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OF THE

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

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59

COLLEGE STATION, TEXAS

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THE COLLEGE CALENDAR

Summer Session of 1935

JUNE 4, TUESDAY, 8 a. m. - 12 m., Registration for the first term.

- JUNE 4, TUESDAY, 1 p. m. 5 p. m., Classes begin.
- JUNE 7, FRIDAY, Last day for registration in the College division for credit during the first term.
- JULY 4, THURSDAY, Independence Day, a holiday.

JULY 12-13, FRIDAY, SATURDAY, First term examinations.

JULY 15, MONDAY, 8 a. m. - 12 m., Registration for the second term.

JULY 15, MONDAY, 1 p. m. - 5 p. m., Classes begin.

JULY 18, THURSDAY, Last day for registration in the College division for credit during the second term.

AUGUST 23-24, FRIDAY, SATURDAY, Second term examinations.

Regular Session of 1935-36

1935

- SEPTEMBER 13, FRIDAY, Entrance Examinations.
- SEPTEMBER 16, MONDAY, Opening of the First Semester, Registration of new students.

SEPTEMBER 16 TO 21, INCLUSIVE, Freshman Week.

SEPTEMBER 18, WEDNESDAY, Registration of old students and graduate students.

SEPTEMBER 19, THURSDAY, First Semester classes begin at 8 a.m.

NOVEMBER 11, MONDAY, Observance of Armistice Day, 11 a.m.

NOVEMBER 28 TO 30, INCLUSIVE, THURSDAY, FRIDAY, SATURDAY, Thanksgiving recess.

DECEMBER 20, FRIDAY, Christmas recess begins at noon.

1936

JANUARY 2, THURSDAY, Classes resumed at 8 a.m.

JANUARY 27 TO FEBRUARY 1, INCLUSIVE, Semester examinations.

FEBRUARY 3, MONDAY, Registration for the Second Semester.

FEBRUARY 4, TUESDAY, Second Semester classes begin at 8 a.m.

APRIL_16-18, INCLUSIVE, THURSDAY, FRIDAY, SATURDAY, Spring recess.

MAY 24, SUNDAY, Commencement Sunday.

MAY 25-29, INCLUSIVE, Semester examinations.

MAY 29-30, Commencement.

Part I

OFFICERS OF ADMINISTRATION AND INSTRUCTION '

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BOARD OF DIRECTORS

Members

TERMS EXPIRE 1937

HENRY C. SCHUHMACHER, President, Schuhmacher	CoHouston
JOSEPH KOPECKY, Publisher	Hallettsville
G. R. WHITE, Banker and Ranchman	Brady

TERMS EXPIRE 1939

EDWARD	J. KIEST,	, Owner a	and	Publisher,	Dallas	Times-Herald	Dallas
L. J. WAF	DLAW, A	ttorney-at	:-Lav	v		Fort	Worth
GUY T. A	NDERSON	, Planter.				0	Calvert

TERMS EXPIRE 1941

F. M	ARION	LAW, President, Fi	rst Natio	onal Bank		Houston
WAL	TER G.	LACY, President,	Citizens	National	Bank	Waco
JOE	UTAY,	Attorney-at-Law				Dallas

Officers

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F. M. LAW, President L. J. WARDLAW, Vice-President S. G. BAILEY, Secretary

5 S. S. 1997

Officers of Administration

Office of the President

* THOMAS OTTO WALTON, LL.D., President of the College,

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

MRS. M. N. WILLIAMSON, Secretary to the President.

GEORGE A. LONG, B.S., Supervising Accountant, Branch Colleges.

J. KNOX WALKER, B.S., Supervising Engineer, Branch Colleges.

The Deans and Directors

CHARLES PURYEAR, M.A., C.E., LL.D., Dean Emeritus of the College.

FRANK C. BOLTON, M.S., LL.D., Dean of the College and of the School of Engineering.

EDWIN JACKSON KYLE, B.S., B.S.A., M.S.A., Dean of the School of Agriculture.

MARK FRANCIS, D.V.M., LL.D., Dean of the School of Veterinary Medicine.

CHARLES H. WINKLER, Ph.D., Dean of the School of Vocational Teaching; Director of the Summer Session.

THOMAS DUDLEY BROOKS, Ph.D., Dean of the Graduate School and of the School of Arts and Sciences.

ARTHUR B. CONNER, M.S., Director of the Agricultural Experiment Station.

FREDERICK E. GIESECKE, M.E., Ph.D., Director of the Engineering Experiment Station; College Architect.

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

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

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

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

R. E. KARRPER, M.S., Vice-Director of the Agricultural Experiment Station.

H. H. WILLIAMSON, B.S., Vice-Director of the Agricultural Extension Service.

Office of the Registrar

EUGENE J. HOWELL, M.S., Registrar and Secretary of the Faculty. HOMER L. HEATON, B.S., Assistant Registrar.

Office of the Comptroller

W. H. HOLZMANN, Comptroller of Accounts. WALTER WIPPRECHT, B.S.A., Business Manager. VICTOR B. EDGE, Accountant. CLIFFORD C. EDGE, Cashier.

Office of the Commandant

JOHN E. MITCHELL, B.S., Lieutenant Colonel, Governor's Staff, Commandant. JOE E. DAVIS, B.S., Assistant Commandant.

The Library

THOMAS F. MAYO, Ph.D., Librarian.

MARY RICE, B.A., B.S., Assistant Librarian.

FRANCES BURRAGE, B.A., B.S., Head Cataloguer.

MRS. AUDREY ADICKES BARNARD, B.S., Supervisor of Periodicals. MARGUERITE BOWLES, B.A., B.S., Assistant Reference Librarian.

RUTH BROWN HUTCHISON, B.A., Assistant Cataloguer.

Office of the College Architect

FREDERICK E. GIESECKE, M.E., Ph.D., College Architect. PHILLIP G. NORTON, B.S., Assistant to the College Architect.

The Hospital

J. E. MARSH, B.A., M.D., College Physician. MRS. IRENE CLAGHORN, Assistant Superintendent.

The Young Men's Christian Association

MASON L. CASHION, A.B., Secretary. J. GORDON GAY, M.A., Assistant Secretary.

The Publicity Office

CURTIS VINSON, Director of Publicity. T. B. KETTERSON, B.A., Assistant to the Director. RUBY MORROW, A.B., Secretary.

Other Officers

B. D. MARBURGER, B.S., Superintendent of Buildings and College Utilities.
W. A. DUNCAN, Supervisor of Subsistence.
R. K. CHATHAM, Manager of the Exchange Store.
J. E. ANGELL, Manager of Student Publications.

(Figures in Parenthesis indicate date of first appointment on the College Staff and date of appointment to present position, respectively.)

THOMAS OTTO WALTON, LL.D., President of the College. (1912, 1925)

CHARLES PURYEAR, Dean Emeritus of the College. (1889, 1932)

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. (1888, 1916)

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

EDWIN JACKSON KYLE, Dean of the School of Agriculture, Professor of Horticulture. (1902, 1911)

B.S., Agricultural and Mechanical College of Texas, 1899; B.S.A., Cornell, 1901; M.S.A., 1902.

OSCAR MELVILLE BALL, Professor of Biology. (1903) B.A., Virginia, 1898; M.A., Ph.D., Leipsig, 1903.

JOHN BREWER BAGLEY, Professor of Textile Engineering. (1905, 1908) B.A., Wake Forest College, 1900.

FRANK CLEVELAND BOLTON, Dean of the College, Dean of the School of Engineering, Professor of Electrical Engineering. (1909, 1932)

B.S., Mississippi State College, 1905; M.S., Ohio State, 1928; LL.D., Austin College, 1932.

ALVA MITCHELL, Professor of Engineering Drawing. (1902, 1912) B.C.E., Agricultural and Mechanical College of Texas, 1894.

CHARLES CLEVELAND HEDGES, Professor of Chemistry and Chemical Engineer-

ing. (1912, 1913)

B.S., Kentucky, 1906; A.B., Cornell, 1908; Ph.D., 1912.

CHARLES BOYLE CAMPBELL, Professor of Modern Lauguages. (1903, 1914) Ph.B., DePauw, 1900; Ph.D., Chicago, 1912.

Ross Perry Marsteller, Professor of Veterinary Medicine and Surgery. (1905, 1916)

D.V.M., Ohio State, 1905.

OSCAR WILLIAM SILVEY, Professor of Physics. (1916)

A.B., Indiana, 1907; A.M., 1910; Ph.D., Chicago, 1915.

FLOYD BRAZILIA CLARK, Professor of Economics. (1916)

A.B., Richmond College, 1907; M.A., 1908; Ph.D., Johns Hopkins, 1914.

SHERMAN WEAVER BILSING, Professor of Entomology. (1913, 1918)

A.B., Ohio State, 1912; M.A., 1913; Ph.D., 1924. DANIEL SCOATES, Professor of Agricultural Engineering. (1919)

B.S., Iowa State College, 1910; A.E., 1915.

JOHN JEFFERSON RICHEY, Professor of Civil Engineering. (1912, 1922) B.S., Illinois, 1903; C.E., 1910.

GEORGE SUMMEY, JR., Professor of English. (1922)

A.B., Southwestern Presbyterian, 1897; M.A., 1898; Ph.D., Columbia, 1919.

DAVID WILLARD WILLIAMS, Professor of Animal Husbandry. (1919, 1923)

B.S., Ohio State, 1915; M.S., Illinois, 1916.

EUGENE PETER HUMBERT, Professor of Genetics. (1916, 1923)

B.S.A., 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; Director of the Summer Session. (1923) B.S., Texas, 1904; M.A., 1914; Ph.D., Missouri, 1916. DUNCAN HENRY REID, Professor of Poultry Husbandry. (1923) B.S., Wisconsin, 1919; M.S., 1922.

- WILLIAM LYCURGUS HUGHES, Professor of Rural Education. (1920, 1924) B.A., Howard Payne College, 1920; B.S., Agricultural and Mechanical College of Texas, 1921; M.S., 1922.
- SAMUEL RHEA GAMMON, Professor of History. (1925)

A.B., Washington and Lee, 1911; A.M., 1913; Ph.D., Johns Hopkins, 1921.

ERNEST WILLIAM STEEL, Professor of Municipal and Sanitary Engineering. (1925)

C.E., Cornell, 1920.

EDWARD LAFAYETTE WILLIAMS, Professor of Industrial Education. (1925) B.S., Pittsburg, 1925; M.S., Agricultural and Mechanical College of Texas, 1930.

- FREDERICK WILLIAM HENSEL, JR., Professor of Landscape Art. (1913, 1925) B.S., Agricultural and Mechanical College of Texas, 1907; M.S., Cornell, 1914.
- THOMAS WILLIAM LELAND, Professor of Accounting and Statistics. (1922, 1926) B.A., Wisconsin, 1921; M.A., 1922; C.P.A., 1929.
- DANIEL RUSSELL, Professor of Rural Sociology. (1926, 1927) A.B., Baylor, 1922; A.M., Chicago, 1931.
- FREDERICK ERNEST GIESECKE, Professor of Engineering Research; Director Texas Engineering Experiment Station; College Architect. (1886, 1927)
 M.E., Agricultural and Mechanical College of Texas, 1890; S. B. in Architecture, Massachusetts Institute of Technology, 1904; Ph.D., Illinois, 1924.

JOHN TIPTON LONSDALE, *Professor of Geology*. (1928) B.S., Iowa, 1917; M.S., 1921; Ph.D., Virginia, 1924.

CHARLES NOAH SHEPARDSON, Professor of Dairy Husbandry. (1928)

B.S., Colorado Agricultural College, 1917; M.S., Iowa State College, 1924.

ERNEST LANGFORD, Professor of Architecture. (1915, 1929)

- B.S., Agricultural and Mechanical College of Texas, 1913; M.S., Illinois, 1924.
- CHARLES WILLIAM CRAWFORD, Professor of Mechanical Engineering. (1919, 1929) B.S., Agricultural and Mechanical College of Texas, 1919; M.S., 1929.
- MARTIN COLLINS HUGHES, Professor of Electrical Engineering. (1923, 1932) B.S., Illinois, 1917; E.E., 1926.
- WALTER LEE PORTER, Professor of Mathematics, (1918, 1932) A.B., Howard College, 1911; M.S., Agricultural and Mechanical College of Texas, 1926.
- AMBROSE ROBERT EMERY, Lieutenant Colonel, Infantry, Professor of Military Science and Tactics. (1932)

B.S., Georgia School of Technology, 1904.

THOMAS DUDLEY BROOKS, Dean of the Graduate School; Dean of the School of Arts and Sciences. (1932)

A.B., Baylor, 1903; A.M., Chicago, 1920; Ph.D., 1921.

JOHN ELLIS MITCHELL, Lieutenant Colonel, Governor's Staff, Commandant. (1929, 1932)

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

- EUGENE JODY HOWELL, Registrar and Secretary of the Faculty. (1930, 1932) B.S., Agricultural and Mechanical College of Texas, 1922; M.S., 1982.
- HOMER HILL NORTON, Professor of Physical Education. (1934)

HAROLD VANCE, Professor of Petroleum Engineernig. (1934) B.S., California, 1923.

JUSTUS WHEELER BARGER, Acting Professor of Agricultural Economics; Acting Head of the Department. (1929, 1934)

B.S., Kansas State College, 1922; M.S., 1923; M.A., Leland Stanford, 1929; C.L.U., 1932.

Professors

*MARMADUKE K. THORNTON, JR., Professor of Industrial Chemistry. (1910, 1919) B.S., Mississippi State College, 1909; A.M., Columbia, 1914.

WILLIAM HENRY THOMAS, Professor of English, (1906, 1921)

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

- HAROLD RENSHAW BRAYTON, Professor of Inorganic Chemistry. (1917, 1922) A.B., Wisconsin, 1914; M.S., 1915.
- C. WINFIELD BURCHARD, Professor of Organic Chemistry. (1917, 1922)

A.B., Allegheny College, 1908; M.A., Wisconsin, 1911.

- DAVID BROOKS COFER, Professor of English. (1910, 1922)
 - A.B., Centre College, 1907; M.A., Wisconsin, 1927.

JOHN WEEMS MITCHELL, Professor of Mathematics. (1907, 1925) A.B., Maryville College, 1904.

HILLEL HALPERIN, Professor of Mathematics. (1920, 1925) E.E., Liege, 1908; A.M., Columbia, 1915.

ALBERT LAURIE DARNELL, Professor of Dairy Husbandry. (1914, 1925) B.S., Mississippi State College, 1913; M.A., Missouri, 1916.

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

THURMOND ARMOUR MUNSON, Professor of Hydraulic Engineering. (1920, 1926) B.S., Agricultural and Mechanical College of Texas, 1910; C.E., Iowa State College, 1924; M.S., 1925.

LUTHER GOODRICH JONES, Professor of Agronomy. (1919, 1926) B.S., Princeton, 1917; M.S., Agricultural and Mechanical College of Texas, 1921; Ph.D., Cornell, 1927.

tSAMUEL AUGUSTUS MCMILLAN, Professor of Farm and Ranch Management. (1910, 1926)

B.S., Agricultural and Mechanical College of Texas, 1909; M.S.A., Cornell, 1917. DAVID CLUIE JONES, Professor of Mathematics. (1909, 1927)

B.A., Emory, 1908.

GEORGE BARTON WILCOX, Professor of Rural Education. (1920, 1927)

- B.S., Agricultural and Mechanical College of Texas, 1923; A. M., Columbia, 1926. ELMER ROSS ALEXANDER, Professor of Agricultural Education. (1919, 1927)
- A.B., Baylor, 1919; B.S., Agricultural and Mechanical College of Texas, 1923; M.S., 1926.
- VANGEL KONSTANTINE SUGAREFF, Professor of History. (1923, 1927) A.B., Syracuse, 1917; A.M., Harvard, 1918.

GUY WEBB ADRIANCE, Professor of Horticulture. (1920, 1927)
 B.S., Agricultural and Mechanical College of Texas, 1915; M.S., California, 1917;
 Ph.D., Michigan State College, 1929.

FRANK GIST ANDERSON, Professor of Physical Education. (1920, 1927) B.S., Mississippi College, 1916; M.A., 1917.

CHARLES ORVINE SPRIGGS, Professor of Public Speaking. (1926, 1927) A.B., Indiana, 1924; M.A., Northwestern, 1930.

ARTHUR KAPP MACKEY, Professor of Animal Husbandry. (1925, 1928) B.S., Purdue, 1921; M.S., Illinois, 1923.

ROBERT GATLIN REEVES, Professor of Biology. (1928)

B.S., Mississippi State College, 1922; M.S., 1923; Ph.D., Iowa State College, 1928. * Resigned, Dec. 31, 1934.

t Died, March 2, 1935.

[†] On leave, Jan. 16 to Aug. 31, 1935.

LINTON ELIAS GRINTER, Professor of Civil Engineering. (1928, 1929)

B.S., Kansas, 1923; C.E., 1930; M.S., Illinois, 1924; Ph.D., 1926. BENJAMIN FRANKLIN DELAMATER, JR., Major, Infantry, Professor of Military Science and Tactics. (1929)

Graduate, United States Military Academy, 1912.

- JEFFERSON CHENOWTH DYKES, Professor of Agricultural Education. (1929) B.S., Agricultural and Mechanicaal College of Texas, 1921.
- PAUL LARUE NEAL, Captain, Signal Corps, Professor of Military Science and Tactics. (1923, 1929)

ELIAS WARD MARKLE, Professor of Electrical Engineering. (1921, 1930)

- B.S., Pennsylvania State College, 1913; M.S., Agricultural and Mechanical College of Texas, 1930.
- RALPH CLARK DUNN; Professor of Veterinary Medicine and Surgery. (1911, 1930)

D.V.M., Ohio State, 1911.

WALTER RAWLINS HORLACHER, Professor of Genetics. (1923, 1930) B.S., Kansas State College, 1920; M.S., 1922; Ph.D., Wisconsin, 1929.

ALEXANDER VAN BREWER, Professor of Mechanical Engineering. (1922, 1930) B.S., Purdue, 1913; M.E., 1925.

FREDERICK WILLIAM JENSEN, Professor of Chemistry. (1925, 1930) B.S., Nebraska, 1920; M.S., 1923; Ph.D., 1925.

- NORMAN FREDERICK RODE, Professor of Electrical Engineering. (1922, 1930) B.S., Clemson College, 1919; M.S., Agricultural and Mechanical College of Texas, 1929.
- WALTER LAWREN PENBERTHY, Professor of Physical Education. (1926, 1930) B.S., Ohio State, 1926.
- HARLEY CLAY DILLINGHAM, Professor of Electrical Engineering. (1922, 1930) B.S., Agricultural and Mechanical College of Texas, 1922; A.M., Columbia, 1980.
- VIRGIL MORING FAIRES, Professor of Mechanical Engineering. (1926, 1930) B.S., Colorado, 1922; M.E., 1926; M.S., 1927.
- DURANT SAMUEL BUCHANAN, Professor of Animal Husbandry. (1920, 1930) B.S., Agricultural and Mechanical College of Texas, 1917; M.S., Iowa State College, 1926.
- NESTOR MASSIE MCGINNIS, Professor of Landscape Art. (1915, 1930) B.S., Agricultural and Mechanical College of Texas, 1908.
- SAMUEL ROLAND HOPKINS, Lieutenant Colonel, Field Artillery, Professor of Military Science and Tactics. (1931)
 A.B., St. John's College, 1905.
- WILLIAM CLAUDE WASHINGTON, Major, Coast Artillery Corps, Professor of Military Science and Tactics. (1931)

B.S., Agricultural and Mechanical College of Texas, 1912.

AUGUST ALBERT LENERT, Professor of Veterinary Medicine. (1919, 1934)

- B.S., Agricultural and Mechanical College of Texas, 1914; D.V.M., Kansas City Veterinary College, 1917.
- THOMAS FRANKLIN MAYO, Professor of English; Librarian of the College. (1916, 1934)

B.A., Mississippi, 1913; A.M., Oxford, 1922; Ph.D., Columbia, 1934.

- CLARENCE JACK FINNEY, Professor of Architecture. (1926, 1934)
- B.S., Agricultural and Mechanical College of Texas, 1922; Ecole des Beaux-Arts, Fontainbleau, 1923.
- WILLIAM Ross IRVIN, Major, Cavalry, Professor of Military Science and Tactics. (1934)

GIRARD BLAKESLEY TROLAND, Captain, Corps of Engineers, Professor of Military Science and Tactics. (1934) Graduate, United States Military Academy, 1917; B.S., Massachusetts Institute of

Technology, 1921.

IRA GILLESPIE ADAMS, Acting Professor of Economics. (1927, 1934)
 A.B., Evansville College, 1923; A.M., Minnesota, 1927.

Associate Professors

- FREDERICK ARTHUR BURT, Associate Professor of Geology. (1921) B.S., Colgate, 1908; M.S., Chicago, 1929.
- PERCY GLYNDON GUNTER, Associate Professor of English. (1911, 1922) A.B., Elon College, 1909; M.A., North Carolina, 1910.
- JOSEPH SAYERS MOGFORD, Associate Professor of Agronomy. (1925)

B.S., Agricultural and Mechanical College of Texas, 1916; M.S., 1920.

- ALBERT DOW MARTIN, Associate Professor of Mathematics. (1921, 1925) B.S., Gunter College, 1908; B.A., Texas Christian, 1920.
- PATTON WRIGHT BURNS, Associate Professor of Veterinary Physiology and Pharmacology, (1926)
 - B.S., Agricultural and Mechanical College of Texas, 1923; D.V.M., 1926.
- RALPH THOMAS STEWART, Associate Professor of Agronomy. (1926)

B.S., Iowa State College, 1924; M.S., 1925; Ph.D., 1928.

ARTHUR EDWARDS WHARTON, Associate Professor of Veterinary Pathology. (1926)

D.V.M., Colorado Agricultural College, 1925.

- EDWARD EARL VEZEY, Associate Professor of Physics, (1920, 1927)
 B.S., Oklahoma Agricultural and Mechanical College, 1910; M.S., Agricultural and Mechanical College of Texas, 1927.
- LEROY LEVI FOURAKER, Associate Professor of Electrical Engineering. (1920, 1927)

B.S., Agricultural and Mechanical College of Texas, 1914; M.S., 1927.

FRED RUFUS JONES, Associate Professor of Agricultural Engineering. (1921, 1927)

B.S., Wisconsin, 1915; M.S., Iowa State College, 1931.

- VAN ALLEN LITTLE, Associate Professor of Entomology. (1923, 1927) BA Som Houston State Teachers College 1922: MS Agricultural and Meaba
- B.A., Sam Houston State Teachers College, 1922; M.S., Agricultural and Mechanical College of Texas, 1925.
 CARL EDWARD SANDSTEDT, Associate Professor of Civil Engineering. (1923, 1927)
- A.B., Leland Stanford, 1910; M.S., Agricultural and Mechanical College of Texas, 1928.
- FRED ROBERT BRISON, Associate Professor of Horticulture. (1921, 1927)
- B.S., Agricultural and Mechanical College of Texas, 1921; M.S., Michigan State College, 1931.
- ISAAC CHRISTOPHER SANDERS, Associate Professor of Physics. (1921, 1927) B.A., Rice, 1917; M.A., Texas, 1925.
- STEWART SAMUEL MORGAN, Associate Professor of English. (1921, 1928) B.A., Cincinnati, 1926; M.A., Ohio State, 1927; Ph.D., 1933.
- OSCAR ARNOLD WEINKE, Associate Professor of Accounting and Statistics. (1924, 1928)

B.A., Wisconsin, 1921; M.S., Agricultural and Mechanical College of Texas, 1928.

JOHN DOUGLAS PITTS FULLER, Associate Professor of History. (1928)

B.S., The Citadel, 1919; A.M., Johns Hopkins, 1928; Ph.D., 1932.

JOSEPH JOHN WOOLKET, Associate Professor of Modern Languages. (1925, 1929) A.B., Oberlin College, 1924; M.A., 1925.

JOHN HARVEY KNOX, Associate Professor of Animal Husbandry. (1927, 1929) B.S., Ohio State, 1921; M.S., Illinois, 1924.

- JOHN BOND REID, Associate Professor of Physical Education. (1929) A.B., Baylor, 1919.
- ELVER WILLIAM RENNER, Associate Professor of Dairy Husbandry. (1930) B.S., Iowa State College, 1918; M.S., 1929.

CHAUNCEY BARGER GODBEY, Associate Professor of Genetics. (1926, 1930)

B.S., Kentucky, 1925; M.S., Agricultural and Mechanical College of Texas, 1926. MILAM FRANK THURMOND, Associate Professor of Agricultural Engineering.

(1927, 1930) A.B., Baylor, 1919; B.S., Agricultural and Mechanical College of Texas, 1922; M.S., 1931.

GEORGE CHILDS BAUER, Associate Professor of Chemistry. (1922, 1930) B.S., Kentucky, 1920; M.S., Iowa State College, 1927.

*LELAND SHUMWAY PAINE, Associate Professor of Agricultural Economics. (1927, 1930)

B.A., Nebraska, 1922; M.A., Wisconsin, 1926.

- EDGAR WILSON GLENN, Associate Professor of Industrial Education. (1928, 1930) B.S., Illinois, 1924; B.S., Agricultural and Mechanical College of Texas, 1930; M.S., 1931.
- *†*THOMAS ROWAN HAMILTON, Associate Professor of Accounting and Statistics. (1929, 1930)

A.B., Washington and Lee, 1917; M.S., Columbia, 1924.

NAT EDMONDSON, JR., Associate Professor of Mathematics. (1931, 1933) B.A., Austin College, 1924; M.A., 1925; Ph.D., Rice, 1929.

CLIFTON CHILDRESS DOAK, Associate Professor of Biology. (1926, 1934)

B.S., North Texas State Teachers College, 1922; M.S., Agricultural and Mechani-cal College of Texas, 1928; Ph.D., Illinois, 1933.

JOHN HENRY BINNEY, Associate Professor of Mathematics. (1925, 1934) B.S., Sam Houston State Teachers College, 1924; M.A., Texas, 1925; Ph.D., Rice, 1933.

WILLIAM FORD MUNNERLYN, Associate Professor of Poultry Husbandry. (1926, 1934)

B.S., Agricultural and Mechanical College of Texas, 1926; M.S., 1930.

‡ROBERT LEE HUNT. Associate Professor of Agricultural Economics.

(1927, 1934)

B.S., Agricultural and Mechanical College of Texas, 1924; M.S., North Carolina State College, 1927; Ph.D., Wisconsin, 1934.

- ROBERT PAGE WARD, Associate Professor of Electrical Engineering. (1925, 1934) B.S., Agricultural and Mechanical College of Texas, 1924; M.S., 1934.
- WAYNE EGGLESTON LONG, Associate Professor of Mechanical Engineering. (1930, 1934)

B.S., Agricultural and Mechanical College of Texas, 1927.

ALBERT B. STEVENS, Associate Professor of Petroleum Engineering. (1934)

B.S., California, 1927; M.S., Southern California, 1932.

LESTER WAYNE HARVEL, Acting Associate Professor of Accounting and Statistics. (1934)

B.S., Texas Technological College, 1931; M.S., Cornell, 1934.

^{*} On leave, First Semcster, 1934-35.

[†] On leave, 1934-35. ‡ Acting Professor, Jan. 16 to Aug. 31, 1935.

GEORGE WILHELM SCHLESSELMAN, Acting Associate Professor of Agricultural Economics. (1934)

B.A., Iowa State Teachers College, 1927; M.A., Clark, 1928.

Assistant Professors

LOUIS ADOLPH KOENIG, Assistant Professor of Chemistry. (1920, 1922) B.A., Texas, 1917.

ERNEST KENNETH SPAHR, Assistant Professor of English. (1921, 1925) B.A., Milligan College, 1919; M.A., Virginia, 1921.

THOMAS ROBERT NELSON, Assistant Professor of Mathematics. (1925)

B.A., East Texas Normal College, 1917; M.A., Texas, 1922.

BEECHER CALVIN JONES, Assistant Professor of Chemistry. (1921, 1926)

A.B., Baylor, 1921; B.S., Agricultural and Mechanical College of Texas, 1923; M.S., 1926.

EDWARD LIN HARTER, Assistant Professor of Chemistry. (1921, 1926) A.B., Missouri Wesleyan, 1919.

ELDRED HARRIS GIBBONS, Assistant Professor of Biology. (1925, 1927) B.S.A., Tennessee, 1925; S.M., Chicago, 1929.

PERCY CLARK KEY, Assistant Professor of English. (1924, 1927) B.A., Texas Christian, 1917; M.A., Vanderbilt, 1918.

ROSWELL GUNBY HIGGINBOTHAM, Assistant Professor of Physical Education. (1927)

B.A., Agricultural and Mechanical College of Texas, 1931.

JOHN GRAHAM POWERS, Assistant Professor of Textile Engineering. (1927)

HORACE GREELEY JOHNSTON, Assistant Professor of Entomology. (1927) B.S., Mississippi State College, 1926; M.S., Iowa State College, 1928.

CALVIN SUTTON RICHARDS, Captain, Field Artillery, Assistant Professor of Military Science and Tactics. (1929)

WILLARD HOMER MCCORKLE, Assistant Professor of Physics. (1924, 1929) B.A., Iowa, 1924; M.S., 1928.

ELMER GILLAM SMITH, Assistant Professor of Physics. (1924, 1929) A.B., Amherst College, 1919; M.S., Agricultural and Mechanical College of Texas, 1925; B.S., 1934.

JOHN PAUL ABBOTT, Assistant Professor of English. (1926, 1929) B.A., Vanderbilt, 1925.

JOSEPH ANDERSON ORR, Assistant Professor of Civil Engineering. (1928, 1930) B.S., Agricultural and Mechanical College of Texas, 1922; M.S., 1933.

JOHN ELMER REIERSON, First Lieutenant, Coast Artillery Corps, Assistant Professor of Military Science and Tactics. (1931) Graduate, United States Military Academy, 1920.

*Charles LaMotte, Assistant Professor of Biology. (1930, 1932)

B.A., Texas, 1929; M.A., 1929.

RAYMOND ORR, Captain, Infantry, Assistant Professor of Military Science and Tactics. (1932)

A.B., Chattanooga, 1916.

JOHN JOSEPH BINNS, First Lieutenant, Field Artillery, Assistant Professor of Military Science and Tactics. (1932)

Graduate, United States Military Academy, 1923.

DALLAS ROYCE ALFONTE, Major, Infantry, Assistant Professor of Military Science and Tactics. (1932)

^{*} On leave, 1934-35.

MORRIS HASLETT MARCUS, First Lieutenant, Cavalry, Assistant Professor of Military Science and Tactics. (1932)

Graduate, United States Military Academy, 1921.

FRANCIS FREDERICK BISHOP, Assistant Professor of Chemistry. (1923, 1934) B.S., Clarkson College of Technology, 1922; M.S., 1928.

MARION THOMAS HARRINGTON, Assistant Professor of Chemistry. (1924, 1934) B.S., Agricultural and Mechanical College of Texas, 1922; M.S., 1927.

JAMES WENDELL ROSS, Assistant Professor of Mathematics. (1926, 1934) B.A., Texas, 1923; M.A., 1931.

JOSEPH BAKER DENT, Assistant Professor of Engineering Drawing. (1928, 1934) B.S., Virginia Polytechnic Institute, 1926; M.S., Agricultural and Mechanical College of Texas, 1931.

HENRY CECIL SPENCER, Assistant Professor of Engineering Drawing. (1929, 1934) A.B., Baylor, 1929; M.S., Agricultural and Mechanical College of Texas, 1931.

WILLARD IRVING TRUETTNER, Assistant Professor of Mechanical Engineering. (1930, 1934)

B.S., Michigan, 1928; M.S.E. 1930.

CHARLES MATTOON BROOKS, JR., Assistant Professor of Architecture. (1934) B.F.A., Yale, 1931; M.F.A., 1934.

DAVID TERRILL JOHNSON, Captain, Corps of Engineers, Assistant Professor of Military Science and Tactics. (1934)

Graduate, United States Military Academy, 1918.

BENJAMIN PETER HEISER, First Lieutenant, Field Artillery, Assistant Professor of Military Science and Tactics. (1934)

Graduate, United States Military Academy, 1926.

MARTIN MOSES, First Lieutenant, Infantry, Assistant Professor of Military Science and Tactics. (1934)

Graduate, United States Military Academy, 1927.

PARKS ADAIR NUTTER, Acting Assistant Professor of Economics. (1933, 1934) A.B., Michigan, 1920; A.M., Iowa, 1930.

FRANCIS EARL TURNER, Acting Assistant Professor of Geology. (1934)

B.S., California Institute of Technology, 1927; M.S., 1928; Ph.D., California, 1934.

JACKSON BRYAN ATKINSON, Acting Assistant Professor of Architecture. (1934) B.S., Texas, 1917.

Instructors

RICHARD WALTER DOWNARD, Instructor in Mechanical Engineering. (1913, 1920)

WILLIAM WARREN MCCARTER, Instructor in Mechanical Engineering. (1922)

ALBERT ASA BLUMBERG, Instructor in Mathematics. (1924)

B.A., Texas, 1929.

ROLAND EDWARD SNUGGS, Instructor in Chemistry. (1924)

A.B., Georgetown College, 1920; M.S., Florida, 1923.

CARL TYLER SPRAGUE, Instructor in Physical Education. (1922, 1924)

B.S., Agricultural and Mechanical College of Texas, 1922.

ERROL BATHURST MIDDLETON, Instructor in Chemistry. (1922, 1926) B.A., Illinois, 1919; M.S., 1921.

WILLIAM MCDONALD POTTS, Instructor in Chemistry. (1926) S.B., Chicago, 1921; S.M., 1927.

DAVID WINSTON FLEMING, Instructor in Mechanical Engineering. (1927) B.S., Agricultural and Mechanical College of Texas, 1930.

ROGER VALENTINE McGEE, Instructor in Mathematics. (1928)

B.S., Agricultural and Mechanical College of Texas, 1922.

WILLIAM REEDER SHERRILL, Instructor in Agricultural Education. (1928) B.S., Agricultural and Mechanical College of Texas, 1928. Roy MATTHEW WINGREN, Instructor in Mechanical Engineering. (1928) B.S., Agricultural and Mechanical College of Texas, 1927; M.S., 1934. **JESSE GERALD CHANEY**, Instructor in Mathematics. (1928) A.B., Southwestern, 1924; M.A., Texas, 1930. DAN HALL, Instructor in Mathematics. (1928) A.B., North Carolina, 1927; A.M., 1928. ALBERT EDWARD FINLAY, Instructor in Mathematics. (1929) B.S., Peabody College, 1929; M.A., 1929. JOHN QUE HAYS, Instructor in English. (1929) A.B., Missouri, 1929; M.A., 1932. JAMES ARTHUR TRAIL, Instructor in Mechanical Engineering. (1929) B.S., Agricultural and Mechanical College of Texas, 1929; M.S., Purdue, 1934. JAMES COZBY BYRD, Instructor in Architecture. (1929) B.Arch., Pennsylvania, 1922. CYRIL SAMUEL ADAMS, Instructor in Civil Engineering. (1930) B.S., Agricultural and Mechanical College of Texas, 1930; M.S., 1933. JAMES EDWARD BRELAND, Instructor in Engineering Drawing. (1930) B.S., Mississippi State College, 1928. LEWIS McDowell HAUPT, JR., Instructor in Electrical Engineering. (1930) B.S., Agricultural and Mechanical College of Texas, 1927; M.S., 1935. RAYMOND O. BERRY, Instructor in Biology. (1931, 1934) B.S., North Texas State Teachers College, 1928; M.S., Agricultural and Mechanical College of Texas, 1932. HUGH BARBER THAXTON, Instructor in Veterinary Anatomy. (1933, 1934) D.V.M., Agricultural and Mechanical College of Texas, 1934. WILLIAM OLIVER RAY, Instructor in Electrical Engineering. (1933, 1934) B.S., Agricultural and Mechanical College of Texas, 1930; M.S., 1934. HOMER GRANT TOWNS, Acting Instructor in Biology. (1933, 1934) B.S., North Texas State Teachers College, 1933; M.S., Agricultural and Mechanical College of Texas, 1934. WILLIAM MAURICE SIMPSON, Acting Instructor in Accounting and Statistics. (1933, 1934)B.S., Agricultural and Mechanical College of Texas, 1933. NOLAN SCHULZE, Acting Instructor in Modern Languages. (1934) B.A., Texas, 1930. FRANK MARION STUBBS, JR., Acting Instructor in Animal Husbandry. (1934) B.S., Agricultural and Mechanical College of Texas, 1925. PAUL JUDSON TALLEY, Acting Instructor in Biology. (1934) A.B., Baylor, 1928; M.S., Iowa, 1930; Ph.D., Wisconsin, 1932. *JOHN GILBERT MCGUIRE, Acting Instructor in Engineering Drawing. (1933, 1935)B.S., Agricultural and Mechanical College of Texas, 1932. [†]GILBERT JUSTUS SAMUELSON, Acting Instructor in Chemistry. (1935) B.S., Chadron State Normal College, 1929; M.S., Nebraska, 1932; Ph.D., 1934. JESSE H. ZABRISKIE, Acting Instructor in Mechanical Engineering. (1935) B. S., Colorado, 1933. * Graduate Assistant, First Semester, 1934-35. Appointed Acting Instructor, Feb. 1, 1935. † Appointed Feb. 1, 1935. ‡ Appointed Feb. 22, 1935.

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Graduate Assistants and Fellows

ROBERT SOLOMON ADAMS, Assistant in Chemistry and Chemical Engineering. B.S., Mississippi State College, 1934.
Spencer Butler Apple, Jr., Assistant in Horticulture.
B.S., Agricultural and Mechanical College of Texas, 1933.
*Gerald K. Ashby, Fellow in Chemistry.
B.S., Agricultural and Mechanical College of Texas, 1934.
LUTHER JAY ATKINSON, Fellow in The College Library.
B.S., Arkansas, 1934.
MARSHALL UNDERWOOD BAGWELL, Assistant in Petroleum Engineering.
B.S., Texas Technological College, 1934.
*GEORGE ROBERTSON BELLVILLE, JR., Fellow in Chemistry and Chemical Engi-
neering.
B.S., Southern Methodist, 1934.
STAFFORD MORGAN BLACKHAM, Assistant in Animal Husbandry.
B.S., Utah State Agricultural College, 1931.
†JOHN HALL BROWN, Assistant in Architecture.
B.S., Agricultural and Mechanical College of Texas, 1933.
MERRILL H. BROWN, Assistant in The College Library.
B.A., Simpson College, 1934.
Alfred Franklin Chalk, Assistant in Modern Languages.
B.A., Baylor, 1934.
JAY LOWE CHAPMAN, Assistant in Architecture.
B.S., Agricultural and Mechanical College of Texas, 1933.
‡HOLLIS LEE COOK, Fellow in Rural Education.
B.S., Stephen F. Austin State Teachers College, 1933.
JOHN PRESTON CUNNINGHAM, Fellow in Office of Dean of Agriculture.
B.S., Agricultural and Mechanical College of Texas, 1934.
DANIEL ROWLAND DAVIS, Assistant in Rural Sociology.
B.S., Agricultural and Mechanical College of Texas, 1932.
LOUIS FREEMAN DAVIS, Assistant in Mechanical Engineering.
B.S., Texas, 1934.
ROLLIN LAFAYETTE ELKINS, Assistant in Economics.
B.A., Agricultural and Mechanical College of Texas, 1933.
§FRANK JOE FEAGIN, Assistant in Electrical Engineering.
B.S., Agricultural and Mechanical College of Texas, 1934.
** JACK NEWTON FERGUSON, Assistant in Physics.
Charles Lee Foote, Assistant in Biology.
B.S., North Texas State Teachers College, 1934.
WALLACE JERROY FRANK, Assistant in Chemistry.
B.S., Arkansas, 1934.
**GUIDO ERNEST FRANKI, Assistant in Agricultural Education.
Donald George Gentry, Assistant in Civil Engineering.
B.S., Kansas State College, 1934.

^{*} Fellowship provided by The Texas Cottonseed Crushers Association.
† Appointed Oct. 1, 1934.
‡ Resigned Jan. 19, 1935.
§ Resigned, Feb. 1, 1935.
** Appointed Feb. 1, 1935.

††Lee Godsey, Assistant in The College Library.

B.S., Agricultural and Mechanical College of Texas, 1931.

*ANAN GOLUB, Assistant in Accounting and Statistics.

B.A., Stephen F. Austin State Teachers College, 1933.

PEDRO GARCIA GOMEZ, Assistant in English.

B.A., Sam Houston State Teachers College, 1934.

RUSSELL BURLEIGH HAGEN, Assistant in Mechanical Engineering.

B.S., North Dakota Agricultural College, 1934.

GRAHAM MCFIE HATCH, JR., Assistant in Municipal and Sanitary Engineering. B.S., Agricultural and Mechanical College of Texas, 1933.

*CLARENCE ELDON HEATON, Fellow in Rural Education.

B.S., Stephen F. Austin State Teachers College, 1934. JOHN HENRY HEISE, Assistant in Animal Husbandry.

B.S., Oklahoma Agricultural and Mechanical College, 1934.

GUS RALPH HERZIK, JR., Assistant in Civil Engineering.

B.S., Agricultural and Mechanical College of Texas, 1934.

*OTIS BEVERLY HOCKER, JR., Assistant in Electrical Engineering. B.S., Agricultural and Mechanical College of Texas, 1932.

Newel Ancil Hogan, Assistant in Biology.

B.S., Stephen F. Austin State Teachers College, 1934.

ERNEST JAMES HOLCOMB, Assistant in Economics

B.A., Agricultural and Mechanical College of Texas, 1933.

PAUL GUSTAV HOMEYER, Assistant in Poultry Husbandry.

B.S., Agricultural and Mechanical College of Texas, 1934.

JAMES MAURICE HOUSTON, Assistant in Chemistry and Chemical Engineering. B.S., North Texas State Teachers College, 1934.

[†]WILLIAM LAVALDIN HULL, Assistant in Mechanical Engineering. B.S., Colorado, 1934.

JESSE JACKSON, Assistant in Dairy Husbandry.

B.S., Southwestern Louisiana Institute, 1932.

WILBUR MORTRUDE JACKSON, Assistant in Electrical Engineering. B.S., Agricultural and Mechanical College of Texas, 1933.

‡Roy R. KREZDORN, Assistant in Electrical Engineering.

B.S., Agricultural and Mechanical College of Texas, 1932.

SHARRY HURLBUST LEONHARDT, Assistant in Agricultural Engineering. B.S., South Dakota State College, 1933.

CLYDE OWEN LIPSCOMB, Assistant in Municipal and Sanitary Engineering. B.S., Texas Christian, 1934.

WILLIAM FALCONER LUCE, Assistant in Civil Engineering. B.S., Texas Technological College, 1934.

RONALD EARL MCADAMS, Assistant in Geology.

B.S., Agrciultural and Mechanical College of Texas, 1932.

WILLIAM STRAIGHT McCulley, Assistant in Mathematics.

B.A., Iowa, 1932.

WELDON GRAY MCLARRY, Assistant in Electrical Engineering. B.S., Agricultural and Mechanical College of Texas, 1934.

⁺⁺ Resigned Dec. 10, 1934.

^{*} Appointed Feb. 1, 1935. † Resigned Feb. 15, 1935.

[†] Appointed Feb. 15, 1935.

⁸ Appointed Oct. 1, 1934.

g Appointed Oct. 1, 1994

JAMES EADS MILLER, Fellow in Office of The Dean of the College. B.S., Agricultural and Mechanical College of Texas, 1934. MARION JEFFERSON MOORE, Assistant in Geology. B.S., Texas, 1934. JAMES HUGH NELSON, Assistant in Physics. B.S., Arkansas, 1932. *J. U. NELSON, Fellow in Agricultural Education. B.S., Sam Houston State Teachers College, 1930. HERBERT HENRY NORDSIECK, Assistant in Chemistry and Chemical Engineering. B.S., Butler, 1932. *ROBERT RANKIN OSBURN, Assistant in Electrical Engineering. B.S., Agricultural and Mechanical College of Texas, 1934. WELDON GEORGE PERRIN, Assistant in Agricultural Engineering. B.S., Agricultural and Mechanical College of Texas, 1935. RALEIGH ELWOOD PATTERSON, Assistant in Agronomy and Genetics. B.S., Louisana, 1934. JOHN LEHMAN POST, Assistant in Chemistry. B.S., Michigan, 1926. ELMER MARTIN RAGSDALE, Fellow in Registrar's Office. B.S., Agricultural and Mechanical College of Texas, 1933. CLARENCE ANDREW RECHENTHIN, Assistant in Agronomy and Genetics. B.S., Agricultural and Mechanical College of Texas, 1932. FRANK AVERYT RIX, Assistant in English. B.A., Sam Houston State Teachers College, 1933. JOE A. ROSPRIM, Assistant in Industrial Education. B.S., Sam Houston State Teachers College, 1931. WILLIAM OLIN SANDERS, JR., Assistant in Architecture. B.S., Agricultural and Mechanical College of Texas, 1933. GROOM SHIRLEY SHEPARD, Fellow in Chemistry and Chemical Engineering. B.A., Simmons, 1934. ‡CAMERON SIDDALL, Assistant in The College Library. B.S., Agricultural and Mechanical College of Texas, 1931. MANNING FARR SMITH, Fellow in Physical Education. B.S., Centenary College, 1934. WILLIAM JONES SPICER, Assistant in Entomology. B.S., Mississippi State College, 1933. *STONEY MILTON STUBBS, Assistant in Accounting and Statistics. B.S., Agricultural and Mechanical College of Texas, 1934. TYRUS RAMON TIMM, Assistant in Agricultural Economics. B.S., Agricultural and Mechanical College of Texas, 1934. JOHN TURNER TROTTER, Assistant in Mechanical Engineering. B.S., Agricultural and Mechanical College of Texas, 1933. † JAMES FRANCIS TUCKER, Assistant in Physics. B.S., Trinity, 1934. OLIVER PAXTON WALKER, Fellow in Office of The Dean of the College. B.S., 'Agricultural and Mechanical College of Texas, 1934.

