ketterson
Joe John Lancaster
Charles Wallis McMath

John Harris Montfort
John Caleb Morgan
Charles Carroll Neighbors
John William Riley
Ned Anthony Scardino
Preston George Schiwetz
Greer Pope Stedman, Jr.
Raddie Martin Wallace, Jr.
Anderson Davoe White
George Rupert Whitner
Marion Eugene Whitten
Delbert Edwin Wright

In Civil Engineering (23)

Paul Armstrong Brown
Henry Elbert Dew
Robert Edward Farquhar
Alexander Antone Fischback, Jr.
M. P. Frank
Harrison Grandall Givens, Jr.
Benjamin Lyman Grimes, Jr.
Sylvan J. Hanning
John William Herfurth
Stuart Sheets Hoff
Merle C. Hollingsworth
Edward Charles Janeik

William Morris Littlefield John E. Mitchell George Harvey Moore Charles McRea Morgan Lawrence Ortolani William Palmer Privette Somers Putnam Charles Keller Reese, Jr. Edward Burns Rice George Henry Smith Francis Cutler Turner

In Electrical Engineering (42)

Ernest Lee Andrews
William Fred Atwell
Lawrence Alpheus Baltzell
George William Beams
Robert Stafford Boykin, Jr.
Isaac Whitfield Carhart
Eugene Glynn Cook
L. H. Evans
Jabez Linten Gatlin
Smallwood Basil Hargis
John Charles Herren
Merl Edison Horn
Loyle George Lapham
August John Lehman
James Josephus Loving, Jr.
Robert Lawrence McCown
James Albert McDonald, Jr.
Albert Dow Martin, Jr.
John Albert Martin
Howard Neilson
Clyde Russell Nichols

Alexander Paez
Lovic Pierce Perdue, Jr.
Robert Lee Pike
Thomas Alexander Pilkey
Charles Delbert Pyeatt
Newell Montague Ramsey
Clarence R. Redden, Jr.
Howard Howell Redding
Silas Monroe Richie
Clint Shorter Robertson
William C. Rogers, Jr.
William Clift Rowland
Chester William Schweers
Russell E. Shafer
Ernest Floyd Shawver
Otto Wahrmund Sommers
Christopher August Steinmann
Walter Douglas Stine
Norman Allen Webster
Theron Festus White
Herbert Wood Whitney

In Industrial Arts (1)

Cam Black Knight

Richard Louis Acres William Irven Anderson Minoru Ando Ralph Elliott Bauer , Albert Paul Beard William Newton Bellah Walter Leon Bostic Bertram Carl Broad

Charles Graham Crocker Robert Brice Galloway Gordon Boone Gudger John Webster Heilhecker Von Drew Hunter Daniel Hubbard Johnson Leland T. Jordan

In Mechanical Engineering (30)

James Rankin Magill, Jr.
Lawrence Warren Maher
Harold Meyer Pausewang
Benjamin Henry Pochyla
George Stephen Pomeroy
Royal Charles Schorlemmer
Edmon Daniel Scudday
Joe Adams Shortal
William Daniel Singleton
Clair Edgar Smith
Melvin Avery Smith
James Arthur Trail
Robert Lee Tucker
Kenneth Ronie Welsh
Doyle Williams

In Rural Education (2)

Romney Evander Dansby

Jerome Alovis Rektorik

In Science (14)

James Merchant Bauknight
James Weldon Birdwell
Cyril Victor Black
John Harris Cuthrell
James Reneau Day
Herbert Adolph Franke
Carl G. Giesecke

Richard Bruce Grant
James Edward Gunn
Ralph Albert Kunitz
Johnnie James Sloan
James Kimble Vardaman Stewart
William Arlington Taylor
Samuel Kermit Van Steenbergh

In Textile Engineering (9)

Monroe Homer Jackson Howard Edward Kunz Frank Joseph Polzer Carroll Wiley Shaw

Monroe Hom

Doctor of Veterinary Medicine (1)

Donald Bertrand Anderson

Clifford Hubert Barmore Wallace Eugene Briggs A. Joe Corman David Bonner Hardin John Moss Holmes

DEGREES CONFERRED

August 31, 1929

Master of Science

In Agricultural Education (2)

Claude Kirk Fraser

Allen Chester Lamar Smith

Otis Bryan Bradford Orlin Cephas Copeland

In 'Agriculture (3)

Harry Lee Peterson, Jr.