^{*} Resigned Jan. 1, 1935. † Resigned Feb. 1, 1935. ‡ Appointed Feb. 15, 1935.

SUMMARY OF THE TEACHING STAFF AS OF APRIL 1, 1935

Heads of Departments and Other Members of the General Faculty	. 42
Other Full Professors	. 42
Associate Professors	_37
Assistant Professors	. 34
Instructors	31
Teaching Assistants and Fellows	. 48
*TOTAL	234

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* Including 3 on leave, Session 1934-35.

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THE AGRICULTURAL EXPERIMENT STATION

STAFF (As of January 1, 1935)

Administration:

A. B. CONNER, M.S., Director.
R. E. KARPER; M.S., Vice-Director.
CLARICE MIXSON, B.A., Secretary.
M. P. HOLLEMAN, Chief Clerk.
J. K. FRANCKLOW, Assistant Chief Clerk.
CHESTER HIGGS, Executive Assistant.
HOWARD BERRY, B.S., Technical Assistant.

Chemistry:

G. S. FRAPS, Ph.D., Chief; State Chemist.
S. E. ASBURY, M.S., Assistant State Chemist.
J. FRANKLIN FUDGE, Ph.D., Chemist.
E. C. CARLYLE, M.S., Chemist.
T. L. OGIER, B.S., Assistant Chemist.
ATHAN J. STERGES, M.S., Assistant Chemist.
WALDO H. WALKER, Assistant Chemist.
VELMA GRAHAM, Assistant Chemist.
JEANNE F. DEMOTTIER, Assistant Chemist.
W. E. MERRILL, M.S., Assistant Chemist.
W. H. GARMON, M.S., Assistant Chemist.
A. R. KEMMERER, Ph.D., Assistant Chemist.
A. W. WALDE, Ph.D., Assistant Chemist.

Horticulture:

S. H. YARNELL, Sc.D., Chief. *L. R. HAWTHORNE, M.S., Horticulturist. H. M. REED, M.S., Horticulturist. J. F. WOOD, B.S., Horticulturist. L. E. BROOKS, B.S., Horticulturist.

Range Animal Industry:

J. M. JONES, A.M., Chief; Sheep and Goat Investigations.

B. L. WARWICK, Ph.D., Animal Husbandman; Breeding Investigations.

- J. H. JONES, B.S., Animal Husbandman.
- S. P. DAVIS, Wool Grader.

^{*} In co-operation with U. S. Department of Agriculture.

Entomology:

- F. L. THOMAS, Ph.D., Chief; State Entomologist.
- H. I. REINHARD, B.S., Entomologist.
- R. K. FLETCHER, Ph.D., Entomologist.
- W. L. OWENS, JR., M.S., Entomologist.
- J. N. RONEY, M.S., Entomologist.
- J. C. GAINES, JR., M.S., Entomologist.
- S. E. JONES, M.S., Entomologist.
- F. F. BIBBY, B.S., Entomologist.
- S. W. CLARK, B.S., Entomologist.
- *R. W. MORELAND, B.S., Assistant Entomologist.
- CECIL E. HEARD, B.S., Chief Foulbrood Inspector.
- C. J. BURGIN, B.S., Foulbrood Inspector.

Agronomy

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

- R. E. KARPER, M.S., Agronomist; Grain Sorghum Research.
- P. C. MANGELSDORF, Sc.D., Agronomist; Corn and Small Grain Investigations.
- D. T. KILLOUGH, M.S., Agronomist; Cotton Breeding.
- H. E. REA, B.S., Agronomist; Cotton Root Rot Investigations.
- B. C. LANGLEY, M.S., Agronomist.
- J. T. VANTINE, JR., M.S., Assistant Agronomist.

J. O. BEASLEY, M.S., Assistant Agronomist.

Publications:

A. D. JACKSON, Chief.

Veterinary Science:

M. FRANCIS, D.V.M., Chief; Dean School of Veterinary Medicine. H. SCHMIDT, D.V.M., Veterinarian; Acting Chief. I. B. BOUGHTON, D.V.M., Veterinarian. W. T. HARDY, D.V.M., Veterinarian. *F. P. MATTHEWS, M.S., D.V.M., Veterinarian, ------. Assistant Veterinarian.

Plant Pathology and Physiology:

I. J. TAUBENHAUS, Ph.D., Chief.

W. N. EZEKIEL, Ph.D., Plant Pathologist and Laboratory Technician.

W. J. BACH, M.S., Plant Pathologist.,

C. H. ROGERS, Ph.D., Plant Pathologist.

L. B. LORING, B.S., Assistant Plant Pathologist.

G. E. ALTSTATT, M.S., Assistant Plant Pathologist.

[†]G. T. BOYD, B.S., Assistant Plant Pathologist.

^{*} In co-operation with U. S. Department of Agriculture.
* In co-operation with U. S. Department of Agriculture.
† In co-operation with State Department of Agriculture.

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.

A. C. MAGEE, M.S., Farm Management.

*W. R. NISBET, B.S., Ranch Management.

Rural Home Research:

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

Soil Survey:

*W. T. CARTER, B.S., Chief. E. H. TEMPLIN, B.S., Soil Surveyor. J. S. Huckabee, B.S., Soil Surveyor. I. C. Mowery, B.S., Soil Surveyor.

Botany:

V. L. CORY, M.S., Acting Chief.

Swine Husbandry:

FRED HALE, M.S., Chief.

Dairy Husbandry:

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

Poultry Husbandry:

R. M. SHERWOOD, M.S., Chief. J. R. COUCH, B.S., Associate Poultry Husbandman. PAUL D. STURKIE, B.S., Assistant Poultry Husbandman.

Agricultural Engineering:

H. P. SMITH, M.S., Chief.

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.

JAMES SULLIVAN, Assistant Chief.

S. D. PEARCE, Secretary.

J. H. ROGERS, Feed Inspector.

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

H. G. WICKES, D.V.M., Feed Inspector.

SIDNEY D. REYNOLDS, JR., Feed Inspector

P. A. MOORE, Feed Inspector.

E. J. WILSON, B.S., Feed Inspector.

Members of the Teaching Staff Carrying Co-operative Projects on the Station

G. W. ADRIANCE, Ph.D., Professor of Horticulture.

S. W. BILSING, Ph.D., Professor of Entomology.

A. L. DARNELL, M.A., Professor of Dairy Husbandry.

W. R. HORLACHER, Ph.D., Professor of Genetics.

R. G. REEVES, Ph.D., Professor of Biology.

A. K. MACKEY, M.S., Professor of Animal Husbandry.

D. SCOATES, A.E., Professor of Agricultural Engineering.

F. R. BRISON, M.S., Associate Professor of Horticulture.

J. H. KNOX, M.S., Associate Professor of Animal Husbandry.

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

THE ENGINEERING EXPERIMENT STATION

F. C. BOLTON, M.S., LL.D., Dean, School of Engineering.

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

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

†W. H. BADGETT, M.S., Research Assistant.

‡J. C. HARRISON, B.S., Acting Research Assistant.

ADVISORY COUNCIL

J. B. BAGLEY, B.A., Professor of Textile Engineering.

C. W. CRAWFORD, M.S., Professor of Mechanical Engineering.

C. C. HEDGES, Ph.D., Professor of Chemistry and Chemical Engineering.

X

M. C. HUGHES, E.E., Professor of Electrical Engineering.

H. VANCE, B.S., Professor of Petroleum Engineering.

ERNEST LANGFORD, M.S., Professor of Architecture.

I. 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, Ph.D., Professor of Physics.

E. W. STEEL, C.E., Professor of Municipal and Sanitary Engineering.

[†] On leave until March 7, 1935. I Appointment Effective until March 7, 1935.

THE EXTENSION SERVICE

STAFF (As of February 16, 1935)

Administration:

O. B. MARTIN, Director.

H. H. WILLIAMSON, Vice-Director and State Agent.
GEORGE E. ADAMS, Assistant State Agent.
MILDRED HORTON, State Home Demonstration Agent.
BESS EDWARDS, Assistant State Home Demonstration Agent.
*W. H. DARROW, Editor Extension Publications.
MRS. MINNIE FISHER CUNNINGHAM, Acting Extension Editor.
D. L. WEDDINGTON, Executive Assistant.
ROLAND C. NUNN, Bookkeeper.
MRS. LILLA GRAHAM BRYAN, Librarian.

Farm Demonstration Work:

GEORGE W. BARNES, Animal Husbandman. M. R. BENTLEY, Agricultural Engineer. R. H. BUSH, Agricultural Economist in Organization. PAUL A. CUNYUS, Assistant Poultry Husbandman. JOHN R. EDMONDS, District Agent. E. R. EUDALY, Dairy Husbandman. PARKER D. HANNA, Acting District Agent. E. N. HOLMGREEN, Poultry Husbandman. GEORGE W. JOHNSON, District Agent. R. R. LANCASTER, District, Agent. S. A. MCMILLAN, Agricultural Economist in Farm Management. E. C. MARTIN, State Boys' Club Agent. E. A. MILLER, Agronomist. R. S. MILLER, District Agent. W. R. NISBET, Agent in Animal Husbandry, Sonora. G. W. ORMS, District Agent. M. T. PAYNE, District Agent. R. W. PERSONS, District Agent. E. M. REGENBRECHT, Swine Husbandman. R. R. REPPERT, Entomologist. J. F. ROSBOROUGH. Horticulturist. CHAS. W. SIMMONS, Forester. A. L. SMITH, Animal Husbandman. ROY W. SNYDER, Meat Specialist. J. L. THOMAS, Dairyman. M. K. THORNTON, JR., Leather Specialist.

O. G. TUMLINSON, District Agent.

L. C. WHITEHEAD, Leader Rodent Control, San Antonio.

T. B. Wood, District Agent.

^{*} On leave, 1934-35.

Home Demonstration Work:

MRS. DORA R. BARNES, Specialist in Clothing. MRS. MAGGIE W. BARRY, Sociologist Rural Women's Organization. LOLA BLAIR, Nutritionist. GERTRUDE L. BLODGETT, District Agent. ____ JENNIE CAMP, District Agent. BENNIE CAMPBELL, District Agent. MRS. BERNICE CLAYTOR, Specialist in Home Improvement. LIDA COOPER. District Agent. MINNIE MAE GRUBBS, District Agent. SADIE HATFIELD, District Agent. MAURINE HEARN, Specialist in Home Industries. KATE ADELE HILL, District Agent. ONAH JACKS, Specialist in Landscape Gardening. ZETHA MCINNIS, Specialist in Home Industries. RUBY MASHBURN, District Agent. MYRTLE MURRAY, District Agent. GRACE I. NEELY, Assistant Nutritionist. HELEN H. SWIFT, District Agent.

Negro Extension Work:

C. H. WALLER, State Agent, Prairie View. H. S. ESTELLE, District Agent, Waco. J. H. WILLIAMS, Assistant District Agent, Waco. MRS. IOLA W. ROWAN, District Agent, Prairie View. MRS. JEFFIE ALLEN CONNER, Assistant District Agent, Waco.

THE TEXAS FOREST SERVICE

Administration:

E. O. SIECKE, B.A., B.S.F., Director. R. F. BALTHIS, B.S.F., M.S., Assistant State Forester. WM. A. NORMAN, Chief Clerk.

Division of Forest Protection:

W. E. WHITE, B. S., Lufkin, Chief.
I. H. JONES, B.S.F., Lufkin, Assistant Chief.
M. S. LAWRENCE, Hortense, Assistant. Forester.
W. O. DURHAM, Lufkin, Inspector.
J. M. TURNER, Kirbyville, Inspector.
E. B. LONG, Willis, Inspector.
B. D. HAWKINS, Woodville, Inspector.
J. R. THIGPEN, Huntsville, Forest Lecturer.
B. L. SMITH, Lufkin, Draftsman.

P. H. STRAUSS, JR., Lufkin, Forest Engineer.

Division of Forest Management:

C. B. WEBSTER, B.S.F., Chief.

V. V. BEAN, Kirbyville, Superintendent State Forest No. 1.

H. A. BUDDE, Conroe, Superintendent State Forest No. 2.

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, B.S., Chief Foulbrood Inspector. C. J. BURGIN, B.S., Foulbrood Inspector.

Forestry Law:

Administered by the Director of the Texas Forest Service.

Pure Feed Law:

Administered by the Director of the Agricultural Experiment Station.

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Part II

GENERAL INFORMATION

LOCATION

The Agricultural and Mechanical College of Texas is located at College Station, Brazos County, 100 miles north of Houston and 160 miles south of Dallas. It is served by the Southern Pacific and Missouri Pacific railroads, with convenient connections to all parts of the State. A modern system of paved highways through the county also affords direct communications with the principal cities and towns.

College Station is five miles from Bryan, one of the most progressive and prosperous cities of Central Texas. Adequate transportation facilities and the rapid development of the intervening territory have resulted in combining the activities and interests of the two towns into what is essentially one large community, ideal as a residential district and offering unusual educational advantages to the young men of Texas.

HISTORICAL SKETCH

The Agricultural and Mechanical College of Texas, like the land grant institutions in other states of the Union, owes its origin to the Morrill Act which was approved by Congress, July 2, 1862. This act provided for the donation of a specified amount of public lands to the several states and territories. Proceeds from the sale of these lands were to constitute a perpetual fund, the principal of which should remain forever undiminished. The interest from this fund must be used for the support of at least one technological college whose objective must 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. The Legislature of Texas accepted the provisions of the congressional legislation in 1866, and \$174,000 was realized from the sale of lands set aside under the act. Before the College opened, this fund had grown to \$209,000 through the addition of accrued interest.

In April, 1871, the Legislature provided for the establishment of the Agricultural and Mechanical College. A commission created for the purpose of locating the College accepted the offer made by the citizens of Brazos County and located the institution on a tract of 2416 acres of land in that county. The purchase from time to time of additional land adjacent to the original tract has increased the land owned by the College in Brazos County to approximately 4000 acres.

The College was formally opened and instruction begun on October 4,

GENERAL INFORMATION

1876. Its educational activities have been enlarged through the last half century when the need for such expansion became evident. At the present time, undergraduate instruction is offered in practically every field of engineering and agriculture.

The value of the physical plant has grown to approximately \$10,000,000 and a good foundation has been laid at the College for instruction, for investigation, and for extension by means of financial aid secured from both

the Congress and the State Legislature. The most extensive program of expansion of College facilities in the history of the institution was completed during the year 1934. This program included, at a cost of nearly two million dollars, the erection of eight new buildings and the improvement of many existing structures on the campus.

GOVERNMENT AND ADMINISTRATION

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

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 work of the College is carried on in 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

There are thirty-eight departments of instruction, 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 and Genetics, Animal Husbandry, Dairy Husbandry, Entomology, Horticulture, Landscape Art, Poultry Husbandry, Rural Sociology.

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

School of Engineering.—Architecture, Civil Engineering, 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.

ACADEMIC REGULATIONS

Certain academic regulations have been set up by the Faculty of the College for the purpose of assisting the student to secure the maximum benefit from his studies. These regulations, a copy of which is given to the student when he enters the College, serve as a guide in such important matters as choice of courses and subjects, methods of study, attendance of classes, examinations, promotion and graduation.

By means of reports at regular intervals, frequent conferences with the Deans, the Registrar, and members of the teaching staff, the authorities of the College keep in close touch with the student's progress, and such advice and counsel is offered from time to time as seems justified in each case. For failure to keep up with his studies, the student may at any time be dropped from the rolls of the College.

DEGREES OFFERED

On the basis of resident study the following degrees are offered by the College:

Bachelor of Arts (B.A.) Bachelor of Science (B.S.) Bachelor of Architecture (B.Arch.) Doctor of Veterinary Medicine (D.V.M.) Master of Science (M.S.)

In addition, the following professional degrees in engineering are offered

to graduates of the College on the basis of acceptable professional experience:

Agricultural Engineer (A.E.) Architectural Engineer (Arch.E.) Chemical Engineer (Ch.E.) Civil Engineer (C.E.) Electrical Engineer (E.E.) Mechanical Engineer (M.E.)

The appropriate degree and the diploma of the College will be conferred upon the student who satisfactorily completes one of the regular courses of study leading to a degree, as outlined on subsequent pages, and who fulfills the following additional requirements.

(a) He must earn as many grade points as there are credit hours in the course of study pursued. The method of securing grade points is explained in the description of the grading system, below.

(b) He must have settled all financial obligations to the College.

(c) He must be formally recommended for graduation by the Faculty after consideration of his complete record.

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

THE GRADING SYSTEM

The student's standing in his studies is expressed by grades based upon recitations, written exercises and tests, laboratory work and final examinations.

There are four passing grades, A, B, C, D, representing degrees of scholastic achievement and grade points as follows:

A-Excellent; 3 grade points per semester hour.

B-Good; 2 grade points per semester hour.

C-Fair; 1 grade point per semester hour.

D-Pass; no grade points.

There are two grades, E (Condition) and F (Failure), representing work of distinctly unsatisfactory quality. The grade F may be made up only by repeating the course in class. The grade E is temporary and may be removed by authorized re-examination within the succeeding semester; if not so removed it automatically becomes an F.

The temporary grade Inc. (Incomplete) indicates that the student has completed the subject except for a small amount of work in the laboratory, drafting room or field. The grade is given only when the work already completed has been of a quality acceptable for credit in the subject. The privilege of completing the remaining work is limited to the end of the succeeding semester. If not completed within that time the final grade is F, and the student must repeat the course in class in order to receive credit.

In order to satisfy the grade point requirement for graduation the student must make an average of C or better throughout his college course.

HONORS

At the end of each session, students who have no grade below C and who have earned at least 81 grade points during the session are designated as "Distinguished Students."

REPORTS

Semester Reports: At the close of each semester a report of the student's work during the semester is sent directly to the parent or guardian.

Preliminary Reports: A preliminary report of the student's progress is sent out soon after December 1.

Unsatisfactory Work: At stated intervals during the session the Deans receive reports from the members of the teaching staff on all students doing unsatisfactory work. These reports form the basis for personal conferences with the students concerned, and for special notices to parents and guardians.

Annual Report: On September 1, a report is sent to each student showing his scholastic standing in his course of study, the total number of grade points earned and his classification for the ensuing session.

Reports to High Schools: At the close of the first semester a report is sent to each accredited high school showing the grades made by the Freshmen entering the College from that school.

THE CUSHING MEMORIAL LIBRARY

The Library, erected in 1930 at a cost of \$250,000, contains approximately 40,000 volumes exclusive of the files of the Federal and State documents. While the Library has hitherto been developed chiefly along reference lines a very good reading collection 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.

About three hundred standard magazines, reviews, and technical journals are received besides the leading newspapers of the State and journals of national importance. Files are kept of the most important of these periodicals.

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

Having recently absorbed the extensive collection of books and documents accumulated by the Agricultural Experiment Station, the Library now offers unusual faculties for research in the field of agriculture.

On week days and holidays the Library is open from 8 a. m. to 5 p. m. and from 7 p. m. to 10 p. m. The Sunday hours are from 7 p. m. to 10 p. m.

GENERAL INFORMATION

PUBLICATIONS

The following publications are issued by the College:

The Bulletin of the Agricultural and Mechanical College of Texas.— Issued eight times a year; includes the bulletins of the Texas Engineering Experiment Station, The Catalogue of the College, the President's Annual Report, the announcement of the Summer Session, and miscellaneous publications.

Bulletins of the Agricultural Experiment Station.—These bulletins are issued from time to time and contain reports of the results of the investigations by the Station of problems in agriculture peculiar to Texas.

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

In addition there is issued monthly an *Extension Service Farm News*, *Press Letters* of demonstration results, and numerous circulars from time to time covering both matters of general agricultural interest and matters of unexpected development.

The Daily Bulletin.—Issued daily during the regular session; carries official notices and other announcements.

The Texas Aggie.—Published by the Association of Former Students to keep the alumni informed as to the progress and activities of the College.

Student Publications. 1. The Battalion—a weekly devoted to student activities and interests.

2. The Longhorn—The College Annual, sponsored by the Senior Class and published by the student body.

3. The Texas A. & M. Scientific Review—a bi-monthly magazine, published by the students of the School of Agriculture and the School of Engineering.

COLLEGE ASSEMBLIES

Twice a month there is held a general college assembly of students and faculty at which addresses are made by outstanding leaders in various fields.

RELIGIOUS ACTIVITIES

Religious Services: Religious services are held each Sunday morning and evening by the student pastors assigned by their respective denominations to work with students of the College. These include Sunday School, young people's organizations and sermons and afford additional help in the way of ethical training. Every effort is made through lectures, conferences, 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 modern well-equipped building in which ample provision is made for the meetings and other activities of the Association, for Bible Study, for social gatherings and for entertainments. The Association carries on a varied and vigorous program of religious group meetings, discussion groups in the dormitories, and similar activities tending to build up the moral and spiritual life of the students. Particular emphasis is placed upon work with Freshmen.

Courses in Religious Education: The Synod of Texas, Presbyterian Church, U.S., and the Huntsville District, Methodist Epispocal Church, South, have been authorized to offer courses in religious education open to students of Junior and Senior standing.

Under this plan the following courses are now offered, each carrying credit of three semester hours:

Religious Education 301: Life of Christ and Establishment of the Church.

Religious Education 302: The Early Church and Development of Christian Doctrine.

Religious Education 303: Early Old Testament Life and Religion.

Religious Education 304: Later Old Testament Life and Religion.

A maximum of six semester hours in Religious Education courses may be credited toward a degree.

DISCIPLINE

Discipline is administered by the Commandant. The regulations are designed to secure consistent conformity to the following:

General Requirements.—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.

HAZING

Hazing is forbidden by the law of the State and by the College regulations.

RESERVE OFFICERS TRAINING CORPS

The National Defense Act, as amended, provides for the establishment at civil educational institutions of units of the Reserve Officers' Training Corps (R. O. T. C.).

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 for appointment as reserve officers in the Army of the United States.

Educational Aim.—The Reserve Officers' Training Corps adds to the educational resources of schools and colleges and gives 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.—The Cadet Corps. includes units of Infantry, Cavalry, Field Artillery, Coast Artillery (Anti-aircraft), Engineer Corps,

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GENERAL INFORMATION

and Signal Corps. The instruction is divided into the basic course, two years, corresponding to the freshman and sophomore years, and the advanced course, two years, corresponding to the junior and senior years, plus a training camp of from four to six weeks duration. When entered upon, these courses become prerequisite to graduation and carry credits corresponding to other college work.

Basic Course.—All students of the College who are citizens of the United States and who are physically fit are required to take the basic course unless excused by the Faculty for one of the following reasons:

(a) Completion of the basic course in a senior unit elsewhere.

(b) The presentation of advanced credits in a considerable number of subjects.

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

Members of the basic course will be furnished the major part of the uniform by the Government.

Advanced Course.—Students who enroll in the advanced course must be selected by the President of the College and the Professor of Military Science and Tactics from among those students who have satisfactorily completed the basic course.

The student in the advanced course receives the following benefits:

(a) Commutation of uniform totalling \$36.00 for the two years.

(b) Commutation of subsistence at 26 cents per day from the beginning of his junior year to the end of his senior year, except during the camp period when he is given rations in kind. This commutation will not be paid for more than two years.

(c) While at camp he will receive 70 cents per day. He will also receive transportation to and from camp.

(d) Upon graduation he may be recommended for appointment as an officer in the Reserve Corps of the U. S. Army.

ELIGIBILITY FOR DIFFERENT BRANCHES OF THE SERVICE

1. Signal Corps.—Only students enrolled in the four-year course in Electrical Engineering are eligible. Students taking Electrical Engineering are especially urged to enroll in 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. Engineer Corps.—Only students enrolling in Architecture, Chemical Engineering, Civil Engineering, Electrical Engineering, (except those electing Signal Corps), Mechanical Engineering and Petroleum Production Engineering may enroll in the Engineer Corps Unit.

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. Other Branches.—(a) Students who fall into one of the above classes but do not elect the Signal Corps or the Engineering Corps and all other students taking military training will be enrolled in the Infantry, Field Artillery, Coast Artillery (Antiaircraft), or Cavalry Unit.

(b) No student weighing more than 180 pounds will be eligible for enrollment in the Cavalry.

(c) Students who elect to enter the Coast Artillery should have a working knowledge of plane trigonometry by the end of their sophomore year.

The number of students in each of the various units must conform to certain percentages fixed by the War Department after consultation with the College authorities.

New students will be given their preference in the assignment to units in so far as the quotas alloted the different branches will permit, but the various units in each branch must be equalized.

Each new student must, therefore, make a first and second choice of branch.

Withdrawal From The R. O. T. C.—For satisfactory reasons, upon recommendation of the Professor of Military Science and Tactics, the authorities of the College 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.

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 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 dairy products. Bacterial examinations of both milk and water are made twice monthly in order to control, their sanitary quality.

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

Drill, field work, and outdoor sports furnish sufficient and varied exercise and contribute much to the maintenance of health and to proper physical development.

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GENERAL INFORMATION

SPORTS AND RECREATION

Systematic physical training is recognized as one of the major aspects of the student's education. Kyle Field, the center of the athletic activities of the College, is one of the best equipped athletic plants in the South, and provides the students of the College with every facility for wholesome exercise. It includes the Memorial Stadium with a seating capacity of 35,000; the Memorial Gymnasium, containing a basket ball court, handball courts, showers, lockers, dressing rooms, class rooms, offices and store rooms, and seats for 3,500 spectators; the new Swimming Pool containing a pool 100 by 60 feet, lockers, showers and seating about 600 spectators; the Auxiliary Gymnasium, with handball courts, a basketball court and large rooms for physical training classes; the baseball grandstand with a seating capacity of 4,000; four football fields, a quarter-mile cinder track with a 220-yard straight-a-way, six tennis courts and two baseball diamonds.

Two nine-hole golf courses, adjacent to the College, are available to students.

The College is a member of the Southwest Athletic Conference, and sponsors intercollegiate contests in football, basketball, baseball, track, tennis, cross-country, golf and swimming.

Numerous games and contests between classes and military organizations on the campus aid in the development of sound bodies, self-control, athletic proficiency, and good sportsmanship. Practically all students take part in some form of organized intramural athletics.

MUSICAL ORGANIZATIONS

Band.—The cadet band of approximately 150 pieces is the official band of the A. and M. College of Texas. It has its own officers and all members live in one dormitory. It furnishes the music for military reviews, parades, open air concerts, yell practice, and retreat formations. The band also leads the corps of cadets in marching to the mess hall. It plays at all intercollegiate athletic contests held at the College and accompanies the football team on trips to other schools. In the spring, concert tours are made to surrounding cities and colleges. In short, the "Aggie" Band is truly the pulse of the "Spirit of Aggieland." Candidates for the band should, upon arrival on the campus, take all belongings to Bizzell Hall, make themselves acquainted with the Captain and the First Sergeant of the band whereupon they will be given temporary location. As early as possible, make contact with the bandmaster, Richard J. Dunn, 1st. Lieut., U. S. Army, Ret. It is advised that those owning musical instruments bring same with them as the college is only partially equipped with instruments.

Glee Club.—Students with vocal talent have an opportunity to sing in the A. & M. Glee Club under the direction of a member of the faculty. The club sings regularly at the College Religious Services, and in addition prepares a program of secular music for concert appearances on the campus and away from the College. The membership of the organization numbers about forty students selected by the director after individual try-outs at the beginning of the school year.

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

LECTURES AND ENTERTAINMENT

The College offers each year a series of musicals, plays, and addresses by the best talent obtainable. This is managed by an organization, consisting of part students and part faculty, called the A. and M. College Entertainment Series. Purchase of season tickets is optional but students are urged to avail themselves of the opportunity of enriching their college career. No profit is made by the organization. Moving pictures are presented at least twice a week by the Y. M. C. A. The College Little Theatre Club provides opportunity for practical training in dramatics. The Department of English sponsors a debating club, under the leadership of the Professor of Public Speaking, which meets teams from other colleges and universities in Texas and surrounding states for discussion of questions of public interest.

THE EXCHANGE STORE

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

BUILDINGS

The physical plant of the College includes the buildings described below and a number of smaller structures, with a total valuation of approximately \$6,500,000. Equipment and lands of the College represent an additional investment of \$3,500,000.

The Administration Building, erected in 1933, contains the administrative offices of the College.

The Academic Building, erected in 1914, provides class room, laboratory and office space for several academic departments.

The Cushing Memorial Library, erected in 1930, is equipped with the most modern facilities, such as reading rooms, stack rooms, periodical rooms, lounges, offices, and work rooms for the staff and for graduate students. It is named in honor of E. B. Cushing, Class of 1879, a former President of the Board of Directors.

The Agricultural Building, erected in 1922, provides offices, class rooms and laboratories for several departments in the School of Agriculture.

The Agricultural Engineering Building, erected in 1933, contains offices, class rooms and laboratories for the study of gas engines, tractors and farm machinery.

The Animal Husbandry Pavilion, erected in 1916, contains a large judging arena surrounded by concrete seats seating 1600 spectators; also class rooms and display stalls.

The Animal Industries Building, erected in 1933, provides offices, class rooms, and laboratories for the departments of Animal Husbandry, Genetics, and Poultry Husbandry.

The College Creamery, erected in 1923, contains the dairy laboratories

and creamery, which is equipped for the manufacture and distribution of ice cream, butter, cheese and market milk.

Beef Cattle, Hog, and Sheep Barns provide facilities for the handling of the various classes of livestock.

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

The Horse Barn, erected in 1933, provides stalls and equipment for fifty horses.

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

The Chemistry Building, erected in 1929-1933, contains laboratories, class rooms, administrative offices, auditorium and store rooms for the department of Chemistry and Chemical Engineering.

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

The Science Building, erected in 1899, was used until 1922 as the Agricultural Building. It was remodeled in 1924 and is now used by the Departments of Biology and Entomology.

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

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 for the following shop units: cabinet making, pattern making, machine, foundry and mechanical laboratory.

The Petroleum Engineering, Geology, and Engineering Experiment Station Building, erected in 1933, contains offices, class rooms, drafting rooms and laboratories.

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

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

The Research Chemistry Building; erected in 1909, is occupied by the divisions of Chemistry, Entomology, Plant Pathology and Physiology of the Texas Agricultural Experiment Station. The Extension Service Building, erected in 1924, contains administrative offices, library and mailing rooms for the agricultural extension work.

Ross Hall, erected in 1891, formerly used as a dormitory.

The Veterinary Anatomy Building, erected in 1933, contains laboratories for the study of gross anatomy of domestic animals.

The Veterinary Hospital, erected in 1933, contains offices, class rooms, laboratories, wards for small animals, pharmacy, X-ray room, designed and constructed with modern facilities for the study and teaching of diseases of domestic animals.

The Veterinary Stable "A", erected in 1933, has ten stalls, with concrete floor and individual floor drains, particularly designed for housing large animals with infectious diseases. A part of this building is used for a postmortem laboratory and for the disposal of carcasses.

The Veterinary Stable "D", erected in 1933; contains stalls for housing animals, particularly farm animals used for the study of diseases and for clinic; feed rooms; and equipment rooms.

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, is a modern college auditorium with a seating capacity of 2,000. 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 2,000 persons, and a stage, dressing rooms, and other accessories.

The Hospital, erected 1916, provides adequate accomodations for the needs of the college, including modern equipment and conveniences.

The Stadium, erected in 1927-1929, a concrete stadium on Kyle Field, with a seating capacity of 35,000.

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 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 3,500.

The Swimming Pool, erected in 1933, contains lockers, shower baths, and other facilities for swimming.

Bernard Sbisa Hall, the College dining hall, erected in 1912, is provided with modern facilities, and has a seating capacity of 2750. 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 visitors, contains 36 sleeping rooms with baths, a large dining room, and a separate lunch room with kitchen and service equipment.

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

The College Utilities Building, completed in 1922, contains the office, supply store and warehouse and part of the shops of the Department of Buildings and College Utilities. The telephone office and the Fire Department are also housed in this building.

The Exchange Store, erected in 1925, is occupied by the retail supply store of the College.

DORMITORIES

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

Austin Hall, erected in 1888, named in honor of Stephen F. Austin. Contains 24 rooms.

Foster Hall, erected in 1899; named in honor of L. L. Foster, a former President of the College. Contains 53 rooms.

Goodwin Hall, erected in 1908; named in honor of G. I. Goodwin. Contains 79 rooms.

Milner Hall, erected in 1911; named in honor of R. T. Milner, a former President of the College. Contains 102 rooms.

Legett Hall, erected in 1911; named in honor of K. K. Legett, a former President of the Board of Directors. Contains 102 rooms.

Mitchell Hall, erected in 1912; named in honor of Harvey Mitchell. Contains 86 rooms.

Bizzell Hall, erected in 1918, named in honor of W. B. Bizzell, a former President of the College. Contains 66 rooms.

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

Law Hall, erected in 1928, named in honor of Francis Marion Law, President of the Board of Directors. Contains 108 rooms.

Puryear Hall, erected in 1928; named in honor of Charles Puryear, Dean Emeritus of the College. Contains 108 rooms.

Hart Hall, erected in 1930; named in honor of L. J. Hart, a former President of the Board of Directors. Contains 146 rooms.

Walton Hall, erected in 1931; named in honor of Thomas Otto Walton, President of the College. Contains 176 rooms.

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 is housed in a new, modern building which was completed in the spring of 1933. It provides the department with special laboratories for farm machinery, farm motors, farm shop, automotive equipment, farm home utilities, terracing, drainage, and irrigation, and farm buildings. There are, also, class and lecture rooms, together with a drawing room for the use of the various classes.

The farm machinery laboratory contains modern farm machinery such as plows, harrows, planters, cultivators, harvesters, threshers, seed cleaners and grinders such as are used on Texas farms.

The farm motor laboratory contains a large number of farm gas engines such as are used for stationary work, tractors and automobiles, together with extra equipment for same.

The automotive laboratory contains tractors, automobiles and trucks, many of them being the very latest models.

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 equipped with all tools and equipment necessary for teaching this subject.

The terracing, drainage, and irrigation laboratory contains not only surveying equipment necessary for field work; but also tables containing soils from various sections of the state on which miniature set-ups of terracing and irrigation problems are worked out.

The farm buildings laboratory contains models of the various types of farm buildings, as well as construction details.

AGRONOMY AND GENETICS

The department of Agronomy and Genetics has laboratories and class rooms in the Agricultural Building and the Animal Industries Building. There are two laboratories for soils and two laboratories for crops in the Agricultural Building. They are large, well lighted, and well equipped for instructional purposes.

The main soils laboratory is equipped with a centrifuge, shaking machine, Briggs filter, electric air pumps, 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 advanced students. It also has complete equipment for determining the reaction of the soil in the field, including quinhydrone electrode, Wheatstone bridge and soil dispersing apparatus.

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

The main farm crops laboratory is equipped for general laboratory instruction in farm crops and for specialized instruction in commercial grain grading. For farm crops the chief items of equipment are standard seed testers, dissecting sets, hand lenses, torsion balances, insect-proof and ratproof 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, and several complete sets of dockage sieves for determining dockage in the various kinds, classes and grades of grain.

The advanced farm-crops laboratory accomodates students taking advanced work in forage crop and cereal crop production. It contains all the equipment found in a modern Federal Grain Inspection Laboratory.

In the Animal Industries Building the department has four laboratories, a small greenhouse, a constant-temperature room and a seminar room equipped for graduate and undergraduate instruction in Genetics. The laboratories are designated; Main Laboratory, Graduate Laboratory, Small Animal Laboratory and Biometrical Laboratory. They accomodate undergraduate classes, graduate students, small animals used in animal breeding courses and calculating machines respectively. The green house is used in connection with class work in plant-breeding and the study of seedlings grown from X-rayed stock. The constant-temperature room is a culture room for drosophilia stocks used in the study of genetic problems. The usual biological laboratory equipment of microscopes, ovens, autoclave, hot-plates, reagents and instruments is at hand.

Besides the small green-house at the top of the Animal Industries Building the department has a modern green-house 67×25 feet, equipped for soil fertility and farm crops work. For field study the department has $4\frac{1}{2}$ acres of land devoted to demonstration work in crops and soils. All the important types and varieties of farm crops adapted to this section are grown for field study, and for use in the laboratories.

The department maintains a technical library, in which will be found most of the standard works and journals pertaining to agronomy and genetics as well as Experiment Station Bulletins and reports.

ANIMAL HUSBANDRY

The Animal Industries Building and a large judging arena provide housing facilities for instruction and administration of the Animal Husbandry department.

In the Animal Industries Building, laboratories for determining the chemical and energy values of feeds, and small animal laboratories for deficiency and vitamin studies are provided. The building is also equipped with a thoroughly modern laboratory for the study of wool and mohair. Scouring equipment, driers, microscopes, micrometer calipers, and fiber testing machines are all available for class. These laboratories are equipped with temperature and humidity control. A new meats laboratory with killing, cutting, cooking, and refrigeration facilities was completed in 1933.

The department is assigned about 1200 acres of land with barns and equipment for the various classes of live stock. The horse division is equipped

with representatives of the following breeds: Percheron, American Saddle, Standardbred, Morgan, and Thoroughbred. A modern barn housing 50 horses was completed in 1933.

The beef cattle division is equipped with barns, sheds and land suitable for fitting show animals, caring for commercial cattle. Excellent herds of Hereford, Shorthorn, and Aberdeen Angus cattle are maintained.

Commercial grades of cattle for class and experimental work are secured each year. These cattle are used in connection with the courses in feeding, marketing and beef production.

A large flock of Rambouillet sheep and smaller flocks of Delaines, Hampshires, and Southdowns are maintained by the sheep and goat division. There is also a 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. At least one carload of commercial lambs is fed each year. As with cattle, these lambs are used for securing feeding data as well as for class work in marketing and production.

The hog division is equipped with numerous small lots and pastures, a central feeding and storage barn, colony houses and feeding floors. Breeding herds of Duroc Jerseys, Poland Chinas, Hampshires, Tamworths, and Berkshires are maintained. A garbage disposal plant is operated in connection with the hog division. Usually about 500 hogs are used for this purpose continuously.

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

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

ARCHITECTURE

The department occupies a large drafting room where students of the several classes work together, two small drafting rooms for special drafting classes, a well lighted 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 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. Students of Architecture also have access to the equipemnt of the other departments whose work is associated with Architecture.

BIOLOGY

The department in its various branches is fully equipped with apparatus for lecture room and laboratory use. There are eight laboratories—one zoological, four botanical, one bacteriological and two research.

For the use of elementary classes, the department has 60 standard 2-power microscopes, with accessories, charts and models of plants and animals; a collection of prepared specimens, and a herbarium of about 3000 mounted plants. For experimental work and demonstration in the class room, there are instruments of precision, largely of French and German make. For use by more advanced workers there are 20 high-powered microscopes; 3 Leitz binocular dissecting microscopes; Reickert and Minot microtomes imbedding ovens; a large and small incubator; two steam sterilizers; analytical balances; and a full equipment of glass ware, chemicals, stains and similar material.

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

CHEMISTRY AND CHEMICAL ENGINEERING

The department has the usual laboratory facilities including a compressed air system, a steam hot plate in every hood, electric combustion and muffle furnaces, electric drying ovens and a ventilating system. The laboratories are supplied with hydrant and distilled water. Each student is assigned to a lockdesk containing the necessary equipment. Special apparatus, such as colorimeters, refractometers, Lovibond tintometer, and gas burette, used in technical work is available at the stock room. There are adequate laboratory facilities for work in agricultural, analytical, inorganic, organic, physical and industrial chemistry.

The industrial chemistry laboratory includes a complete cotton seed oil mill and equipment for testing and experimental work in petroleum. Soap making and hydrogenation equipment is also available.

The department has a good reference library for use of its students and instructors.

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 are transits, levels, plane-tables, compasses, and the smaller instruments used in such work.

The hydraulics laboratory contains 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 and cement contains one universal testing machine of 100,000 pounds capacity, one 50,000 pounds and one 60,000 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 roads 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 bituminous materials and pavement samples the department is especially well equipped, having practically all of the standard apparatus for such tests.

For the use of advanced students in structural engineering there is provided a complete photo-elasticity polariscope for the study of internal stresses by the aid of polarized light; also a Beggs deformeter for the study of stresses in models by the measurement of microscopic deformations. For advanced students in highway engineering there is ample equipment such as electric ovens, analytical balances, mechanical mixers for asphaltic paving materials and for concrete, as well as a 300,000 pound universal testing machine.

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

DAIRY HUSBANDRY

The department controls a complete dairy farm containing 500 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. One hundred and fifty acres are under cultivation, the remainder being devoted to pasturage. All farm operations are carried on with modern machinery.

The herd consists of approximately 175 animals, including cows, calves and bulls, of which about half are pure-bred Jerseys, and about half pure-bred Holsteins. 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 creamery is housed in a tile-stucco building. Equipment and machinery necessary for the manufacture of butter, cheese, ice cream and milk are available. The equipment is motor driven and includes several types ofpasteurizers, churn, freezer, homogenizer, direct expansion cooler, and a sixton refrigerating unit.

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

GENERAL INFORMATION

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 with both a hand controller and a master controller operating an electropneumatic system, twenty-eight direct-current machines ranging in size from $1\frac{1}{2}$ horse-power to 20 kilowatts and provided with various means of speed and voltage control; eight alternators ranging from $2\frac{1}{2}$ K. V. A. to 30 K. V. A.; three converters 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 high tension laboratory equipment consists of a 100 K. V. A., 200,000 volts testing transformer with regulators for varying the voltage, 125 cm. spark gap, a crest voltmeter, and other auxiliary devices for use with this transformer. A complete high voltage cathode ray oscillograph. Marx circuit surge generator capable of generating lighting surges up to 250,000 volts.

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 Carry-Foster bridge; magnetometers, dynamometers; portable, semi-portable and wall galvanometers; astatic galvanometers; universal tangent galvanometer; carolimeters; sechometer; influence machine; electostatic apparatus; spark coils; apparatus for testing magnetic qualities of iron and steel; standard resistances; standard cells; physical balances; universal 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 oscillograph 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 Albricht sphere, a Taylor reflectometer, and an assortment of portable photometers making possible complete tests of illuminants and illuminations.

The equipment of the communication 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. One complete voltage cathode ray oscillograph for use in measurements of radio and audis frequency circuits.

The College maintains a complete power plant to furnish power, light 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.

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 necessary reading and reference work. The Electrical Engineering Department sponsors the Amateur Radio Club on the campus which operates a 40 meter and a 10 meter radiophone.

ENGINEERING DRAWING

This department is located on the fourth floor of the Civil Engineering Building. It occupies three large drawing rooms, three recitation rooms and offices, all of which are well ventilated, heated, lighted, and equipped with necessary furniture and models.

• Modern apparatus for the draftsman, such as electric blue printing machine, universal drafting machine, pantograph and ellipsograph, is included in the equipment.

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

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, spray machines, powder guns, and similar apparatus.

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 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. The department also has a small apiary, where the student may familiarize himself with the practical operations of bee-keeping.

For life history work, there is an insectory equipped with breeding cages, a hydrothermograph, 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, and full sets of the Transactions of the American Entomology Society, Geneva 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 recent publications of economic entomology and apiculture.

GEOLOGY

The department occupies rooms in the Petroleum Engineering, Geology, and Engineering Experiment Station Building. These include a lecture room and three laboratories for general, historical, and structural geology, special combined lecture and laboratory rooms for mineralogy, petrology, paleontology, and sedimentation, three research laboratories, a seminar room, dark room and offices for the department. Exhibit foyers provide space for the display of specimens. Equipment includes geologic and crystallographic models, maps, goniometers, 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. Steber of Dallas forms the nucleus of departmental collections. These include approximately 5,000 fossil specimens, 1,500 mineral specimens and 750 rock specimens. Library facilities include the Watson Library of 1500 bound volumes and 3000 pamphlets, the Bose Library of 300 bound volumes and 700 pamphlets and approximately 1500 additional volumes in the college library.

HORTICULTURE

The class-room work in horticulture is supplemented 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, a plot of ground has been set aside on which a great variety of vegetables is grown under the direct supervision of the student.

The department has ample equipment for the control of insects and diseases, including various types of sprayers. A collection of more than 1200 lantern slides owned by the department is used for illustrating different subjects, including those in vegetable gardening and nut culture.

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

LANDSCAPE ART

The department of Landscape Art has two well equipped drafting rooms, a comprehensive lantern slide collection on the various phases of gardening, a good reference library, and a large number of blue prints, plans, sketches, and photographs.

In addition, the department has under its supervision the college greenhouses, hot-beds, cold frames, and lath houses, several acres in ornamental plants, an irrigated nursery, tree moving and other equipment designed for general landscape practice, all of which is available for class use.

A naturalistic park and arboretum of approximately 40 acres is being developed on college property, and the students are given opportunity of gaining practical experience through working on one of the commoner and more important landscape problems.

MECHANICAL ENGINEERING

Most of the equipment for this department is divided between five shops, the woodworking and pattern shop, the mill room, the foundry, the machine shop, and the mechanical laboratory.

The woodworking and pattern shop is equipped with specially designed benches with individual drawers and two quick-acting vises. A complete assortment of carpenter's tools is kept in each bench. In addition to these tools, numerous special tools are kept in the tool room. There are also five wood lathes, two small jointers, one eight-inch circular saw, a twenty-inch band saw, an electric router, a portable belt sander, a disc sander, and two tool grinders.

In the mill room there are a twenty-inch cut-off saw, a thirty-six-inch band saw, a twenty-four-inch planer, a twelve-inch jointer, a double arbor universal circular saw, a single spindle shaper, a mortiser, and a large belt sander.

The foundry is equipped with a twenty-inch Whiting Cupola for grey cast iron, a gas fired tilting furnace for non-ferrous metals, a gas fired core oven, a core squeezer, a Combs gyratory riddle, both metal and wood flasks, a tumbling barrel, and a grinder.

The machine shop is equipped with seven direct motor driven engine lathes, eleven step-cone back geared engine lathes, one turret lathe, one direct motor drive and three step-cone milling machines, one three-foot radial drill (motor on arm), one speed drill, one fourteen-inch upright drill, one twentyfour-inch by six-foot planer, one sixteen-inch and one twenty-four-inch motor driven shaper, one universal tool grinder, one eighteen-inch disk grinder, four motor driven tool grinders, one motor driven Yankee drill grinder, one belted tool grinder, and three reverberatory furnaces for heat treating. The tool room contains the necessary small tools to go with the various machines, a large assortment of drills, taps, dies, milling cutters, scales, calipers, micrometers, a master micrometer donated by Pratt and Whitney Company, and several portable electric drills and grinders.

In the mechanical laboratory there are a DeLaval steam turbine, three small reciprocating steam engines, a Corliss steam engine, a triple expansion marine engine, pumps, measuring tanks, scales, condensers, and other similar auxiliaries for running tests; a single cylinder engine operating on natural gas, a Krueger semi-Diesel engine donated by the San Antonio Machine and Supply Company, a Tips semi-Diesel consigned to the department by The Tips Engine Works of Austin, a complete one-ton York ice machine, fiftyhorsepower General Electric dynamometer secured through the co-operation of the General Electric Company, and a Twin City tractor engine consigned to the department by the Minneapolis-Moline Power Implement Company. The laboratory instrument room contains a number of gauges, thermometers, tachometers, steam and gas engine indicators, pitot tubes, and pyrometers, necessary for testing.

In addition to the above equipment is a railway locomotive, fully equipped, supplied through the courtesy of The Missouri Pacific Lines.

MILITARY SCIENCE AND TACTICS

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

Infantry: The Infantry is equipped with rifles, machine guns, automatic rifles, 37 mm. 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.

Field Artillery: Two 75 mm. batteries, consisting of eight 75 mm. guns, 10 caissons, 18 limbers, 2 battery and store wagons, and two limbers, battery reel cart, 86 Artillery horses, harness and saddle equipment for all horses, and all accessories, spare parts and tools, on 155 mm. Howitzer and casson, one five ton caterpillar tractor, one FWD ammunition truck, one White reconnaissance car. The Artillery equipment also includes four Browning machine guns and a complete supply of fire control equipment such as B. C. telescopes, range finders, aiming circles, prismatic compasses, field glasses, and a supply of topographical equipment such as plane tables, alidades, compasses, plotting scales and protractors, telephone equipment, sectionalized ammunition and fuses, Field Artillery Trainer and terrain board.

Cavalry: Sixty sets of Cavalry horse equipment complete, including both McClellan and flat saddles; sabers; rifles; machine rifles; machine guns; Cal. 45 automatic pistols; 60 Cavalry horses; 1 wagon escort; and harness.

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

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

Coast Artillery: Tractor drawn Artillery Unit which includes the 155 mm. gun and the 10 ton tractor. A harbor defense fire control system which includes the plotting board, range correction board, deflection board, azimuth instruments, storage batteries, battery charger, various types of telephones and time interval apparatus; an anti-aircraft gun on mobile mount with the fire control instruments for firing on aerial targets; Anti-aircraft machine guns; two F. W. D. trucks for instruction in motor transportation of the anti-aircraft battery; various engineer instruments such as transits and levels for instruction in orientation.

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 co-operation of a number of the leading producing companies and the manufacturers 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 with 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 amphitheatre seats, motor-driven blinds for darkening the room, and a large lecture table provided with gas, water and electric switchboard.

A smaller lecture room, having a seating capacity of 70, contains a lecture table equipped with water, gas and switchboard.

The apparatus room on the first floor is equipped with a five-panel switchboard supplied with 110 and 220-volt alternating current from the College power system, with direct current from 60 Edison storage cells, 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 on 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, band saw, and drill press, stock material and the usual metal and wood working tools.

The basement contains one general laboratory, ten smaller laboratories for special work, an 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 has half of the two top floors of the new Animal Industries Building; also a large killing room, egg candling and cold storage facilities in the new meats laboratory. The department also operates a farm of 45 acres with a total of 65 buildings which contain approximately 1000 hens bred for high egg production. A large part of the work on this farm is done by students specializing in the department. The principal breeds kept on the farm are the Rhode Island Red, Barred Plymouth Rock, White Leghorn and Dark Cornish; four breeds of ducks; two of geese; approximately 100 turkeys; a small flock of pigeons; and a small rabbitry. The department also owns and operates two mammoth incubators and four makes of battery brooders. Every phase of poultry raising is actually carried out 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 organization and development. Apparatus for working out the laboratory problems peculiar to this field is 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 organization.

TEXTILE ENGINEERING

For yarn manufacture there is ample equipment 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 Northrup 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, one for fancy towels, one silk loom and one braider.

The finishing machinery is for ordinary duck, sheeting or drill, and consists of an inspecting machine, railway sewing and rolling machine, folder and bale press.

VETERINARY ANATOMY

The anatomy laboratory 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 the 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 conducted at the Veterinary Hospital which has rooms and other facilities for surgical and medical treatment of live stock and poultry of the farm and ranch and of pet animals. There are wards for the isolation of small animals affected with transmissible skin diseases, parasitic diseases, and infectious diseases, and wards for diseased poultry used in the clinic and courses offered in diseases of the fowl. X-ray equipment for examination and treatment of both large and small animals is provided in a specially constructed room.

Facilities for laboratory diagnosis of clinic cases assigned to students are provided on the second floor. These include hecropsy room for small animals, wash and sterilizer room, incubator and refrigerator rooms, and laboratory equipment with apparatus for blood and urine analysis, bacteriological, pathological and serological examinations, and the preparation of autogenous bacterins. There is a room specially constructed and equipped for photographic work and demonstration with projection apparatus.

There is a large room with sanitary floors, glazed tile walls, ample daylight, and artificial light, for post-mortem examination of any animals that die in the clinic or that are brought in from the surrounding country and other parts of the State.

A large stable is used for housing cattle, horses, mules, sheep and goats that are being treated. There are other stables for isolating farm animals with infectious and parasitic diseases.

There are a number of pastures provided with shade and water for animals that do not need daily attention but are observed each day and if necessary given treatment until they recover.

Transportation service for large and small animals is available; also automobile transportation for students to see cases that can not be brought to the clinic.

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GENERAL INFORMATION

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 apparatus, reagents, and chemicals for 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, and chemicals essential for 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, and experimental animals essential to the proper study of the action of inorganic and organic poisons, and poisonous plants on the living animal, their detection and remedial treatment.

The apparatus consists of the necessary glassware, mortars, pill tiles, hot water funnels, torsion and laboratory balances, kymographs, pneumographs, Plethysmographs, ergographs, tambours, manometers, muscle levers, cardiac levers, saccharometers, urinometers, ureometers, indicaometers, hydrometers, electric centrifuge, electric water bath (for digestion experiments), respiratory and circulatory schemes, microscopes, spectroscope, drug mill, suppository machine and mold, tablet machine, triturate tablet molds and all other necessary equipment.

THE SCHOOL OF VOCATIONAL TEACHING

Offices and class rooms for the departments of Agricultural and Rural Education are provided in the Academic Building. The Industrial Education department has been moved to the M. E. Shops Building where rooms and shops equipped with modern machines, tables, lathes, etc., are provided for instruction of both college and public school students. Our trainees here have opportunity to observe and teach industrial arts classes from the A. and M. Consolidated School five afternoons per week.

The high school division of the A. and M. Consolidated School now occupies the second floor of Pfeuffer Hall, located next to the Academic Building. This affords excellent opportunity for observation and directed teaching in the general high school subjects.

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 and at least sixteen years of age. He must be free from contagious or infectious diseases and must present a satisfactory certificate of recent vaccination against smallpox and typhoid-paratyphoid fever.

SCHOLARSHIP REQUIREMENTS

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 credentials 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 arriving at the College.

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

SCHOOL OF-	Fnalich					red in— Elective 7	Total
Agriculture			Geom.	Science S			I VIAI
All curricula except Ag	ri-						
culture	3	$1\frac{1}{2}$	1	1	1	$7\frac{1}{2}$	15
Agriculture .	3	1.	1	1	1	8	15
Arts and Sciences:	3	11/2	1	2	1	$6\frac{1}{2}$	15
Engineering:	3	$1\frac{1}{2}$	1	2	1	$6\frac{1}{2}$	15
(Including Architecture)						
Veterinary Medicine:	3	1	1	1	1	8	15

List A-Distribution of Units Required for Admission

ADMISSION

Vocational Teaching: All curricula except Agri- cultural Education 3	1 1/2	1	1	1	7½	15
Agricultural Education 3			1		8	15
List B-Elective Units						
English (4th unit) 1 unit Mathematics: Advanced Algebra 1/2 or 1 unit Solid Geometry 1/2 unit Trigonometry 1/2 unit Advanced Arithmetic 1/2 unit Social Sciences: 1 unit Ancient History 1 unit Modern History 1 unit English History 1 unit More History 1 unit More History 1 unit Korid History 1 unit Foreign Languages: 1/2 or 1 unit Latin 2 to 4 units French 2 to 4 units Spanish 2 to 4 units	Natu Bio Bo Ch Ge Ph Ph Ph Zo Voca Ag Bo Dr. Co Co Co Co Sho Ste Ty	iral Scie ology emistry emistry neral S ysios ysiology ology tional S ricultur okkeepi awing m. Arit mmerci m. Geo op Wor enograp	Science phy Subject e ng hmetic al Law graphy k hy and ng	s:	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	unit unit unit unit unit unit unit unit

NOTES.—1. At least $1\frac{1}{2}$ units of Algebra are required as preparation for the first semester of Mathematics regularly scheduled in the freshman year of the following curricula: Agricultural Administration, Agricultural Engineering, Liberal Arts, Science, Architecture, Engineering, Cotton Marketing, Industrial Education, and Rural Education. Students will be admitted to the School of Engineering with 1 unit of Algebra, but they must take Mathematics 101a in the first semester instead of Mathematics 111. Such students should plan to attend summer school to complete their freshman Mathematics and to be prepared for the work of the sophomore year. In curricula requiring Mathematics 101, students presenting 1 unit of Algebra will be admitted, but they must take Mathematics 101a instead of Mathematics 101 and defer one of the required courses of the first semester. Such students should plan to attend summer school to complete their freshman work.

Students with a good record in high school Algebra, who pass a satisfactory placement test in Algebra, may substitute Mathematics 102 for Mathematics 101 or 111. 2. Students who plan to enter the School of Engineering should complete Physics, Solid Geometry and 2 units of Algebra as a part of their course of study in high school.

8. A 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 such units 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, primarily for students in non-accredited schools and for graduates of accredited schools who lack one or more units of meeting the full requirements for admission.

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Fall entrance examinations will be held at the College September 13, 1935, under the supervision of the College authorities, and will cover all the subjects required or accepted for admission as outlined above. Candidates desiring to take examinations at the College should notify the Registrar not later than September 10.

3. Admission by Individual Approval.—An applicant over twenty-one years of age, who has not recently attended school and who cannot satisfy the entrance requirements in full, may be admitted without examination, subject to the following requirements:

(a) He must make application on the official entrance blanks.

(b) 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.

(c) He must show, by a test in composition, that he has an adequate command of the English language.

(d) • 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:

(a) The candidate must present a letter of honorable dismissal from the institution last attended.

(b) 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.

(c). 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 in the college 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:

(a) The candidate must show good reason for not taking a regular course

ADMISSION

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and must submit satisfactory evidence that he is prepared to profit by the special studies he wishes to pursue.

(b) Record of his previous scholastic work must be submitted on the official entrance blanks and must be accompanied by a statement showing (1) his experience; (2) a plan of study, enumerating the courses he desires to pursue; and (3) the purpose or end expected to be accomplished by his study.

(c) 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 AT THE BEGINNING OF THE SECOND SEMESTER

For the benefit of students admitted at the beginning of the second semester, certain first semester subjects are repeated. By completing these subjects and by attending the summer session for twelve weeks, the student should be able to graduate with his class. Students who are unable to attend the summer session should not enter at the beginning of the second semester.

REGISTRATION

Upon arrival at the College students will report at once to the Administration Building for information in regard to registration.

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

Monday, September 16, 1935, will be devoted to the registration of new students; old students will register on Wednesday, September 18. Formal classwork begins Thursday, September 19.

EXPENSES

The necessary expenditures for the regular session of nine months range from \$360 to \$375 for new students and from \$335 to \$350 for old students, distributed as follows:

First Semester	
	Dormi-
Payable on entrance: Day Fees payable to the Fiscal Department: Stude	nt Student
Matriculation Fee (See note 1, below.) (required) \$ 25.0	0 \$ 25.00
Mathemation Fee (See note 1, below.) (required) \$ 23.0 Medical Service Fee(required) 5.0	
*Room Rent	15.00
*Maintenance (board and laundry) to Nov. 1	
	39.00
Room Key Deposit, returnable	1.00
Student Activities Fee(voluntary) 11.0	
Post Office Box Rent	.50
Y. M. C. A. Privilege Card(voluntary) 2.5	50 2.50
Total payable on entrance to the Fiscal Dept	50 \$ 99.00
Other Expenses (for items that may be pur-	
chased from the College Exchange Store):	
Text Books and Supplies, about 20.0	00 20.00
Total payable on entrance for old students, about	50 \$119.00
Extra Expenses for new students:	
Uniform (See note 2, below.), about 22.7	75 22.75
Freshman Physical Education Uniform	
(See note 5, below.), about 1.5	50 1.50
Total payable on entrance for new students, about	75 \$143.25
(Add Drawing Instruments for Freshmen in	, (j1.). _)
Engineering, about \$15.00.)	
Payable after entrance:	
November 1, *Maintenance to December 1	26.00
December 2, *Maintenance to Christmas Holidays	17.50
January 2, *Maintenance to end of First Semester	27.50
Total Expenses for First Semester:	21.90
For new students, about\$ 87.7	75 \$214.25
For old students, about\$ 63.5	
Second Semester	φ190.00
Payable on entrance:	
Fees payable to the Fiscal Department:	0 0 0 0 0 0 0 0
Matriculation Fee (See note 1, below.) (required) \$ 25.0	
Medical Service Fee(required) 5.0	
*Room Rent	15.00
*Maintenance (board and laundry) to March 1	23.50
Post Office Box Rent(voluntary)	.50
Y. M. C. A. Privilege Card(voluntary) 2.5	
Total payable to the Fiscal Department 32.5	50 \$ 71.50
* The Maintenance and Room Rent are based on present conditions and may	

^{*} The Maintenance and Room Rent are based on present conditions and may be changed if economic conditions make it necessary.

EXPENSES

Other Expenses (for items that may be pur- chased from the College Exchange Store): Text Books and Supplies, about	\$ 10.00	\$ 10.00
	·	
Total payable on entrance for old students and for		
new students who were enrolled for the first	B 43 50	@ 01 FO
semester	\$ 42.50	\$ 81.50
For Extra Expenses for new students who enter for the Second Semester, only, add: Room Key Deposit, returnable		
Subtotal		
Total		
March 1, *Maintenance to April 1		\$ 26.50
April 1, *Maintenance to May 1		26.00
May 1, *Maintenance to end of Second Semester		26.00
Total Expenses for Second Semester for all students		
who were enrolled for the First Semester, about	\$ 42.50	\$160.00
Total Expenses for the entire Long Session:		
For new students, about		
For old students, about	\$106.00	\$350.00
The expenses for day students do not include room rent	, board,	or laun-

dry.

All fees except Maintenance are payable in full at the beginning of the semester. The Maintenance Fee is payable in installments as shown above. The last three installments for each semester are due on the dates shown above, and, if not paid within five days after the date indicated, the student is automatically dropped from the rolls of the College. Installments paid subsequently will cost \$1.00 extra.

From \$50 to \$75 additional for the session should be sufficient to cover the student's incidental needs; consequently, under ordinary circumstances, the maximum annual expenditure need not exceed \$410 to \$425 for new students, and \$390 to \$405 for old students. In many cases these amounts can be materially reduced by careful economy.

NOTES.-1. Old students who in either semester do not register on the days set apart for that purpose pay an additional matriculation fee of \$5.00.

apart for that purpose pay an additional matriculation fee of $\S5.00$. 2. Members of the basic R. O. T. C., (first and second year, see page 36) will be furnished the following equipment: one uniform coat, one pair of uniform trousers, two woolen O. D. shirts, and one black tie. It will be necessary for basic students to purchase the following articles with approximate cost as listed: one extra pair trousers (Government price), \$4.00; uniform cap, \$3.75; hat, \$6.50; Sam Browne belt, \$3.00; web belt, \$0.50; collar ornaments, \$1.00; hat cord, \$0.25; two cotton O. D. shirts (optional) \$3.00; about five cloth (branch) designations, \$0.75; and to pay a handling charge covering cost of altering, sewing on insignia, and of issuing,

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^{*} The Maintenance and Room Rent are based on present conditions and may be changed if economic conditions make it necessary.

receiving, and record keeping of the Government uniform during the school year. The estimated total cost is \$22.75. This amount should equip a student with sufficient uniform to last him through the first two years provided he takes proper care. This estimate does not include russet shoes (oxfords) and white shirts as most students will have these items that can be worn with the uniform.

3. Members of the advanced course will receive commutation of uniform totaling \$36.00 for the two years and subsistence at 26 cents per day from the beginning of the Junior year to the end of the Senior year, except during camp when they receive rations in kind.

4. Students entering for the second semester only will pay the charges indicated for the first semester, except that the Student Activities Fee will be \$7.50.

5. All students taking required Freshman physical education will be required to have a sleeveless gym. shirt, \$0.60 and gym. pants, \$0.90. Athletic shoes (about \$1.50) and a sweat shirt (about \$1.00) are needed, but most students will have this equipment.

Expenses of Day Students.—Day students pay all specified fees and charges except maintenance, room rent and room key deposit.

Expenses of Graduate Students.—A graduate student is required to pay the matriculation fee and medical service fee. In the event of registration for the thesis only he is charged a matriculation fee of \$7.50. He also pays the regular charges for maintenance and room rent if he resides in a College dormitory.

Expenses of Part Time Students.—A student registering for less than twelve credit hours is required to pay a matriculation fee of \$2.00 per credit hour with a minimum fee of \$7.50.

Full time members of the College staff are not permitted to register in any semester for more than one-fourth of a full semester's work.

Expenses of Non-resident Students.—The matriculation fee for a nonresident student shall be an amount equivalent to that charged students from. Texas by a similar school in the State of which the student shall be a resident and shall not be less than the amount charged resident students. A nonresident student is defined to be a student of less than twenty-one years of age, living away from his family and whose family resides in another State, or whose family has resided within this State for a period of time less than twelve months prior to the date of registration, or a student of twenty-one years of age or over who resides out of the State, or who has resided within the State for a period of less than twelve months prior to the date of registration.

Accredited School Scholarship.—A scholarship is offered annually to the valedictorian or honor graduate, if a boy, who is a graduate of an accredited secondary school of Texas that holds at least fifteen units accredited by the State Department of Education. The successful applicant must make the highest record among all the students, boys and girls, graduating that calendar year, including winter, spring, and summer graduating classes and must be certified through the State Department of Education. The scholarship is valid during the first long session after the holder's graduation from high school, and no other, and in no Summer Session. The financial benefit is the exemption from the matriculation fee of \$50.00 for that session.

EXPENSES

PAYMENTS

Payments to the Fiscal Department should be made by cashier's check, or money order, payable to the Agricultural and Mechanical College of Texas. All checks, money orders and drafts are accepted subject to final payment. Personal checks will not be accepted.

Refunds.—Any student withdrawing officially (a) during the first week of class work in a long session will receive a refund of \$20 of the Matriculation Fee; (b) during the second week of class work \$15; (c) during the third week of class work \$10; (d) during the fourth week of class work \$5; (e) after the fourth week of class work nothing; (f) during the first week of class work in a summer term \$5; (g) after the first week of class work in a summer term nothing.

No deductions will be made from charges for maintenance and room rent in case of entrance within 15 days after the opening of a semester, nor will a refund be made in the case of withdrawal during the last 15 days of a semester or the last 15 days for which payment is made.

A refund of maintenance will not be made unless there is a consecutive absence of not less than fifteen days due to illness of the student, or of a member of his family, or for some other unavoidable cause.

Unpaid Checks.—If a check or draft accepted by the Fiscal Department 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.—Duplicate receipts, covering fees paid by students, will be issued on payment of fifty cents.

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.

FEES

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

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. Students confined to the hospital, who have not paid the maintenance fee, must pay this fee for the time they spent in the hospital.

Maintenance.-Maintenance includes board and laundry.

Room Rent.—Rooms are furnished with single bedsteads, mattresses, tables and chairs, and running water. The charge for room rent also includes heat, light and janitor service.

Student Activities Fee.—The Student Activities fee is for the support of student activities and by vote of the student body has been fixed at \$11.00.

It is paid at registration, but is not compulsory. A student entering after the Christmas holidays will pay only \$7.50. On payment of this fee a student is entitled to admission to all intercollegiate and inter-scholastic contests held at College Station, to receive a copy of the Longhorn, the College Annual, and one subscription to the Battalion, the student college publication, throughout the scholastic year.

Y. M. C. A. Privilege Card.—The College Y. M. C. A., the agency through which many cultural and recreational features of the College life are provided for all students, gives each student purchasing a privilege card free admission to a picture show each Saturday evening of the semester and free use of the Y. M. C. A. swimming pool.

HOUSING

All students, except those living at home, are required to reside in the dormitories on the Campus and eat in the College Mess Hall unless authorized for adequate reason to live elsewhere.

The College authorities believe that this is to the best interest of the students. The Mess Hall furnishes the students at cost adequate well-balanced meals prepared under the direction of an experienced supervisor. The dormitory rooms are designed especially to meet the student's needs for living and study. Cost of room rent and maintenance are kept as low as is consistent with the quality of food and service furnished. Those students who obtain parttime employment which prevents their living on the campus or those who feel unable to afford the room and board which the College furnishes, may, on obtaining individual approval in advance, be permitted to live off the campus in approved rooming and boarding houses.

In order to permit students to reduce their living expenses by bringing food from their homes, a limited number of cooperative community rooming and boarding houses will be approved for residence of groups of students under the following conditions:

- (a) Each project must be approved in advance, both as to its plan of operation and the building to be occupied.
- (b) All members of the group must be bona fide residents of a territory usually not larger than one county.
- (c) Since experience has indicated that the overhead cost for a small group is excessive, no group of less than ten students will be approved.
- (d) The house must be in charge of a matron, who must be a resident of the home community of the students, and who will be responsible for the maintenance of a proper moral atmosphere, will enforce the College rules and regulations applying to day students, will see that suitable conditions for study prevail, and will enforce quiet hours after 7:30 p. m. every night except Saturday nights. The matron will also see that the rooms and prem-

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EXPENSES

ises surrounding the house are kept in a neat and sanitary condition.

- (e) No non-students other than members of the matron's immediate family are to be permitted to reside or to board at a cooperative house.
- (f) The group must show evidence that it has the backing of the local community, at least to the extent of aid in canning and preserving food and getting this food transported to College Station.
- (g) The house must be open to inspection by authorized officials of the College at any reasonable time.

STUDENT EMPLOYMENT

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A number of students earn a part of their expenses by working in the various departments of the College at such times as their regular duties will permit. However, no student should expect to earn all of his expenses unless definite arrangements have been made in advance. As a rule, the new student should not plan to do outside work during the first semester of attendance, since all of his energies are demanded for proper adjustment to the problems of college life. In justice to himself and to the College, he is expected to exert every effort to secure sufficient funds from other sources to make a proper start.

Employment is available only to students whose financial resources are limited or whose parents are not in a position to pay all of their expenses. The amount earned by a student will depend upon the nature of the work and the manner in which it is performed.

Further information regarding opportunities for employment may be secured from the Student Labor Committee.

LOAN FUNDS

The Association of Former Students administers a series of loan funds, which are available to students who have been in the College for at least one semester and whose record in scholarship and in conduct is satisfactory. These loans are made for a period not to exceed one year, at six per cent interest. The amount of the loan depends in each case on the student's actual needs.

Outside organizations, such as Rotary clubs, Kiwanis clubs, Lions clubs and Masonic clubs, have also established loan funds which are available to worthy students in this and other colleges.

Part IV

COURSES OF STUDY

There are seventeen courses of study 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 course in Architecture covers a period of five years and leads to the degree of Bachelor of Architecture. Graduate courses and a short course are also offered as shown below:

FOUR-YEAR COURSES

Agriculture Agricultural Administration Agricultural Engineering Liberal Arts Science Architectural Engineering Chemical Engineering Civil Engineering Electrical Engineering Geological Engineering Mechanical Engineering Petroleum Production Engineering Textile Engineering Veterinary Medicine Agricultural Education Industrial Education Rural Education

FIVE-YEAR COURSE

Architecture

GRADUATE COURSE

Courses of study leading to the degree of Master of Science are offered in Agriculture, Engineering, Veterinary Medicine, Vocational Teaching, and the Sciences, including Economics and Mathematics.

Professional degrees in Engineering are awarded under the requirements set forth in the Graduate School Bulletin.

TWO-YEAR COURSE

Cotton Marketing and Classing.

THE SCHOOL OF AGRICULTURE

The following four-year courses are offered in the school of Agriculture: Agriculture Agricultural Administration Agricultural Engineering

AGRICULTURE

The four-year course in agriculture has as its main object the preparation of young men for the business of farming, for the pursuit of scientific investigation along some lines of agriculture, as county demonstration agents, or extension workers, and for teaching in 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, and entomology, which are fundamental to the study of scientific agriculture, and in technical subjects covering the main divisions of agriculture, including agronomy, animal husbandry, farm management, horticulture, landscape art, poultry husbandry and rural sociology. As shown in the curriculum, the work in the Junior and Senior years is arranged so as to provide for a choice by the student of one of eight 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 agronomy, animal husbandry, dairy husbandry, entomology, horticulture, landscape art, poultry husbandry, or rural sociology.

The purpose of the course in Landscape Art is to train students in the development of outdoor 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 semi-private.

AGRICULTURAL ADMINISTRATION

The course in agricultural administration stresses the business side of agriculture rather than the technical side, although the latter is not neglected.

The central aim of the course is to prepare men as agricultural economists. This involves the concept that farmers will become associated in powerful business organizations, carrying on their commercial operations in accordance with fundamental principles that guide 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. Economical growing of plant and animal products upon the individual farms must ever be an indispensible 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 that so much use is

made of mathematics, accountancy, and statistics in the course in agricultural administration.

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

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

At the beginning of the Sophomore year, the student will choose one of the following groups: (1) Accounting and Statistics; (2) Marketing and Finance (including Agricultural Economics and Farm Management).

AGRICULTURAL ENGINEERING

The course in agricultural engineering is planned 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 is possible, and the applications of engineering to agriculture receive their share of attention.

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

Graduates of this course are prepared for service in the following lines: with the colleges and the government, in teaching, extension, and experiment station work; with government soil control projects; 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 soil erosion control, irrigation and drainage work; and with farm trade journals.

THE SCHOOL OF ARTS AND SCIENCES

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

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*LIBERAL ARTS

The Course in Liberal Arts offers carefully planned programs of study in the following fields:

Economics (Busniess, Commerce and Finance)

English (Language and Literature)

History (Including Government)

 $C^{-1}(x, x, b) \rightarrow C^{-1}(x, b)$

Mathematics

Modern Languages (French, German, Spanish)

Physical Education

The course is intended for students who are interested in the general studies rather than in technical and scientific fields, and for those who plan to enter upon a business career, to prepare for foreign service, or to engage in the profession of teaching, particularly in the secondary schools.

The first two years of the Course in Liberal Arts also provide the necessary preparation for students planning to study law.

*SCIENCE

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

1. To prepare students for practical work and advanced study 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 the first three years of that course, including the minimum premedical requirements, 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, upon transferring their medical credits back to this institution, and upon satisfying the grade-point requirement.

THE SCHOOL OF ENGINEERING

The following courses are offered in the School of Engineering:

FOUR-YEAR COURSES

Architectural Engineering Chemical Engineering Civil Engineering Electrical Engineering Geological Engineering Mechanical Engineering Petroleum Production Engineering

Textile Engineering

Architecture

TWO-YEAR COURSE

FIVE-YEAR COURSE

Cotton Marketing and Classing.

^{*}For a more detailed description of the above course 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.

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

ARCHITECTURE AND ARCHITECTURAL ENGINEERING

These courses in architecture are planned to give thorough instruction in the subjects which are generally recognized as necessary in preparation for architectural design and building construction. They are arranged to make the practice classes reflect the instruction given in 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 courses are arranged: Architectural Design, which develops special ability in composition, planning, and rendering in the later years of the course; Architectural Engineering, which devotes particular attention to the structural elements of architectural practice during the later years. The same work is done by the freshman class in the two courses, and as the courses develop, the emphasis upon the special work of each one is increased, until in the last year, it becomes distinct and separate. Both courses 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 courses the student should be guided by his natural inclination toward the type of work which is emphasized in that group. Graduates in these courses find positions as draftsmen, 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.

CHEMICAL ENGINEERING

The course in chemical engineering is planned to prepare students 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, the development of 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 raw material into the finished product with the greatest efficiency and economy. 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 whereby 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 supervising their operation 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.

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 practcal use as will enable the graduate 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 engineering, mechanics, strength of materials, hydraulics, and stress analysis. In the fourth year he is given an opportunity to specialize moderately in structural engineering, highway engineering, hydraulic engineering, or municipal and sanitary engineering.

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In highway engineering special emphasis is placed on pavements and highway materials, while in structural engineering somewhat more attention is given to stresses and design of bridges and other structures.

In municipal and sanitary engineering less time is devoted to structures, with correspondingly greater emphasis on water supply, sewage disposal, sanitation, and other municipal problems. In the field of hydraulic engineering the principal divisions treated are hydrology; flood control, irrigation, and drainage. Either field will fit the student for any of the lines of work open to civil engineers, among which may be mentioned the following: professional practice in surveying; water supply, sewage 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.

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

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 electrical 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 illustrations 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, to impress more firmly in the student's mind the principles already covered; and the second, to give the student specific information about some branch of electrical engineering.

Electrical engineering presents broad opportunities for the young man with proper training. Graduates in this course may find an outlet for their special abilities in one or more of the following fields:

In electric generating stations and systems, technically trained engineers are needed to deal with the operation of plants and equipment, the design and construction of transmission and distribution, and the management of these systems or districts.

Manufacturing of electrical equipment embraces the research and design for new equipment, the application of equipment to special utilization problems, and the sales and installation of equipment to customers of the organization.

The electrical engineer in the field of industrial organization is concerned with the design and installation of electrical equipment for special uses, with layouts, and with the maintenance and operation of electrical systems and devices.

The manufacture and design of transportation equipment for electric railways, the operation of these railways, and the electrification of steam systems require the engineer's supervision.

Telephone and telegraph companies demand trained engineers in the research and development of new equipment, the design and construction of long lines, the maintenance of communication circuits and equipment, and the management of executive positions.

Radio engineering and allied industries, which comprise the design and construction of radio equipment and the installation and operation of broadcast stations, public address systems, and moving picture equipment, afford a comparatively new field. The amateur radio club established at the College maintains a ham station for students interested in short-wave radio communication.

Geophysical exploration calls for the electrical engineer's services in the design, construction, and operation of radio and other electrical equipment used in prospecting for oil and other underground mineral deposits.

Graduates in Electrical Engineering who are members of the Signal Corps unit of the Reserve Officers Training Corps receive thorough instruction in telephone, telegraph, and radio engineering and, upon completion of their courses, may be commissioned as reserve officers in the Signal Corps.

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

MECHANICAL ENGINEERING

There are few industries which do not need the services of a mechanical engineer at one time or another. It follows that the course in mechanical engineering should be very broad, providing sound training in the fundamentals underlying engineering work. Strictly engineering work may be divided into three divisions—design, construction, and erection and maintenance of machinery of all kinds, including airplanes, automotive and marine machinery, steam turbines, steam engines, internal combustion engines, refrigerating, heating and ventilating equipment, locomotives and railway accessories, iron and steel production, and fabricating machines, machine tools, woodworking tools, and many other machines of more special and limited character.

Outside of the field of purely engineering work, there is an increasing demand for engineers for the sale of technical equipment where an engineering knowledge is essential, and for executive and management work. Many industries are finding it profitable to utilize the technical knowledge of the engineer in positions of responsible executive work. Therefore, this course instructs the students in the fundamentals of good management and endeavors to give an appreciation of the human element in all engineering.

Practice work in the paettern shop, foundry, and machine shop is designed to instruct in methods rather than impart skill.

During the Senior year it is possible for the student to elect courses in definite fields, such as refrigeration, internal combustion engines, and aeronautics.

Training in habits of accurate analysis and logical thinking, the prerequisites of a good engineer, are emphasized.

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 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; 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 sufficient training in civil, mechanical and electrical engineering to prepare the graduate for the application of engineering principles in the petroleum industry. Courses in geology give an understanding of the origin of petroleum and the geological structures which are found in oil fields. To the basic subjects 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 thorough grounding in the fundamentals, however, rather than on the application to particular problems.

The second division of the petroleum industry is the refining of crude oils to produce gasoline, kerosene, lubricating oils and similar 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.

TEXTILE ENGINEERING

The object of this course is to prepare young men for the field of cotton manufacturing. The unprecedented development of the cotton milling industry in the South has created a demand for educated young men in the industry. 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.

Graduates of this course are prepared to enter the cotton mills as machinery operatives. 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 cotton marketing and classing is intended for the student who expects to enter the cotton business either as a buyer or office man. It is designed to familiarize the student with the position of cotton among agricultural resources, the economics of cotton, business law, marketing, and waste in manufacture as related to cotton. The fundamental principles and important details of cotton office accounting are emphasized. The course includes, in addition to the fundamental subjects, some general educational courses which will better fit the student for the cotton business.

THE SCHOOL OF VETERINARY MEDICINE

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 a 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 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 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 they 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 are of great value to the State.

THE SCHOOL OF VOCATIONAL TEACHING

The following four-year courses are offered in the School of Vocational Teaching:

Agricultural Education. Industrial Education. Rural Education.

AGRICULTURAL EDUCATION

This course is designed to give the teacher of vocational agriculture the preparation and training in both technical agriculture and in education 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 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) sixty-five semester hours of technical agriculture; (2) four-teen semester hours of education subjects as prescribed in the curriculum, and (3) at least one year's residence.

INDUSTRIAL EDUCATION

(Group 1)

. This course is intended to train teachers, supervisors, and directors for the vocational industrial schools and classes of Texas. Since the men completing this course are to qualify as teachers under the State Plan for Vocational Education a candidate for a degree must satisfy the requirements for one of the classes of vocational teachers as specified in Bul. No. 304 of the State Department of Education.

(Group 2)

The Industrial Education Curriculum (under Group 2) in general aims to prepare young men for the following types of occupations:

- 1. Teachers of industrial arts subjects in junior, senior or technical schools. Industrial arts in these schools includes such subjects as: electrical work, metal work, woodwork and technical drawing.
- 2. Teachers of occupational courses and sponsors of guidance, safety and personnel programs in public schools.
- 3. Employees in industrial relations departments of industries which includes such work as employee training, employment, personnel and accident prevention. Students preferring to enter this field will elect subjects dealing with management and labor problems.

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 Board 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.

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 in securing suitable teaching 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 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 of the Agricultural and Mechanical College of Texas 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 concerned. 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 eight 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.

Graduate School Bulletin.—There is published annually, as a Bulletin of the College, an announcement of the work of the Graduate School, in which will be found full information concerning conditions of admission, requirements for degrees, including residence, thesis, and examinations. A copy of this Bulletin will be sent on request.

Degrees.—The completion of an approved course of study leads to the degree of Master of Science. In his application for admission, the student must designate his major course of study, which will be specified in the diploma.

Professional degrees in Engineering—Agricultural Engineer, Architectural Engineer, Chemical Engineer, Civil Engineer, Electrical Engineer, Mechanical Engineer—are offered on the basis of acceptable professional experience, a thesis, and an examination.

Residence.—The Master's degree will not be conferred except after a residence of at least one year at the College, except that this requirement may be satisfied by residence during four summer terms of six weeks each. The candidate who spends no more than four summer terms in residence may fulfill the requirements for the Master's degree, only provided that, in the

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

ad interim period between summer sessions, he does the greater part of the work on his thesis.

Fellowships and Assistantships.—The College offers annually a limited number of graduate assistantships and fellowships. Certain industrial interests of the State make available other fellowships. Detailed innouncements will be found in the Bulletin of the Graduate School. Applications should be filed on forms supplied by the Dean of the Graduate School, before April 15.

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 credible work in architectural design throughout the school year.

THE WITCHELL MEDAL IN ARCHITECURE

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.—In the curricula shown on the following pages, figures in parenthesis following the number of the course indicate the clock hours per week devoted to theory and practice respectively. Theory includes recitations and lectures, practice includes work done in the laboratory, shop, drawing room or field.

Credit.—The credit value of the course is indicated in the column headed "Credit." The unit of credit is the "semester hour," which involves one hour of theory, or from two to four hours of practice per week for one semester of eighteen weeks.

Physical Education.—All first year students are required to take Physical Education 101, 102 as a part of the freshman work.

English Conferences.—Students enrolled in courses in English composition are required to attend conferences with their instructors.

Assemblies.—In most of the teaching divisions of the College students are required to attend assemblies at intervals during the session. Prominent speakers are presented at these assemblies for the discussion of topics of general and special interest.

THE SCHOOL OF AGRICULTURE

COURSE IN AGRICULTURE

FRESHMAN YEAR

First Semester Cred	t	Second Semester Cre	dit
Agricultural Economics 101 (3-0)	5 F.	Agricultural Economics 102(3-0)	3
Agricultural Resources		Agricultural Resources	
(2-4) General Animal Husbandry		Agronomy 105	
Biology 101	1 4	Biology 102	3
General Botany -		General Botany	
Chemistry 101	L 1	Chemistry 102	4
Inorganic Chemistry		Inorganic Chemistry	•
English 103	•	English 104	3
Military Science	1 4	Military Science	1
	-		
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SOPH	MORE	VEAR	
V †Biology 207			
Zoology		Farm Machinery	0
(Students who intend to take Group		+Biology 206(1-4)	2
9, or 10 should substitute Biol. 21	3	Bacteriology	
(Plant Physiology) for Biol. 207.)		Chemistry 212	3
Dairy Husbandry 202(2-2)		Agricultural Chemistry Chemistry 214(1-3)	
Dairying English 203		Agricultural Analysis -	4
Composition and Literature		English 210	2.
/ Entomology 201	B	Argumentation	
General Entomology	V	Military Science(1-2)	1
V Horticulture 201	<u>ا</u> ا	*Elective	6
Plant Propogation [. Military Science	. · ·	•	<u>19</u> ´
*Elective			10
r -	•		
NOTE States and interior to the		10 h-11 let Architeter 101 1	

NOTE.--Students who intend to take Group 10 should elect Architecture 101, 102 (Architectural Drawing) and Architecture 109, 110 (Freehand Drawing) in the Sophomore year.

,		*Sug	gested	Electives	
Agricultural Eng.	203	(2-2)	3	Animal Husbandry 202(2-2)	3
Gas Engines				Breed Types	
Animal Husbandry	203	(2-2)	3	Horticulture 202(2-2)	3
Market Classes				Vegetable Gardening	
Poultry Husbandry	201	(2-2)	3		
Davidson Davidson	tion				

γ . Poultry Production NOTES.--1. Electives must be chosen under the advice and direction of the head

2. Juniors and seniors who have a special reason for desiring to take a subject not included in their group should consult with their head of the department concerned in regard to possible substitutions.

GROUP 4. AGRONOMY

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JUNIOR YEAR

Agricultural Engineering 305 (2-3) Terracing and Drainage	3	Agronomy 308(2-2) Forage Crops	3
Agronomy 301	4	Economics 403	3
Agronomy 315(2-2) Cotton Production	3	English 307	2.
Genetics 301(3-2) Genetics	4	Genetics 304(3-2) Plant Breeding	4
Elective	4	Elective	6
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[†]One half of the class will take Biology 207 the first semester and Biology 206 the second semester. The other half will take those subjects in reverse order.

	SE	INIOR	YEAR		
	First Semester Cree		Second Semester Cre	dit	
	Agricultural Economics 314(3-0)	3	Agricultural Economics 421(3-2)	4	
	Marketing	•	Farm Management	•	
	Agricultural Engineering 413(2-3)	3	Agronomy 413	3	
	Farm Buildings	4	Soil and Crop Problems Agronomy 416(1-0)	1	
	Agronomy 314(3-2) Field Crops	4	Soils and Crops Seminar		
	Agronomy 415	1	English 401	2	
	Soils and Crops Seminar	•	Public Speaking		
	Animal Husbandry 409	4	History 305	3	
	Animal Nutrition and Feeding		American Government		
	Elective	3	Elective	5	
		18		18	
	CDOUD F A	NUM			
	GROUP 5. A	NIM	AL HUSBANDRY		
		JNIOR	YEAR		
,	Agronomy 301(3-2)	4	VAnimal Husbandry 410(2-3)	3	
	Soils		Sheep Production		
1	Animal Husbandry 303(3-3)	4	/Economics 403	3	
	Animal Nutrition	2	Principles of Economics	2	
1	Animal Husbandry 307(1-3) Farm Meats	2	English 307(2-0) Technical Writing	Z	
	Animal Husbandry 308(1-3)	2	Genetics 306(2-2)	3	
١,	Live Stock Judging	4	Animal Breeding		
	Genetics 301	4	Veterinary Anatomy 302(2-2)	3	
	Genetics	-	Anatomy and Physiology	-	
	Elective	2	Elective	4	~
			• .		1 .
		18		18	· -
			YEAR		
ť.	Agricultural Economics 314(3-0)	3	Agricultural Economics 421(3-2)	4	
	Marketing	3	Farm Management Agricultural Engineering 424(1-3)	2	
	Animal Husbandry 413	3	Terracing Terracing 424(1-3)	4	
	History 305	3	Animal Husbandry 406	3	
	American Government	U	Beef Cattle Production		
	Veterinary Medicine 403(3-2)	4	Animal Husbandry 412(2-3)	3	
	Animal Diseases		Swine Production		
	Elective	5	V English 401(2-0)	2	
		_	Public Speaking		
		18	Elective	5	
			· ·	10	
	CPOUR 7	DAID	Y HUSBANDRY	19	
			1		
			YEAR	-	
	Agronomy 301(3-2)	4	Dairy Husbandry 306	4	
	Soils Deim Harborden 201 (2.2)		Butter Making; Factory Mgmt.	~	
	Dairy Husbandry 301(3-2)	4	Economics 403	3	
	Market Milk Dairy Husbandry 320(3-4)	4	Principles of Economics English 307(2-0)	2	
	Bacteriology of Dairy Products	*	Technical Writing	4	
	Genetics 301	4	History 305	3	
	Genetics	-	American Government	Ű	
	Elective	3	Elective	6	· -
					105
		19		18	1
		ENIOR	YEAR		
	Agricultural Economics 314(3-0)		Agricultural Economics 421(3-2)	4	
	Marketing		Farm Management		
	Animal Husbandry 303(3-3)	4	Agricultural Engineering 424(1-3)	2	
	Animal Nutrition		Terracing	~	
	*Dairy Husbandry 417(3-3)		†Dairy Husbandry 415(3-0)	3	
	History and Development of Da	iry	Condensed Milk	4	
	Cattle English 401 (2.0)	9	Dairy Husbandry 418	4	
	English 401(2-0) Public Speaking	4	Management		
	Elective	7	Elective	6	
				_	
		20		19	

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* Dairy Husbandry 407 (Ice Cream Making and Ref.) may be substituted. † Dairy Husbandry 409 (Selection and Breeding of Dairy Cattle) may be substituted.

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GROUP 8. ENTOMOLOGY

JUNIOR YEAR

	First/	Semester	Cre	dit		Second Semester Cre	dit
Agronomy 3	301 /		(3-2)	4		English 307	2
Soils	and		(2.4)			Technical Writing	
	tic/Er	ntomology				Entomology 302(2-4) Systematic Entomology	3
Entomology	305		(2-3)	3		Entomology 306(2-3)	3
Morphol						Morphology	
Horticulture			(2-3)	3		Horticulture 318(2-3)	3
Fruit Pr						Fruit Production	
Elective				5		Elective	7
							_
				18	•		18

SENIOR YEAR

Economics 403	3	English 401(2-0) Public Speaking	2
Entomology 401(2-4) Economic Entomology	3	Entomology 402	3
*Entomology 417(3-2) Special Problems	4	*Entomology 418(3-2) Special Problems	4
History 305	3	Elective	9
Elective	5		18
	18		

GROUP 9. HORTICULTURE

JUNIOR YEAR

Agronomy 301(3-2)	4
English 307(2-0)	2
Technical Writing Genetics 301 (3-2)	4
Genetics	
Horticulture 317(2-3) Fruit Production	3
Horticulture 423	2
Horticultural Industries Elective	3
	18

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Economics 403	3
Principles of Economics Genetics 304(3-2)	4
Plant Breeding Horticulture 310	3
Commercial Veg. Production Horticulture 318(2-3) Fruit Production	3
History and Literature	2
Elective	3
	18

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SENIOR .YEAR

Agricultural Economics 314(3-0)	3
Marketing	
English 401	2
Public Speaking	
Entomology 405(2-2)	3
Fruit Insects	
Horticulture 401	4
Pomology	
Horticulture 404	3
Systematic Vegetable Crops	
Elective	3
	18

Agricultural Engineering 424(1-3)	2
Terracing Biology 416	3
Plant Diseases History 305	3
American Government Horticulture 422(3-2)	4
Subtropical Fruits Horticulture 426(2-3)	3
Commercial Propogation Elective	4

*Entomology 307, 308 (Apiculture) may be substituted.