In Mechanical Engineering (1)

Charles William Crawford

In Rural Education (5)

Benjamin Christopher Watts Charles Floyd Wellborn

George Washington Branson Ferdie L. Moffett Charles Duncan Parker

Bachelor of Arts

In Liberal Arts (3)

Winston Francis Taylor

Edward Vergne Adams Dan Heath O'Neil

Bachelor of Science

In Agricultural Administration (3) Gene B. Washburn

William Mahlon Forman George Patric McCarthy

In Agricultural Education (5)

Weldon E. Jones

James Madison Bird Herbert Henry Frels James Willis Hulsey

In Agriculture (5)

Lonnie Logan Porter

Sam McInnis Campbell Quinn Marvin Corley Cecil LeRoy Drake

Walter William Rice James A. Rutherford, Jr.

Royall Cantrell

In Architecture (2)

William Frederick James

Lycurgus Van Zandt Brown J. C. Boyce

In Civil Engineering (3)

John Robertson Jefferson

James Edward Dyer

In Electrical Engineering (2)

Beryl W. Witherspoon

Bailey W. Kittrell

In Industrial Arts (1)

George Henry Fern Earl A. Lawver

In Industrial Education (3)

William Lewis Ward

In Landscape Art (1)

Harold Ernest Hein

In Mechanical Engineering (4)

William Kelly Holleron George Marshall Murchison

Benjamin Franklin Norman, Jr. Benjamin Gilder Taylor

In Rural Education (2)

Herman O. Harris

Jule Day Oakes

Doctor of Veterinary Medicine (1)

Frank Creighton Steinman

SUMMARY OF DEGREES CONFERED

(Feb. 1, 1929 to Sept. 1, 1929

TOTAL.		338
Doctor of Veterinary Med	dicine	
	In Textile Engineering	10
	In Science	
	In Rural Education	
	In Mechanical Engineering	34
	In Landscape Art	l
	In Industrial Education	3
	In Industrial Arts	
.18	In Electrical Engineering	45
	In Civil Engineering	
	In Chemical Engineering	25
	In Architecture	23
	In Agriculture	44
	In Agricultural Engineering	4
Bachelor of Belefie	In Agricultural Education	14
Bachelor of Science	In Liberal ArtsIn Agricultural Administration	47
Baccalaureate Degrees: Bachelor of Arts	In I Bearl A as	27
Advanced:		

DISTINGUISHED STUDENTS

Session 1928-29

At the end of each session students who have failed in no subject and who have accumulated a total of at least sixty grade points during the session are designated as "Distinguished Students."

Freshman Class

Adkinson, B. H., Jr.
Alexander, G. W., Jr.
Atkinson, R. R.
Bell, L. E.
Benke, M. L.
Bourland, J. H.
Carpenter, G. E.
Cook, L. M.
Corman, N. O
Curtis, W M.
Dodson, J. W.
Fix, G. J., Jr.
Florentin, S. W.
Fortson, E. P.
Green, A. B.

Halliday, O. T.
Herbert, J. H.
Heil, B. F.
Herring, C. T.
Herring, C. W.
Hetherington, T. M.
Hurley, J. E., Jr.
Jackman, M. D.
John, P. J.
Krumholz, D. V.
Lee, B. D.
Lester, C. J.
Lester, F. B.
Levine, I.
Lighthouse, T. S.