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AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

اك أ GROUP 10. LANDSCAPE ART

JUNIOR YEAR

•	
First Semester Cre	dit
Agricultural Engineering 305 (2-3)	3
Terracing and Drainage	
Agronomy 301(3-2)	4
Soils	
Architecture 205(0-4)	. 1
Freehand Drawing	
History 305	3
American Government	
Landscape Art 301(2-4)	3
Introduction to Landscape Art	
Elective	3
	-
N	17

Second Semester Cr	\mathbf{dit}
Architecture 206	1
Freehand Drawing	
English 307(2-0)	2
Technical Writing	
Entomology 204	3
Insecticides	
Landscape Art 302	2
History of Landscape Art	
Landscape Art 304	3
Landscape Construction	
Landscape Art 306	3
Ornamentals	
Elective	4

SENIOR YEAR

Accounting and Statistics 201(3-3)	4
Principles of Accounting	
English 401	2
Public Speaking	
Horticulture 317	3
Fruit Production	
Landscape Art 401	6
Advanced Landscape Art	
Elective	3
	18

Economics 403(3-0)	3
Principles of Economics Horticulture 318(2-3)	
Fruit Growing	ð
Landscape Art 402	6
Advanced Landscape Art	
Landscape Art 404	3
	-
Elective	3
	-
	18

GROUP 11. POULTRY HUSBANDRY

JUNIOR YEAR

Agronomy 301(3-2) Soils	4	
Animal Husbandry 303(3-3) Animal Nutrition	4	
Genetics 301	4	
Poultry Husbandry 301(2-2) Market Poultry	3	
Elective	4	
	19	•

Economics 403	3
Principles of Economics	
English 307(2-0)	2
Technical Writing	
Entomology 208	3
Animal Parasites	
Poultry Husbandry 302	4
Feeding and Breeding	-
Poultry Husbandry 303	2
Turkey Production	_
Elective	5
LACCUTC	0
	19

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SENIOR YEAR

Agricultural Economics 314(3-0)	3
Marketing Agricultural Engineering 413(2-3)	3
Farm Buildings Poultry Husbandry 401(3-2)	A
Culling and Management	-
Poultry Husbandry 403(2-2) Poultry Judging	3
Elective	5
,	18

English 401	2
Public Speaking History 305	3
American Government Poultry Husbandry 402(3-2)	4
Poultry Farming Poultry Husbandry 408(1-3)	2
Poultry Meats Veterinary Medicine 455(2-0)	2
Diseases of Poultry Elective	5

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SCHOOL OF AGRICULTURE

GROUP 12. RURAL SOCIOLOGY

JUNIOR	YEAR

First Semester Credit	Second Semester Cre	dit
Agricultural Economics 307 (3-0) 3	Economics 403(3-0)	3
Advertising	Principles of Economics	
Rural Education 321(3-0) 3	Rural Education 322	3
Secondary School Methods	Secondary School Administration	
Rural Sociology 303(3-0) 3	Rural Sociology 312(3-0)	3
Introduction to Social Problems	General Sociology	
Rural Sociology 311(3-0) 3	Elective	9
Social Psychology	in the interview sector and the sector of th	
Elective	-	18
18		
SENIOR	YEAR	•
History 305	Agricultural Economics 314(3-0)	3
American Government	Marketing	-
Rural Sociology 407	Agricultural Economics 426(3-0)	3
Rural Sociology	- Sales Organization	-
Rural Sociology 415(2-2) • 3	English 401	2
Agricultural Journalism	Public Speaking	
Elective 9	Rural Sociology 404	3
	Rural Organization	
18	Elective	7

1291 COURSE IN AGRICULTURAL ADMINISTRATION

FRI	SHMAN	YEAR ·
Agricultural Economics 101(3-0)	3	Agricultural Economics 102(3-0)
Agricultural Resources		Agricultural Resources
Agronomy 105(3-2)	4	Animal Husbandry 107(2-4)
Crop Production +		General Animal Husbandry
Chemistry 101	4	Chemistry 102 (3-3)
Inorganic Chemistry		Inorganic Chemistry
English 103	3	English 104
Rhetoric and Composition		Rhetoric and Composition
Mathematics 101(3-0) Algebra	3	• Mathematics 102(3-0) Algebra
Military Science	1	Military Science(1-2)
	10	

NOTES.—1. At the beginning of the Sophomore year the student will choose one of the following groups: 1. Accounting and Statistics; 2. Marketing and Finance (includ-ing Agricultural Economics and Farm Management). 2. Electives must be chosen under the advice and direction of the head of the department in which the student is majoring.

GROUP 1. ACCOUNTING AND STATISTICS

SOPHOMORE YEAR

Accounting and Statistics 201 (3-3)	4	Accounting and Statistics 202 (3-3)	4
Principles of Accounting		Principles of Accounting	
Economics 203(3-0) Principles of Economics		Economics 204(3-0) Principles of Economics	3
Erglish 203	2	English 210(2-0) Argumentation	2
History 305(3-0) American Government	3	Mathematics 202	
Military Science(1-2)		Military Science(1-2)	1
Elective	3.	Elective	3
		• •	-
	16		16

NOTES .- Recommended Program for students majoring in Statistics:

1. Elect or substitute in the Sophomore and Junior years Agricultural Economics 314 (Marketing); Engineering Drawing 111 (Mechanical Drawing); Mathe-matics 103 (Trigonometry); Mathematics 104 (Analytics); Mathematics 203, 204 (Calculus).

2. Elect or substitute in the Senior year Accounting and Statistics 503 (Price Analysis) and Accounting and Statistics 504 (Advanced Statistics).

3. Courses in technical agriculture will be approved as substitutions for required courses in Group 1.

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JUNIOR YEAR

First Semester Credit	Second Semester Credit
	Accounting and Statistics 302(3-3) 4
Accounting and Statistics 301(3-3) 4	
Theory and Practice of Accounting	Theory and Practice of Accounting
	Accounting and Statistics 401 (2-3) 3
Accounting and Statistics 303(3-3) 4	
Statistical Method	Cost Accounting
Accounting and Statistics 403 (2-3) 3	Accounting and Statistics 406 (3-0) 3
Income Tax	Agricultural and Business Cycles
Elective 7	Elective 8
18	18
SENI	OR YEAR
Accounting and Statistics 402(3-0) 3	Accounting and Statistics 408(3-0) 3
Accounting Systems	Advanced Auditing
Accounting and Statistics 407 (3-3) 4	Accounting and Statistics 410 (3-0) 3
Auditing	Seminar
Agricultural Economics 425 (3-0) 3	Economics 316
Wholesale and Retail Merchandising	Business Law
English 401	Elective 9
Public Speaking	
	10
Elective 6	18
10	
18	

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GROUP 2. MARKETING AND FINANCE

*(Including Agricultural Economics and Farm Management)

SOPHOMORE YEAR

501.	II O MI O IVI		
Letter B and Stanshop Ltr In(0 0)	4	Accounting and Statistics 202(3-3)	4
Principles of Accounting		Principles of Accounting	
Economics 203(3-0)	3	Agricultural Economics 314(3-0)	3
Principles of Economics		Marketing	
English. 203	2	Economics 204	3
	4	Duin similar of Hassanias	
Composition and Literature	-	Principles of Economics	
History 305(3-0)	3.	English 210	2
American Government		Argumentation	
Military Science(1-2)	1	Military Science(1-2)	1
Elective	3	Elective	3
	<u> </u>		_
	16		16
	10		10
IL	UNIOR 3	TEAR	
Accounting and Statistics 303(3-3)	4	Accounting and Statistics 406 (3-0)	
Statistical Method		Agricultural and Business Cycle	s
Agricultural Economics 307(3-0)	3	Agricultural Economics 310(3-0)	3
Advertising		The Credit System	
Agricultural Economics 413(3-0)	3	Agricultural Economics 410	2
Co-operative Marketing	U	Transportation	0
Economics 311(3-0)	3	Economics 316	2
Money and Banking		Business Law	
	g , .		<u>`</u>
Elective	5	Elective	-6 2
	18		18
· SE	INIOR 1	YEAR	
Agricultural Economics 425(3-0)	\$	Agricultural Economics 420(3-0)	3
Wholesale and Retail Merchandisi		Market Analysis	Υ.
			-
Agricultural Economics 427(3-0)	.1	Agricultural Economics 426 (3-0)	3
Cotton Marketing		Farm Credit	
Economics 315	3	Agricultural Economics 430(3-0)	3
Economics of Insurance		Sales Organization	
Frailiah 401 (2.0)		Floating	

*Students specializing in Agricultural Economics or Farm Management may sub-stitute certain technical agricultural courses appropriate to their field of study for some of the courses required in Group 2.

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Elective

Elective

SCHOOL OF AGRICULTURE

course in agricultural engineering 14^{0}

*FRESHMAN YEAR

First Semester Cre	dit
Chemistry 101(3-3)	4
Inorganic Chemistry	
Engineering Drawing 111(0-6)	2
Mechanical Drawing	
English 103(3-0)	3
Rhetoric and Composition	
Mathematics 111(6-0)	6
Mathematical Analysis	
Mechanical Engineering 101(1-2)	1
Engineering Problems	
Military Science(1-2)	1
	—
	17

Second Semester Cre	edit
Chemistry 102(3-3)	4
Inorganic Chemistry	
Engineering Drawing 124(2-4)	3
Descriptive Geometry	-
English 104	3
Rhetoric and Composition Mathematics 112	
Mathematical Analysis	0
Mechanical Engineering 102(1-2)	1
Engineering Problems	-
Military Science	1
	18
	1
~) .	· · · ·

SOPHOMORE YEAR

Agricultural Engineering 203(2-2) Gas Engines	3
Agricultural Engineering 205(2-3) Farm Buildings and Structures	3
English 203	2
Mathematics 203(5-0)	5
Calculus Military Science(1-2)	1
Physics 203	4
ocherur i hybreb	
	18

Agricultural Engineering 216(3-3) Automotive Machinery	4
English 210	2
Mathematics 204(5-0)	5
Calculus Mechanical Engineering 212(3-0)	3
Engineering Mechanics Military Science(1-2)	1
Physics 204 (3-3) General Physics	4
· · ·	19

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JUNIOR YEAR

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Agricultural Engineering 201 (2-2)	3
Farm Machinery	
Agronomy 301(3-2)	4
Soils	
Civil Engineering 305(4-0)	4
Mechanics of Materials	
Dairy Husbandry 202(2-2)	3
Dairying	
English 307 (2-0)	2
Technical Writing	
Elective	3
	19

SENIOR YEAR

Farm Buildings Agricultural Engineering 425(1-0) Seminar Animal Husbandry 409(3-3) Animal Nutrition and Feeding Civil Engineering 311(3-0) Hydraulics Economics 403	
Agricultural Engineering 425(1-0) Seminar Animal Husbandry 409	
Animal Husbandry 409	icultural Engineering 425(1-0) 1
Civil Engineering 311(3-0) Hydraulics Economics 403	mal Husbandry 409(3-3) 4
Economics 403	l Engineering 311(3-0) 3
English 401(2-0) Public Speaking	nomics 403
	lish 401

Agricultural Engineering 418 (2-3)	3	
Farm Home Utilities		
Agricultural Engineering 426 (1-0)	I.	
Seminar		
Agricultural Engineering 428 (3-6)	5.	
Irrigation and Drainage		
Civil Engineering 336(0-2)	1	
Hydraulics Laboratory		
Electrical Engineering 431(2-0)	2:	
Engineering Administration		
History 305	3	
American Government		
Elective	4	
	_	
	19	

*Identical with curricula for all engineering courses.

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THE SCHOOL OF ARTS AND SCIENCES

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

14.

(See note 1, below)

First Semester Cre	dit	Second Semester 🤟 Cre	dit
Chemistry 101(3-3)	4 1	Chemistry 102	4
Inorganic Chemistry		Inorganic Chemistry	
English 103(3-0)	3	English 104(3-0)	3
Rhetoric and Composition		Rhetoric and Composition	
History 103(3-0)	3 🖌	History 104	3
Modern Europe		Modern Europe	
Mathematics 101(3-0)	3	Mathematics 103	3
Algebra		Trigonometry	
Military Science(1-2)	1	Military Science(1-2)	1
Modern Language(3-0)	3	Modern Language	3
French, German or Spanish		French, German or Spanish	
	-		
	17		17
		<i>x</i>	
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SOPHOMORE YEAR

(See Note 2, below)

Biology 211 (2-4) General Biology	3	Biology 212(2-4) General Biology	
Economics 203	3	Economics 204(3-0)	3
Principles of Economics		Principles of Economics	
English 231(3-0)	3	English 232(3-0)	• 3
English Literature		English Literature	
Military Science(1-2)	1	Military Science	1
Modern Language(3-0)	3	Modern Language	3
French, German or Spanish		French, German or Spanish	
Elective	3	Elective	3
	16		16

JUNIOR YEAR

Elective		•	17			 3	
				Elective		 14	
					3	17	
		_ S	ENIOR	YEAR			
	01 Speaking	.(2-0)	2	Elective		 18	
			16				

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NOTES

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

Students who have a good high school record in Mathematics and pass a satisfactory placement test may omit Mathematics 101 and enter at once on Mathematics 102 or 103. Mathematics 102 or 104 must be taken instead of Mathematics 103, if Trigonom-etry was completed in preparatory school.

In the Sophomore year one of the following may be taken in place of Biology 211-212: Biology 101-102 (General Botany), Biology 203-204 (Zoology), or Geology 201-

211-212: Biology 101-102 (General Botany), Biology 200-204 (20008), or consequence of the course of the course and Historical Geology).
4. Any student passing English 103-104 without making at least six grade points on the course will be required to take other courses in English composition, in addition to other requirements in English, until he has accumulated a total of six grade points in such courses.

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 dispartments must be chosen as the field of major study: 1. One of the following departments must be chosen as the field of major study: Department for the following departments must be chosen as the field of major study:

Economics (including Accounting and Statistics and Agricultural Economics), English, History, Mathematics, Modern Languages, Physical Education. Suggested programs for

History, Mathematics, Modern Languages, rhysical Education, Buggester programs as students majoring in Economics or in Physical Education are outlined on page 90. 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 other departments of the College subject to the approval of the

indicated above, or 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 semester hours, and in his minor study at least 12 semester 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.

THE FOREIGN LANGUAGE REQUIREMENT

Students who do not present a foreign language for admission must complete a minimum of 18 semester hours in one foreign language; others will complete a minimum of 12 semester hours, except where three units in one language, or two units in each of two languages, are presented for admission, in which case 6 semester 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 if he can give evidence of an adequate reading knowledge of that language.

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:

SOPHOMORE YEAR FRESHMAN YEAR English 231-232 English 103-104 Rhetoric and Composition Mathematics 101-103 English Literature Economics 203-204 Algebra; Trigonometry History 215-216 Principles of Economics History 211 United States History **Comparative** Government Chemistry 101-102 History 213-214 1 or Biology 211-212 History of England An Approved Elective History 305 Military Science American Government Accounting and Statistics 201-202 Principles of Accounting **Physical Training**

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 principle studies, and obtain the degree of Bachelor of Arts before beginning the study of law.

Military Science

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. \checkmark

JUNIOR YEAR

First Semester Cre		Second Semester Cre Economics 316	
Accounting and Statistics 303 (3-3)	4	Business Law	3
Statistical Method			
Agricultural Education 207(3-0)	3	Economics 318(3-0)	3
Psychology		Labor Problems	
Economics 311(3-0)	3	History 322(3-0)	3
Money and Banking		Industrial History of the U.S.	
Elective	7	Elective	8
	17		17

SENIOR YEAR

Economics 315	3
Insurance Economics 409	3
Foreign Trade and Exchange Economics 413(3-0)	
Advanced Economic Theory English 401(2-0)	2
Public Speaking Elective	7
	18

Economics 412(3-0) Public Finance and Taxation	3
Economics 414	.3
History 305	3
Elective	9
	18

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Training based on economics is needed not only by those who expect to teach or do research work in the field of economics, but by those who look forward to careers in accountancy, general business, insurance, and several forms of governmental service. The program outlined above will be adopted by substitutions and by proper choice of minor subject and electives to prepare for the chosen objective. To that end courses in Accounting and Statistics and Agricultural Economics may be used, with the approval of the head of the department of Economics, as part of the major subject.

The minor subject should be chosen in conference with the head of the department in accordance with the regulations on page 89 and with reference to the student's chosen objective in the field of economics.

Suggested electives in the Junior and Senior years:

Accounting and Statistics 301-302 (Theory and Practice of Accounting), Accounting and Statistics 401 (Cost Accounting), Accounting and Statistics 403 (Income Tax), Accounting and Statistics 406 (Agricultural and Business Cycles), Accounting and Statistics 407 (Auditing), Agricultural Economics 312 (Agricultural Economics), Agricultural Economics 314 (Marketing), Agricultural Economics 410 (Transportation), Agricultural Economics 425 (Wholesale and Retail Merchandising), Agricultural Economics 426 (Sales Organization), Economics 408 (Corporation Finance), Economics 416 (Public Utility Economics), Economics 402 (Principles of Investment), English 307 (Technical Writing), English 317 (Commercial Correspondence), History 423-424 (American Foreign Relations), Mathematics 202 (Mathematical Theory of Investment), Military Science.

PROGRAM FOR STUDEN'S MAJORING IN PHYSICAL **EDUCATION** 1200

FRESHMAN YEAR 2,+

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

	MANAR	12	
	HOMORI	v	
First Semester Cre Biology 341(3-4)	edit	Second Semester Cred Economics 204(3-0)	dit 3
General Physiology	4	Principles of Economics	a
Economics 203(3-0)	3	English 232	3
Principles of Economics		English Literature	
English 231(3-0)	3	Military Science(1-2)	1
English Literature Military Science(1-2)	1	Modern Language(3-0) French, German or Spanish	3
Mintary Science(1-2) Modern Language(3-0)	3	Physical Education 208	3
French, German or Spanish	U	Athletic Training	v
Physical Education 207(3-0)	3	Elective	4
Health Education			
		÷	17
	17		
) -' (
J	UNIOR Y	YEAR	
Agricultural Education 207(3-0)	3	History 305(3-0)	3
Psychology		American Government	
Physical Education 305(3-2)	4	Physical Education 306(3-2)	4
Public School Physical Education Physical Education 311	,	Public School Physical Education Physical Education 312	L
Fundamentals of Athletic Coach	4 ing	Fundamentals of Athletic Coachin	4 na
Rural Education 321	3	Rural Education 322	3
Secondary School Methods	-	Secondary School Administration	-
Elective	3	Elective	3
	17		17
S	ENIOR	YEAR	
English 401(2-0)	2	Physical Education 402(3-2)	4
Public Speaking		Theory and Practice of	
Physical Education 401(3-2)	4	Athletic Coaching	
Theory and Practice of		Physical Education 404(3-2)	4
Athletic Coaching Physical Education 403	4	Organization and Administration of Physical Education	
Organization and Administration	4		10
of Physical Education			1
*Elective	8		18
	18		

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 other allied industries.

[&]quot;Three hours of senior electives must be taken in Education to complete the re-quirements for a general teachers certificate. The other elective should be carefully used to prepare for the teaching of some high school subjet.

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

2. To train teachers of Science in secondary schools and other institutions of learning.

3. To provide the necessary fundamental preparation for students plan-

TD	FOUMAN	YEAR 14	
First Semester Cro Biology 203(2-4)	eait	Second Semester Cre Biology 204(2-4)	
Zoology Z03(2-4)	3	Zoology 204	9
Chemistry 103		Chemistry 104	4
Inorganic Chemistry	•	Inorganic Chemistry	
English 103	3	English 104	3
Rhetoric and Composition	•	Rhetoric and Composition	•
Mathematics 101	3	Rhetoric and Composition Mathematics 103	3
Algebra		Trigonometry	-
Military Science	1	Military Science	1
Modern Language(3-0)		Modern Language(3-0)	
French or German	-	French or German	
	-	1	-
	17		17
SOP	HOMORE	VEAR	
English 231(3-0)		English 232	3
English Literature	ů.	English Literature	
Military Science	1	Military Science	1
Modern Language		Modern Language	
French or German	•	French or German	-
Physics 201(3-2)	4	Physics 202(3-2)	4
College Physics	-	College Physics	
Elective	7	Elective	7
		2	
	18	/ _	18
τ.	UNIOR Y	TEAR	
Economics 403		History 305(3-0)	3
Principles of Economics		American Government	
Elective	15	Elective	15
	18	λ.	18
8	ENIOR 1	VEAR	
English 401		Elective	18
Public Speaking	-		
Elevtive	16 /		

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, Entomology, Geology, Physics.

A program of studies for students majoring in Geology is given on page 94.

2. Before graduation he must complete in his major department a minimum of from 24 to 30 semester hours, not including prescribed subjects. Certain studies from other departments, closely allied to his major subject, are to be included in the electives.

3. Any student passing English 103-104 without making at least six grade points on the course will be required to take other courses in English composition, in addition to other requirements in English, until he has accumulated a total of six grade points in such courses.

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 semester hours in one of these languages; others will complete a minimum of 12 semester hours, except where at least three units in German or French are presented, in which case 6 semester 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, if he can give evidence of an adequate reading knowledge of the language.

STUDIES PREPARATORY TO MEDICINE

Students planning to enter upon 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

Sophomore Year

As outlined for the Freshman year of the course in Science, page 92.

As outlined for the Sophomore year of the Course in Science with the following as electives: Biology 317-318 (Comparative Vertebrate Anatomy), Chemistry 301-302 (Organic Chemistry), and Engineering Drawing 213-214 (Mechanical Drawing).

If the student is unable to spend more than two years in preparation for the study of medicine he should substitute Agricultural Education 207 (Psychology) and History 305 (American Government) for English 231-232 in the Sophomore year.

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. For a suggested four-year program, see the "Handbook of The School of Arts and Sciences."

Pre-medical students should choose electives for their junior and senior years from the following list: Biology 206 (Bacteriology), Biology 309-310 (General Bacteriology), Biology 341-342 (Anatomy & Physiology), Biology 343 (Histology), Biology 344 (Vertebrate Embryology), Biology 409-410 (Advanced Bacteriology), Chemistry 207 (Quantitative Analysis), Chemistry 326 (Physiological Chemistry), Chemistry 342 (Physical Chemistry), English 203 (Composition and Literature), English 307 (Technical Writing), English 317 (Commercial Correspondence), Entomology 312 (Medical Entomology), Genetics 301 (Genetics), Genetics 403 (Eugenics), Military Science, Modern Languages, Rural Sociology 303 (Introduction to Social Problems), Rural Sociology 311 (Social Psychology), Rural Sociology 312 (General Sociology), Veterinary Pathology 343 (Special Bacteriology). Degree requirements omitted in the program for the first two years should be taken.

Students in the course in Science who complete the first three years of that course, including the minimum pre-medical requirements as 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 92 except that Language 103-104 (German) should be taken in satisfaction of the language requirement.

SOI	ном	ORE YEAR	
First Semester Cr	edit	Second Semester Cre	dit
English 231 (3-0) English Literature	3	Civil Engineering 206(1-3) Plane Surveying	2
Geology 201	3	English 232	3
Geology 307	4	Geology 202	4
Military Science(1-2)	1	Military Science(1-2)	1
Modern Language(3-0) German		Modern Language(3-0) German	
Physics 201(3-2) College Physics	4	Physics 202(3-2) College Physics	4
	18	ل: / ا	17

JUNIOR YEAR

Engineering Drawing 213(0-2)	1
Mechanical Drawing	
Geology 303(3-4)	4
Petrology	
Geology 305	4
Paleontology	
History 305	3
American Government	
Elective	6
	18

Engineering	Drawing	214		.(0-2)	1
Mechani	cal Draw	ing			
Geology 30	4			.(3-4)	4
Petrolog	3 y				
Geology 30	6			.(3-3)	4
Paleont	ology				
Geology 31	2			.(3-4)	4
Structur	al Geolog	У			
Elective					5
					18
			1		

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12:4

SENIOR YEAR

Economics 403(3-0) Principles of Economics	3	English 401	2
Geology 405(3-2)	4	Geology 404(3-0)	3
Economic Geology		Geology of Petroleum	
Geology 419(3-4)	4	Geology 420(3-4)	4
Advanced General and Field		Advanced General and Field	
Geology		Geology	
Elective	7	Elective	9
	18		18

Suggested electives in the Junior and Senior Years: Biology 101, 102 (Botany), Biology 317, 318 (Vertebrate Anatomy); Chem. Engineering 408 (Metallurgy); Chemistry 206 (Organic); Chemistry 207 (Quantitative Analysis); Mathematics 102 (Advanced Algebra); Mathematics 104 (Analytics); Mathematics 203 (Calculus); Military Science; Petroleum Engineering 204 (The Petroleum Industry); Petroleum Engineering 308 (Petroleum Development); Petroleum Engineering 304 (Petroleum Production Methods); Physics 407 (Geophysics); advanced courses in English.

THE SCHOOL OF ENGINEERING

COURSE IN ARCHITECTURE

FRESHMAN YEAR

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FRE	SHMAN	YEAR	
First Semester Cre		Second Semester Cre	
Architecture 101(0-4)	1	Architecture 102	2
Architectural Drawing Architecture 107	2	Architectural Drawing Architecture 108(2-0)	9
History of Architecture	4	History of Architecture	-
Architecture 109(0-4)	1	Architecture 110	1
Freehand Drawing		Freehand Drawing	
Engineering Drawing 124(2-4)	3	Chemistry 101	4
Descriptive Geometry English 103(3-0)	х	Inorganic Chemistry English 104	3
Rhetoric and Composition	ð	Rhetoric and Composition	
Mathematics 111	6	Mathematics 112	6
Mathematical Analysis		Mathematical Analysis	
Mechanical Engineering 101(1-2)	1	Mechanical Engineering 102(1-2)	1
Engineering Problems Military Science(1-2)	1 .	Fngineering Problems Military Science(1-2)	1
Minitary Science		Mintary Science	
	18	· ,	20
SOP	HOMORE	YEAR	
Architecture 201(0-10)	3	Architecture 202(0-10)	3
Architeotural Design	-	Architectural Design	
Architecture 203(0-6)	2	Architecture 206(0-4)	1
Shades, Shadows, Perspective		Freehand Drawing Architecture 216	2
Architecture 205	1	History of Architecture -	Z
Architecture 215	2	Civil Engineering 206(1-3)	2
History of Architecture	-	Diana Summaring	
English 203(2-0)	2	English 210(2-0)	2
Composition and Literature Military Science(1-2)		Argumentation Military Science(1-2)	1
Modern Language	1 3	Modern Language(3-0)	3
French or German .	.,	French or German	U
Physics 201(3-2)	4	Physics 202(3-2)	4
College Physics		College Physics	~
	18	(1+	18
		1 \	10
	JNIOR Y	•	
Architecture 301(0-16) Architectural Design	5	Architecture 302	5
Architectural Design Architecture 305(0-4)	1	Architectural Design Architecture 306	1
Freehand Drawing	1	Modelling	1
Architecture 313 (4-0)	4	Architecture 314 (3.3)	4
Mechanics of Materials		Stress Analysis	•
Architecture 315 (2-0)	2	Architecture 320	2
Modern Architecture Modern Language(3-0)	3	Building Construction Modern Language(3-0)	•
French or German	J	French or German (3-0)	3
Elective	3-	Elective	3
	18	110	18
S	ENIOR Y	YEAR	
Architecture 401(0-21)	7	Architecture 402(0-21)	7
Architectural Design		Architectural Design	
Architecture 417(3-0) Concrete Structures	3	Architecture 412(2-3) Building Construction	3
Architecture 423	2	*Electrical Engineering 436(3-0)	3
Materials of Construction	-	Wiring and Lighting	
Mechanical Engineering 335 (3-0)	3	Wiring and Lighting History 305(3-0)	3
Heating and Ventilation		American Government	-
Elective	3	Elective	3
	18	2	19
*Offered in alternate years. Not o	ffered in	1935-36.	

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	FI	FTH	YEAR
First Semester Architecture 415			•Architectu
The Fine Arts			The
Architecture 425 Professional Practice	.(2-0)	2	Architectu Archi
Architecture 451	(0-27)	9	English 4 Public
Economics 403 Principles of Economics	(3-0)	3	Landscape Histor
Elective		2	Elective
		18	

22110	
Second Semester Cre	dit
•Architecture 416(2-0)	2
The Fine Arts	
Architecture 452(0-27)	9
Architectural Design	
English 401(2-0)	2
Public Speaking	
Landscape Art 302(2-0)	2
History of Landscape Art	
Elective	3
	18

COURSE IN ARCHITECTURAL ENGINEERING 1 57

FRESHMAN YEAR

Same as Architecture

SOPHOMORE YEAR

Architecture 201(0-10)	3	Architecture 202(0-10)	3
Architectural Design		Architectural Design	
Architecture 203	2	Architecture 206	1
Shades, Shadows, Perspective		Freehand Drawing	
Architecture 205	1	Architecture 216(2-0)	2
Freehand Drawing		History of Architecture	
Architecture 215	2	Mathematics 204(5-0)	5
History of Architecture		Calculus	
Mathematics 203(5-0)	5	Mechanical Engineering 212(3-0)	3
Calculus		Engineering Mechanics	
Physics 203	4	Physics 204	4
General Physics		General Physics	
Military Science(1-2)	1	Military Science(1-2)	1
ANTINA AND AND A ANTINA ATTACK ANTINA AND A A			
	18		19
		4	

JUNIOR YEAR

Architecture 315(2-0) Modern Architecture	2	Architecture 314(3-3) Stress Analysis	4
Architecture 423	2	Architecture 320(0-6)	2
Materials of Construction		Building Construction	
Civil Engineering 305(4-0)	4	Civil Engineering 206(1-3)	2
Mechanics of Materials		Plane Surveying	
Civil Engineering 311(3-0)	3	Economics 403	3
Hydraulics		Principles of Economics	
English 203(2-0)	2	English 210	2
Composition and Literature		Argumentation	
Mechanical Engineering 335(3-0)	3	History 305	3
Heating and Ventilation		American Government	
Elective	3	Elective	3
Diccurc			_
	19		19
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SENIOR YEAR

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*Offered in alternate years. Not offered in 1935-36.

SCHOOL OF ENGINEERING

· COURSES IN ENGINEERING

(The curricula for all engineering courses are identical in the Freshman year.)

FRESHMAN YEAR

First Semester Cre	dit	Second Semester Cred	it
'Chemistry 101 (3-3)	. 4	Chemistry 102	4
Inorganic 'Chemistry		Inorganic Chemistry	
Engineering Drawing 111(0-6)	2	Engineering Drawing 124(2-4)	3
Mechanical Drawing		Descriptive Geometry .	
English 103	3	English 104(3-0)	3,
Rhetoric and Composition		Rhetoric and Composition	
Mathematics 111	6	Mathematics 112	6 .
Mathematical Analysis		Mathematical Analysis	
Mechanical Engineering 161(1-2)	1	Mechanical Engineering 102 (1-2)	1
Engineering Problems	•	Engineering Problems	
Military Science	1	Military Science(1-2)	1
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CONDER IN CH	TRACI	I ENCINEEDING	The second se
· COURSE IN CH	LEWICA	L ENGINEERING	

(Gas, Petroleum Refining and Cotton Seed Oil)

SOPHOMORE YEAR

, SUP	HOW
Chemistry 205	5
Qualitative Analysis	
Engineering Drawing 201	1
Mechanical Drawing	
English 203	2
Composition and Literature	
Mathematics 203	5
Military Science	1
Physics 203	4
General Physics	
	b -
	18

×	UNIOR
Chemical Engineering 301	5
Quantitative Analysi Chemistry 301	4
Organic Chemistry Economics 403	3
Principles of Economics. History 305	3
American Government Elective (See page 104)	3
•	18

SE	NIOR
Chemical Engineering 409(3-6) Cas and Oil Technology	5
Chemical Engineering 411 (3-4)	4
Physical Chemistry English 401	Ž
Public Speaking Geology 401	3
Geology for Engineers Mechanical Engineering 403(1-3)	2
Engineering Laboratory Elective (See page 104)	
Elective (See page 104)	
	13

Chemical Engineering 202 ,(2-8)	5			
Quantitative Analysis Engineering Drawing 202(0-2)	1			
Mechanical Drawing				
English 210	2	V		
Argumentation Mathematics 204	5	۲		
Military Science	1			
Physics 204				
General Physics				
* .				
ור	18			
YEAR /				
Chemistry 302	4		等,	1.01
Organic Chemistry	-			
Civil Engineering 206(1-3) Surveying	Ż			
Electrical Engineering 305	4			
Electrical Machinery				1.
Electrical Engineering 431(2-0)	2			
Engineering Administration				
Mechanical Engineering 320(5-0)	5			
Thermodynamics Elective (See page 104)				
Elective (See page 104)	3			
107	20			
YEAR 191				
Chemical Engineering 416(3-4)	4			
Chemical Technology				
Chemical Engineering 418(3-4)	. 4			
Physical Chemistry				
Chemistry 438 (1-0)	1			·
Seminar				

Elective (See page 104) 3 18

*Students specializing in Cotton Seed Oil Engineering will substitute Chemical Engineering 422 (3-4): for Geology 408.

97

COURSE IN CIVIL ENGINEERING

FRESHMAN YEAR (See page 97)

SOPHOMORE YEAR

First Semester Cre	dit	Second Semester Credit	
Civil Engineering 201(2-6) Surveying	4	Civil Engineering 202(2-6) 4 Railroad Engineering	
Engineering Drawing 201(0-2) Mechanical Drawing	1	Engineering Drawing 202(0-2) 1 Mechanical Drawing	
English 203(2-0) Composition and Literature	2	English 210(2-0) 2 Argumentation	
History 305	3	Mathematics 204(5-0) 5 Calculus	
Mathematics 203(5-0) Calculus	5	Mechanical Engineering 212(3-0) 3 Engineering Mechanics	
Military Science	1	Military Science	
Physics 203	4	Physics 204(3-3) 4 General Physics	
	20	20	
		n	

SUMMER WORK

Civil Engineering 300s, Field Practice, 'six weeks.

JUNIOR YEAR

Civil Engineering 305(4-0)	4
Mechanics of Materials	
Civil Engineering 315(0-2)	1
Materials Laboratory	
Civil Engineering 333(0-3)	1
Railroad Surveying	
Civil Engineering 335(0-4)	1
Estimating and Drafting	
Economics 403(3-0)	3
Principles of Economics	
Electrical Engineering 305(3-3)	4
Electrical Machinery	
Mechanical Engineering 313(3-0)	3
Engineering Mechanics	
Elective (See page 104)	3
	20

Civil Engineering 311(3-0)	3
Hydraulics	
Civil Engineering 336(0-2)	1
Hydraulics Laboratory	
Civil Engineering 340(3-0)	3
Structural Analysis	
Civil Engineering 342(0-4)	1
Structural Design Problems	
Civil Engineering 344(2-0)	2
Reinforced Concrete	
Geology 401(2-3)	3
Geology for Engineers	
Mechanical Engineering 324 (3-0)	3
Steam and Gas Power	
Elective (See page 104)	3
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SENIOR YEAR

Civil	Engineering	423	(2-4)	3
	tructures			
Civil	Engineering	461	(2-2)	3
	lasonry			
	ipal and San			
				3
	ewerage and			
	nical Elective			63
Electi	ve (See page	104)		3

Civil Engineering 414(2-3
Reinforced Concrete Design
Civil Engineering 443(0-4
Materials of Construction
Civil Engineering 466
Professional Relations
English 401
Public Speaking
Municipal and Sanitary
Engineering 402
Water Supply and Purification
*Technical Electives (See pg. 99)
Elective (See page 104)
Lieberie (Dec page 101) minimum

*Technical Electives to be chosen from the following: Civil Engineering 417(2-3) 3 Civil Eng Bituminous Materials Struct

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Civil Engineering 448(3-0)	3
Engineering Economy	
Civil Engineering 455(2-3)	3
Steel Buildings	
Civil Engineering 463	3
Hydrology	
Municipal and Sanitary	
Engineering 403(1-5)	3
Sanitary Design	
Municipal and Sanitary	
Engineering 406	3
Sanitation and Public Health	

: TOHOW:				
Civil	Engineering	452	(2-3)	3
St	ructural Eng	ineeri	ng	
Civil	Engineering	456	(2-3)	3
H	ighway Adm.	and	Design	
Civil	Engineering	458		3
	vdraulic Engi			
Munic	ipal and San	itary	-	
Eng	ineering 408		(3-0)	3
· M	unicipal Adm	inist	ration	
Munici	ipal and San	itary	•	
Engi	ineering 412		(1-5)	3
	nitary Labor			
		-		

COURSE IN ELECTRICAL ENGINEERING

FRESHMAN YEAR (See page 97)

SOPHOMORE YEAR

First Semester Cre		Second Semester
Electrical Engineering 201(3-6) Electricity and Magnetism	5	Civil Engineering 206 Surveying
Engineering Drawing 201(0-2) Mechanical Drawing	1	Electrical Engineering 202 Elementary Electrical Eng
English 203(2-0) Composition and Literature	2	Engineering Drawing 202 Mechanical Drawing
Mathematics 203(5-0) Calculus	5	English 210 Argumentation
Mechanical Engineering 201(0-3) Pattern Making and Foundry	1	Mathematics 204 Calculus
Military Science(1-2)	1	Mechanical Engineering 309
Physics 207	4	Machine Shop
General Physics	<u>.</u>	Military Science Physics 208

Civil Engineering 206(1-3)	2
Surveying Electrical Engineering 202(3-3)	4
Elementary Electrical Engineering Engineering Drawing 202(0-2)	1
Mechanical Drawing	2
English 210(2-0) Argumentation	2
Mathematics 204(5-0)	5
Calculus Mechanical Engineering 309(0-3)	1
Machine Shop	
Military Science	1
Military Science(1-2) Physics 208(3-2) General Physics	4

JUNIOR YEAR

19

Economics 403	3
Principles of Economics Electrical Engineering 301(3-6)	5
Direct Currents Mathematics 305	2
Differential Equations Mechanical Engineering 212(3-0)	3
Engineering Mechanics Mechanical Engineering 323(4-0)	4
Thermodynamics Elective (See page 104)	3

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Civil Engineering 305(4-0)	4
Mechanics of Materials	_
Electrical Engineering 302 (5-0)	5
Alternating Currents	
Electrical Engineering 304(0-6)	2
Alternating Current Laboratory	
History 305	3
American Government	
Mechanical Engineering 313(3-0)	3
Engineering Mechanics	
Elective (See page 104)	3
•	
,	20

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SENIOR YEAR

20

Electrical Engineering 401 (4-0)	4
Alternating Current Machinery	
Electrical Engineering 403(1-6)	3
Alternating Current Laboratory	
Electrical Engineering 405 (3-0)	3
Electric Transmission	-
Electrical Engineering 431 (2-0)	2
Engineering Administration	_
Mechanical Engineering 403 (1-3)	2
Engineering Laboratory	-
Elective (See page 104)	2
*Technical Elective (See pg. 100)	3
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	20

Elctrical Engineering 402(4-9) Alternating Current Machinery	4
Electrical Engineering 404(1-6) Alternating Current Laboratory	3
Electrical Engineering 432 (3-0) Public Utility Problems	3
English 401	2
Mechanical Engineering 404(1-3) Engineering Laboratory	2
Elective (See page 104)	3
*Technical Elective (See pg. 100)	3
	-

Credit

	20
*The technical electives of the Senior year	r are to be chosen from the following:
Civil Engineering \$11(3-0) 3	Electrical Engineering 406(2-2) 3
Hydraulics	Elec. Distribution and Transmission
Electrical Engineering 409(2-3) 3	Electrical Engineering 410(2-2) 3
Advanced Communication	Advanced Communication
Engineering	Engineering
Electrical Engineering 426 (2-2) 3	Electrical Engineering 416(3-0) 3
Illumination Engineering	Motor Applications
Electrical Engineering 507(2-6) 4	Electrical Engineering 428 (2-2) 3
Adv. Alt. Current Machinery	Telephone Engineering
•	Electrical Engineering 508 (2-6) 4
	Adv. Alt. Current Machinery
	Mechanical Engineering 407 (3-0) 3
	Mechanical Refrigeration
COURSE IN GEOLOGI	CAL ENGINEERING North Comments of the California Comments of the California C
FRESHMA	N YEAR
(See pag	(e 97)

SOPHOMORE YEAR

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First Semester Cre		Second Semester Credit
English 203(2-0)	2	Biology 207
Composition and Literature		Zoology
Geology 201	3	English 210
General Geology		Argumentation
Geology 307(3-4)	4	Geology 202
Mineralogy and Petrology		Historical Geology
Mathematics 203(5-0)	5	Mathematics 204(5-0) 5
Calculus		Calculus
Physics 203	4	Physics 204
General Physics		General Physics
Military Science(1-2)	1	Military Science(1-2) 1
	10	19
	19	. 19
JT	JNIOR Y	EAR
Civil Engineering 201 (2-6)	4	Electrical Engineering 305 (3-3) 4

Civil Bilgineering ave	
Surveying Economics 403(3-0)	3
Principles of Economics *Geology 303	4
Petrology *Geology 305	
Paleontology	
Mechanical Engineering 212 (3-0) Mechanics	3
Elective (See page 104)	3
	21

EAR	
Electrical Engineering 305	(3-3) 4
Electrical Machinery	
*Geology 304	(3-4) 4
Petrology	
*Geology 306	(3-3) 4
Paleontology	
Geology 312	(3-4) 4
Structural Geology	
Elective (See page 104)	3
	19

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SUMMER WORK Geology 300S, Field Geology, Six weeks.

Geology 2002	, rieiu	Geology, Six weeks.	
S	ENIOR	YEAR	
Chemistry 207(2-3)	3	Chemistry 208	2
Quantitative Analysis Civil Engineering 305(4-0)	4	Technical Analysis Civil Engineering 311	3
Mechanics of Materials		Hydraulics	
*Geology 405	4	English 401	2
Economic Geology *Geology 419(3-2)	4	Public Speaking Geology 404	3
Advanced General and Field		Petroleum Geology	_
Petroleum Engineering 201(2-0) Drilling and Development	2	*Geology 420(3-4) Advanced General and Field	4
Elective (See page 104)	3	History 305	3
,	_	American Government	•
,	20	Elective (See page 104)	3
			20

^{*}Given in alternate years.

SCHOOL OF ENGINEERING

COURSE IN MECHANICAL ENGINEERING

(Power, Automotive, Aeronautical, Industrial, Refrigerating, Heating, Ventilating, and Air Conditioning)

FRESHMAN YEAR

(See page 97)

SOPHOMORE YEAR

First Semester Cree	lit
Chemistry 207(2-3)	3
Quantitative Analysis	
Civil Engineering 206(1-3)	2
Surveying	
Engineering Drawing 201(0-2)	1
Mechanical Drawing	
English 203(2-0)	2
Composition and Literature	
Mathematics 203	5
Calculus	
Mechanical Engineering 201 (0-3)	1
Pattern Making and Foundry	
Military Science(1-2)	
Physics 203(3-3)	4
General Physics	

Second Semester Cr	edit
Chemistry 208(1-3)	2
Technical Analysis	
Engineering Drawing 202 (0-2)	1
Mechanical Drawing	
English 210(2-0)	2
Argumentation	
Mathematics 204(5-0)	5
Calculus	
Mechanical Engineering 202(0-3)	1
Pattern Making and Foundry	
Mechanical Engineering 212(3-0)	3
Engineering Mechanics	
Military Science(1-2)	
Physics 204	4
General Physics	
· · ·	

JUNIOR YEAR

19

Civil Engineering 305(4-0)	4	
Mechanics of Materials		
Civil Engineering 311(3-0)	3	
Hydraulics		
Electrical Engineering 307	4	
Electrical Machinery		
History 305	3	
American Government		
Mechanical Engineering 309 (0-3)	1	
Machine Shop	_	
Mechanical Engineering 313 (3-0)	2	
Engineering Mechanics	•	
	-	
Elective (See page 104)	3	1

Economics 403	3
Principles of Economics Electrical Engineering 308(3-3)	4
Electrical Machinery Mechanical Engineering 307(2-3)	3
Kinematics Mechanical Engineering 310(0-3)	1
Machine Shop Mechanical Engineering 320(5-0)	5
Thermodynamics Elective (See page 104)	3
· ,	19

SENIOR YEAR

21

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Electrical Engineering 431(2-0) Engineering Administration	² .,	English 401(2-0) Public Speaking
Mechanical Engineering 303(2-3) Machine Design	3	Mechanical Engineering 304(2-3) Machine Design
Mechanical Engineering 403(1-3) Engineering Laboratory	2	Mechanical Engineering 404(1-3) Engineering Laboratory
Mechanical Engineering 417(3-0) Power Engineering	3	Elective (See page 104) *Technical Elective
Mechanical Engineering 419 (3-0) Industrial Engineering	3	· · ·
Mechanical Engineering 423(3-0) Industrial Administration	3	
Elective (See page 104)	3	

*Technical Electives to be chosen from the following:	
Mechanical Engineering 407(3-0) 3 Mechanical Engineering 428	3-0) 3
Refrigeration Aerodynamics	
Electrical Engineering 416(3-0) 3 Mechanical Engineering 430(2-2) 3
Motor Applications Production Engineering	
Mechanical Engineering 418 (3-0) 3 Mechanical Engineering 432	1-0) 4
Power Engineering Automotive Engineering	
Mechanical Engineering 420(3-0) 3 Mechanical Engineering 436	
Industrial Engineering Adv. Heat., Vent. and Air Co	on.

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COURSE IN PETROLEUM PRODUCTION ENGINEERING

FRESHMAN YEAR

(See page 97)

SOPHOMORE YEAR

First Semester Cred	it
Engineering Drawing 201(0-2)	1
Mechanical Drawing	
English 203	2
Composition and Literature	
Geology 201	2
General Geology	
Geology 307(3-4)	4
Mineralogy and Petrology	
Mathematics 203	5
Calculus	
Military Science(1-2)	1
Physics 203	4
General Physics	
	_

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	Second Semester Cre	dit
	Civil Engineering 201(2-6) Surveying	
	Engineering Drawing 202	1
	Geology 202	4
	Mathematics 204	5
	Petroleum Engineering 204(2-0) The Petroleum Industry	2
	Military Science(1-2)	1
2	Physics 204	4
	•	21

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JUNIOR YEAR

20

Chemistry 207	3
Quantitative Analysis	,
Geology 312(3-4)	4
Structural Geology	
Mechanical Engineering 212 (3-0)	3
Engineering Mechanics	
Mechanical Engineering 323 (4-0)	4
Thermodynamics	
Petroleum Engineering 303(3-3).	-4
Petroleum Development	
Elective (See page 104)	3
	21

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Civil Engineering 311	3
Economics 403	3
Principles of Economics Electrical Engineering 305(3-3) Electrical Machinery	4
English 210(2-0)	2
Argumentation Mechanical Engineering 410(3-0) Internal Comb. Engines	'3
Petroleum Engineering 304(2-3) Petroleum Production Methods	3
Elective (See page 104).	3
· · · A	21
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SENIOR YEAR

(For the Class of 1937)

Chemical Engineering 419(3-0) Petroleum Refining	3
Civil Engineering 305	4
Mechanical Engineering 403(1-3)	2
Engineering Laboratory Petroleum Engineering 401	3
Oil Meas. and Trans. Petroleum Engineering 403	1
Petroleum Problems Petroleum Engineering 405(3-0)	3
Equipment and Applications Elective (See page 104)	3
•	-
	19

English 401))
Public Speaking	
Geology 404	1)
Geology of Petroleum	ſ
History 305))
American Government	1
Mechanical Engineering 404(1-5	0
Engineering Laboratory	Ĩ
Petroleum Engineering 402(3-4	I)
Oil Field Management	ſ
Petroleum Engineering 404(0-3	D
Petroleum Problems	
Petroleum Engineering 406	o
Natural Gas and Gasoline	
Elective (See page 104)	

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SENIOR YEAR

(For the Class of 1986)

First Semester Cre	dit
Chemical Engineering 419(3-0) Petroleum Refining	3
Civil Engineering 305(4-0) Mechanics of Materials	4
Civil Engineering 311(3-0) Hydraulics	
Mechanical Engineering 403(1-3) Engineering Laboratory	2
Petroleum Engineering 401(3-2) Oil and Gas Measurements	4
Petroleum Engineering 403 (0-4) Petroleum Problems	1
Elective (See page 104)	3

Second Semester Cro	edit
English 401	2'
Public Speaking	
Geology 404	3
Geology of Petroleum	
History 305	3
American Government	
Mechanical Engineering 404 (1-3)	2
Engineering Laboratory	
Petroleum Engineering 402(3-2)	4
Oil Field Management	
Petroleum Engineering 404(0-4)	1
Petroleum Problems	
Elective (See page 104)	3
	-
×	18

COURSE IN TEXTILE ENGINEERING

FRESHMAN YEAR

(See page 97)

SOPHOMORE YEAR

Accounting and Statistics 201(3-3) Principles of Accounting	4
Chemistry 207	3
Quantitative Analysis Civil Engineering 206	2
Surveying Engineering Drawing 201(0-2)	1
Mechanical Drawing English 203 (2-0)	2
Composition and Literature Mechanical Engineering 201(0-3)	1
Pattern Making and Foundry Military Science	1
Physics 203(3-3) General Physics	•
	18

Accounting and Statistics 202(3-3)	4
 Principles of Accounting Chemistry 208	· 2 ●
Engineering Drawing 202(0-2) Mechanical Drawing	1
English 210 (2-0)	2
History 305 (3-0) American Government	3
Mechanical Engineering 202 (0-3)	1
Pattern Making and Foundry Military Science	1
Physics 204(3-3) General Physics	4
· • • •	18
	-

JUNIOR YEAR

Economics 403	3
Principles of Economics	100
Mechanical Engineering 309 (0-3)	1
Machine Shop	
Textile Engineering 205	3
Cotton Exchanges	
Textile Engineering 301(2-3)	3.
Yarn Manufacture	
Textile Engineering 303(0-3)	1
Fabric Design	
Textile Engineering 307	5
Elective (See page 104)	3
	19

Economics 403	3	*Chemistry 308	4
Mechanical Engineering 309(0-3) Machine Shop	1	Electrical Engineering 305	4
Textile Engineering 205	3	Mechanical Engineering 307 (2-3) Kinematics	3
Textile Engineering 301(2-3) Yarn Manufacture	3.	Textile Engineering 302(0-2) Yarn Manufacture	1
Textile Engineering 303(0-3) Fabric Design	1	Textile Engineering 304(0-3) Fabric Design	1
Textile Engineering 307	5	Textile Engineering 306(3-3) Weaving	4
Elective (See page 104)	3	Elective (See page 104)	3
	19	-	20
*Offered in 1935-36 and alternate year	s there	after.	

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First Semester Ci	redit
Économics 311) 3
Money and Banking	
Mechanical Engineering 419 (3-0) 3
 Industrial Engineering 	
Textile Engineering 401(3-2) 4
Yarn Manufacture	
Textile Engineering 413(1-3) 2
Cotton Classing	
Textile Engineering 415 .:(0-3)) 1
Fabric Design	
Textile Engineering 419) 2
Elective (See page 104)	3
	20

SENIOR YEAR

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Second Semester Cro	dt
Electrical Engineering 431(2-0)	2
Engineering Administration	
English 401	2
Public Speaking	
Textile Engineering 402(2-3)	3.
Yarn Manufacture	
Textile Engineering 414(0-3)	1
Cotton Classing	
Textile Engineering 415(1-3)	2
Fabric Design	
Textile Engineering 420	1
Weaving	
†Textile Engineering 422(3-0)	3
History of Textile Industry	
Elective (See page 104)	3
	-
	20

JUNIOR AND SENIOR ELECTIVES IN ENGINEERING

Engineering students selected for the advanced course, R. O. T. C., will elect the proper courses in Military Science. Electives for others are to be chosen with the approval of the Dean of the School of Engineering. The following courses are recommended as desirable for Juniors and Seniors not enrolled in the R. O. T. C.

Accounting and Statistics 409 (3-0)	3
Accounting for Engineers Agricultural Education 207(3-0) Psychology	3
Architecture 315(2-0) Modern Architecture	2,
Architecture 415(2-0)' The Fine Arts	2
Biology 309	3
Economics 311(3-0) Money and Banking	3
English (Advanced) Geology 201(3-0)	3
General Geology History 311	3
Modern and Contemporary Europe	-
History 423(3-0) American Foreign Relations	3
Mathematics 305(2-0) Differential Equations	2
Modern Language(3-0) French, German or Spanish	3
Rural Sociology 311(3-0) Social Psychology	3
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Architecture 416	2
Biology 310 (2-4)	3
Biology 310	
Economics 318	3
Economics 408	3
Corporation Finance Economics 412	3
English (Advanced)	
Genetics 405	.3
Survey of Eugenics	
Geology 202(3-3) Historical	4
History 312(3-0)	3
Industrial History of U.S.	
History 322	3
History 424	3
American Foreign Relations Mathematics 202	3
Mechanical Engineering 307(2-3) Kinematics	3
Municipal and Sanitary Engineering 408(3-0) Municipal Administration	
Modern Language	
Rural Sociology 312 (3-0)	3

†Offered in alternate years. Not offered in 1935-36.

SCHOOL OF ENGINEERING

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TWO-YEAR COURSE IN COTTON MARKETING AND CLASSING

FI	IRST YEAR	
First Semester Cred		
Agricultural Economics 101(3-0) . Agricultural Resources	.3 Agricultural Economics 102(3-0 Agricultural Resources) 3
Chemistry 101	4 English 104) 3
Inorganic Chemistry	Rhetoric and Composition	, ,
	3 History 322) 3
Rhetoric and Composition	Industrial History of U.S.	, -
Mathematics 101 (3-0)	3 Mathematics 102) 3
Algebra	Algebra	
Military Science	1 Military Science) 1
Textile Engineering 107(2-5)	4 Textile Engineering 108) 4
Cotton Classing	Cotton Classing	
-		
1	18	17
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SEC	COND YEAR	
	4 Accounting and Statistics 202 (3-3) 4
Principles of Accounting	Principles of Accounting	
	3 Economics 204	
Principles of Economics) 3
	Principles of Economics	
English 203(2-0)	2 Economics 316(3-0	
English 203	2 Economics 316(3-0 Business Law) 3
English 203(2-0) Composition and Literature History 305(3-0)	2 Economics 316(3-0 Business Law 3 English 210) 3
English 203	2 Economics 316) 3) 2
English 203	2 Economics 316) 3) 2) 1
English 203	2 Economics 316 (3-0) Business Law 3 English 210 (2-0) Argumentation 1 Military Science (1-2) 1 Military Engineering 212 (1-5)) 3) 2) 1
English 203	2 Economics 316 (3-0) Business Law 3 English 210 (2-0) Argumentation (1-2) (1-2) 1 Military Science (1-2) 3 Textile Engineering 212 (1-5) Cotton Classing Cotton Classing (1-5)) 3) 2) 1) 3
English 203	2 Economics 316 (3-0 Business Law 3 English 210 (2-0 Argumentation 1 Military Science (1-2 3 Textile Engineering 212 (1-5 Cotton Classing 3 Textile Engineering 218 (3-0) 3) 2) 1) 3
English 203	2 Economics 316 (3-0) Business Law 3 English 210 (2-0) Argumentation (1-2) (1-2) 1 Military Science (1-2) 3 Textile Engineering 212 (1-5) Cotton Classing Cotton Classing (1-5)) 3) 2) 1) 3
English 203	2 Economics 316) 3) 2) 1) 3) 3
English 203	2 Economics 316 (3-0 Business Law 3 English 210 (2-0 Argumentation 1 Military Science (1-2 3 Textile Engineering 212 (1-5 Cotton Classing 3 Textile Engineering 218 (3-0) 3) 2) 1) 3

NOTE.—Completion of this Course will be accepted for full Junior Standing in Group 2 of the Course in Agricultural Administration. AGRICULTURAL' AND MECHANICAL COLLEGE OF TEXAS

THE SCHOOL OF VETERINARY MEDICINE.

COURSE IN VETERINARY MEDICINE

FRESHMAN YEAR

First Semester Cre		,
Animal Husbandry 107(2-4) General Animal Husbandry	3	
Biology 101	8	
Chemistry 101	4	
English 103	3	Ĵ
Rhetoric and Composition Military Science	1	
Veterinary Anatomy 111	5	
. Vet Phys. and Pharm. 121(2-0) Physiology of Domestic Animals	2	
	21	

106

Second Semester · Cre	
Biology 102	3
General Botany	
Chemistry 102	4
Inorganio Chemistry	
English 104	3
Rhetoric and Composition	
Military Science	
Poultry Husbandry 201(2-2)	3
Poultry Production	
Veterinary Anatomy 112	5
Anatomy of Domestic Animals	
Vet. Phys. and Phar. 122(2-0)	2
Physiology of Domestic Animals	-
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SOPHOMORE YEAR

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Chemistry 206	14
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English 203	2
Composition and Literature	
Entomology 201	3
General Entomology	
Military Science	1
Veterinary Anatomy 211	5.
Anatomy of Domestic Animals	
Veterinary Anatomy 213	3
	v
Histology and Embryology	~
Vet Phys. and Phar. 221 (2-0)	2
Physiology of Domestic Animals	
•	20

Biology 206) 2
 Bacteriology 	
Biology 207) 3
Zoology	
*English 307) 2
Technical Writing	
Entomology 208) 3
Animal Parasites	
History 305) 3
American Government	· .
Military Science) 1
Veterinary Pathology 242	
General Pathology	
Vet. Phys. and Phar. 222) 4
Physiology of Domestic Animals	
	·

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JUNIOR YEAR

Dairy Husbandry 301	4	Genetics 301(3-2) Genetics	4
Veterinary Medicine 351	3	Veterinary Medicine 352	3
Veterinary Medicine 361	3	Veterinary Medicine 362	3
Veterinary Medicine 371(0-7) Clinic	2	Veterinary Medicine 372	4
Veterinary Pathology 341(2-0) Special Pathology	2	Veterinary Pathology 342	3
Veterinary Pathology 343(2-4) Special Bacteriology -	3	Vet Phys. and Phar. 334 (3-0) Pharmacology	3
Vet. Phys. and Phar. 333	4	Elective	3
Elective			23
*	24	· · · · · · · · · · · · · · · · · · ·	

*Or English \$17. -

First Semester Cre	dit
Animal Husbandry 409(3-3)	4
Animal Nutrition	-
Veterinary Medicine 451(3-0)	3
Diseases of Small Animals	
and Fowls	
Veterinary Medicine 453(3-0)	3
Infectious Diseases	
Veterinary Medicine 461(2-0)	2
Obstetrics	
Veterinary Medicine 471(0-7)	2
Clinic	
Veterinary Pathology 441(2-2)	3
Immunology; Serum Therapy	
Veterinary Pathology 443(2-2)	3
Parasitology	
Elective	3
	23

SENI	OR	YEAR

Second Semester Cre	dit
English 401	2
Veterinary Medicine 452(3-0) Practice of Medicine	3
Veterinary Medicine 462(3-4) Operative Surgery	4
Veterinary Medicine 472(0-7) Clinic	2
Veterinary Pathology 442(2-2) Meat Hygiene	3
Veterinary Pathology 444(2-2) Laboratory Diagnosis	3
Vet. Phys. and Pharm. 432(1-2) Toxicology	1
Elective	3
	21

THE SCHOOL OF VOCATIONAL TEACHING COURSE IN AGRICULTURAL EDUCATION $(1, 1) \psi^{(1)}$

FRESHMAN YEAR

First Semester Cre	dit
Agricultural Economics 101 (3-0)	3 .
Agricultural Resources Animal Husbandry 107(2-4)	
General Animal Husbandry	· • ·
Biology 101	3 .
General Botany	
Chemistry 101	4
English 103(3-0)	3
Rhetoric and Composition	
Military Science(1-2)	1
	17

Second Semester Cr	edit	
Agricultural Economics 102(3-0) Agricultural Resources) 3	
Agronomy 105) 4	
Biology 102) 3	
Chemistry 102) 4	
English 104) 3	
Military Science) 1	
2-	18	2

SOPHOMORE YEAR

Agricultural Engineering 321(1-3)	2 '
Farm Shop	
Chemistry 212	3
Agricultural Chemistry	
Chemistry 214	2
Agricultural Analysis	
History 305	3
American Government	
Horticulture 201(2-2)	3
Plant Propagation	
Military Science (1-2)	1
Poultry Husbandry 201(2-2)	3
Poultry Production	

Agricultural Economics 312 (3-0)	3
Agricultural Economics	
Agricultural Engineering 201 (2-2)	3
Farm Machinery	
Agricultural Engineering 322(1-3)	2
Farm Shop	
Dairy Husbandry 202(2-2)	3
Dairying	
English 210	2
Argumentation	
Entomology 204	3
Insecticides	
Military Science	1
Veterinary-Medicine 455	2
- Diseases of Poultry	1
1 1	19

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JUNIOR YEAR

17

Agricultural Education 301(3-0) Educational Psychology	3
Agronomy 315(2-2) Cotton Production	3
Animal Husbandry 307(1-3) Farm Meats	2
Animal Husbandry 409(3-3)	4
Animal Nutrition and Feeding Poultry Husbandry 401	4
Culling and Management Elective	3
· ·	19

Agricultural Engineering 424(1-3) Terracing
Agricultural Education 302 (3-0)
Principles of Education Agronomy 301 (3-2)
Soils Animal Husbandry 416(3-2) Livestock Management
Genetics 301
Elective
,

SENIOR YEAR

Agricultural Economics 421 (3-2) Farm Management	4
Agricultural Education 401(2-6) Teaching Vocational Agriculture	4
English 401	2
Horticulture 317	3
Landscape Art 301(2-4)	3
Introduction to Landscape Art Elective	3
	19

Agricultural Economics 430(3-0) Farm Credit	3
Agricultural Education 402(2-6)	4
Teaching Vocational Agriculture Agronomy 418	2
Soil Conservation	~
English 317	2
Commercial Correspondence Dairy Husbandry 418(3-2)	4
Dairy Cattle Feeding and Mgmt. Elective	3
Liective	-
	18

COURSE IN INDUSTRIAL EDUCATION

GROUP I. FOR VOCATIONAL INDUSTRIAL TEACHERS

This course is designed to meet the needs of vocational teachers Students completing the same are qualified, under the State plan for vocational education, for the general continuation and trade and industrial schools, and are eligible to receive the Bachelor of Science degree in Industrial Education. Since most of the men who will graduate from this course are-already teaching, they will complete these requirements through summer school work, extension courses, transfer of credits from other institutions, and, in some cases, by a year or more of study here. Thirty weeks of *residence is required*. Approved credits earned by teachers in the manner indicated above may be transferred to the A. & M. College of Texas.

Approved industrial experience will be evaluated in terms of college credits and, if acceptable to the head of the department and the Dean of the School of Vocational Teaching may be used in place of shop work on the basis of four credit hours for each year of experience up to a maximum of twenty credits. Approved teaching experience may be credited as practice teaching on the basis of two credit hours per year up to a maximum of six credits.

REQUIRED COURSES

	l Education	
Economics		6
Rural Sociology		
History (Includin		
Public Speaking		2
	echnical	
Shop Work		24
Engineering Dra	wing	4
S	ciences	
Chemistry		
Physics		
Modern Industrie		
Industrial Manag		

Professional Education Cred	its
The courses required by the State	
Department of Education for the	
Smith-Hughes certificate and any	
other courses in education suited	
to the needs of the student	24
Electives	
To be approved by the head of the	34
department	34
TOTAL CREDITS	40

GROUP 2. FOR INDUSTRIAL ARTS TEACHERS 141

FRESHMAN YEAR

First Semester Cre	edit	
Chemistry 101		Cher
Engineering Drawing 111(0-6) Mechanical Drawing	2	Eng
English 103	3	Eng
Rhetoric and Composition Mathematics 101(3-0) Algebra	3	Mat
Mechanical Engineering 101(1-2) Engineering Problems	1	Mec
Mechanical Engineering 105 (1-6)	3	Mec
Wood Work Military Science(1-2)	1	Milia
	17	

Second Semester Credit Chemistry 102
Inorganic Chemistry
Descriptive Geometry
English 104
Rhetoric and Composition
Mathematics 103
Trigonometry
Mechanical Engineering 102(1-2) 1
Engineering Problems
Mechanical Engineering 106 (1-6) - 3
, Cabinet Making
Military Science
Minitary Science(1-2) 1
18
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SOPHOMORE YEAR

First Semester Cre	dit
Architecture 221	2
Architectural Construction	
Engineering Drawing 201(0-2)	1
Mechanical Drawing	-
English 203	2
Composition and Literature	-
Mechanical Engineering 201(0-3)	1
	-
Pattern Making and Foundry Wo	
Military Science	1
Physics 201	4
College Physics	
Elective	6
	17
	11

Second Semester Cr	edit
Architecture 222	2
Architectural Construction	
Electrical Engineering 204(2-4)	3
Electric Wiring and Repair	
Engineering Drawing 202) 1
Mechanical Drawing	
English 210) 2
Argumentation	
Industrial Education 204) 3
Development and Practices	
Military Science) 1
Physics 202) 4
College Physics	
Elective	3
	19
(1)	

JUNIOR YEAR (3-0) 3 History 305

Agricultural Education 301(3-0)	3
Educational Psychology	
Agricultural Engineering 321 (1-3)	2
Farm Shop	
Industrial Education 301	3
Methods of Teaching and Class	
Management	
Industrial Education 323(1-3)	2
Teaching Mechanical Drawing	
Mechanical Engineering 309(0-3)	1
Machine Shop	
Rural Education 321 (3-0)	3
	9
Secondary School Methods	
Elective	4

History 305	3
American Government	
Industrial Education 310(3-0)	3
Course Making	
Course Making Industrial Education 324(1-3) Teaching Machine Drawing Industrial Education 418(1-5)	
Industrial Education 324(1-3)	2
Teaching Machine Drawing	
Industrial Education 418	3
Mechanical Engineering 310	1
Mechanical Engineering alv	
Machine Shop	
Elective	6
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SENIOR YEAR

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English 401	2
Public Speaking *Industrial Education 416(1-5) Practice Teaching	3
Elective	12
	17

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COURSE IN RURAL EDUCATION

FRESHMAN YEAR

First Semester Cre	dit
Animal Husbandry 107(2-4)	3
General Animal Husbandry	
Biology 101	3
General Botany	
English 103	3
Rhetoric and Composition	
Poultry Husbandry 201(2-2)	3
Poultry Production	
Military Science	1
Rural Education 121 (3-0)	3
Introduction to Education	•
Introduction to Education	-
	16
	10

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Second Semester	Cre	dit
Agronomy 105	(3-2)	4
Crop Production		
Biology 102	(2-4)	3
General Botany		
English 104	.(3-0)	3
 Rhetoric and Composition 		
Mathematics 101	(3-0)	3
Algebra		
Military Science		
Rural Education 123	(3-0)	3
 Introduction to Teaching 		
2		17
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SOPHOMORE YEAR

Chemistry 101(3-3) Inorganic Chemistry	4
English 231(3-0)	3
	3
General Entomology Military Science(1-2)	
Rural Education 221(3-0) Rural School Methods	3
Elective	3
	17

Chemistry 102	
Inorganic Chemistry Dairy Husbandry 202	3
English 232	
English Literature Military Science(1-2) Rural Education 222(3-0)	1
Rural Education 222	3
Elective	3
	17
17	
6	

JUNIOR YEAR

Biology 207	3	Ec
Rural Education 321(3-0)	3	Hi
Secondary School Methods Rural Sociology 407(2-2)	3	Rı
Kural Sociology Elective	'9	El
	18	

Economics 403(3-0) Principles of Economics	3
History 305 (3-0) American Government	3
Rural Education 322	3
Elective	9
	18
1,3	

SENIOR YEAR

English 401	2
Public Speaking Rural Education 426	3
Tests and Measurements Elective	13
	13

Rural Education 422	-0) 3
Elective	15
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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. First semester courses are as a rule given odd numbers, second semester courses, even numbers.

For courses in Religious Education see page 36.

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. The credit value of the course is also indicated.

The roman numerals, I, II, following the credit value of the course indicate the semester or semesters in which the course is offered. If the course runs throughout the session no numerals are shown.

The letter "S" indicates that the course is offered in the summer session only.

No new text book is to be adopted nor is any change to be made in the required text book for any course except upon the recommendation of the head of the department and the approval of the dean concerned, and the written authority of the Executive Committee.

Freshman and sophomore classes with an enrollment of less than ten students and junior and senior classes with less than six students will be offered only in exceptional cases.

For convenience of reference, the departments are listed below in alphabetical order.

DEPARTMENT

PAGE

DEPARTMENT

PAGE

Accounting and Statistics	Hort
Agricultural Economics	
	Indu
Agricultural Education119	Land
Agricultural Engineering 120	Math
Agronomy and Genetics	Mech
Animal Husbandry125	Milit
Architecture	Mod
Biology	Mun
Chemistry and Chemical	Petr
Engineering	Phys
Civil Engineering	Phys
Dairy Husbandry	Poul
Economics	Rura
Flectrical Engineering	Rurs
Engineering Drawing	Text
Engineering Research	Vete
English	Vete
Entomology	Vete
Geology	Vete
History	

Horticulture	.157
Industrial Education	.159
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Military Science and Tactics	
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Poultry Husbandry	181
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Rural Sociology	185
Textile Engineering	
Veterinary Anatomy	.198
Veterinary Medicine and Surgery	189
Veterinary Pathology	190
Veterinary Physiology and	
Pharmacology	191

DEPARTMENT OF ACCOUNTING AND STATISTICS

Professor Leland, Associate Professors Weinke, *Hamilton, Harvel, Mr. Simpson

201. Principles of Accounting. (3-3). Credit 4. I, II Introductory course designed to furnish such a knowledge of accounting as will be of value to the business executive and also serve as a foundation for advanced accounting. The subject matter includes: analysis and recording of business transactions; use of the journal, ledger, trial balance, working sheets, adjusting and closing entries, operating and financial statements; special columnar journals; controlling accounts; departmentalization; business papers and business procedure related to accounting.

202. Principles of Accounting. (3-3). Credit 4. II

A continuation of course 201. The subject matter includes: accruals and deferments, classification of accounts, voucher systems, systems of internal check, introduction to partnership and corporation accounting, accounting for manufacturing concerns, analysis and interpretation of statements.

301. Theory and Practice of Accounting. (3-3). Credit 4. I Fundamental processes of accounting, special phases of corporation accounting, introduction to actuarial accounting, specific asset and liability accounts, consignments, installment sales, depreciation, analysis of financial condition and results of operation.

302. Theory and Practice of Accounting. (3-3). Credit 4.

A continuation of course 301. Statement of application of funds, partnership accounting, insurance, accounting for insolvent concerns, branch accounting, parent company and subsidiary accounting, consolidations, foreign exchange, estates and trusts, introduction to budgeting.

303. Statistical Method. (3-3). Credit 4.

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, baro-meters, linear correlation.

401. Cost Accounting. (2-3). Credit 3.

Development of cost accounting principles, cost elements, methods of control, order and process systems, estimated and standard costs, debatable points of theory, uniform methods. Prerequisite: Accounting and Statistics 301.

402. Accounting Systems. (2-2). Credit 3.

A study of the special features of accounting for various types of enterprises, an analysis of the accounting systems devised and recommended by

*On leave, 1934-35.

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government agencies and trade associations. Each student is expected to develop a system for some business organization. Prerequisite: Accounting and Statistics 301.

403. Income Tax. (3-0). Credit 3.

Income tax legislation; the present income tax law and regulations; treasury decisions, court decisions and departmental rulings; income tax problems and returns. Prerequisite: Accounting and Statistics 202.

406. Agricultural and Business Cycles. (3-0). Credit 3.

An empirical and statistical study of agricultural data, production, consumption and price indexes; analysis of seasonal and long-time trends, and factors constituting cyclical fluctuation; theory, causes, effects and control of cycles. Prerequisite: Accounting and Statistics 303.

407. Auditing. (3-3). Credit 4.

Theory and practice of auditing; types of audits; audit procedure for individual assets, liabilities, and nominal accounts; working papers and reports; case studies. Prerequisite: Accounting and Statistics 301. (Formerly numbered 304).

403. Advanced Auditing. (3-0). Credit 3.

Case studies in auditing, financial investigations, auditing reports, certificates, statements giving effect to financing. Prerequisite: Accounting and Statistics 407.

409. Accounting for Engineers. (3-0). Credit 3.

Principles of accounting directly related to the problems of the engineer, contractor, and architect; survey of the general accounting system as the source of cost data; development of the fundamental principles of valuation; introduction to cost accounting.

410. Accounting Seminar. (3-0). Credit 3.

Cost accounting literature, research on valuation, income, budgeting, or other accounting problems. Prerequisite: Accounting and Statistics 401, 407.

FOR GRADUATES

501. Statement Analysis. (3-3). Credit 4.

An analytical study of the different kinds of statements for the guidance of executives, investors and creditors; balance sheet and profit and loss ratios. Prerequisite: Accounting and Statistics 201, 202.

502. Specialized Accounting. (3-2). Credit 4.

Consideration of the accounting problems and the practices peculiar to specific industries. Class work on municipal, bank, insurance, and public utility accounting. Individual reports on problems in the above fields or in specific lines of manufacturing, wholesaling or retailing. Prerequisite: Accounting and Statistics 201, 202.

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503. Price Analysis. (2-3). Credit 3.

Economic concepts relating to prices, statistical methods of analyzing prices, supply and demand curves, elasticity of demand, price forecasting, study and criticism of works on price analysis. Term paper required on factors affecting the price of an agricultural commodity. Prerequisite: Accounting and Statistics 303, Economics 203, 204.

504. Advanced Statistics. (2-3). Credit 3.

Curve fitting and empirical formulas. The study of measurements of relationship. Multiple correlation, linear and non-linear; part and partial correlation; research studies involving the application of multiple correlation. Sampling and measures of unreliability. Mathematical fitting of normal curves. Prerequisite: Accounting and Statistics 303, Mathematics 101 or 111.

DEPARTMENT OF AGRICULTURAL ECONOMICS

(Including Marketing and Finance, and Farm and Ranch Management)

Professor Barger, Professor *McMillan, Associate Professors †Paine, [‡]Hunt, Schlesselman.

101. Agricultural Resources. (3-0) Credit 3. I, II An introductory course in economic geography for students of agriculture. stressing the relation of such natural environmental factors as location, cli-

mate, soil, physiography, and natural vegetation and of cultural factors to man's agricultural activities and achievements.

102. Agricultural Resources. (3-0). Credit 3.

A general survey of the production and trade in the leading agricultural commodities of the United States and foreign countries, Special attention to the agriculture of the nations which are the chief competitors of the United States. Particular emphasis on the agricultural resources and commodities of Texas. Prerequisite: Agricultural Economics 101.

301. Agricultural Geography of North America. (3-0). Credit 3. I

A thorough study of the natural agricultural regions of the United States and Canada, with special stress on the relationship between natural environment and the past, present and potential agricultural and commercial development of those areas.

(Offered in alternate years. Not offered in 1935-36.)

303. Economic History of Agriculture. (3-0). Credit 3. I The economic development of agriculture in the United States from colonial times to the present; the influence of agricultural development on

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^{*} On leave, Jan. 16, to Aug. 31, 1935.

[†]On leave, First Semester, 1934-35.

Acting Professor, Jan. 16 to Aug. 31, 1935.

industry, commerce and transportation; economic reform movements among farmers.

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307. Advertising. (3-0). Credit 3.

A basic course covering the fundamental theory, principles, and applications of advertising in business and agriculture. Prerequisite: Economics 203 and 204, or 403.

310. The Credit System. (3-0). Credit 3.

The fundamental principles of credit and collections with special attention to mercantile credits, credit instruments, the sources of credit information, the organization and management of credit departments, technical and legal aspects of collections, and credit and collection control. Prerequisite: Economics 311.

312. Agricultural Economics. (3-0). Credit 3. II An application of the principles of economics to the problems of agriculture.

314. Marketing. (3-0). Credit 3. I, II A general introductory course covering the principles, practices and problems involved in the marketing of agricultural commodities. Prerequisite: Economics 203 and 204, or 403; or Agricultural Economics 312.

321. Farm Records and Cost Analysis. (2-2). Credit 3.

Systems of accounts and records suited to farms and ranches. Emphasis on the use of cost finding principles as aids to more efficient farm management. Laboratory work based on records of actual farms. Prerequisite: Twelve hours of credit in technical agriculture.

410. Transportation. (3-0). Credit 3. II The development of the various agencies of transportation in the United States; history of governmental regulation; survey and analysis of present day transportation trends and problems; special attention to transportation problems having an important influence on the marketing of farm products. Pre-

413. Cooperative Marketing of Farm Products. (3-0). Credit 3.

requisite: Economics 203 and 204, or 403; or Agricultural Economics 312.

A study of farmers' cooperative marketing and purchasing organizations in the United States and foreign countries from the standpoints of their history, economic philosophy, factors of success and failure, types of organization, business methods, legal aspects, governmental relationships, and potential development. Prerequisite: Agricultural Economics 314.

420. Market Analysis. (3-0). Credit 3.

Methods used by business concerns in the analysis of selling, advertising, and merchandising problems; market surveys, with emphasis upon the necessity of thorough fact finding as a basis for sales budget plans; measurement

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of the profitableness of different types and sizes of operating units; determination of effectiveness of advertising and selling effort; problems and methods of demand creation; choosing channels of distribution; importance of market measurement in the determination of company policies. Prerequisite: Agricultural Economics 425.

421. Farm Management. (3-2). Credit 4.

The application of business principles to the organization and operation of farms and ranches. Special attention to factors influencing farm profits. Laboratory work based on actual farms and ranches. Prerequisite: Twenty hours of credit in technical agriculture.

423. Land Economics. (3-0). Credit 3.

A general survey of the economic problems of land, covering such fundamentals as its characteristics as a factor of production; relation of population to its supply; its classification, utilization, tenure, valuation, credit, and taxation; property rights in land; and state and national land policies. Major attention to agriccltural land. Prerequisite: Agricultural Economics 312; or Economics 203 and 204, or 403.

425. Wholesale and Retail Merchandising. (3-0). Credit 3.

A systematic description and a critical analysis of the fundamental operations of wholesale and retail concerns, particularly those serving agricultural communities. Prerequisite: Economics 203 and 204, or 403.

426. Sales Organization. (3-0). Credit 3.

A consideration of the general principles of successful personal selling, sales organization and sales management; analysis of some carefully selected sales problems of concerns handling industrial and agricultural products. Prerequisite: Economics 203 and 204, or 403.

427. Cotton Marketing. (3-0). Credit 3.

Historical survey of the development of cotton marketing problems; demand and supply outlook; services in cotton marketing; descriptions of various markets and price determining factors in these markets; cooperative efforts in marketing cotton; critical analysis of cotton policies of the Federal Government. Prerequisite: Agricultural Economics 314.

429. Economic Policy for Agriculture. (2-0). Credit 2.

The economic position of agriculture, particularly since the World War; the factors contributing to maladjustment in agriculture; collective efforts and governmental acurn in farm relief, with special emphasis on the organization, operations, and objectives—both immediate and long-term—of the Agricultural Adjustment Administration. Prerequisite: Economics 203 and 204, or 403; or Agricultural Economics 312.

430. Farm Credit. (3-0). Credit 3.

Analysis of the credit requirements of individual farmers and farmers'

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cooperative organizations; investors and depositors as sources of credit; principles upon which each type of farm credit is extended; the instruments and legal aspects of farm credit; the cost of credit; description of financial institutions which serve agriculture, with major attention to the component units of the Farm Credit Administration. Prerequisite: Economics 311.

432. Advanced Farm and Ranch Management. (2-3). Credit 3.

Detailed problems involved in the organization and management of specific farms and ranches, covering such matters as efficiency analysis, budget preparation, layout and improvement. Survey of research literature in farm and ranch organization and management. Prerequisite: Agricultural Economics 421.

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434. Business Management. (3-0). Credit 3.

A comprehensive survey of the economic principles underlying successful business management, covering such matters as forms and legal aspects of organziation, external and internal relationships of the business, lines of authority, duties and responsibilities of various officers and functional departments, methods of determining policies, and standards of operating efficiency. Emphasis on concerns closely allied with agriculture. Prerequisites: Economics 315 and 316, and Agricultural Economics 307 and 426.

(Offered in 1934-35 only.)

FOR GRADUATES

501, 502. Advanced Marketing Problems. (4-0). Credit 4 each semester.

A thorough study of the problems involved in marketing farm products such as price determining factors; costs affecting distribution; operation of produce exchanges and futures markets; governmental regulation of middlemen and marketing services; and adjustment of supply to demand individually, cooperatively, and by governmental aid. Prerequisite: Agricultural Economics 314.

503. Land Problems. (4-0). Credit 4.

An extensive study of problems involved in developing state and national policies for the proper utilization of our land resources. Prerequisite: Agricultural Economics 423.

511. Farm Management Surveys. (2-4). Credit 3.

Methods of making surveys of regional systems of farming; analysis of survey data; use of findings in formulating farm organization and management programs. Practice work consists of surveying actual arms and ranches. Prerequisite: Agricultural Economics 421.

512. Cotton Marketing Problems. (4-0). Credit 4.

Extensive study of potential cotton areas of the world, trends in production, trends of consumption of cotton and substitutes for cotton in the various consuming areas; national and international policies that affect the

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cotton farmers; price determining factors in the various markets; governmental aid in estimating supply and demand, regulations of standards, and control of futures markets; cooperative versus individual sale of cotton. Prerequisite: Agricultural Economics 427.

514. Contemporary Problems in Agricultural Economics. (4-0). Credit 4. II

A critical consideration of some of the most important contemporary problems in agricultural economics. Prerequisite: Agricultural Economics 312 or 429; and 430.

571, 572. Research Methods. (2-6). Credit 4 each semester.

Principles of research as applied to the field of agricultural economics. Practice work consists of an analysis of the research projects in agricultural economics conducted by federal agencies, state Agricultural Experiment Stations, and by private research institutions. Special attention to the methods and programs of the Division of Farm and Ranch Economics of the Texas Agricultural Experiment Station. Prerequisites: Agricultural Economics 312 or 429; 314 and 430.

DEPARTMENT OF AGRICULTURAL EDUCATION

Professor Winkler, Professors Alexander, Dykes, Mr. Sherill .

207. Psychology (3-0). Credit 3.

An introductory course dealing with the elementary principles of psychology.

301. Educational Psychology. (3-0). Credit 3.

The applications of psychology to the problems of teaching.

302. Principles of Education. (3-0). Credit 3.

An introduction to the field of general education, designed to acquaint the student with the principles of educational theory; the aim and meaning of education, emphasizing the vocational viewpoint.

401, 402. Teaching Vocational Agriculture. (2-6). Credit 4 each semester.

Analysis of the agricultural teacher's job; courses of study; annual plan, lesson plans, project outlines and supervision; equipment; reports; observation and directed teaching.

FOR GRADUATES

(Agricultural Education 401, 402 are prerequisites to the following courses.)

501, 502. Advanced Methods in Agricultural Education. (4-0). Credit 4 each semester.

An advanced course in methods of teaching vocational agriculture.

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^{505.} Supervised Practice. (4-0). Credit 4. An advanced study of supervised practice in vocational agriculture.

507. Future Farmer Activities. (2-0). Credit 2. I Methods of conducting future farmer activities of statewide importance.

508. Promotional Activities in Vocational Agriculture. (2-0). Credit 2. II Principles of news writing, plans for collective exhibits, instructional booths, fairs and contests. Open only to teachers of vocational agriculture.

509. Part-Time Classes. (2-0). Credit 2.

Methods of organizing and conducting part-time classes in vocational agriculture.

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510. Evening Schools. (2-0). Credit 2. II Methods of organizing and conducting evening schools in vocational agriculture on a participation basis.

511. Evening School Problems. (2-0). Credit 2.

Supervision of practice work, determining course content, follow-up work, setting up publicity programs, evaluating improved practices resulting from evening school instruction.

512. Agricultural Outlook Material. (2-0). Credit 2.

Methods of using Agricultural Outlook Material. Open to teachers of agriculture and county agents who have had a course in cooperative marketing.

513. Administration and Supervision of Agricultural Education. (2-0). Credit 2.

Problems of organization, administration and supervision of vocational agriculture, experiment station and extension work.

514. Research and Thesis Problems. (2-0). Credit 2.

DEPARTMENT OF AGRICULTURAL ENGINEERING

Professor Scoates, Associate Professors F. R. Jones, Thurmond

201. Farm Machinery. (2-2). Credit 3. II Construction, adjustment, operation and repair of all types of farm machinery; tilling, seeding, cultivating, fertilizing and power machinery.

203. Gas Engines. (2-2). Credit 3.

Sources of farm power; construction, operation, care, and repair of various types of internal combustion engines with agricultural application.

205. Farm Buildings and Structures. (2-3). Credit 3. I Methods of construction of various buildings found on the farm. Includes masonry, as well as wood, construction and installation of utilities.

216. Automotive Machinery. (3-3). Credit 4. II Construction, operation, care and repair of tractors, automobiles, and trucks. Prerequisite: Agricultural Engineering 203. 305. Terracing and Drainage. (2-3). Credit 3.

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.

321, 322. Farm Shop. (1-3). Credit 2 each semseter.

A course for vocational teachers; soldering, belt lacing, rope knots and splices, concrete construction, carpentry, forging, tool sharpening.

413. Farm Buildings. (2-3). Credit 3.

Design and location of farm buildings; building materials; construction, arrangement.

418. Farm Home Utilities. (2-3). Credit 3.

Types, installation, operation, care and repair of the following utilities for farm buildings: ventilation, heating, lighting, water supply and sewerage disposal, refrigeration, air conditioning.

424. Terracing. (1-3). Credit 2.

The control of soil erosion and soil moisture by the use of terraces, dams, and similar structures.

425, 426. Seminar. (1-0). Credit 1 each semester.

A review and presentation of the results of selected lines of research in Agricultural Engineering.

428. Irrigation and Drainage. (3-6). Credit 5.

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.

FOR GRADUATES 501, 502. Advanced Drainage and Irrigation. (3-3). Credit 4 each semester. Advanced study of farm drainage and irrigation with special emphasis on recent developments. Prerequisite: Agricultural Engineering 305.

503, 504. Advanced Farm Machinery. (3-3). Credit 4 each semester.

Advanced study of farm machinery with special emphasis on recent developments. Prerequisite: Agricultural Engineering 201.

505, 506. Advanced Farm Buildings. (2-6). Credit 4 each semester.

Advanced study of farm buildings and farm home utilities. Prerequisite: Agricultural Engineering 418.

507. Cotton Machinery. (1-3). Credit 2.

'An advanced course in cotton machinery used in the preparation of seed bed, seeding, cultivating, harvesting and ginning, with special emphasis on recent developments.

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509, 510. Advanced Farm Power. (2-6). Credit 4 each semester.

Advanced study of farm power with special emphasis on recent developments. Prerequisites: Agricultural Engineering 203 and 216.

511. Advanced Farm Shop. (3-3). Credit 4.

Advanced study of farm shop with special emphasis on teaching problems; equipment, methods, supplies and projects. Prerequisite: Agricultural Engineering 321, 322.

DEPARTMENT OF AGRONOMY AND GENETICS

Professor Humbert, Professors L. G. Jones, Horlacher, Associate Professors Mogford, Stewart, Godbey

AGRONOMY

105. Fundamentals of Crop Production. (3-2). Credit 4. I, II 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.

301. Soils. (3-2). Credit 4.

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Soil forming processes; geological classification of soils; physical nature of mineral soils; organic matter; soil structure and its modification; classification of soils and the soil survey; forms of soil water; soil water in relation to plants, control of soil water; soil heat; aeration; absorptive properties of soil; removal of nutrients by cropping and leaching; erosion losses; alkali soils; soil acidity; soil organisms; principles of fertilizer practice; farm manures; green manures; maintenance of soil fertility; laboratory and field tests. Prerequisite: Chemistry 101, 102.

308. Forage Crops. (2-2). Credit 3.

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; also instruction in commercial grading of forage according to federal standards.

314. Field Crops. (3-2). Credit 4.

The production, harvesting and utilization of corn, oats, wheat, barley, rye, rice, and grain sorghums together with instruction in the judging and commercial grading of grain according to federal standards.

315. Cotton Production. (2-2). Credit 3.

Cotton production, including species, varieties, improvement, adaptation, fertilization, tillage, practices, harvesting, insects and diseases. Flax, hemp, and other miscellaneous fibre crops are treated briefly.

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413. Soil and Crop Problems. (3-0). Credit 3. H

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. Prereauisite: Agronomy 301.

415, 416. Soil and Crop Seminar. (1-0). Credit 1 each semester.

A review and presentation of the results of selected lines of research, dealing with soils and crops.

417. Range and Pasture Improvement and Maintenance. (2-0). Credit 2. I Problems dealing with vegetation, improvement and maintenance of ranges and pastures. Weeds and poisonous plants and their eradication.

418. Soil Conservation. (2-0). Credit 2.

A course dealing with the importance of soil conservation from the standpoint of different soil types in the agricultural regions of Texas and the United States. Conservation methods are presented according to climatic regions, cropping systems, topographic locations, and other influencing factors. Prerequisite: Agronomy 301.

420. Cotton Research Problems. (1-0). Credit 1. П Research methods as applied to cotton production and improvement.

FOR GRADUATES

501. 502. Advanced Farm Crops. (3-4). Credit 4 each semester.

An advanced study of field crops production and breeding, including a review of the more recent and noteworthy investigations in this field.

505, 506. Advanced Soils. (3-4) Credit 4 each semester.

A review of our present knowledge of the soil as a medium for plant growth; study of the more recent and noteworthy investigations pertaining to soils and fertility.

507, 508. Advanced Cotton Production. (3-4). Credit 4 each semester.

An advanced study of cotton from the standpoint of species, varieties, breeding, fertilization, tillage, practices and harvesting. Extended use is made of recent cotton literature in scientific journals, experiment station bulletins, and such reference books on cotton as are available.

509, 510. Research Problems. Credit 1 to 4 each semester.

Technical research problems subject to approval of head of department.

GENETICS

301. Genetics. (3-2). Credit 4.

I. II 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. Prerequisite: Biology 101, 102.

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304. Plant Breeding. (3-2). Credit 4.

Improvement of field, forage and horticultural crops. Prerequisite: Genetics 301.