Luedecke, A. R. Marion, G. T. Meserve, C. W. Meyer, G. S. Miller, A. J. Nash, C. C. Obergfell, E. A. Orman, J. W. Porcher, J. S. Rees, W. N. Slaughter, H. W. Stobart, E. A. Taggart, W. W. Turner, J. B. Wright, A. T.

Sophomore Class

Bushnell, R. W.
Cox, E. O.
Davis, J. M.
Ehlert, E., Jr.
Ekrem, M.
Hays, M.
Hemphill, W. B.
Henry, H. C.
Jones, E. B.

Ketterson, T. B.
Konecny, J. F.
Latta, J. E.
McIntosh, F. R.
Morgan, P. L.
Newman, F. H., Jr.
Peyton, F. K.
Quisenberry, J. H.
Richmond, R. T.

Rumfelt, H. F. C. Sawyer, R. M. Schwope, C. A. Sowell, T. M. Swift, E. V., Jr. Taylor, D. H. Walker, R. Willson, E. J. Wright, M. B.

Junior Class

Adams, C. S.
Anderson, C. E.
Anderson, L. W.
Brady, E. H.
Cocks, T. W.
Cox, R. T.
Focke, G. M.
Griffis, Y. B.
Haydari, M. D.

Honnell, P. M.
Howe, R. W.
Knipling, E. F.
Lentz, C.
McBurnett, C. F.
Montemayer, M.
Morgan, W. E.
Moseley, S. L.

Ray, W. O.
Richards, J. W.
Thompson, O. W.
Thompson, T. B.
Valle, C. C., Jr.
Weaver, J. R.
Weaver, W. T.
Williams, J. K.

Senior Class

Adams, S. L.
Badgett, W. H.
Bellah, W. N.
Cantrell, R.
Clark, J. P.
Coffin, J. W.
Coleman, W. T., Jr.
Dew, H. E.
Engel, M. C.
Fields, W. J., Jr.

Fischer. W. A.
Glover, G. H.
Gudger, G. B.
Hoff, S. S.
Langley, B. C.
Loving, J. J., Jr.
Martin, A. D., Jr.
Meinstein, A.
Morris, C. E.
Nichols, C. R.

Parr, J. B.
Reese, C. K., Jr.
Scott, R. W.
Shawwaf, M. S.
Slaughter, J. H.
Starr, L. J.
Storey, A. A.
Taylor, W. A.
Williams, D.
*Young, A. P., Jr.

^{*}Class of 1928; omitted from 53rd Catalogue by error.

OFFICERS OF ASSOCIATION OF FORMER STUDENTS

W W CTEDING 101	D- :1
W. W. STERLING, '07	
A. K. SHORT, '00	
E. E. McQUILLEN, '20	
L. B. LOCKE, '19	Assistant Secretary
DIRECTORS	
W. W. STERLING, '07	Falfurrias
A. K. SHORT, '00	
TYREE L. BELL, '15	
EWING S. MOSELEY, '17	
B. B. COCHRAN, '22	
ROSS C. BURNS, '23	
E. M. REGENBRECHT, '20	
J. J. WATERS, '13	
E. P. HUNTER, '00	Waco
OWEN W. SHERRILL, '10	Georgetown
LEWIS K. BLACK, '21	Temple
T. B. HOFFER, '04	Fort Worth
J. L. LOCHRIDGE, '10	Dallas
C. E. MAEDGEN, '04	Lubbock
D. D. GILES, '22	Nacogdoches
T. B. McQUEEN, '94	
W. O. BOWER, '13	
JACK L. SHELTON, '17	Luling
LYLE S. ALMOND, '23	
VERNE A. SCOTT, '14	Stephenville
KNOX LEE, '08	Marshall
D. C. GIDDINGS, Jr., '06	
LOUIS G. DIETERICH, '27	
JOHN P. GARITTY, '15	
W. A. FRENCH, '13	Amarillo

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