306. Animal Breeding. (2-2). Credit 3.

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. Prerequisite: Genetics 301.

403. Eugenics. (2-0). Credit 2.

Variation and heredity in human beings. The various phases of the problem of race betterment are studied from the biological point of view. Prerequisite: Genetics 301 and senior classification.

405. Survey of Eugenics. (3-0). Credit 3.

A general study of eugenics and eugenic reform, and certain genetic principles underlying human heredity.

FOR GRADUATES

501, 502. Advanced Plant Genetics. (3-4). Credit 4 each semester.

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. (3-4). Credit 4 each semester.

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. (3-4). Credit 4 each semester.

The application of certain biometric principles to the interpretation of genetic data.

507, 508. Genetic Studies in Cotton. (3-4). Credit 4 each semester.

A detailed study of cotton genetics and breeding for students especially interested in cotton.

509, 510. Research Problems. Credit 1 to 4 each semester.

Technical research problems subject to approval of head of department.

571, 572. Research in Cotton Breeding. Thesis.

A thesis course 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. Students electing this course must first be familiar with the fundamentals of genetics and agronomy. Mr. Killough.

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DEPARTMENT OF ANIMAL HUSBANDRY

Professor D. W. Williams, Professors Mackey, Buchanan, Associate Professor Knox, Mr. Stubbs.

107. General Animal Husbandry. (2-4). Credit 3. I, II

An introductory survey course. Farm animals as a source of food, clothing and labor; the place of livestock 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 livestock 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.

202. The Breeds of Farm Animals. (2-2), Credit 3.

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. Prerequisite; Animal Husbandry 107.

203. Market Classes and Grades of Live Stock. (2-2). Credit 3. I Age, type, quality, condition or finish, size and weight, sex, style, dressing percentage, methods of finishing, breeding, uniformity, as factors determining

market classification; market classifications for each class of live stock; comparative judging; classifying, grading and valuing market animals. Pre-requisite: Animal Husbandry 107.

303. Animal Nutrition. (3-3). Credit 4.

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; computation 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 212, 214.

307. Farm Meats. (1-3). Credit 2. I, II 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; wholesale and retail cuts; by-products.

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308. Live Stock Judging. (1-3). Credit 2.

Form as related to function in farm animals; characteristics considered in the selection and improvement of various breeds and types; factors determining value; score card and comparative judging.

403. Advanced Judging. (0-6). Credit 2.

An advanced course in live stock judging. Prerequisite: Animal Husbandry 202.

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406. Beef Cattle Production. (2-3). Credit 3.

The world beef cattle situation; historical development; systems of production and determination of the 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 feeds; value of feeds; financial aspect of beef production; equipment; parasites and diseases; fitting and showing marketing. Prerequisite: Animal Husbandry 303 or 409.

409. Animal Nutrition and Live Stock Feeding. (3-3). Credit 4.

A modification of course 303 with a study of the practical feeding of horses, dairy cattle, beef cattle, sheep, and swine.

410. Sheep and Angora Goat Production. (2-3). Credit 3.

Present status; history in the 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. Prerequisite; Animal Husbandry 303 or 409.

412. Swine Production. (2-3). Credit 3.

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. Prerequisite: Animal Husbandry 303 or 409.

413. Horse and Mule Production. (2-3). Credit 3.

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). Credit 4.

A modification of courses 406, 410, 412, 413. Prerequisite: Animal Husbandry 409.

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418. Wool and Mohair. (2-3). Credit 3.

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). Credit 2.

Methods used in the development of outstanding animals; popular lines of breeding; breed improvement; characteristics and breeding of show winners. Students will be given a choice of one breed of each class of livestock for intensive study. Prerequisite: Animal Husbandry 202.

423. Seminar. (2-0). Credit 2.

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). Credit 3.

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; 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. (3-3). Credit 4 each semester.

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. (3-3). Credit 4 each semester. 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). Credit 4 each semester.

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 the course. Mr. Jones.

573, 574. Research in Animal Breeding. (3-4). Credit 4 each semester.

A thesis course designed to furnish to students majoring in genetics, animal husbandry, or dairy husbandry, the opportunity to work out a breed-

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ing problem 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 of genetics and either animal husbandry or dairy husbandry, and students electing this course must be familiar with the fundamentals of those fields. Dr. Warwick.

DEPARTMENT OF ARCHITECTURE

Professor Langford, Professor Finney, Assistant Professors C. M. Brooks, Jr., Atkinson, Mr. Byrd.

101, 102. Architectural Drawing. (0-4, 0-6). Credit 1, 2.

Lettering, line drawing, mouldings, band ornaments, proportion of openings; application of the orders; architectural composition; india ink, and color-washes.

107, 108. History of Architecture. (2-0). Credit 2 each semester.

Introduction to the background of architecture; Egyptian, Western Asiatic, Greek and Roman architecture.

109, 110. Freehand Drawing. (0-4). Credit 1 each semester.

Sketching from geometrical solids, simple objects, plaster casts, still life; elementary color and color wheels. Adaption of light and shade to drawing.

201, 202. Architectural Design. (0-10). Credit 3 each semester.

Simple problems in design and composition; presentation, rendering; application of elements of architecture; analytique; research. Prerequisite: For course 201, Architecture 102; for course 202, Architecture 201 and 203.

203. Shades, Shadows, and Perspective. (0-6). Credit 2.

A study of the principles of shades, shadows, and perspective, and of their application to various architectural subjects. Prerequisite: Eng. Drawing 124.

205, 206. Freehand Drawing. (0-4). Credit 1 each semester.

Sketches in charcoal of the full length antique and other subjects; shaded charcoal drawing from the full length figure and from casts of architectural ornaments; water color studies; pen and ink drawings; out-door sketching. Prerequisite: Architecture 110.

215, 216. History of Architecture. (2-0). Credit 2 each semester.

Early Christian, Byzantine, Romanesque, and Gothic styles; architecture of the Renaissance and to the beginning of the 19th century in the principal European countries. Prerequisite: Architecture 108.

221, 222. Architectural Construction. (1-4). Credit 2.

Details in frame and masonry construction. General drawing, scale and full size details, working drawings.

301, 302. Architectural Design. (0-16). Credit 5 each semester.

Major and sketch design problems of small ensemble involving composition, planning and presentation. Archeaological problems, library research. Prerequisite: Architecture 202.

305, 306. Freehand Drawing. (0-4). Credit 1 each semester.

Advanced freehand drawing from the antique and from life in various media; modeling in clay of sculptural and architectural decoration and ornament. Prerequisite: Architecture 206.

313, 314. Mechanics of Materials; Stress Analysis. (4-0, 3-3).

Credit 4 each semester.

A study of the principles of analytic mechanics and graphic statics; properties of materials, general theory of structural design. Prerequisite: Mathematics 111, 112.

315. Modern Architecture. (2-0). Credit 2.

An analysis of modern buildings; historical influences; modern development and tendencies. Prerequisite: Architecture 216.

320. Building Construction. (0-6). Credit 2.

Details in frame and masonry construction; general drawings; scale and full size details; working drawings. Prerequisite: Architecture 202.

401, 402. Architectural Design. (0-21). Credit 7 each semester.

Major design and sketch problems of large ensemble involving composition, planning, and presentation. Archieological problems and library research. Prerequisite: Architecture 302.

412. Building Construction. (2-3). Credit 3.

Design of wood and steel framing as used in building construction; beams, girders, columns, roof trusses; analytic and graphic methods. Pre-requisite: Architecture 313 and 314.

415, 416. The Fine Arts. (2-0). Credit 2 each semester.

History of the fine arts in their relationship in architecture: the historic styles of decoration; the development of furniture and furnishings; a study of the history of sculpture and painting. Prerequisite: Senior classification.

417, 418. Concrete Structures. (3-0, 2-3). Credit 3 each semester.

Theory of reinforced concrete design and its application in the design of slabs, beams, girders, columns, and footings; concrete buildings. Prerequisite: Architecture 313, or Civil Engineering 305.

421, 422. Structural Design. (2-6). Credit 4 each semester.

Advanced problems in building construction; wooden and steel trusses; plate girders; critical study of steel frame work for high buildings. Pre-requisite: Architecture 314, Civil Engineering 305.

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423. Materials of Construction. (2-0). Credit 2.

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A brief study of the materials of construction, their properties, characteristics, and uses. Prerequisite: Architecture 313, or registration in Civil Engineering 305.

425. Professional Practice. (2-0). Credit 2.

Professional relations; office management; contracts; law of architecture and building; building economics; specifications. Prerequisite: Senior classification.

451, 452. Architectural Design. (0-27). Credit 9 each semester.

Advanced problems in architectural design; city planning; group studies; sketch problems and library research. Prerequisite: Architecture 402.

FOR GRADUATES

501, 502. Architectural Design. (0-24). Credit 8 each semester.

Design of buildings and groups of buildings. Practice, criticism; consultations; research.

503, 504. Architectural Construction. (2-8). Credit 5 each semester.

Theory and practice in advanced constructive design; foundations; walls; frames.

505, 506. Architectural Practice. (1-4). Credit 2 each semester. Contracts, specifications, superintendence, office methods.

507, 508. Architectural Presentation. (0-6). Credit 2 each semester. Sketching, rendering, color harmony and effects.

509, 510. Mechanical Equipment of Buildings. (1-4). Credit 2 each semester. Theory, practice, and research relating to mechanical equipment of buildings.

DEPARTMENT OF BIOLOGY

Professor Ball, Professor Reeves, Associate Professor Doak, Assistant Professors Gibbons, *LaMotte, Mr. Berry, Mr. Towns, Mr. Talley.

BOTANY

101, 102. General Botany. (2-4). Credit 3 each semester.

External and internal form and structure; life processes of plants; types of various subdivisions of the plant-kingdom.

- 211, 212. General Biology. (2-4). Credit 3 each semester. Biological types and principles; interdependence of living things.
- 213. Plant Physiology. (3-2). Credit 4. II Preparation for advanced work in agronomy and horticulture; physiology

^{*}On leave, 1934-35.

of growth, nutrition and reproduction in plants. Prerequisite: Biology 101, 102.

416. Plant Diseases. (2-4). Credit 3.

Biology and classification of fungi with special reference to pathogenic forms; more important plant diseases occuring in Texas; routine methods of cultivation and identification; diagnosis and control. Prerequisite: Biology 101, 102; 206.

(Offered in alternate years or on demand. Not offered in 1934-35.)

ZOOLOGY

203, 204. General Zoology. (2-4). Credit 3 each semester.

Classification, morphology and physiology of representatives of the various phyla of animals.

207. General Zoology. (2-4). Credit 3. I, II

A study of animals of economic importance. Types of the various groups; origin, development and distribution of animals.

317, 318. Comparative Vertebrate Anatomy. (2-4). Credit 3 each semester. Comparative anatomy of typical chordates; progressive development of organs and organ-systems. Prerequisite: Biology 203, 204.

341, 342. General Physiology. (3-4). Credit 4 each semester. Prcrequisite: Biology 203, 204 or 211, 212. Course 341 open to students in Physical Education. (See Veterinary Physiology and Pharmacology 341, 342).

343. Histology. (2-4). Credit 3.

This course will offer a study of the cell in its various forms as exemplified in the tissues of the mammalia. A study will be made of the histological structure of the different types of muscle tissue, the nervous system, alimentary tissues, ductless glands, respiratory system, tissues of the reproductive, excretory and vascular systems.

344. Embryology. (2-4). Credit 3.

This course will present the fundamental facts of vertebrate development, and is based on the work in histology. It will include a study of the original of the germ layers, the formation of germ cells, fertilization, cleavage of the egg, and the development of the fetal membranes. The derivations of the ectoderm, mesoderm, and entoderm will receive especial attention.

The laboratory work will deal with the microscopic study of the whole mounts and serial sections of pig and chick embryos.

BACTERIOLOGY

206. Introductory Bacteriology. (1-4). Credit 2. Nature and relations of bacteria related to agriculture. Prerequisite: Biology 101, 102. П

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309, 310. General Bacteriology. (2-4). Credit 3 each semester. Study of selected types; routine methods of isolation, preparation, identi-

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- fication. Prerequisite: Biology 101, 102, or 203, 204, or 211, 212. (Offered in alternate years or on demand. Offered in 1935-36.)
- Bacteriology of Milk. (2-4). Credit 3.
 Bacteriology of milk; dairy sanitation; milk-borne diseases; control. Prerequisite: Biology 206.

FOR GRADUATES

501, 502. Plant Morphology. (2-6). Credit 4 each semester. Comparative plant morphology with emphasis on seed plants; morpho-

logical technique; taxonomic applications.

503, 504. Advanced Vertebrate Zoology. (2-6). Credit 4 each semester.

Comparative anatomy of vertebrate types. Origin and development of organs and organ systems.

- 505, 506. Advanced Bacteriology. (2-6). Credit 4 each semester. Advanced methods of bacteriological analyses.
- 509, 510. Advanced Plant Physiology. (2-6). Credit 4 each semester. Responses of the plant to various external and internal stimuli; physiology of growth, nutrition and reproduction.

511, 512. Biochemistry of the Cotton Seed. (2-6). Credit 4 each semester. Composition of the various organs and tissues of the cotton seed; standard microchemical methods.

513, 514. Advanced Plant Pathology. (2-6). Credit 4 each semester. Morphology and physiology of pathogenic fungi.

515, 516. Cytology. (2-6). Credit 4 each semester.

An intensive study of the organization and activities of the cell; cytological technique. Emphasis is placed upon topics related to heredity.

DEPARTMENT OF CHEMISTRY AND CHEMICAL ENGINEERING

Professor Hedges, Professors *Thornton, Brayton, Burchard, Jensen, Associate Professor Bauer, Assistant Professors Koenig, B. C. Jones, Harter, Bishop, Harrington, Mr. Snuggs, Mr. Middleton, Mr. Potts, †Mr. Samuelson.

CHEMISTRY

101, 102. General Inorganic Chemistry. (3-3). Credit 4 each semester.

Foundation principles of chemical activity. Industrial application of the more important chemical processes are briefly described, and organic chemistry is touched upon.

^{*}Resigned, Dec. 31, 1934.

[†]Appointed Feb. 1, 1935.

CHEMISTRY

General laboratory work, duplication of lecture experiments and simple tests of technical importance. The laboratory work of the last half of the second semester deals with elementary qualitative analysis.

103, 104. Inorganic Chemistry. (3-4). Credit 4 each semester.

Same as course 101, 102, with the addition of one hour of laboratory per week.

205. Qualitative Analysis. (2-8). Credit 5.

The theory and practice of fundamental analytical operations designed to enable the student to make 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 identification from mixtures, the method of getting solids into solution for analysis and the analysis of unknown substances. Prerequisite: Chemistry 102.

206. Organic Chemistry. (3-2). Credit 4.

The subject is treated primarily as a pure science. In the laboratory a study is made of the properties and typical reactions of compounds discussed in the theory. Prerequisite: Chemistry 102.

207. Quantitative Analysis. (2-3). Credit 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 102.

208. Technical Analysis. (1-3). Credit 2.

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 emphasized. Fuels, steels, cements, waters for industrial purposes, and industrial products commonly met with, are analyzed by rapid technical methods. Prerequisite: Chemistry 207.

212. Agricultural Chemistry. (3-0). Credit 3.

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. Prerequisite: Chemistry 102.

214. Agricultural Analysis. (1-3). Credit 2. I, II

Chemical analysis of feeds, fertilizers, soils, insecticides, and fungicides. Prerequisite: Chemistry 102.

To be taken with Chemistry 212.

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301, 302. Organic Chemistry. (3-4). Credit 4 each semester.

An introduction to the chemistry of the compounds of carbon. A study of general principles, and 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. Prerequisite: Chemistry 102.

308. Dyeing. (3-3). Credit 4.

Physical and chemical properties of textile fibers, dyes, dyestuffs, and mordants, principles and appliances involved in the commercial coloring of textiles, especially 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 102.

(Offered in alternate years. Not offered in 1936-37.)

326. Physiological Chemistry. (3-3) Credit 4.

A study of the chemical composition of living matter, and the fundamentals of digestion and nutrition. Prerequisite: Chemistry 206 or 301.

342. Physical Chemistry. (3-4). Credit 4.

Explanation of basic chemical theories and principles with reference to their relationship to transformations in living matter. Special emphasis on 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 206, 207, or Chemical Engineering 202.

438. Seminar. (1-0). Credit 1.

FOR GRADUATES

501, 502. Advanced Agricultural Chemistry. (2-6). Credit 4 each semester. Similar to courses 212, 214, with more advanced work.

507, 508. Advanced Organic Chemistry. (2-6). Credit 4 each semester.

Analysis and preparation of organic compounds. Prerequisite: Chemistry 302.

511, 512. Advanced Physical Chemistry. (3-3). Credit 4 each semester.

An intensive study of physical and electro chemistry. Prerequisite: Chemical Engineering 418.

571, 572. Special Topics in the Chemistry of Animal Nutrition. (2-6).

Credit 4 each semester.

Vitamins, amino 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 on the chemistry of animal nutrition. Dr. Fraps.

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CHEMISTRY

573, 574. Special Topics in the Chemistry of Animal Nutrition. (2-6). Credit 4 each semester.

A continuation of course 571, 572. Dr. Fraps.

575, 576. Special Topics in the Chemistry of Soils. (2-4).

Credit 3 each semester. 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 reports. The laboratory work accompanying the course will depend upon the experience of the student. Dr. Fraps.

577, 578. Special Topics in the Chemistry of Soils. (2-6).

Credit 4 each semester.

A continuation of course 575, 576.

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, such as its application to the cotton seed oil industry, petroleum technology, problems of sanitation, or the chemical control of ceramics. The chemical industries most highly developed in this state are inspected from time to time.

202. Elementary Quantitative Analysis. (2-8). Credit 5.

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 semester an analysis is made of a carbonate of silicate rock for the commonly determined constituents. Prerequisite: Chemistry 205.

301. Quantitative Analysis. (2-8). Credit 5.

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. Prerequisite: Chemical Engineering 202.

408. Metallurgy of Iron and Steel. (2-0). Credit 2.

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-

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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. Prerequisite: Chemistry 102.

409. Gas and Oil Technology. (3-6). Credit 5.

Application of chemistry and engineering to gas, natural gasoline, petroleum, and cotton seed oil. The laboratory work comprises the refining of petrolcum and the production and refining of cotton seed oil. Prerequisite: Chemistry 302.

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411. Physical Chemistry. (3-4). Credit 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 the class room. Prerequisite: Chemistry 302 and Chemical Engineering 202.

414. Sanitary Chemistry. (3-4). Credit 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 302.

416. Chemical Technology. (3-4). Credit 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. Prerequisite: Chemical Engineering 409.

418. Physical Chemistry. (3-4). Credit 4. II Intensive study of homogenous and hetrogenous equilibria, the phase rule, chemical kinetics, catalysis, hydrogen-ion concentration, electrolytic and galvanic cells and electrochemistry, photochemistry, and radio activity. Prerequisite: Chemical Engineering 411.

419. Petroleum Refining. (3-0). Credit 3. I The application of chemical theories and laws to the refining of petroleum.

422. Animal and Vegetable Oils. (3-4). Credit 4. II Chemical examination of animal and vegetable oils with special reference to the detection of adulterants. Prerequisite: Chemistry 302.

FOR GRADUATES

503, 504. Advanced Industrial Chemistry. (2-6). Credit 4 each semester. A study of industrial processes .Prerequisite: Chemistry 302.

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509, 510. Cotton Seed Oil. (2-6). Credit 4 each semester.

A study of cotton seed oil production and refining. Prerequisite: Chemistry 302.

DEPARTMENT OF CIVIL ENGINEERING

Professor Richey, Professors McNew, Munson, Grinter, Associate Professor Sandstedt, Assistant Professor J. A. Orr, Mr. C. S. Adams.

201. Plane Surveying. (26). Credit 4. I. 11

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. Prerequisite: Mathematics 103, or 112.

202. Railroad Engineering. (2-6). Credit 4. П Outlining, reconnaissance, preliminary, and location surveys, computing and staking out simple and compound curves; changes in alignment, and connecting curves; transition curves; cross sectioning, earth work, computations; track materials. Prerequisite: Civil Engineering 201.

206. Plane Surveying. (1-3). Credit 2. Fundamental principles of surveying, use of transit and level in making layouts of buildings, running profile surveys. Prerequisite: Mathematics 103 or 112.

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.

305. Mechanics of Materials. (4-0). Credit 4.

The resistance of materials and the mechanics of pipes, riveted joints, beams, columns, shafts. Elastic curve and the deflection of beams, combined stresses, resilience, and impact. Prerequisite: Mathematics 204; Mechanical Engineering 212 or equivalent.

311. Hydraulics. (3-0). Credit 3. I. II 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, aqueducts, open channels, and in rivers; measurement of the flow of water by nozzles, orifices, weirs and meters; elements of the theory of pumps and water wheels. Prerequisite: Mechanical Engineering 212 or equivalent.

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315. Strength of Materials Laboratory. (0-2). Credit 1. 1, 11 Determination of the strength, ductility, modulus of elasticity, and other properties of engineering materials. Tests of timber, steel, cast iron, cement, and reports showing results. Prerequisite: Civil Engineering 305 or registration in that course.

333. Railroad Surveying. (0-3). Credit 1.

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Field and office work covering turnouts, vertical curves, earthwork, overhaul, track facilities for industrial plants, grade revision. Prerequisite: Civil Engineering 202.

335. Mapping and Estimating. (0-4). Credit 1.

Topographic mapping, plans and estimates for timber bridges and roof trusses; plans, profiles, and estimates for highway construction. Prerequisite: Civil Engineering 201.

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336. Hydraulics Laboratory. (0-2). Credit 1.

Calibration of nozzles, orifices, water meters, weirs, pressure gauges; measurement of pipe friction; measurement of pipe flow with Pitot instrument and Venturi meter; efficiency tests on impulse motor, hydraulic ram, and centrifugal pump; solution of assigned problems. Prerequisite: Civil Engineering 311 or registration therein.

340. Elementary Structural Analysis. (3-0). Credit 3.

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. Prerequisite: Civil Engineering 305.

342. Structural Design Problems. (0-4). Credit 1.

Application of graphical methods in solving reactions and stresses in simple structures; designing and detailing of structural members. Prerequisite: Civil Engineering 340 or registration in that course.

344. Mechanics of Reinforced Concrete. (2-0). Credit 2.

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. Prerequisite: Civil Engineering 305.

407. Roads and Pavements. (3-0). Credit 3.

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. Prerequisite: Civil Engineering 201, Mechanical Engineering 212.

414. Reinforced Concrete Design. (2-3). Credit 3.

A study of the design of various types of reinforced concrete structures, such as buildings, bridges, retaining walls, culverts. Practice in the making of

CIVIL ENGINEERING

simple designs and working drawings. Prerequisite: Civil Engineering 344.

417. Bituminous Materials. (2-3). Credit 3.

Origin, production, specification, and tests of bituminous materials and mixtures used in the construction and maintenance of roads and pavements. Prerequisite: Senior classification in engineering.

423. Structures. (2-4). · Credit 3.

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. Prerequisite: Civil Engineering 340, 342.

443. Materials of Construction. (0-4). Credit 1.

A laboratory study of the suitability of various materials of engineering, including brick, stone, sand, gravel, cement, mortars, concrete. Prerequisite: Civil Engineering 407.

448. Engineering Economy. (3-0). Credit 3.

Comparison of engineering plants or projects on basis of first cost, ultimate economy comparisons involving depreciation, operating expense, etc.; accounting records and cost records; estimating costs. Prerequisite: Senior classification in engineering.

452. Structural Engineering. (2-3). Credit 3.

An introduction to the design of continuous structures of reinforced concrete and steel, such as rigid frame bridges and building frames. Laboratory checking of computed stresses by the use of celluloid models and deformation gauges; laboratory study of the variation of stress in hooks of reinforcing bars, in the plates at a welded joint, and in similar structural details, by the aid of the photo-elasticity polariscope and the strain gage. Prerequisite: Civil Engineering 423 or 455.

455. Steel Buildings. (2-3). Credit 3.

Structural features of mill buildings, office buildings, warehouses. Design of one of the foregoing types of buildings. Prerequisite: Civil Engineering 340, 342.

456. Highway Administration and Design. (2-3). Credit 3.

Study of highway laws, the administration of streets and highway improvements, and the procedure followed in planning and executing municipal street improvements. Problems in pavement design. Prerequisite: Civil Engineering 407.

458. Hydraulic Engineering. (3-0). Credit 3.

An elementary study of the control and utilization of water resources for irrigation, power, and flood protection; correlation of rainfall and stream flow by means of isohyetals and hydrographs; channel improvement, levee

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design, detention basin operation; design of pumping plants and other hydraulic structures. Prerequisite: Civil Engineering 311.

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461. Masonry Construction. (2-2). Credit 3.

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. Problems in design and investigation of masonry structures. Prerequisite: Civil Engineering 305.

463. Hydrology. (3-0). Credit 3.

A study of the occurrences and measurement of precipitation and stream flow; relations between precipitation and run-off; estimating seepage, evaporation, run-off, storage, and flood discharges for drainage basins. Prerequisite: Civil Engineering 311.

466. Professional Relations. (2-0). Credit 2.

A study of the responsibilities, duties, and opportunities of the engineer in his various capacities, such as inspector or junior engineer, salaried executive, independent consulting engineer, with special reference to the civil engineering field; brief study of contracts and engineering specifications; lectures, partly by visiting professional men, planned to enable the young engineer to fit most advantageously into the professional, industrial, and civic life of his community. Prerequisite: Senior classification in Civil Engineering.

FOR GRADUATES

525, 526. Highway Construction and Materials. (3-3). Credit 4 each semester.

Highway design and construction, including location, drainage, foundations, types, costs. Laboratory and field investigations of highway materials and pavement mixtures.

527, 528. Hydraulic Engineering. (3-3). Credit 4 each semester. Advanced hydrology, water power development, flood control, irrigation.

531, 532. Advanced Structural Analysis and Design. (3-3).

Credit 4 each semester. Analysis of stresses in rigid frames; secondary stresses; analysis of cantilever, suspension, and continuous bridge trusses. Design of reinforced concrete arch and building frame.

533, 534. Advanced Mechanics of Materials. (4-0). Credit 4 each semester.

Deflections of structures; internal stresses in members and details determined by mathematical analysis, mechanical methods, and study of test data.

541, 542. Research. Credit 2 to 6.

Technical research; projects subject to approval of head of department.

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DEPARTMENT OF DAIRY HUSBANDRY

Professor Shepardson, Professor Darnell, Associate Professor Renner

202. Dairying. (2-2). Credit 3.

Dairying in its relation to agricultural and community development; branches of dairy industry and conditions affecting their development; the place of dairying on the farm; composition and food value of milk and its products; the production and handling of clean milk on the farm.

301. Market Milk. (3-2). Credit 4.

Nutritional value of milk; milk and public health; organization of city milk supplies; processing and distribution and inspection of market milk. Prerequisite: Dairy Husbandry 202, must have had or be taking Dairy Husbandry 320 or its equivalent.

303. Dairy Cattle Judging. (0-4). Credit 1. A study of comparative judging of dairy cattle.

306. Butter Making and Factory Management. (3-2). Credit 4.

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. Prerequisite: Dairy Husbandry 202.

310. Advanced Dairy Cattle Judging. (0-2). Credit 1. 11

Advanced study of dairy cattle judging with particular attention to show ring type and classification. Prerequisite: Dairy Husbandry 303.

320. Bacteriology of Dairy Products. (3-4). Credit 4. I Relation of micro-organisms to quality in milk and milk products; a study of the actions of micro-organisms in the ripening of cheese, butter and fermented milks. Prerequisite: Biology 206.

П 322. Advanced Dairy Bacteriology. (2-3). Credit 3.

A study of bacteriological problems in connection with dairy products. Prerequisite: Dairy Husbandry 320.

(Offered in 1935-36 and alternate years thereafter.)

407. Ice Cream Making and Refrigeration. (3-2) Credit 4.

Mixing and freezing ice cream, sherbets and other frozen products and the physical principles involved; types of freezers; flavoring materials; fillers, binders, ice cream standards; the theory and practice of artificial refrigeration and its use in the ice cream plant. Prerequisite: Dairy Husbandry 202.

408. Cheese Making and Advanced Testing. (3-4). Credit 4.

A study of the manufacture, ripening and marketing of the various types of cheese; analysis of dairy products. Prerequisite: Dairy Husbandry 202.

(Offered in alternate years, Not offered in 1935-36.)

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142 AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

409. Selection and Breeding of Dairy Cattle. (2-3). Credit 3. 11 Consideration of the selection of breeds, individual cows and herd sires; studies of prominent families and individuals in the major dairy breeds; dairy cattle breeding and other problems of the breeder. Prerequisite: Dairy Husbandry 417.

415. Condensed Milk and Milk Powder. (3-0). Credit 3. 11 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. Prerequisite: Dairy Husbandry 301.

417. History and Development of Dairy Cattle. (3-3). Credit 4.

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. Prerequisite: Dairy Husbandry 202, Genetics 301.

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418. Feeding and Management of Dairy Cattle. (3-2). Credit 4. II The care, feeding and management of the dairy herd; calf raising, developing the dairy heifer; herd records and record keeping. Prerequisite: Animal Husbandry 303, Dairy Husbandry 202.

FOR GRADUATES

501, 502. Advanced Dairy Production. (2-6). Credit 4 each semester. An advanced study of general production problems. Prerequisite: Dairy Husbandry 409, 417, 418.

503, 504. Advanced Dairy Manufactures. (2-6). Credit 4 each semester.

An advanced study of general manufacturing problems. Prerequisite: Dairy Husbandry 301, 306, 407, 415.

505, 506. Research in Dairy Production. (2-6). Credit 4 each semester.

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. Prerequisite: Dairy Husbandry 409, 417, 418.

507, 508. Research in Dairy Manufacture. (2-6). Credit 4 each semester.

A study of research methods 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. Prerequisite: Dairy Husbandry 301, 306, 407, 415.

DEPARTMENT OF ECONOMICS

Professor Clark, Professor I. G. Adams, Assistant Professor Nutter

203, 204. Principles of Economics. (3-0). Credit 3 each semester

The fundamental principles of economics, including the theory of economic activities concerning production, distribution and consumption; the

ECONOMICS

practical economic problems of money, credit and banking, foreign exchange, tariff, transportation, trusts, insurance, taxation.

311. Money and Banking. (3-0). Credit 3.

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. Prerequisite: Economics 203, 204, or 403.

315. Economics of Insurance. (3-0). Credit 3.

The historical development and general economic aspects of the insurance business. Special attention is given to property and life insurance.

Prerequisite: Economics 203, 204, or 403.

316. Business Law. (3-0). Credit 3.

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. Prerequisite: Sophomore standing.

318. Labor Problems. (3-0). Credit 3.

Theories of wages, development of trade unions and labor unions, proposals for solution of labor problems, labor legislation, and other problems growing out of modern industrial development.

Prereuqisite: Economics 203, 204, or 403.

403. Principles of Economics. (3-0). Credit 3.

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.

408. Corporation Finance. (3-0). Credit 3.

The common forms of business organizations with special attention to corporations; advantages and disadvantages of incorporation, formation and organization of corporations, capital stock and bonds, legal status of corporations, bankruptcy and reorganization. Prerequisite: Economics 403 or its equivalent.

409. Foreign Trade and Exchange. (3-0). Credit 3.

The principles of international commerce, methods of conducting foreign trade, and the theory and practice of foreign exchange. Prerequisite: Economics 403 or its equivalent.

412. Public Finance and Taxation. (3-0). Credit 3.

The purpose of the course is to give a working knowledge of public financial institutions and practices. 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

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. price making; the principles of taxation; the important kinds of taxes; the principles of borrowing; the management of public debts. Prerequisite: Economics 203, 204, or 403.

413, 414. Advanced Economic Theory. (3-0). Credit 3 each semester.

This course is based on two assumptions, namely, (1) the nature of economic theory is such that maturity of judgement 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.

416. Public Utility Economics. (3-0). Credit 3.

A general survey course examining; historical development; legal and economic principles; evolution in methods and types of regulation; financial policies; labor policies; taxation and rate-making; public ownership.

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Prerequisite: Economics 203, 204, or the equivalent.

420. Principles of Investment. (3-0). Credit 3.

The economic basis of investment, the elements of investment credit; private securities and public obligations; security price movement; investment institutions. Prerequisite: Economics 403 or its equivalent.

421. Government and Industry. (2-0). Credit 2.

A comprehensive survey and a critical analysis of the reasons for the depression; legislation designed to afford temporary relief, stimulate recovering, regulate commerce and industry, and formulate long-term plans for better social use of our economic resources. Prerequisites: Economics 203, 204, or 403.

FOR GRADUATES

Students undertaking graduate work in economics, along with the other requirements for admission to the graduate school, are required to have a background in principles of economics. The more of the related courses one has had the better prepared he will be to carry the work.

501, 502. History of Economic Doctrines. (4-0). Credit 4 each semester.

The purpose of this course is to study in detail, beginning with the Physiocrats, 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 and profits 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 to these authorities.

505. Public Finance. (4-0). Credit 4.

An account of the evolution of financial systems; a chronological review of the discussion of the theories and principles of finance; a study of current theory and practice in public borrowing and levying, financial administration

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and expenditures of public revenues in the United States and the principal European countries.

506. Labor Problems. (4-0). Credit 4.

A historical survey of the evolution of labor movements and programs, with a critical examination of their underlying philosophies. The economic principles involved in the leading problems of labor and wages.

DEPARTMENT OF ELECTRICAL ENGINEERING

Professor M. C. Hughes, Professors Bolton, Markle, Rode, Dillingham, Associate Professors Fouraker, Ward, Mr. Haupt, Mr. Ray

201. Electricity and Magnetism. (3-6). Credit 5. 1, 11

Lectures, recitations and problems in electricity and magnetism.

A laboratory investigation of the phenomena studied in the text-book. Prerequisite: Mathematics 111, 112.

202. Elementary Electrical Engineering. (3-3). Credit 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 and position 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 or 112.

204. Electric Wiring and Repair. (2-4). Credit 3.

A study of elementary electric circuits. Practice in electric wiring and the repair and construction of simple electric appliances. Prerequisite: Physics 201.

301. Direct Currents. (3-6). Credit 5.

A study of elementary electric circuits. Practice in electric wiring and D. C. machinery.

The practice includes the operation of D. C. dynamos and motors, the determination of characteristics and the measurement and calculation of losses, efficiencies and regulation. Prerequisite: Electrical Engineering 202, Mathematics 204.

302. Alternating Currents. (5-0). Credit 5.

The principles of alternating currents, including the relations of voltage, current, resistance, inductance and capacity. Prerequisite: Electrical Engineering 301, Mathematics 204. Must be accompanied by Electrical Engineering 304.

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304. Alternating Current Laboratory. (0-6). Credit 2. II 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.

305. Electrical Machinery. (3-3). Credit 4. I, II

A study of the fundamental principles of dynamos, motors and transformers of the types commonly used in general engineering practice. The practice is designed to familiarize the general engineering student with the operation and the more important characteristics of both direct and alternating current machines. Prerequisite: Physics 204, Mathematics 204.

307, 308. Electrical Machinery. (3-3). Credit 4 each semester.

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.

310. Communication Engineering. (2-2). Credit 3.

A study of the principles of electrical communication systems, including a basic study of sound, speech and hearing, transmitters and receivers, exchange and toll service and systems, and telegraph systems.

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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: Physics 202, or 204, or 208.

401, 402. Alternating Current Machinery. (4-0). Credit 4 each semester.

A graphical and mathematical study of alternating current machinery, including generators, transformers, motors and converters. Prerequisite: Electrical Engineering 302 or 308. Must be accompanied by Electrical Engineering 403, 404.

- 403, 404. Alternating Current Laboratory. (1-6). Credit 3 each semester.

A laboratory study of the characteristics of various types of alternating current machines. Prerequisite: Electrical Engineering 302 or 308, registration in Electrical Engineering 401, 402.

405. Electric Transmission. (3-0). Credit 3.

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: Mathemaitcs 305, Electrical Engineering 302.

406. Electric Distribution and Transmission. (2-2). Credit 3.

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.

409. Advanced Communication Engineering. (2-3). Credit 3.

An introduction to radio engineering, including a basic study of radiation and radiation devices of thermionic tubes and their application in radio receiving and transmitting circuits.

410. Electron Tubes. (2-2). Credit 3.

An introduction to the theory and industrial application of electron tubes and devices, including thermionic, gaseous, light sensitive, and cathode ray tubes. The laboratory shall consist primarily of experimental studies of the performance characteristics of electron tubes.

416. Motor Applications. (3-0). Credit 3.

The determination of the proper sizes and types of motors to be applied in 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 or 308.

426. Illumination Engineering. (2-2). Credit 3.

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 or 308 or 305.

428. Telephone Engineering. (2-2). Credit 3.

A study of the engineering principles used in telephone communication, including transmission theory, inductive interference, network and filters, loading, repeater and carrier systems. Laboratory investigations include transmission measurements on artificial lines and repeaters involving the use of vacuum tube measuring devices and impedance bridges. Prerequisite: Electrical Engineering 405.

431. Engineering Administration. (2-0) Credit 2. 1, 11

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.

432. Public Utility Problems. (3-0). Credit 3.

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. Prerequisite: Electrical Engineering 401, 431.

436. Wiring and Lighting. (3-0). Credit 3.

(a) A study of the fundamentals of interior wiring.

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(b) The principles of artificial illumination with a study of modern types of illuminants.

(Offered in alternate years. Not offered in 1935-36.)

FOR GRADUATES

501, 502. Advanced Alternating Currents. (2-6). Credit 4 each semester. The theory of transient phenomena; polyphase circuits; the study of transients with oscillograph.

503. Electrical Machine Design. (1-3). Credit 2. L The design of electrical machines and the predetermination of their

characteristics.

504. Electrical Plant Design. (1-3). Credit 2. . П The design of power plants with special emphasis on the electrical machinery.

507, 508. Advanced Alternating Current Machinery. (2-6).

Credit 4 each semester. A study of the complicated alternating current machines.

509. Advanced Communication Engineering—Telephony. (3-3), Credit 4. Ι

A study of the design and operation of telephone repeater and carrier systems, filters, networks, transmission measuring devices, telephoto and printer telegraph systems; laboratory investigations to include transient and frequency characteristics of telephone lines, and transmission measurements on typical networks and lines.

510. Advanced Communication Engineering-Radio. (3-3). Credit 4. П

A detailed study of the design and operation of sound amplifiers of radio frequency systems with particular reference to radiating devices. Oscillographic studies and field strength measurements are the major laboratory investigations.

512. Application of Electrical Machinery to Industrial Operations. (4-0). Credit 4. П

A study of characteristics of electrical motors with special emphasis on their application to different types of loading, electrical control and the development of electrically operated drives; study of rate charges for service.

513, 514. Public Utility Administration. (4-0). Credit 4 each semester.

A study of the development of public service regulations by commission, status of public service corporations in the courts, the fixing of rate bases and analyses of methods used in determining cost of service, and other problems pertaining to Public Utility Administration.

516. Acoustic Devices in Sound Reproducing Systems. (3-3). Credit 4. II

A detailed study of microphones and loud speakers with an introduction to the basic theory of vibrating systems, and a brief study of architectural and physiological acoustics incident to the proper application of sound reproducing

systems. Laboratory work includes measurements of speakers and microphones and noise surveys and acoustic treatment of small auditoria.

517, 518. Research in Electrical Engineering. Credit 2 to 6 each semester. Technical research projects approved by the head of the department.

DEPARTMENT OF ENGINEERING DRAWING

Professor A. Mitchell, Assistant Professors Dent, Spencer, Mr. Breland, *Mr. McGuire

111. Mechanical Drawing. (0-6). Credit 2.

Care and use of drawing instruments, freehand lettering, exercises in the use of drawing instruments, construction of plane and space curves, multiview projection, and pictorial drawing, technical sketching, dimensioning, drawing, principles and practice in working drawings.

124. Descriptive Geometry. (2-4). Credit 3. I, II Problems relating to points, lines, planes; solids, intersections of planes and solids, intersections of solids, development of surfaces.

201, 202. Mechanical Drawing. (0-2). Credit 1 each semester.

A continuation of course 111, including elementary parts of machines and engineering structures; details and assemblages; Patent Office Drawings, tracing, blueprinting. The course is varied to meet the practical needs of students in the different engineering departments. Prerequisite: Eng. Drawing 111.

213, 214. Mechanical Drawing. (0-2). Credit 1 each semester.

Care and use of drawing instruments, freehand lettering, exercises in the use of drawing instruments, construction of plane and space curves, elements of projection, technical sketching, principles of dimensioning, topographical conventional signs, contours, earth sections, mapping.

DEPARTMENT OF ENGINEERING RESEARCH

Professor Giesecke

501, 502. Research. Credit 2 to 6. Project subject to the approval of the head of the department.

DEPARTMENT OF ENGLISH

Professor Summey, Professors †Thomas, Cofer, Spriggs, Mayo, Associate Professors Gunter, Morgan, Assistant Professors Spahr, Key, Abbott, Mr. Hayes

103, 104. Rhetoric and Composition. (3-0). Credit 3 each semester.

Composition both oral and written, and readings from standard and current literature.

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[†] Died March 2, 1935.

^{*}Appointed Feb. 1, 1935.

203. Composition and Literature. (2-0). Credit 2.

Advanced composition; readings from nineteenth century and recent literature. Prerequisite: English 103, 104.

210. Argumentation. (2-0). Credit 2.

A study of the logical and rhetorical essentials of argument, with practice in outlining, writing, and discussion; parallel readings. Prerequisite: English 203 or 231.

NOTE: For English 210, students who have made an average grade of C in courses 103, 104, and 203 may substitute English 305, 310, 316, 325, or 328.

231, 232. English Literature. (3-0). Credit 3 each semester.

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.

305. Contemporary Civilization. (2-0). Credit 2.

A composition and discussion course dealing with current thought 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.

307. Technical Writing. (2-0). Credit 2. I. H

The composition of reports, recommendations, and scientific articles suitable for publication, with some opportunity for oral presentation. Prerequisite: English 203, 210, 231, or 232.

NOTE: For Euglish 307, Agricultural and Veterinary Medicine students may substitute course 317. Agricultural students who have made an average of C in English 103, 104, and 203 may, with the consent of the Dean of Agriculture, substitute for course 307 one of the following: English 305, 309, 310, 315; 316, 325, 328.

309. The English Language. (3-0). Credit 3. I

A survey of the history, vocabulary, syntax, and sounds of the English language. Prerequisite: English 231, 232, or 203, 210.

310. Phonetics and Pronunciation. (3-0). Credit 3. Π

A study of the formation of English sounds and of usage in pronunciation. Prerequisite: English 231, 232, or 203, 210.

312. Shakespeare. (3-0). Credit 3.

The life, environment, and major dramatic works of Shakespeare. Prerequisite: English 231, 232, or 203, 210.

315. English Literature of the Seventeenth Century. (2-0). Credit 2. I

A period course in English poetry and prose of the seventeenth century, with the omission of Shakespeare. Prerequisite: English 231, 232, or 203, 210. 316. English Literature of the Eighteenth Century. (2-0). Credit 2, П

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.

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ENGLISH

317. Commercial Correspondence. (2-0). Credit 2. I, II A course in the composition of the types of business letters most useful to technical students and graduates. Prerequisite: English 203, 210.

321, 322. Nineteenth Century Literature. (3-0). Credit 3 each semester.

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.

325. Creative Writing. (2-0). Credit 2.

The writing of essays, editorials, and feature articles, especially intended to aid students in their extra-curricular writing. Limited to students who have made an average of C in the prerequisite courses. Prerequisite: English 203 or 231.

328. American Literature Since 1870. (2-0). Credit 2.

A study of recent American writing, chiefly prose, with attention to the intellectual and social movements reflected in the literature. Limited to students who have made an average grade of C in the prerequisite courses. Pre-requisite: English 203 or 231.

401. Public Speaking. (2-0). Credit 2.

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.

413, 414. Contemporary Literature. (2-0). Credit 2 each semester.

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.

(Not offered in 1935-36.)

.415. Contemporary Continental Drama. ,(2-0). Credit 2. 1

A -study of representative plays (in translation) by Ibsen, Strindberg, Hauptmann, Sudermann, Schnitzler, Maeterlinck, Rostand, Hervieu, Brieux, Benavente, and Pirandello. Prerequisite: English 231, 232, or 203, 210. 416. Contemporary English Drama. (2-0). Credit 2.

A study of representative plays by Pinero, Jones, Wilde, Galsworthy, Shaw, Barrie, Synge, Yeats, Lady Gregory, Dunsany, and O'Neill. Prerequisite: English 231, 232, or 203, 210.

431. The Novel. (3-0). Credit 3.

Its origin and development and its reflection of life and personality.

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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.

(Not offered in 1935-36.)

DEPARTMENT OF ENTOMOLOGY

Professor Bilsing, Associate Professor Little, Assistant Professor Johnston

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201. General Entomology. (2-2). Credit 3.

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.

204. Insecticides and their Applications. (2-2). Credit 3.

The physical and insecticidal properties of arsenicals, fluorine compounds, lime sulphur, and nicotine mixtures. Preparation and application of dusts and sprays, and methods of fumigation. Dusting, spraying and fumigating machinery are used in practice.

208. Animal Parasites. (2-2). Credit 3.

A study of insects and other arthropods which are parasitic upon domestic animals or which are concerned in the transmission of diseases of live stock. Methods of eradication and control. Prerequisite: Entomology 201.

301, 302. Systematic Entomology. (2-4). Credit 3 each semester.

A systematic study of the various orders of insects. The student has free access to the entomological library, which contains bound volumes of standard publications on entomology; and to a considerable insect collection for identification purposes.

305, 306. Morphology. (2-3). Credit 3 each semester.

The external and internal anatomy of insects; the exoskeleton, endoskeleton, mouth parts, wing veination, and other morphological characteristics of taxonomic value. The second semester is devoted to a study of internal insect anatomy.

307. Apiculture. (3-2). Credit 4.

The biology of the honey bee; honey plants; bee diseases; wintering and queen rearing are considered.

308. Apiculture. (3-2). Credit 4.

In this course the life history of the honey bee, swarm control, division, feeding and general management of an apiary are considered.

312. Medical Entomology. (3-2). Credit 4.

A study of the life history, 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.

(Offered in alternate years. Not offered in 1935-36.)

ENTOMOLOGY

401, 402. Advanced Economic Entomology. (2-4). Credit 3 each semester. For students who desire knowledge of insect life histories; the physical and chemical properties of insecticides and their effects on insects, methods of entomological research. Prerequisite: Entomology 201 or 301.

405. Fruit Insects. (2-2). Credit 3.

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.

411. Cotton Insects. (2-2). Credit 3. I, II

A study of the insects affecting the cotton plant, life histories, structural characteristics and classification. Dusting and spraying machinery; control by sterilization.

412. Entomological Literature. (3-0). Credit 3.

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, and state experiment stations.

416. Quarantine Measures and Inspection Methods. (3-0). Credit 3.

A study of the quarantines enacted by the Federal Government and the various states to prevent the dissemination of injurious insects.

417, 418. Special Problems. (3-2). Credit 4 each semester.

The taxonomy, ecology, and biology of a specific family of insects; or the life history, anatomy or biology of some one insect. Prerequisite: Entomology 301, 302.

FOR GRADUATES

501, 502. Systematic Entomology. (3-3). Credit 4 each semester.

A taxonomic study of the orders, families and sub-groups of the class Hexopoda. The student is required to make a special study of some particular group.

503, 504. Cotton Insects. (3-3). Credit 4 each semester.

A detailed study of the life history of the most important insects affecting cotton; survey of the literature on the subject. The use of cultural methods dusting and sterilizing machinery and insecticides.

505, 506. Advanced Apiculture. (3-3). Credit 4 each semester.

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. (3-3). Credit 4 each semester.

A detailed study 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.

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509, 510. Microtechnique. (3-3). Credit 4 each semester.

A study of insect tissue; methods of making microscopic slides, making sections and staining tissues.

511, 512. Research Entomology. (3-3). Credit 4 each semester.

A study of the distribution of insects and the ecological relationship to their environment. Prerequisite: Taxonomic work.

513, 514. Morphology. (3-3). Credit 4 each semester.

Study of the morphological characteristics which are of taxonomic value including wing veination, genitalia and other external characteristics.

DEPARTMENT OF GEOLOGY

Professor Lonsdale, Associate Professor Burt, Assistant Professor Turner

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201. General Geology. (3-0). Credit 3.

The agents and processes which have produced the surface features of the earth and the structure of the earth's crust. Prerequisite: Chemistry 101, or equivalent.

202. Historical Geology. (3-3). Credit 4.

Hypotheses of the earth's origin. Principles of stratigraphy and paleontology. 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. Prerequisite: Geology 201 or 401.

303, 304. Petrology. (3-4). Credit 4 each semester.

Rocks, their textures, mineral compositions, chemical characters, classification, occurrence, and origin. The laboratory study includes a study of hand specimens and microscopic study of thin sections of rocks and minerals. Prerequisite: Geology 202 and approval of head of department.

(Offered in alternate years. Not offered in 1935-36.)

305. 306. Paleontology. (3-3). Credit 4 each semester.

An introductory study of the chief characteristics, successions, and environmental conditions of the animal and plant life recorded in the rocks. The laboratory work includes field trips and the preparation and study of specimens. Prerequisite: Geology 202, Biology 207, or equivalent, and approval of head of department.

(Offered in alternate years. Not offered in 1935-36.)

307. Mineralogy and Petrology. (3-4). Credit 4.

A brief course in mineralogy and petrology. Description and determination of common rocks and minerals. Prerequisite: Chemistry 101, or equivalent.

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312. Structural Geology. (3-4). Credit 4.

The interpretation of rock structures caused by earth movements. The relation of rock structures to stratigraphic, physiographic, and economic problems. Prerequisite: Approval of head of department.

401. Geology for Engineers. (2-3). Credit 3. I, II An abbreviated study of crystallography, mineralogy, and general and historical geology. Laboratory work on minerals, and topographic and geologic maps. Open to seniors in Engineering.

404. Geology of Petroleum. (3-0). Credit 3.

A detailed study of the observed factors involved in the occurance of oil and gas. Theories as to the origin, migration, and accumulation of these hydro-carbons. 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. Prerequisite: Geology 312 and approval of head of department.

405. Economic Geology. (3-3). Credit 4.

A brief study of the metallic and non-metallic mineral deposits except petroleum. Prerequisite: Geology 202 and approval of head of department. (Offered in 1935-36 and alternate years thereafter.)

408. Geology for Engineers. (3-3). Credit 4.

A course designed to acquaint the engineering student with certain fundamental features of general economic geology with emphasis on the geology of petroleum, petroleum accumulations and development. Prerequisite: Geology 401. Open to seniors in Engineering.

419, 420. Advanced General and Field Geology. (3-4).

Credit 4 each semester An advanced study of the principles of physical geology and stratigraphy. Theoretical and practical study of field methods of geological surveying. Laboratory work includes study of geologic maps and practice in surveying selected areas adjacent to the campus. Prerequisite: Geology 202, C. E. 206 and approval of head of department.

(Offered in 1935-36 and alternate years thereafter.)

FOR GRADUATES

501, 502. Advanced Mineralogy. (3-3). Credit 4 each semester.

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. Prerequisite: Geology 304, 405, or equivalents and approval of head of department.

503, 504. Advanced Petrology. (3-3). Credit 4 each semester.

Advanced petrographic-microscopic methods, microchemical reactions, petrogenesis, petrographic calculations, rock classification. Examination and

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description of well samples. Prerequisite: Geology 304, 405, or equivalents, and approval of head of department.

505, 506. Special Geology. (3-3). Credit 4 each semester.

Advanced work along specialized lines for properly qualified students. May include independent investigations of problems in various phases of geology. Primarily a thesis course. Prerequisite: Approval of head of department.

507, 508. Ore Deposits. (3-3). Credit 4 each semester.

A study of the origin, classification, and exploitation of ore deposits. Open to properly qualified seniors. Prerequisite: Geology 304, 405, 420, or equivalents, and approval of head of department.

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509, 510. Advanced Field Geology. Credit 4 each semester.

Systematic geologic surveying of selected areas. The course is designed as a field basis for theses for advanced degrees and will be varied to meet the needs of individual students. Prerequisite: Approval of head of department.

DEPARTMENT OF HISTORY

Professor Gammon, Professor Sugareff, Associate Professor Fuller

103, 104. Development of Modern Europe. (3-0). Credit 3 each semester. A survey of the political and social development of Western Europe, 1500 to the present.

211. Comparative Government. (3-0). Credit 3.

A comparative study of the governments of England, France, Germany and Switzerland in the first half of the year, followed by an introduction to the elements of international law.

213, 214. History of England. (3-0). Credit 3 each semester.

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. Full year continuous course.

215, 216. History of the United States. (3-0). Credit 3 each semester.

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. Full year continuous course.

305. American Government. (3-0). Credit 3. I, II 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

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possible, are treated first. A similar treatment is then applied to the government of Texas.

311, 312. Modern and Contemporary Europe. (3-0). Credit 3 each semester. Overthrow of 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.

(Offered in alternate years. Not offered in 1935-36.)

322. Industrial History of United States. (3-0). Credit 3. II 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 tariff and banking.

423, 424. American Foreign Relations. (3-0). Credit 3 each semester.

The history of United States foreign relations and development of our leading foreign policies down to the Civil War; 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 Juniors who have had one college course in history or government.

(Offered in 1935-36 and alternate years thereafter.)

DEPARTMENT OF HORTICULTURE

Professor Kyle, Professor Adriance, Associate Professor Brison

201. Plant Propagation and Orcharding. (2-2). Credit 3.

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. Prerequisite: Biology 101, 102.

202. Vegetable Gardening. (2-2). Credit 3.

Planning, planting, equipping and operating vegetable gardens, with special reference to the needs of the home; study of the individual crop with reference to its soils and climatic requirements. Practice in planning, planting and cultivating a small garden, equipping, fertilizing, spraying, harvesting, erection of hot-beds and cold frames.

310. Commercial Vegetable Production. (2-2). Credit 3.

The production of vegetables for market. Climate, soil, equipment and storage, as affecting production and marketing in Texas and other states. Practice: The production, harvesting and marketing of vegetable crops. Pre-requisite: Horticulture 202.

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317, 318. Principles of Fruit Production. (2-3). Credit 3 each semester.

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. Prerequisite: Horticulture 201.

401. Systematic Pomology. (3-2). Credit 4. I Fruits, their identification, classification, distribution, importance, and history; a detailed study of the more important species and varieties. Practice is given with such fruits as can be obtained during the season. Prerequisite: Horticulture 317, 318.

404. Systematic Vegetable Crops. (2-2). Credit 3.

The history, anatomy, taxonomy, breeding, seed production, and plant improvement of vegetable crops. 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.

418. Nut Culture. (1-3). Credit 2.

Early history; distribution of native nuts; development of native groves to improved varieties. Practice: Budding and grafting pecans in the nursery row; top-working native pecans to improve varieties by means of budding and grafting; systematic study of the standard varieties of nuts; study of graft and bud unions. Prerequisite: Horticulture 201.

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422. Subtropical Fruits. (3-2). Credit 4.

A study of subtropical fruits, with attention to citrus fruits, figs, olives, and dates. Practice: Study of varieties of subtropical fruits and their products; propagation and care of the various subtropical fruits. Prerequisite: Horticulture 317, 318.

423. Geography of Horticultural Industries. (2-0). Credit 2.

A study of horticultural sections of the United States; with emphasis on producing centers in Texas; various fruits and vegetables considered with regard to point of origin and time of movement to market. Study of competition between domestic shipping centers as well as the influence of importations. Certain horticultural commodities considered with respect to the commercial varieties of different producing sections.

425. History and Literature of Horticulture. (2-0). Credit 2.

The development of the art and science of horticulture with emphasis on American horticulture. The men who have made outstanding contributions to the development of the various horticultural enterprises receive special attention. Books and periodicals which have influenced the trend of thought and practice in horticulture are also considered. A brief summary of the development of European horticulture, followed by a study of the different eras in its development in America.

426. Commercial Propagation. (2-3). Credit 3.

Fundamental problems in propagation of horticultural plants, principally fruit trees and ornamentals. Physiological responses in rooting of stem and leaf cutting, including artificial treatments to stimulate rooting; morphology and physiology of graft unions; congeniality between stocks and scions; and adaptation of stocks to their environment. Commercial nursery practice, including methods of budding and grafting, and care of nursery stock after propagation. Commercial production of bulbs for planting will also be considered. Practice in laboratory, greenhouse, and the college orchards.

FOR GRADUATES

501, 502. Advanced Fruit Growing. (3-3). Credit 4 each semester.

Problems of cultivation, fertilization, pruning, thinning of fruit and protection 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. (3-3). Credit 4 each semester.

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, or equivalent work.

507, 508. Horticultural Problems. (2-6). Credit 4 each semester.

Various problems concerning, recent developments in horticulture are considered, both in theory and in laboratory. Recent work at other stations is reviewed.

DEPARTMENT OF INDUSTRIAL EDUCATION

Professor E. L. Williams, Associate Professor Glenn

NOTE: The following courses are offered in residence during the Summer Session only: 202, 203, 320, 322, 420, and 422.

202. Job Analysis. (2-0). Credit 2.

Several jobs of the various trades will be analyzed, listing all the necessary tools, operations and related information connected with each job.

203. Trade Analysis. (2-0). Credit 2.

The student must know a trade; it will be divided into its several parts as; units, operations, jobs, sciences and mathematical content. The material will then be organized into teachable form. Prerequisite: At least two years of trade experience.

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204. Development and Practice in Industrial Education. (2-0) or (3-0). Credit 2 or 3.

The history and development of industrial education; present practices in the junior and senior high school and in the vocational school.

301. Methods of Teaching and Class Management. (2-0) or 3-0).

Credit 2 or 3.

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Organization of equipment and economical ways of securing materials as teaching aids, planning of daily programs; discipline and individual adjustment; grading; records and reports.

308. A Study of Modern Industries. (3-0). Credit 3. II 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. Essential features of these industries are considered: location, machinery, power, raw materials, market, labor.

310. Course Making. (2-0) or (3-0). Credit 2 or 3.

Methods of outlining courses of study to meet the needs of the different types of classes. Each student will make a complete course for some particular subject.

320. Aims and Objectives of Part-Time Schools. (3-0). Credit 3. S 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). Credit 2.

Analysis of occupations and organization of the teachable content.

323, 324. Methods of Teaching Mechanical and Machine Drawing.

(1-3). Credit 2 each semester. The student should have completed courses equivalent to Engineering. Drawing 111, 124, 201, 202 before attempting this work. First semester: organizing problems, instructional material; making teaching plans in preparation for the teaching of high school drawing. Second semester: same procedure as first; problems applying directly to machine drawing as taught in the last two years of high school. Either semester may be taken separately.

406. Vocational Guidance. (2-0). Credit 2.

A survey of the recent development of educational and vocational guidance within and outside of the schools.

409. Methods of Introducing Industrial Organization and Management into Industrial Schools. (2-0). Credit 2.

A study of the history and development of industrial organization and management up to the present; most efficient methods; how these systems can best be adapted in industrial schools to make them more practical.

411. Lesson Planning. (2-0). Credit 2.

The lesson, its purpose and aim; steps in lesson presentation; testing the effectiveness of instruction.

415, 416. Practice Teaching. (1-5). Credit 3 each semester.

Arrangements will be made for the student to do practice teaching in the Bryan High School Manual Training Department, The A. and M. College Consolidated School.

418. General Shop Methods. (1-5). Credit 3.

The student will organize material for general shop units and will practice those problems and projects which meet the requirements of the public school shop teacher.

 Follow-Up, Visitation, and Coordination in Part-Time Schools. (2-0). Credit 2.

Coordination between instruction given to the junior employee and the job, and the procedure in follow-up and promotional advancement.

422. Social, Economic and Educational Influences Affecting the Junior Worker. (2-0). Credit 2.

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

500. A Practical Study of the Relation of Industry to Education. (5-0). Credit 5.

This course is to be conducted during the summer only and as a tour of inspection and research. Advanced arrangements will be made in the various cities with the directors of industrial education. The group will visit industrial schools, industries, and teacher-training institutions. Lectures will be given by men in each phase of work. Seminars will be held whenever possible en route. A final report will be required.

505. Philosophy of Industrial Education. (4-0). Credit 4.

The social, economic, and political necessities back of the movement for industrial education; the relation 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 world competition in industry.

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162 AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

507. Organization of Industrial Education. (4-0). Credit 4. I Problems in making surveys, planning industrial departments for public schools, and setting the proper organization.

508. Administration and Supervision in Industrial Education. (4-0).

Credit 4.

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Problems of the local director or supervisor of departments of industrial education.

509, 510. Methods of Teaching High School Drawing. (2-4). Credit 3 each semester.

A survey of the field of drawing. The designing and organizing of problems and teaching devices. The first semester is devoted to general mechanical drawing as taught in the first two years of high school; the second semester to machine drawing. Either semester may be taken separately.

511. Industrial Education Problems. (4-0). Credit 4.

A study of current problems in Industrial Education. Research and organization of material to assist in the solving of individual problems.

512. Methods of Training Employees in Commerce and Industry. (3-0). Credit 3.

A study of the various methods used by commercial and industrial concerns to train workers for their respective needs. The aim of this course is to help teachers and supervisors analyze the training needs of local businesses; and organize courses for the preparation and improvement of their employees.

514. Guidance Seminar. (2-0). Credit 2.

The organization of occupational information; educational and vocational guidance; counseling case problems. Prerequisite: I. E. 406 or a similar course.

EXTENSION COURSES

Under the Federal Vocational Education 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. The fee is \$5.00 per credit hour.

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.

DEPARTMENT OF LANDSCAPE ART

Professor Hensel, Professor McGinnis

301. An Introduction to Landscape Art. (2-4). Credit 3.

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A first course in landscape design. The planning and planting of gardens, home grounds, and the smaller public and semi-public properties, including schools, small parks, and similar areas. Prerequisite: Horticulture 201 or equivalent.

MATHEMATICS

302. History of Landscape Art. (2-0). Credit 2.

The development of gardening: Egyptian, Western Asiatic, Greek, Italian, French, English, and American, with a brief resume of the principles underlying Landscape Design.

304. Landscape Construction. (0-8). Credit 3.

Detailed plans of arrangement, sketch plans, planting plans; landscape construction work; tree repair. Prerequisite: Landscape Art 301, Architecture 101, 102, 109, 110.

306. Ornamentals. (2-2). Credit 3.

A study of the indigenous and exotic trees, shrubs and vines of Landscape value found growing in this section with special reference to their importance in planting design. A large propagating house, a rather extensive nursery, and a representative collection of shrubs, trees and vines in the College arboretum are accessible for student study. Prerequisite: Horticulture 201.

401, 402. Advanced Landscape Art. (3-8). Credit 6 each semester.

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. Prerequisite: Landscape Art 301, 304.

404. Floriculture. (2-2). Credit 3.

Culture and use of the annuals, perennials, and bulbous plants especially adapted to our climatic conditions. Planned primarily for students in Landscape Design, but sufficiently broad to be of practical value to those who wish a working knowledge of this subject. Considerable attention is paid to general greenhouse practices for which purpose the College Greenhouses, hotbeds and cold frames, with a representative collection of the commoner conservatory and flowering plants are available. Prerequisite: Horticulture 201.

FOR GRADUATES

505, 506. Landscape Design. (2-12). Credit 6 each semester.

Advanced landscape problems; research consultations; criticism. Prerequisite: Landscape Art 301, 302, 401, 402.

DEPARTMENT OF MATHEMATICS

Professor Porter, Professors J. W. Mitchell, Halperin, D. C. Jones, Associate Professors Martin, Edmondson, Binney, Assistant Professors Nelson, Ross, Mr. Blumberg, Mr. McGee, Mr. Chaney, Mr. Hall, Mr. Finlay

101a. Algebra. (6-0). Credit 3.

A review of certain topics in elementary algebra. Special attention is given to quadratic equations and the binomial theorem. This course, which is equivalent to Mathematics 101, is required of those students who are unable to carry the regular work in freshman mathematics.

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101, 102. Algebra. (3-0). Credit 3 each semester.

A rapid review of elementary topics, followed by the study of quadratic equations, the binomial theorem, variation, the progressions, complex numbers; elementary theory of equations, logarithms, limits, undertermined coefficients.

103. Plane Trigonometry. (3-0). Credit 3. I, 11 Measurement of angles, review of logarithms, solution of right triangles, problems of heights and distances, properties of triangles, solution of oblique triangles, geometrical applications.

104. Analytics. (3-0). Credit 3.

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The straight line, transformation of co-ordinates, circle, ellipse, parabola, hyperbola, graphs of trigonometric, logarithmic and exponetial functions. Review of certain topics of preceeding courses. Prerequisite: Mathematics 101, 103, or 111.

111, 112. Mathematical Analysis. (6-0). Credit 6 each semester.

The essentials of college algebra, plane trigonometry, and analytic geometry, designed to meet the needs of engineering students.

(Mathematics 111 is the same as Mathematics 101, 102. Mathematics 112 is the same as Mathematics 103, 104)

202. Mathematical Theory of Investment. (3-0). Credit 3.

Review of progressions, limits, series, logarithms; graphs; interest, annuities, amortization, bonds, sinking funds and depreciation, probability, life insurance. Prerequisite: Mathematics 102 or 111.

203, 204. Calculus. (5-0). Credit 5 each semester.

Differentiation, limits, infinitesimals, 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 differential equations. Reviews of certain topics of preceding courses. Prerequisite: Mathematics 104 or 112.

305. Differential Equations. (2-0). Credit 2.

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. Prerequisite: Mathematics 204.

FOR GRADUATES

503. Theory of Equations. (4-0), Credit 4.

504. Solid Analytic Geometry. (4-0). Credit 4.

505. Vector Analysis. (4-0). Credit 4.

- 507, 508. Theory of Functions of a Real Variable. (4-0). Credit 4 each semester.
- 509, 510. Advanced Calculus. (3-0). Credit 3 each semester.
- 511. Ordinary Differential Equations. (4-0). Credit 4.
- 512. Partial Differential Equations. (4-0). Credit 4.
- 513, 514. Differential Geometry. (4-0). Credit 4 each semester.
- 515, 516. Advanced Algebra. (4-0). Credit 4 each semester.
- 517, 518. Theory of Functions of a Complex Variable. (4-0). Credit 4 each semester.
- 519. Elliptical Integrals. (3-0). Credit 3:

DEPARTMENT OF MECHANICAL ENGINEERING

Professor Crawford, Professors Brewer, Faires, Associate Professor Long, Assistant Professor Truettner, Mr. Downard, Mr. McCarter, Mr. Fleming, Mr. Wingren, Mr. Trail

101, 102. Engineering Problems. (1-2). Credit 1 each semester.

Use of the slide rule, solution of problems involving engineering data; problems involving trigonometry; elementary statics; work, power, and energy.

105. Bench Work in Wood. (1-6). Credit 3. 1 Designing and making layout of simple bench projects to be made by hand tools, wood turning, glueing, finishing; grinding and care of tools.

106. Cabinet Making. (1-6). Credit 3. II Design, rod making, construction, and finishing of cabinets, study of lumber, its manufacture, seasoning; glues, varnishes, and other finishing materials, mill work, the preparation of cutting tickets, the care of power wood-working machinery; production methods. Prerequisite: Mechanical Engineering 105 or the equivalent.

201. Pattern making and Foundry Work. (0-3). Credit 1. I, II 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.

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NOTE: For sophomore electrical engineering students, courses 201 and 309 constitute a year's work in the shops. These students will be divided into two groups at the beginning of the first semester. One group will begin with course 201, the other with course 309. At the beginning of the second semester the groups will each change to the other work.

202. Pattern Making and Foundry Work. (0-3). Credit 1. П A continuation of course 201, including advanced methods of pattern making and production.

212. Engineering Mechanics. (3-0). Credit 3. I, II

A study of forces and force systems, equilibrium, frame structures, center of gravity, and moment of inertia. Must be preceded or accompanied by ` Mathematics 204.

303, 304. Machine Design. (2-3). Credit 3 each semester.

A study of the theory and practice of machine design applied to machine elements and complete machines. Prerequisite: Mechanical Engineering 307, 313 and Civil Engineering 305.

307. Kinematics. (2-3). Credit 3.

Motions, velocities, velocity ratio and accelerations and their effects on machines; the transmission of motions by linkage, cams, belts, and gears. Prerequisite: Physics 203.

309. Machine Shop. (0-3). Credit 1. L II Practice in bench and machine tool work in metals. This includes chipping, scraping, filing, babbitting, pipe fitting, drilling, turning, boring, grinding, milling, machine work.

(See note after Course 201.)

310. Machine Shop. (0-3). Credit 1. П A continuation of course 309 including also tool making and heat treatment of steel; application of factory production methods.

313. Engineering Mechanics. (3-0). Credit 3.

A continuation of course 212, including also dynamics of rotation, work, energy, friction, impact.

320. Thermodynamics. (5-0). Credit 5.

A study of the laws of thermodynamics as they are applied to the behavior of liquids, vapors, and gases. Emphasis 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.

323. Thermodynamics. (4-0). Credit 4. I A modification of course 320, with the same prerequisites, especially arranged for non-Mechanical Engineering students.

Π 324. Steam and Gas Power. (3-0). Credit 3.

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. Prerequisite: Physics 204, Mathematics 204.

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329. Advanced Cabinet Making. (1-6). Credit 3. I 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.

335. Heating and Ventilating. (3-0). Credit 3.

The fundamental principles of the various systems of heating, ventilating, and air conditioning, with working methods of design.

403, 404. Engineering Laboratory. (1-3). Credit 2 each semester.

Testing gauges, indicators, fans, pumps, boilers, engines and turbines; a study of the actual mechanical operation of various machines. The student is expected to make calculations and written reports on the investigations and the results obtained. Prerequisite: Mechanical Engineering 320 or 323.

407. Mechanical Refrigeration. (3-0). Credit 3.

The application of the principles of thermodynamics to mechanical refrigeration. Kinds of equipment and methods of practical production of refrigeration, ice making and cold storage. Prerequisite: Mechanical Engineering 320 or 323.

410. Internal Combustion Engines. (3-0). Credit 3.

The application of the principles of thermodynamics to the design and operation of the internal combustion engine. Prerequisite: Mechanical Engineering 320 or 323.

417, 418. Power Engineering. (3-0). Credit 3 each semester.

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.

, 419, 420. Industrial Engineering. (3-0). Credit 3 each semester.

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.

423. Industrial Administration. (3-0). Credit 3.

Problems involving material control, store accounts, business statistics and investments. Prerequisite: Senior classification in Mechanical Engineering; must be accompanied by Mechanical Engineering 419.

428. Aerodynamics. (3-0). Credit 3.

The fundamental principles of airplane design and construction. Recent articles on current practice; research problems. Prerequisite: Mechanical Engineering 313.

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430. Production Engineering. (2-2). Credit 3. II 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: Mcchanical Engineering 419; to be accompanied by Mechanical Engineering 420.

431. Industrial Engineering Problems. (0-2). Credit 1. I Sketches and drawings of plant layouts for selected problems; reports, materials and production scheduling. Must be preceded or accompanied by Mechanical Engineering 419.

432. Automotive Engineering. (4-0). Credit 4. II

A study of the modern automobile, its power plant, fuels, performance, vibration, dynamic balancing, its electrical equipment, braking systems, construction etc. from an engineering standpoint.

434. Airplane Design. (1-6). Credit 3.

Force, stress, and performance analysis of the complete airplane. Prerequisite: Mechanical Engineering 428.

436. Advanced Heating, Ventilating and Air Conditioning. (4-0).

Credit 4.

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An advanced study of the thermodynamics of heating, cooling and conditioning of air of residence, office and factory. The calculations for and selection of heating, ventilating, and air conditioning equipment, piping and duct layouts. Prerequisite: Mechanical Engineering 320 or its equivalent.

FOR GRADUATES

503, 504. Power Plants. (2-6). Credit 4 each semester.

The design of central and isolated power plants with special attention to overall economic operation. Prerequisite: Mechanical Engineering 418.

507, 508. Experimental Engineering Research. (1-8). Credit 4 each semester. Methods and practice in Mechanical Engineering research, taking up

extended problems specially chosen to meet the needs of the individual student.

513. Kinematics and Dynamics of Machines. (4-0). Credit 4. I Velocities and accelerations, with particular emphasis upon balancing and vibrations. Prerequisite: Mechanical Engineering 304.

515. Advanced Engineering Thermodynamics. (4-0). Credit 4.

An extended study of the theories of thermodynamics and their application to the more involved problems in engineering practice. Prerequisite: Mechanical Engineering 320.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

Professor: Lieutenant Colonel A. R. Emery, Professors: Lieutenant Colonel • S. R. Hopkins, Major B. F. Delamater, Jr., Major W. C. Washington, Major W. R. Irvin, Captain P. L. Neal, Captain G. B. Troland, Assistant Profes-

MILITARY SCIENCE

sors: Major D. R. Alfonte, Captain C. S. Richards, Captain R. Orr, Captain D. T. Johnson, First Lieutenant J. E. Reierson, First Lieutenant M. H. Marcus, First Lieutenant J. J. Binns, First Lieutenant B. P. Heiser, First Lieutenant

M. Moses.

Assistants: Technical Sergeant J. V. King, Staff Sergeant F. H. Mathews, Sergeant W. B. Richards, Sergeant H. Richards.

INFANTRY UNIT

Professor B. F. Delamater, Jr., Major, Infantry Assistant Professor D. R. Alfonte, Major, Infantry Assistant Professor Raymond Orr, Captain, Infantry

. Assistant Professor Martin Moses, First Lieut., Infantry

Assistant H. Richards, Sgt., D.E.M.L.

101, 102. (1-2). Credit 1 each semester.

(a) Theoretical: Military Courtesy and Discipline, Infantry drill, hygiene, sanitation, rifle marksmanship, map reading, current history, military policy, organization and leadership.

(b) Practical: Infantry drill, physical training, preliminary target practice, gallery practice, and ceremonies.

201, 202. (1-2). Credit 1 each semester.

(a) Theoretical: Musketry, automatic rifle, scouting and patrolling, combat principles, infantry weapons, and military history.

(b) Practical: Command and leadership as corpora's, musketry, automatic rifle, scouting and patrolling.

Prerequisite: M. S. 101, 102.

301, 302. (3-2). Credit 3 each semester.

(a) Theoretical: Machine guns, map reading, aerial photographs, Howitzer Company weapons, combat principles.

(b) Practical: Command and leadership as sergeants, machine gunnery and Howitzer Company weapons.

Prerequisite: M. S. 201, 202.

401, 402. (3-2). Credit 3 each semester.

(a) Theoretical: Military History and Policy, Military Law, Company Administration and Supply, Reserve Officers' Regulations; Tanks, Mechanization; Offensive Combat, Defensive Combat, Combat Orders and Solution of Problems, Combat Principles of the Various Small Infantry Units, Antiaircraft Defense, Defense against Chemical Warfare.

(b) Practical: Principles of Leadership and Instructional Methods. Prerequisite: M. S. 301, 302.

FIELD ARTILLERY UNIT

Professor S. R. Hopkins, Lieutenant Colonel, Field Artillery Assistant Professor C. S. Richards, Captain, Field Artillery Assistant Professor J. J. Binns, First Lieut., Field Artillery Assistant Professor B. P. Heiser, First Lieut., Field Artillery Assistant John V. King, Tech. Sgt., D.E.M.L. 103, 104. (1-2). Credit 1 each semester.

(a) Theoretical: Military fundamentals including citizenship, military history and policy, current international situation; discipline and military courtesies; sanitation and first aid; military organization; elementary gunnery; ammunition and material.

(b) Practical: Dismounted drill, duties of cannoneers and firing battery, materiel, ceremonies, and leadership.

203, 204. (1-2). Credit 1 each semester.

(a) Theoretical: Map and aerial photograph reading, battery communications, care of animals and stable management, equitation and horsemanship.

(b) Practical: Dismounted drill, fire control instruments, orientation, battery communications, battery detail, driving and draft, equitation, and leadership.

Prerequisite: M. S. 103, 104.

303, 304. (3-2). Credit 3 each semester.

(a) Theoretical: Use of battery detail, liaison, field artillery communications, equitation and gunnery including the preparation and conduct of fire.

(b) Practical: Use of battery detail, signal communications, driving and draft, preparation and conduct of fire, dismounted drill, leadership, and pistol marksmanship.

Prerequisite: M. S. 203, 204.

403, 404. (3-2). Credit 3 each semester.

(a) Theoretical: Tactics, military history and policy, military law and administration, and equitation.

(b) Practical: Duty as battery officers and instructors, command, leadership, and tactics.

Prerequisite: M. S. 303, 304.

SIGNAL CORPS UNIT

Professor Paul L. Neal, Captain, Signal Corps Assistant Frank H. Mathews, Staff Sgt., D.E.M.L.

105, 106. (1-2). Credit 1 each semester.

(a) Theoretical: Military courtesy and discipline, Infantry drill regulations, organization and administration of a company, hygiene and first aid, code practice, telegraphy, military telephones, military switchboards, and automatic pistol.

(b) Practical: Infantry drill, tent pitching, basic sginal communication, instruction-as field linesmen, and communication installations.

Prerequisite: Enrollment in Electrical Engineering.

205, 206. (1-2). Credit 1 each semester.

(a) Theoretical: Tactical radio procedure, function of various arms, army organization, radio sets, and wavemeters.

(b) Practical: Infantry drill, tent pitching, guard duty, operation of field radio sets, care of personal equipment, map reading.

Prerequisite: M. S. 105, 106, and continued enrollment in Electrical Engineering.

305, 306. (3-2, 0-2). Credit 3, 1.

(a) Theoretical: Message center, codes and ciphers, cryptanalysis, signal plans and orders.

(b) Practical: Infantry drill, leadership and command, message center operations, operations of telephone systems.

In addition to the above the student must complete E. E. 310.

Prerequisite: M. S. 205, 206, and continued enrollment in Electrical Engineering.

405, 406. (0-2, 3-2). Credit 1, 3.

(a) Theoretical: Organization of Army, company administration, Signal Corps organizations, Signal communication for all arms, use and limitations of signal agencies, combat orders, tactics and technique of Infantry and Signal Corps, military history and policy.

(b) Practical: Infantry drill, leadership and command, handling of message centers, radio nets, wire nets and combined problems.

In addition to the above the student must complete E. E. 409.

Prerequisite: M. S. 305, 306, and continued enrollment in Electrical Engineering.

CAVALRY UNIT

Professor William R. Irvin, Major, Cavalry

Assistant Professor M. H. Marcus, First Lieut., Cavalry

107, 108. (1-2). Credit 1 each semester.

(a) Theoretical: Military courtesy and discipline, National Defense Act and R.O.T.C. Regulations, Military history, current international situation, organization of the Cavalry, Cavalry drill to include the rifle platoon, elementary equitation and care of the horse, military hygiene and first aid, rifle marksmanship.

(b) Practical: Cavalry drill mounted and dismounted, rifle marksmanship.

207, 208. (1-2). Credit 1 each semester.

(a) Theoretical: Military history, Cavalry drill mounted and dismounted to include the rifle platoon, elementary equitation, scouting and patrolling, musketry, combat principles, rifle and machine rifle, Cavalry marches and camps.

(b) Practical: Cavalry drill mounted and dismounted to include the rifle platoon, machine rifle and pistol, employment of Cavalry mounted and dismounted to include leadership of the squad, scouting and patrolling, and musketry.

Prerequisite: M. S. 107, 108.

307, 308. (3-2). Credit 3 each semester.

(a) Theoretical: Aerial photograph reading, care of animals and stable management, principles of leadership, equitation, machine guns, marches and security, offensive and defensive combat and organization of the ground, combat principles of the rifle and machine gun platoon, combat orders and the solution of problems.

(b) Practical: Cavalry drill, mounted and dismounted, command and leadership as sergeants, pistol marksmanship, the mechanics of the machine gun.

Prerequisite: M. S. 207, 208.

407, 408. (3-2). Credit 3 each semester.

(a) Theoretical: Military history and policy, military law, administration, supply and mess management, property, emergency procurement, Officers' Reserve Corps Regulations, Cavalry leadership and instructional methods, equitation, mechanization, combat principles of the rifle troop and machine gun troop, anti-aircraft defense, defense against Chemical Warfare and combat intelligence.

(b) Practical: Cavalry leadership, combat principles of the rifle troop, Cavalry drill to include the troop.

Prerequisite: M. S. 307, 308.

ENGINEER UNIT

Professor G. B. Troland, Captain, Corps of Engineers

Assistant Protessor D. T. Johnson, Captain, Corps of Engineers.

Assistant W. B. Richards, Sgt., D.E.M.L.

111, 112. (1-2). Credit 1 each semester.

(a) Theoretical: Organization of the Army, discipline, military courtesies, sanitation and first aid, National Defense Act, military history and policy, citizenship, current international situation, leadership, weapons, rifle marks-manship, and musketry.

(b) Practical: Military courtesy, Infantry drill, first aid, weapons, rifle marksmanship, musketry.

211, 212. (1-2). Credit 1 each semester.

(a) Theoretical: Organization and duties of Engineers, map and aerial photograph reading, military sketching and map making, drill and command, scouting and patrolling, combat principles.

(b) Practical: Drill and command, sketching, rigging, map making, scouting and patrolling, combat principles.

Prerequisite: M. S. 111, 112.

-311, 312. (3-2). Credit 3 each semester.

(a) Theoretical: Interior guard duty, care of animals and stable management, military roads, military bridging (fixed and floating), military explosives and demolitions, field fortifications, drill and command, combat training, mechanization.

MILITARY SCIENCE

(b) Practical: Command and leadership, technical exercises and map problems, use and care of explosives, location and construction of roads, design and construction of bridges, military field engineering.

Prerequisite: M. S. 211, 212.

411, 412. (3-2). Credit 3 each semester.

(a) Theoretical: Organization and duties of Engineers, construction in war, military bridges, combat training (organization of ground), military law, company administration, military history and policy, leadership.

(b) Practical: Command and leadership as officers and instructors, combat principles, design and construction of military bridges, organization of ground, construction in war.

Prerequisite: M. S. 311, 312.

COAST ARTILLERY UNIT (ANTIAIRCRAFT)

Professor William C. Washington, Major, C. A. C. Assistant Professor John E. Reierson, First Lieut., C. A. C.

113, 114. (1-2). Credit 1 each semester.

(a) Theoretical: Organization of the army, organization of the Coast Artillery Corps, military discipline, courtesies and customs of the service, military sanitation and first aid, military history and policy, national defense act and R. O. T. C., military obligations of citizenship, current international situation, leadership, rifle marksmanship, Coast Artillery ammunition, and weapons and materiel.

(b) Practical: Infantry drill, first aid, care and use of rifle, small bore rifle practice, care and adjustment and drill on 155 mm. gun, 75 mm. antiaircraft gun and .30 caliber antiaircraft machine gun, cordage, and mechanical maneuvers.

213, 214. (1-2). Credit 1 each semester.

(a) Theoretical: Leadership, fire control and position finding for seacoast artillery, fire control and position finding for antiaircraft artillery, identification of aircraft, and characteristics of naval targets.

(b) Practical: Infantry drill, range section duties for harbor defense and antiaircraft artillery, and aiming and laying of all types of artillery.

Prerequisite: M. S. 113, 114.

313, 314. (3-2). Credit 3 each semester.

(a) Theoretical: Map and aerial photograph reading, combat orders, leadership, basic gunnery, fire control and position finding for seacoast artillery, and basic gunnery, fire control and position finding for antiaircraft artillery.

(b) Practical: Infantry drill and ceremonies, solution of map problems, fire adjustment problems, and computation of calibration and trial shot problems for aerial targets.

Prerequisite: M. S. 213, 214.

413, 414. (3-2). Credit 3 each semester.

(a) Theoretical: The law of military offenses, courts-martial, battery

administration, military history and policy, leadership, motor transportation, harbor defense and antiaircraft artillery tactics, orientation, materiel, and field engineering.

(b) Practical: Moot court-martial, official correspondence and paper work, infantry drill and ceremonies, tractor and truck driving, tactical map problems, meridian determination on Polaris, plane table and transit traverses, and reconnaissance and selection of battery positions for antiaircraft artillery.

Prerequisite: M. S. 313, 314.

DEPARTMENT OF MODERN LANGUAGES

Professor Campbell, Associate Professor Woolket, Mr. Schulze

Foreign languages, in addition to their unquestioned cultural value, have a utilitarian value of great importance for those expecting to engage in research or purely practical pursuits. A knowledge of foreign languages is not only very helpful, but often a necessary prerequisite for obtaining desirable positions, in consular work for example, or under civil service. Medical schools of high standing require from one to two and one-half years of French or German. Post-graduate study to be carried on profitably, calls for a reading knowledge of French or German, usually both for more advanced work. Even in the strictly practical experimental laboratories of large corporations, a working knowledge of these languages is often most helpful.

It is therefore advisable, when possible, for students to take up such a language early in their undergraduate course and thereby have the use of it when they begin advanced work in agriculture, engineering, or in pure science. Otherwise, as often happens, their specialization may be hampered and delayed.

A student entering college with entrance credit for two units in a foreign language and whose course calls for more language study in college may continue his high school language by taking the intermediate course. If his subsequent work is unsatisfactory and shows inadequate preparation, he will be required to drop that course and to take in its stead the beginning course, for which he will receive no college credit. In general, students entering with high school credit for two units of a foreign language with a grade of below B, will be advised to start a different language, especially if a year or more has lapsed since the completion of their high school work in modern language.

In beginning courses, by means of daily oral and written exercises, a thorough drill is given in pronunciation, the essentials of grammar, and the more important idiomatic expressions. The reading of simple texts is taken up as early as possible.

In intermediate courses, selected texts and magazines are read 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 work of other departments; in Spanish, the texts read are chiefly literary and commercial.

- 101, 102. Beginning French. (3-0). Credit 3 each semester. Grammar and easy reading.
- 103, 104. Beginning German. (3-0). Credit 3 each semester. Grammar and easy reading.
- 105, 106. Beginning Spanish. (3-0). Credit 3 each semester. Grammar and easy reading.
- 201, 202. Intermediate French. (3-0). Credit 3 each semester. Reading of selected texts. Grammar review. Parallel reading.
- 203, 204. Intermediate German. (3-0). Credit 3 each semester. Reading of selected texts. Grammar review. Parallel reading.

205, 206. Intermediate Spanish. (3-0). Credit 3 each semester.

Reading of selected texts. Grammar review and conversation. Parallel reading.

224. Technical and Scientific German. (3-0). Credit 3.

A practical course designed primarily to meet the needs of those whose professional work requires proficiency in the reading and translation of scientific German. Reading of available texts and periodicals best adapted to the needs of the departments most concerned. Prerequisite: Course 204 or equivalent. Open also to students who have completed course 203 with grade of A or B.

(Offered on demand and when departmental schedule will permit.)

226. Commercial and Industrial Spanish. (3-0). Credit 3.

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A practical course designed for those who expect to follow their professions among spanish speaking people. Social and commercial correspondence and reading of commercial and industrial texts and periodicals. Prerequisite: Course 206 or equivalent. Open also to students who have completed course

205 with grade of A or B.

(Offered on demand and when departmental schedule will permit.)

305, 306. Modern Spanish Drama. (3-0). Credit 3 each semester.

Drama of the nineteenth and twentieth centuries, beginning with Moratin, followed by the Romanticists, Duque de Rivas, Gil y Zarate, Guiterrez, Hartzenbusch, and Zorilla, the Post-Romanticists, Dicenta, Echegaray, Galdos, and Tamayo y Baus; and concluding with the contemporary writers, Ayala, Benavente, Grau, Linares Rivas, Marquina, Martinez-Sierra, the brothers Quintero and others.

Open to students who have completed courses 205, 206, or 335, 336. (Offered in 1935-36 and alternate years thereafter.)

335, 336. Modern Spanish Novel. (3-0). Credit 3 each semester.

The study of representative Spanish and Spanish-American novels from the beginning of the nineteenth century to the present time.

First semester: texts selected from the works of Bazan, Blest, Gana, Caballero, Galdos, Isaacs. Lizardi, Marmol, Pereda, and Valera.

Second semester: Blanco-Fombona, Concha Espina, Gamboa, Ibanez, Larreta, Perez de Ayala, Pio Baroja, Ricardo Leon, Valle-Inclan, Wast, and others.

Open to students who have completed courses 205, 206 or 305, 306.

(Offered in alternate years. Not offered in 1935-36.)

DEPARTMENT OF MUNICIPAL AND SANITARY ENGINEERING

Professor Steel

401. Sewerage and Sewage Disposal. (3-0). Credit 3.

Determination of the quantity of storm water and domestic sewage, design and construction of sewer systems; principles of sewage treatment;

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methods of treatment; operation of sewage treatment plants. Prerequisite: Civil Engineering 311.

402. Water Supply and Purification. (3-0). Credit 3.
 II Development of ground and surface water supplies; principles and methods of water purification; design, construction and operation of waterworks systems for municipalities. Prerequisite: Civil Engineering 311 or registration in that course.

403. Sanitary Design. (1-5). Credit 3.

Practical problems in the design of sewer systems and appurtenances; sewage treatment plants; water collection and distribution systems; water purification plants. Prerequisite: Municipal and Sanitary Engineering 401 or 402 or registration in either of these courses.

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406. Sanitation and Public Health. (3-0). Credit 3.

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. Prerequisite: Junior classification.

408. Municipal Administration. (3-0). Credit 3.

City government, including the city manager plan; relation of city to state; administration of city departments; public utilities; city planning. Prerequisite: Junior classification.

412. Sanitary Laboratory. (1-5). Credit 3.

Field and laboratory work on control and operation of sewage and water treatment plants and investigation of stream pollution. Prerequisite: Municipal and Sanitary Engineering 401 or 402.

FOR GRADUATES

501, 502. City Management. (4-0). Credit 4 each semester.

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). Credit 4 each semester.

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.

505, 506. Research. Credit 2 to 6.

Research in sanitary engineering and municipal affairs; projects subject to the approval of head of department.

DEPARTMENT OF PETROLEUM ENGINEERING

Professor Vance, Associate Professor Stevens

204. The Petroleum Industry. (2-0). Credit 2.

A general introductory study of the petroleum industry including historical development, exploration, development and production methods, refining, and the natural gas and natural gasoline industries.

303. Petroleum Development. (3-3). Credit 4.

Petroleum exploration, principles of oil field development, rotary and cable tool drilling methods, drilling fluids, oil field hydrology, cementing, well completion practice and well records. Prerequisite: Petroleum Engineering 204, Geology 201 and 307, Physics 204.

304. Petroleum Production Methods. (2-3). Credit 3.

A study of the factors influencing the flow of oil into the well. Operation of flowing, gas lift and pumping wells. The separation of oil and gas and the methods of treating cut oil. Prerequisite: Petroleum Engineering 303.

401. Oil Measurements and Transportation. (2-3). Credit 3.

The measurement, sampling and testing of crude oil, tank strapping and preparation of tank tables, oil storage, the prevention of loss by evaporation, fire and lightning protection. A study of the principles of pipe line design and construction. Prerequisite: Petroleum Engineering 303, 304.

402. Oil Field Management. (3-0). Credit 3.

The management of oil field properties, taxes and insurance, organization, regulation and valuation of oil and gas properties. Prerequisites: Petroleum Engineering 303, 304, 401, and 405.

403, 404. Petroleum Problems. (0-3). Credit 1 each semester.

Practical investigation of oil field problems, subject to approval of head of department. Prerequisite: Petroleum Engineering 303, 304, and registration in 405.

405. Equipment and Applications. (3-0). Credit 3.

A study of the drilling and production equipment used in oil field practice. Prerequisite: Petroleum Engineering 303, 304.

406. Natural Gas and Gasoline. (2-3). Credit 3.

Theory and practice of gas measurement, orifice meters, positive displacement meters, pitot tubes, orifice wells testers, etc. The transportation of gas and the manufacture of natural gasoline. Prerequisite: Petroleum Engineering 303, 304.

FOR GRADUATES

501, 502. Petroleum Engineering Problems. (3-3). Credit 4 each semester.

An advanced course in Petroleum Engineering Problems, with special reference to the application and design of equipment.

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DEPARTMENT OF PHYSICAL EDUCATION

Professor Norton, Professors Anderson, Penberthy, Associate Professor J. B.

Reid, Assistant Professor Higginbotham, Mr. Sprague

The work of the Department of Physical Education is given in the following divisions:

I. Physical Education and Corrective Gymnastics.

II. Intramural Athletics.

III. Freshman Athletics.

IV. Intercollegiate Athletics.V. Courses for students who desire to major in Physical Education.

I. Physical Training and Corrective Gymnastics.

(a) Physical examination of freshmen and individual advice regarding defects of

(a) rnysical 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 the 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 compression

(d) Individual gymnastics.

II. 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.

III. Freshman Athletics.

Freshman teams are organized from students who are in their first year in attend-ance at the Coll'ge. These teams are supervised by members of the department. Fresh-man teams are fostered in football, basketball, baseball, and track. Contests are scheduled with teams from institutions of non-collegiate rank.

IV. 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, golf, and swimming. V. Courses in Physical Education.

101, 102. Physical Education for Freshmen. (0-2). No credit.

207. Health Education. (3-0). Credit 3.

Health education in schools; personal and community hygiene; symptoms and control of common school diseases. Prerequisite: Sophomore standing and approval of instructor.

208. Athletic Training. (3-0). Credit 3.

Details of training and conditioning individuals and teams; care and prevention of injury and care of athletic equipment. Prreequisite: Sophomore standing and approval of instructor.

305, 306. Public School Physical Education. (3-2). Credit 4 each semester.

Practice in teaching games used in public school physical education programs; organization of physical education programs in public schools. Prerequisite: Junior standing and approval of instructor.

(Offered in alternate years. Not offered in 1935-36.)

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311, 312. Fundamentals of Athletic Coaching. (3-2). Credit 4 each semester. Fundamentals of football, basketball, track and baseball. Individual technique. Prerequisite: Junior standing and approval of instructor.

(Offered in alternate years. Not offered in 1935-36.)

401, 402. Theory and Practice of Athletic Coaching. (3-2).

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Credit 4 each semester. Development of teams in football, basketball, track, and baseball; offense, defense and strategy. Prerequisite: Junior standing and approval of instructor.

(Offered in 1935-36 and alternate years thereafter.)

403, 404. Organization and Administration of Physical Education. (3-2). Credit 4 each semester.

Organization and administration of interscholastic and intercollegiate athletics; intramural athletics in public schools and colleges, business administration of physical education and athletic sports. Prerequisite: Junior standing and approval of instructor.

• (Offered in 1935-36 and alternate years thereafter.)

DEPARTMENT OF PHYSICS

Professor Silvey, Associate Professors Vezey, Sanders, Assistant Professors McCorkle, Smith

201, 202. College Physics. (3-2). Credit 4 each semester.

For students in general science courses and those preparing to enter medical school. The mechanics of solids, liquids and gases; the phenomena of heat, light, sound, electricity and magnetism. Emphasis is laid on the fundamental principles rather than the mathematical processes involved. The practice includes about thirty experiments in the subjects named above.

203, 204. General Physics. (3-3). Credit 4 each semester.

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. The practice includes about thirty experiments in the subjects named above. The work is, in general, quantitative. Prerequisite: Mathematics 111, 112.

207, 208. General Physics. (3-2). Credit 4 each semester.

This course is identical with course 203, 204, except for the omission of electricity and magnetism. Prerequisite: Mathematics 111, 112.

301. Heat. (3-3). Credit 4.

Heat transfer, kinetic theory, critical points, isothermal and adiabatic changes and the thermodynamics of the changes of state and radiation. Pre-requisite: Physics 202, 204, or 208, and Mathematics 204.

(Offered in 1935-36 and alternate years thereafter.)

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302. Properties of Matter. (3-3). Credit 4.

Universal gravitation, elasticity, surface tension, diffusion, viscosity and the mechanics of fluids. Prerequisite: Physics 202, 204, or 208, and Mathematics 204.

(Offered in 1935-36 and alternate years thereafter.)

305. Light. (2-0). Credit 2.

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. Prerequisite: Physics 202, 204, or 208.

401. Optics. (3-3) Credit 4.

Periodic motion, wave motion, the nature and propagation of light, interference, polarization and the theory of optical instruments. Prerequisite: Physics 202, 204, or 208, and Mathematics 204.

(Offered in alternate years. Not offered in 1935-36.)

402. Electricity and Magnetism. (3-3). Credit 4.

Electric fields, potential, capacitance, current, resistance, electrolysis, primary and secondary cells, thermoelectric phenomena, magnetism, electromagnetic induction, electronics and Roentgen rays. Prerequisite: Physics 202, 204, or 208, and Mathematics 204.

(Offered in alternate years. Not offered in 1935-36.)

407. Geophysics and Geophysical Methods. (3-0). Credit 3.

A study of the earth's gravitational, magnetic, electrical, elastic and thermal properties, and the various methods of geophysical prospecting. The effects of various types of deposits upon each method are shown with the object of determining, from an analysis of structural and lithologic conditions, the type of geophysical method most suitable in any particular area.

Prerequisite: Physics 202, or 204, and Mathematics 203, 204; or senior standing in Geology or Petroleum Engineering.

409. Theoretical Acoustics. (3-0). Credit 3.

A study of the fundamental theory of acoustic sound waves; theory of horns, including relations between acoustic and electrical impedence; Acoustic transmission; acoustic measurements and instruments; atmospheric acoustics. Prerequisite: Mathematics 203, 204, 305.

FOR GRADUATES

501, 502. Analytical Mechanics. (4-0). Credit 4 each semester.

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.

503, 504. Advanced Electricity and Magnetism. (4-0).

Credit 4 each semester.

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A study of the underlying principles of alternating electric 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. A study of electrostatic and electromagnetic fields, the electromagnetic theory of light, thermal and electrical conduction in magnetic fields.

505, 506. Theory of Thermodynamics and Thermal Radiation. (4-0).

Credit 4 each semester. An advanced course in thermodynamics and thermal radiation including Planck's thermodynamical basis of the quantum theory, the quantum theory of specific heats, Gibbs' phase rule, Nernst's heat theorem, radiation, spectra, chemical equilibrium and affinity, modern theories of osmotic pressure, properties of solutions and voltaic cells.

507. Kinetic Theory. (4-0). Credit 4.

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. Open to undergraduate students who have a grade of A or B in Physics 301, 302.

508. Electron Theory. (3-0). Credit 3. 11

A study of the conductivity of electricity through gases, mobility and diffusion of gaseous ions, measurement of the elementary electric charge, ratio of charge to mass of ions, positive ions and photo-electric action. Open to undergraduate students who have a grade of A or B in Physics 301, 302.

510. Electron Theory. (0-3). Credit 1.

This course may be taken by students who are enrolled in Physics 508 and those who have credit in this course or its equivalent.

511, 512. Advanced Optics. (4-0). Credit 4 each semester.

The electromagnetic theory of light, spherical and chromatic aberrations, interference, diffraction, crystal optics, optical properties of metals, emission, absorption, dispersion and dispersion formulae, resonance; line and band spectra and their use in the study of the nature of atoms and molecules.

DEPARTMENT OF POULTRY HUSBANDRY

Professor D. H. Reid, Associate Professor Munnerlyn

201. Poultry Production. (2-2). Credit 3.

The breeds and types of poultry, culling 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; practical application of these subjects to general farm conditions. The practice consists of the identification of breeds and varieties, judging poultry as to sex, age, constitutional vigor and egg produc-

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tions, plans for poultry farms and poultry houses, identification of feeds, methods of dressing poultry.

301. Market Poultry. (2-2). Credit 3.

Pen fattening, crate fattening, fattening on range, fattening the turkey flock, special feeds for ducks and geese, management of a feeding station, culling the market flock, cramming special roasting fowls, candling and grading eggs, preparing eggs for cold storage, feeds that affect the keeping quality of eggs, getting the best price for poultry products.

The practice includes mixing fattening rations, the feeding of broilers, roasters, turkeys, ducks, and geese, also candling and grading eggs.

302. Feeding and Brooding. (3-2). Credit 4.

Common grain and mill feeds for poultry, chemical composition, vitamin content and value as poultry feeds, embryology of the chick and introduction to brooding from a commercial standpoint. The practice includes methods of balancing poultry rations, different methods of determining the value of feeds, identifying and mixing poultry feeds, anatomy of the common fowl, identification of digestive and egg production organs. Prerequisite: Poultry Husbandry 201.

303. Aurkey Production. (2-0). Credit 2.

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.

306. Game Propagation and Management. (2-3). Credit 3.

This course includes the history of game conservation in Texas. The habitat, habits, methods of rearing, incubation, mating and protecting Texas game. The principal enemies, parasites, and diseases of Texas game. Equipment needed and financial return probable from game propagation by the Texas farmer. Text book will be numerous references, books, and bulletins now in possession of the department.

Practice work will consist of numerous field trips to surrounding posted farms and fish ponds. Also the construction of artificial cover, the planting of feed crop for game, and various equipment needed for game propagation.

401. Culling and Management. (3-2). Credit 4.

The underlying principles of poultry culling, study of the literature, management of a large poultry flock on commercial poultry farms, also large farm flocks, selecting the breeding stock, important qualities of a good breeding male. The practice includes a study of the relationship between physiological characteristics and egg production of the domestic fowls; the standard type, weight and qualities of standard bred domestic fowls; and culling practice, incubation, and hatchery management. Prerequisite: Poultry Husbandry 201, 302.

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402. Poultry Farming. (3-2). Credit 4.

The laying out of poultry farms, costs and management in raising a flock of one thousand or more, types of houses, incubators and brooders, raising of special types of poultry, battery brooding methods, teaching and demonstrating plans. The practice consists of problems in organizing, financing and establishing a commercial poultry business. Prerequisite: Poultry Husbandry 201.

403. Judging. (2-2). Credit 3.

The judging of standard breeds and varieties, special instructions for judges, methods of fitting for the show room, methods of breaking ties in poultry show, standard disqualifications and special disqualifications for the different varieties. 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. Prerequisite: Poultry Husbandry 201.

408. Poultry Meats. (1-3). Credit 2.

Theory: The essentials of good dressing practice for poultry; proper refrigeration for poultry; methods of sticking and optimum temperatures of water used in dressing poultry.

The practice includes sticking, picking, scalding, singeing, drawing different kinds of poultry. It also includes cutting up poultry for different purposes as broiler, roaster, fricasse', also a study of the effects of different methods of refrigeration.

FOR GRADUATES

501, 502. Research Problems. (3-4). Credit 4 each semester.

A study of 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. (3-4).

Credit 4 each semester. Factors underlying the successful hatching of eggs. A study of the effects 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 vitamins necessary for growth; vitamins necessary to avoid malformation and to secure good growth; minerals essential to good growth. Results of vitamins deficiency in rations.

505. Embryology of the Chick. (2-6). Credit 4.

A microscopic study of the changes which take place in the egg during the period of incubation; methods of changing the rate of development of the embryo.

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DEPARTMENT OF RURAL EDUCATION

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Professor W. L. Hughes, Professor Wilcox

121. An Introduction to Education. (3-0). Credit 3.

123. An Introduction to Teaching. (3-0). Credit 3.

221. Rural School Methods. (3-0). Credit 3.

Organization of the school, the daily program, general management, classifying and promoting pupils, keeping school records, and methods of teaching under rural school conditions.

222. Rural School Administration. (3-0). Credit 3.

The Administrative problems of rural and village schools, such as community leadership, evaluating the efficiency of teachers, financing rural schools, cooperating with agencies for rural school improvement, consolidation, teacher institutes.

223. Public School Instrumental Music. (3-0). Credit 3.

A general survey of the system of teaching instrumental music (band - and orchestra).

321. Secondary School Methods. (3-0). Credit 3.

Methods of teaching high school subjects; for students who expect to teach in city high schools.

322. Secondary School Administration. (3-0). Credit 3. II

 \cdot The administrative problems of the city superintendent; for teachers who expect to administer school systems.

323. The Psychology of Adolescence. (3-0). Credit 3.

A presentation of the psychological problems faced by individuals in their development from pubescence to maturity. Topics such as these are covered: psychological effects of physical maturity; adolescent emotional problems; developing an independent individuality, acquiring and maintaining hygienic habits; vocational and social purposing. Prerequisite: General Psychology.

422. History of Education. (3-0). Credit 3.

The history of modern education with special attention to the history of education in the United States.

424. Principles of Rural School Supervision. (3-3). Credit 4.

The activities of the rural school supervisor. Practice in adjusting and making equipment specially suitable for the rural school. Prerequisite: Rural Education 221, 222.

426. Tests and Measurements. (3-0). Credit 3.

A study of the use of intelligence and achievement tests in administration and supervision of public schools. Prerequisite: Junior or Senior standing.

428. Junior High School Methods. (3-0). Credit 3. 11 This course will introduce the student to the modern practices of teach- ing in the Junior High School. Prerequisite: Rural Education 323.
430. Curriculum Construction. (3-0). Credit 3. S Problems and lectures in revising and adjusting the public school curricu- lum to meet the needs of modern society. Prerequisite: Junior or Senior standing.
FOR GRADUATES
501. Problems in Rural Education. (4-0). Credit 4. 1 The rural school problem in the United States, including problems in related fields.
502. Problems in Rural School Administration. (4-0). Credit 4. II Organization, supervision, and administration of rural schools.
503. Problems in Elementary Education. (4-0). Credit 4. S Present tendencies, forms or organization, the curricula, management, selection of subject matter, and teaching children how to study.
504. Development of Public School Education in Texas. (4-0). Credit 4. 11 The origin and development of public school education in Texas.
505. Principles of Educational Administration. (4-0). Credit 4. I The administration of state and county school systems.
506. Principles of Educational Administration. (4-0). Credit 4. II The problems of the city superintendent of schools.
507. Principles of City School Supervision. (4-0). Credit 4. I Types of supervision and the organization of supervisory programs. Tests and measurements in relation to supervision. Problems and lectures.
508. Problems in Public School Support. (2-0). Credit 2. 11 A study of all types of school funds, and their relation to school effi- ciency. Problems and lectures.
510. Child Accounting. (2-0). Credit 2. 11 Devices to record and improve census taking and attendance; classifi- cation and promotional schemes; school record systems; school reports and pupil appraisals studies; grading promotions and eliminations; child account- ing as affecting school efficiency.
DEPARTMENT OF RURAL SOCIOLOGY
Professor Russell
383. Introduction to Social Problems. (3-0). Credit 3.

An introduction to the study of society. The work is mainly descriptive, but the ethical implications of some social relations are discussed. Human relations in the family; education, economic activity, politics, race contacts,

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and international affairs. 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.

306. Rural Social Work. (3-0). Credit 3.

The organization of rural public welfare work; a critical analysis of the present relief work in the small towns and rural communities; a study of rural rehabilitation, rural work centers, rural colonization, and part time subsistence farming; a study of case work standards relating to orphan, delinquent, dependent, and neglected children, family welfare work, health, and mental hygiene work.

311. Social Psychology. (3-0). Credit 3.

The factors affecting group behavior together with methods of social control; the forces and influences which determine the mental attitudes of country people; the connection 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.

312. General Sociology. (3-0). Credit 3.

The position of sociology among the social sciences. The subject matter of sociology is outlined under the following heads: Population, physical environment, human motivation, social organization and social pathology. Emphasis is placed upon methods of investigation and quantitative measurement of the data of sociology.

404. Rural Organization. (3-0). Credit 3.

A study of community life in 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.

407. Rural Sociology. (2-2). Credit 3.

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.

415. Agricultural Journalism. (2-2). Credit 3.

The principles of newspaper writing, especially the preparation of material for agricultural papers and country weeklies; the part a country paper should play in country development; in the laboratory work, opportunity is given for actual writing for newspapers and farm journals. The Publicity Office of the College, and the Publicity Department of the Extension Service cooperate in the course.

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TEXTILE ENGINEERING

FOR GRADUATES.

501, 502. Advanced Rural Sociology. (4-0). Credit 4 each semester.

An intensive study of some important aspects of the field of rural sociology. The first semester is concerned mainly with the evolution of rural society; the second semester with an analysis of some of the principal rural social problems of today and proposed solutions.

511. History of Modern Social Thought. (4-0). Credit 4.

A study of the history, basis and foundation of modern systems of thinking, 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). Credit 4.

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 country 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, Assistant Professor Powers

107, 108. Cotton Classing. (2-5). Credit 4 each semester.

Classes of buyers found in interior towns; problems and methods of interior buying; detail office methods, keeping account of purchases and sales of cotton.

205. Cotton Exchanges. (3-0). Credit 3.

History and purpose of cotton exchanges, operation and details.

211, 212. Cotton Classing. (1-5). Credit 3 each semester.

Lectures covering the larger problems of cotton marketing. Practice similar to 107, 108. Prerequisite: Textile Engineering 107, 108.

Foreign Cotton Markets. (3-0). Credit 3.
 A study of the production and marketing of cotton in foreign countries.

301, 302. Yarn Manufacture. (2-3, 0-2). Credit 3, 1.

The machinery and processes used in the manufacture of coarse cotton yarns. 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.

303, 304. Fabric Designing. (0-3). Credit 1 each semester.

The classification of fabrics; elementary principles of fabric structure; explanation of various technical terms applied to designs and fabrics; the

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representation of drawing-in drafts and harness chains; design of fancy shirting, madras, dress goods.

307, 306. Weaving. (3-6, 3-3). Credit 5, 4.

Construction, operation and adjustment of plain, automatic, gingham, dress goods, and Jacquard looms.

401, 402. Yarn Manufacture. (3-2, 2-3). Credit 4, 3.

A continuation and more exhaustive treatment of course 301, 302. Warp preparation, combers, mules, and organization for the manufacture of all classes of yarns. Prerequisite: Textile Engineering 301.

413, 414. Cotton Classing. (1-3, 0-3). Credit 2, 1.

Recitations and lectures on classification and stapling of cotton, buying spot cotton, papers used in the cotton trade and cotton exchanges.

415, 416. Fabric Design. (0-3, 1-3). Credit 1, 2.

Dissecting samples of cloth for reproduction. The practice is a continuation of course 304. Prerequisite: Textile Engineering 304.

419, 420. Weaving. (1-3, 0-3). Credit 2, 1.

A study of loom fixing, cloth room machinery, and yarn dressing. Prerequisite: Textile Engineering 307, 306.

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422. History of the Textile Industry. (3-0). Credit 3.

The development of the textile industry of the United States, covering phases of technical manufacturing; labor, wages, education; associations and combinations. A comparison is made with English and European manufacturing.

(Offered in alternate years. Not offered in 1935-36.)

DEPARTMENT OF VETERINARY ANATOMY

Professor Francis, Mr. Thaxton

111, 112. Anatomy of the Domestic Animals. (3-6). Credit 5 each semester. A study of the bones, joints and muscles; the thoracic and abdominal viscera.

211. Anatomy of the Domestic Animals. (3-6). Credit 5. I Dissection of the circulatory system, the nervous system and the organs of special sense.

 213. Histology and Embryology. (2-4). Credit 3.
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 A lecture and laboratory course.
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302. Anatomy and Physiology of Domestic Animals. (2-2). Credit 3. 11 • An introduction to the study of veterinary medicine. The course treats the fundamental processes of animal nutrition in detail, so that each student

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VLTERINARY MEDICINE

may be prepared to meet the problems that arise in the economic production of beef, pork, and dairy products.

FOR GRADUATES

511, 512. Veterinary Anatomy. (2-4). Credit 3 each semester.

DEPARTMENT OF VETERINARY MEDICINE AND SURGERY

Professor Marsteller, Professors Dunn, Lenert

351, 352. Non-infectious Diseases. (3-0). Credit 3 each semester.

Lectures and demonstrations on physical diagnosis. Diseases of the digestive, circulatory, respiratory, and urinary organs.

361, 362. General Surgery. (3-0). Credit 3 each semester.

The principles of surgery, restraint of domestic animals, surgical diagnosis, surgical exercises and soundness.

371, 372. Clinics. (0-7, 0-12). Credit 2, 4.

NOTE: 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. Students will 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 housand cases of non-infectious diseases, infectious diseases and surgical diseases of animals and fowls are treated each year.

403. Animal Diseases. (3-2). Credit 4.

Prevention and control of diseases of domestic animals of the farm and ranch with special reference to sanitation. Prerequisite: Veterinary Anatomy 302.

451. Diseases of Small Animals and Fowls. (3-0). Credit 3. I Non-infectious and infectious diseases in pet animals and domestic fowls.

452. Practice of Veterinary Medicine and Jurisprudence. (3-0). Credit 3. II General business methods, and State and national laws relating to the practice of veterinary medicine.

453. Infectious Diseases. (3-0). Credit 3.

455. Diseases of Poultry. (2-0). Credit 2.

461. Obstetrics. (2-0). Credit 2. I Accident of breeding, diseases incident to pregnancy, parturition and

post-partum conditions. Attention is also given to diseases of the newly born. 46? Operative Surgery, (3-4), Credit 4.

462. Operative Surgery. (3-4). Credit 4. II Castrating, spaying, dentistry, lameness, shoeing. Surgical exercises are required.

471, 472. Clinics. (0-7). Credit 2 each semester.

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AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

FOR GRADUATES

501, 502. Special Surgery. (2-4). Credit 3 each semester.

Problems of surgical conditions, surgical pathology, surgical technique and sterility of animals.

DEPARTMENT OF VETERINARY PATHOLOGY

Associate Professor Wharton

242. General Pathology. (3-2). Credit 4.

The elementary disease process and their causes, including a study of the gross and minute appearance of the diseased tissue. Such processes as inflamation, necrosis, gangrene, atrophy, hypertrophy, ulceration; the various degenerations, infiltrations, pigmentations and tumor formations are considered. Practice consists of the microscopical study of these processes and instruction in laboratory technique. Prerequisite: Veterinary Anatomy 213.

341, 342. Special Pathology. (2-0, 2-4). Credit 2, 3.

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-mortem technique. Prerequisite: Veterinary Pathology 242.

343. Special Bacteriology. (2-4). Credit 3.

The pathogenic micro-organisms; their morphology, cultural characteristics and pathogenicity are considered. The practice consists of the study of the more important micro-organisms which produce diseases in man and domestic animals. Prerequisite: Biology 206.

441. Immunology and Serum Therapy. (2-2). Credit 3.

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.

442. Food Hygiene. (2-2). Credit 3.

The abattoir inspection of meats and meat products; Federal regulations governing such inspection, condemnation and disposal of carcasses, also regulations governing interstate and foreign shipments of livestock. Prerequisite: Veterinary Pathology 341, 342. Some time is devoted to laboratory inspection of milk and water.

443. Parasitology. (2-2). Credit 3.

Parasites infesting domestic animals and the pathological conditions produced by them. Attention is given to treatment and control measures. Prerequisite: Biology 207.

444. Laboratory Diagnosis. (2-2). Credit 3.

Methods of procedure in the preparation of materials for laboratory examination; technique of examination; biological tests of special importance;

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animal inoculations; isolation of the organisms of diseases from lesions. Prerequisite: Veterinary Pathology 341, 342, 343.

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FOR GRADUATES

541, 542. Advanced Special Pathology. (3-4). Credit 4 each semester.

Etiology, pathogenesis, lesions and results of diseases of organs and systems of organs; pathology of infectious diseases. Prerequisite: Veterinary Pathology 242, or equivalent.

543, 544. Advanced Special Bacteriology. (3-4). Credit 4 each semester.

A study of pathogenic micro-organisms; their cultural and biological characteristics and pathogenicity. Prerequisite: Biology 206.

DEPARTMENT OF VETERINARY PHYSIOLOGY AND

PHARMACOLOGY

Associate Professor Burns

121, 122. Physiology of the Domestic Animals. (2-0). Credit 2 each semester. The physical and chemical processes involved in the physiological functioning of the bodies of the domestic animals; physiology of the circulatory, respiratory, muscular, and locomotor systems.

221, 222. Physiology of the Domestic Animals. (2-0, 3-4). Credit 2, 4.

Digestion, absorption, secretion, excretion; physiological chemistry, with special reference to digestive juices, enzymes, hormones, urine, and chemical composition of the body. The practice consists of studying blood, urine, and other body fluids; action of natural and artificial digestive juices on food-stuffs; graphic records of the functioning of the muscular, nervous, respiratory, and circulatory systems. Prerequisite: V. P. P. 121, 122.

333, 334. Pharmacology. (3-4, 3-0). Credit 4, 3.

Metrology, history of therapeutics, source and composition of drugs, methods of administration, factors influencing the action of drugs, posology, prescription writing, drugs affecting the various tissues and organs of the body. Practice consists of identification of crude drugs; extraction of drugs; constituents; pharmaceutical methods; manufacture of types of official and a few non-official preparations; prescription compounding; chemical and biological methods of standardization of medical preparations; action of drugs on experimental animals.

341. General Physiology. (3-4). Credit 4.

Structure of the human body; physiology of the skeletal, muscular, nervous, respiratory, and circulatory systems. Prerequisite: Biology 203, 204 or 211, 212.

Elective for students in Science and Physical Education. (Previously designated Biology 341.)

342. General Physiology. (3-4). Credit 4.

Physiology of digestion, nutrition, metabolism, secretion, excretion, nad reproduction. Prerequisite: V. P. P. 341 and Chemistry 206.

Elective for students in Science.

(Previously designated Biology 342.)

and treatment of poisons on experimental animals.

432. Toxicology. (1-2). Credit 1.

Causes, symptoms, lesions, prevention, and treatment of organic and inorganic poisons, including poisonous plants and endogenous poisons. Practice consists of analysis of more common organic and inorganic poisons; actions

FOR GRADUATES

501, 502. Advanced Practical Physiology. (2-4). Credit 3 each semester.

Recent phases of physiology; 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). Credit 3 each semester. A detailed study of the modern theories of nutrition with special reference to vitamins. Prerequisite: Chemistry 206.

505, 506. Advanced Poisonous Plants. (2-4). Credit 3 each semester. Original investigations and detailed studies of the poisonous plants affecting domestic animals. Prerequisite: Biology 101, 102.

507. 508. Advanced Experimental Pharmacology. (2-4).

Credit 3 each semester.

Modern methods of research in pharmacology and pharmaceutical processes. Original research in studying the actions and uses of drugs. Prerequisite: V. P. P. 333, 334.

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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 agricultural research agency of the State, its function being the investigation and solution of agricultural problems. It consists of the central or main station at College Station with appropriate indoor laboratories, and sixteen outdoor laboratories, or substations, located in various sections of Texas, as follows: Angleton, Beaumont, Beeville, Chillicothe, Denton, Lubbock, Nacogdoches, Balmorhea, Spur, Temple, Tyler, Sonora, Weslaco, Iowa Park, Winter Haven, and College Station. In addition, there are beeyards at Dilley, Seguin, and Roxton, and a queenyard at the State Apicultural Research Laboratory located at San Antonio. The work of the Station System comprises researches in the more important problems of veterinary science, chemistry, horticulture, animal industry (including range animal husbandry, dairy husbandry, swine husbandry, and poultry husbandry), botany, entomology, agronomy, plant pathology and physiology, farm and ranch economics, rural home research, agricultural engineering, and 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 of the main station and of the Feeding and Breeding substation (Substation No. 10) presents to students unusual opportunities both in theoretical instruction and practical experience.

For the fiscal year ending August 31, 1935, the Station System received \$240,261.00 State appropriations; and \$90,000 Federal funds for the year ending June 30, 1935.

A brief statement of the work of the Station System follows:

MAIN STATION

Veterinary Science: The division of Veterinary Science conducts researches es covering the diseases of farm animals of various kinds. Special attention is being given to disease affecting horses, mules, cattle, sheep, goats, and swine. *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 varieties of fruits, vegetables and shrubs from foreign countries.

Range Animal Husbandry: The division of Range Animal Husbandry conducts investigations in the breeding, management, feeding, and grazing of range animals, such as sheep, 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 to the improvement of wool and mohair. The division operates the wool and mohair scouring plant which is located at the Main Station. Substations 7, 10, and 14 are used extensively for researches relating to range animal husbandry.

Soil Surveys: The division of Soil Survey is operated in cooperation with the Bureau of Chemistry and 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; for prohibiting their adulteration, for correct weighing and marketing; 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 materials of which it is made, or which does not conform to the standards, and after ten days' notice may 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; the feeds offered by them; and 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 investigations 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 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 foulbrood in bees.

Agronomy: The division of Agronomy conducts researches with farm crops and soils, giving special attention to the introduction of new and promising varieties and the improvement of the field crops by breeding methods. Particular attention has been given to breeding work with grain sorghums, cotton, wheat, and other crops, not only toward improving them but also in the determination of the modes of inheritance of characters. Investigations are made as to 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 grain sorghums in Texas. Another accomplishment of great economic importance to the State is the extension of the cotton growing area, brought about through trials and tests of early varieties followed by breeding work in Northwest Texas, which has opened up an extensive new cotton-growing region not infested with the boll weevil.

Plant Pathology and Physiology: The division of Plant Pathology and Physiology conducts researches relating to diseases affecting the plants of the State with a view of 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 the 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: 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 farmers' cotton market, and farm taxation. The chief objective of the research program of the 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 Texas 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 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 in 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 also the health of the individual, and studies of diet in relation to the well-being 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 as an important relation to the utility of cotton fabrics but also promises to develop information as to the possibility of deterioration of cotton fibers in the field before harvesting.

Apiculture Research: The division of Apiculture has a specially equipped laboratory for beekeeping investigations, located near San Antonio, in Bexar county. The 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.

Agricultural Engineering: The division of Agricultural Engineering is at the present time making an intensive study of cotton harvesting machinery and problems connected with the placement of cotton seed and fertilizers. The engineering phases of soil and water conservation naturally fall within the field of this division.

Main Station Farm: The main station farm at College Station is operated as a field laboratory for 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 cotton breeding work, which is conducted by the division of

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EXPERIMENT STATION

Agronomy. 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 the name implies, subordinate to and a part of the main station. In the location of these substations, due regard has been given to the needs for 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 regions 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 Economics 571, 572. Methods of Research. (2-6).

Animal Husbandry 571, 572. Wool and Mohair Research. (3-4).

Animal Husbandry 573, 574. Research in Animal Breeding. (3-4).

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).

Chemistry 575, 576. Special Topics in the Chemistry of Soils. (2-6).

Chemistry 577, 578. Special Topics in the Chemistry of Soils. (2-6).

Genetics 571, 572. Research in Cotton Breeding. Thesis.

Publications

The reports, bulletins, and circulars issued by the Station System are distributed without charge to farmers and stockmen and other citizens of Texas. Because of limited funds available for printing, it is necessary to practice strict economy in the distribution of these publications. All requests should be sent to 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 assisting in the industrial development of Texas, of investigating engineering and industrial problems, 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.

Forty-two 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, College Station, Texas.

THE EXTENSION SERVICE

O. B. MARTIN, Director

The Cooperative Extension Service, a Federal-State-County agency for "diffusing useful information in agriculture and home economics" to all the people living in the open country and in towns and villages up to 2,500 in population, has its headquarters on the campus and is administered by A. and M. College.

The work of this Service is established on a demonstration basis and is carried on in the counties by 230 farm demonstration agents and 148 home demonstration agents. Supervision is exercised by the administrative officials and by nine district farm demonstration agents and nine district home demonstration agents. Subject matter specialists aid the county agents in the development of demonstrations in better farming, ranching, and home making. Supervisory officers and specialists together total approximately 50 persons.

EXTENSION SERVICE

The Extension Service also supervises a similar work among the negroes carried on in cooperation with Prairie View Normal and Industrial College. Two men and two women in administrative positions with a field force of 56 farm and home demonstration agents constitute the personnel of the negro work.

The emergency efforts to "readjust agriculture and reconstruct the country home" have been based in Texas on the stability of the work already established by the Extension Service. Trained men, used to cooperating with the farm demonstration agents, were the mainstay of the crop control committees. The same thing was true of the emergency relief food canning. Women who had learned home canning by working with the home demonstration agents were able to act as local supervisors of the community canneries established to help conserve the surplus food for use in feeding the hungry by canning for farm people on a toll basis. In this agricultural adjustment work and relief canning, Extension agents helped to bring to their counties many million dollars in cash and to conserve hundreds of thousands of dollars worth of food.

While engaging in these activities the Service has not abandoned the permanent work for which it was established; and such things as work in soil and water conservation through terracing, home improvement within and without the house, crop and livestock improvement, and more scientific and comprehensive plans for feeding the family have made greater progress than ever before.

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. A fourth State Forest of 600 acres was acquired in 1929 through a gift from Mr. John Henry Kirby of Houston. The income from this forest is to go to the Ex-Students' Association of A. and M. College to be used as a student loan fund. Two of the State Forests are now under administration for the purpose of demonstrating reforestation and the proper management of timber lands.

For the current year \$63,239.00 of State funds and \$36,200.00 of Federal funds are available for carrying on the designated activities of the office. The personnel comprises 6 technical foresters, 1 motion picture operator and lecturer, 1 forest engineer, 1 draftsman, 4 inspectors, 44 patrolmen, 6 lookout men, 11 smokechasers, 59 emergency patrolmen, 78 forest guards, and 2 forest superintendents.

DIVISION OF FOREST PROTECTION

This division has charge of activities relating to the protection of timber from fires, insects, and diseases. Division headquarters are at Lufkin, which is centrally located as regards the timber section of Texas.

DIVISION OF FOREST MANAGEMENT

The administration of the State Forest areas and the various research and demonstration projects pertaining to methods of reforestration 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 memorandum of understanding between the Extension Service and the Texas Forest Service, farm forestry activities are conducted on a cooperative basis. The field of farm forestry includes educating and encouraging farmers to practice proper forest ananagement 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-four bulletins have been issued, dealing with practically all phases of forestry, and in addition, a large number of 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-officio 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 dissemi-

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STATE ENTOMOLOGIST

nation 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-five thousand colonies a year in protecting the beekeeping industry in 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, Agricultural 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 and sampled for analysis, the samples are analyzed, and the results are 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, and fertilizers, when such analysis would be of public benefit along the line of agricultural chemistry and when the samples are taken in accordance with the requirements. 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 Agricultural Experiment Station.

THE FIREMEN'S TRAINING SCHOOL

H. R. BRAYTON, Director

Since 1930 the College has conducted a Training School for Texas firemen. This was established at the request of the volunteer fire departments of the State and is conducted under the direction of a member of the Department of Chemistry and Chemical Engineering.

Inaugurated as a summer short course, the work has been expanded as rapidly as has been made possible by additional appropriations and now includes two closely coordinated main divisions.

SUMMER SHORT COURSE

Each summer a five day session is held at the College in which are enrolled firemen, drill-masters, chiefs and fire marshals from the various cities of Texas. These men are given intensive training along lines of fire extinguishment, control and prevention, building construction and inspection, first aid and methods of instruction. Through legislative appropriations a complete fire fighting equipment is available for instructional purposes. The instruction given in classroom and by drills with apparatus and equipment is conducted by drill-masters, chiefs, and specialists from the larger cities, national organizations, and the College staff. Completion of this work, including a written examination, qualifies the cities represented to receive 3 per cent credit on their local insurance key rate, granted by the Texas Insurance Commission. Continuation of this credit requires annual attendance at the Training School and systematic drills during the year in the local communities.

EXTENSION INSTRUCTION

Each quarter during the year, outlines covering drills and class room work to be used the following three months are mailed to the four hundred and eighty-seven fire departments in the State. These outlines give each department an organized course of training throughout the year and standardize the work of all departments in the State in the most modern approved methods.

To further assist the various cities in improving the work of their local fire departments, the Training School maintains an experienced chief as full time field instructor, who visits the various cities and towns and assists their local authorities in conducting drills and schools of instruction. He carries the instruction of the summer short course into the local communities and makes it available for the entire department. When requested by local departments, the field instructor also assists schools and city officials in their fire prevention work.

The entire efforts of the Training School are directed toward reducing in Texas the annual loss of life of some four hundred human beings and a property loss of approximately twenty millions of dollars as a result of fire.

RADIO BROADCAST

STATION WTAW

E. P. HUMBERT, Program Director

Since 1922 the College has maintained the radio broadcast station. The original station, which had a rating of only 28 watts, was built by the students and staff of the Electrical Engineering Department. The Station has been enlarged and improved from time to time and at present is a modern Station operating on 500 watts.

The Station maintains a regular schedule of programs. These programs consist largely of talks and discussions of an educational nature given by

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RADIO BROADCAST

representatives from all divisions of the College staff. On occasion music and entertainment features by special groups are included in the program.

Through the courtesy and cooperation of the Humble Oil and Refining Company in providing the free use of its telephone lines, a short program is broadcast each day except Sunday over a chain of the larger broadcasting stations in the State. These programs are confined to educational, agricultural, and economic topics of timely interest.

In addition to proving a source of accurate and timely information to the citizens in the State, and particularly to the rural population, the Station serves as a means of vitalizing courses in Communication Engineering in the College and of aiding the Engineering Experiment Station in its research problems.

SUMMER SESSION

C. H. WINKLER, Director

The Summer Session consists of two terms of six weeks each. The 1935 Summer Session opens Tuesday, June 4, and closes Saturday, August 24. Students may enroll for the full session or for either term.

The purposes of the Summer Session are:

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, such as cotton classing, industrial education, cotton oil mill operators, firemen, graduate veterinarians, and farmers' short course.

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 Summer School catalogue and other information address Director of the Summer School, or the Registrar, College Station, Texas.

Part VI

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REGISTER OF STUDENTS

GRADUATE STUDENTS

Adams, Cyril Samuel B. S., Agicultural and Mech	Civil Engineering anical College of Texas, 1930;	College Station M. S., 1933.
Adams, Robert Solomon B. S., Mississippi State Colle	Chemistry Starl	
Adriance, Guy Webb		College Station
	hanical College of Texas, 1915;	
Anderson, F. C.		Kurten
D A Elushumat Callana	1090	
Apple, Spencer Butler	Horticulture	McAllen
B. S., Agricultural and Meel	hnical College of Texas, 1933.	
Ashby, Gerald K.		College Station
	hanical College of Texas, 1934.	Conege Station
Atkinson, Luther Jay		oroman Arkancas
B. S., University of Arkans		oreman, Arkansas
		T soluble solu-
Bagwell, Marshall Underwood		LUDDOCK
B. S. ,Texas Technological C		
Barrett, William Lafayette		
B. S., Agricultural and Mec	hanical College of Texas, 1934.	•
Bellville, George Robertson, Jr.	Chemistry	Dallas
B. S., Southern Methodist U	niversity, 1934.	
Bibby, Francis Flavius	Entomology	College Station
B. S., Mississippi State Colle		
Blackham, Stafford M	Animal Husbandry	Moroni, Utah
B. S. Utah Agricultural Coll	lege, 1931.	
Blumberg, Albert Asa	Mathematics	College Station
B. A., University of Texas,		
Brewer, Alexander Van	Mechanical Engineering	Bryan
B S Purdue University 19	13 · M E 1925	
Brown, John Hall	Architecture	Houston
B. S., Agricultural and Meel	hanical College of Texas, 1933.	
Brown, Merrill H.		Indianola, Iowa
B. A., Simpson College, 1934.		
Chalf, Alfred F.	Economics	Los Indios
B A Baylor University 195	84	
Chapman, Jay Lowe	Architecture	Lockhart
	hanical College of Texas, 1933.	
Cook, Foy Oscar		Lampasas
	anical College of Texas, 1934.	Dumpuodo
Cook, Hollis Lee		Calera, Alabama
B. S., Stephen F. Austin Stat		Salera, masama
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Couch, James Russell Animal Husbandry College Station
B. S., Agricultural and Mechanical College of Texas, 1931; M. S., 1934.
Cunningham, John Preston Horticulture Harlingen
B. S., Agricultural and Mechanical College of Texas, 1934.
Davis, Don Rowland
B. S., Agricultural and Mechanical College of Texas, 1932.
Davis, Louis Freeman Mechanical Engineering Longview
B. S., University of Texas, 1934.
Davison, F .A Rural Education Franklin
B. S., Agricultural and Mechanical College of Texas, 1933.
Decker, Phares Biology Holton, Kansas
B. S., Kansas State College of Agriculture and Applied Science, 1934.
Doremus, Hal Chellis Civil Engineering Stephenville
B. S., University of Nebraska, 1921.
Edge, Paul William Rural Education Bryan
B. A., Agricultural and Mechanical College of Texas, 1934.
Elkins, Rollin Lafayette Economics Palestine
B A Agricultural and Mechanical Collage of Taxas 1933
B. A., Agricultural and Mechanical College of Texas, 1938. Elwell, Clarence McCray Rural Education Bryan
B. A., Baylor University, 1922; B. S., Agricultural and Mechanical College of
Texas, 1923.
Faber, Bennie Herman Civil Engineering Eagle Lake
B. S., Agricultural and Mechanical College of Texas, 1915.
Feagin, Frank Joe Electrical Engineering Kaufman
B. S., Agricultural and Mechanical College of Texas, 1934.
Fisher, Charles Emil Agronomy Cuba, Kansas
B. S., Kansas State College of Agriculture and Applied Science, 1934.
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B. S., North Texas State Teachers College, 1934.
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 B. S., North Texas State Teachers College, 1934. Frank, Wallace Jerroy Chemistry Dumas, Arkansas B. S., University of Arkansas, 1934. Franki, Guido Ernest Animal Husbandry Del Rio Garcia, Gomez Pedro Rural Education Ciales, Puerto Rico B. A., Sam Houston State Teachers College, 1934. Gentry, Donald George Civil Engineering Manhattan, Kansas B. S., Kansas State College of Agriculture and Applied Science, 1934. Godsey, Lee Mechanical Engineering Jacksonville B. S., Agricultural and Mechanical College of Texas, 1931. Godwin, William Grady Animal Husbandry Lometa B. S., Agricultural and Mechanical College of Texas, 1935. Golub, Anan Accounting and Statistics Nacogdoches B. A., Stephen F. Austin State Teachers College, 1938. Gwin, Robert Jewel Agronomy Oenaville B. S., Agricultural and Mechanical College of Texas, 1933. Hagan, Russell Burleigh Mechanical Engineering Fargo, N. D. B. S., North Dakota Agricultural College, 1934.

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B. S., Agricultural and Mechanic	al College of Texas, 1927.
Heaton, Clarence Eldon Ru	ral Sociology Nacogdoches
B. S., Stephen F. Austin State 7	eachers College, 1934.
Heaton, Homer Lloyd Ru	ral Education
B. S., Stephen F. Austin State 7	eachers College, 1929.
Heise, John Henry An	mal Husbandry Custer City, Oklahoma
B. S., Oklahoma Agricultural and	Mechanical College, 1934.
Herzik, Gus Ralph, Jr Civ	il Engineering La Grange
B. S., Agricultural and Mechanic	
Hocker, Oris Beverly, Jr Ele	ctrical Engineering Clarksville
B. S., Agricultural and Mechanics	
	logy Nacogdoches
B. S., Stephen F. Austin State Te	
Holcomb, Ernest James Eco	onomics Bryan
B. A., Agricultural and Mechanic	
	altry Husbandry Fort Worth
B. S., Agricultural and Mechanic	
	emistry Lewisville
B. S., North Texas State Teacher	College 1934
	conomy and Genetics Chuchow, China
B. S., National Central Universit	
	chanical Engineering Boulder, Colorado
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B. S., Southwestern Louisian	
Jackson, Robert Lee Ru	ral Sociology College Station
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McGee, Roger V Mathematics Bryan
B. S., Agricultural and Mechanical College of Texas, 1922.
McGuire, John Gilbert Industrial Education
B. S., Agricultural and Mechanical College of Texas, 1932.
McLarry, Weldon Gray Electrical Engineering College Station
B. S., Agricultural and Mechanical College of Texas, 1934.
Marsh, Gay Jacques
B. S., Agricultural and Mechanical College of Texas, 1924.
Martin, Albert Dow, Jr Electrical Engineering Riverhead, N. Y.
B. S., Agricultural and Mechanical College of Texas, 1929.
Medley, Frank W Industrial Education Bailey
B. S., East Texas State Teachers College, 1930.
Melcher, Robert Lee Agricultural Economics La Grange
B. S., Agricultural and Mechanical College of Texas, 1932.
Middleton, Olin W Industrial Education Denton
B. S., West Texas State eachers College, 1923.
Mika, Fred P Entomology Ballinger
B. S., Agricultural and Mechanical College of Texas, 1933.
Miller, Jarvis Caurnel Agricultural Education Winnsboro
B. S., East Texas State Teachers College, 1932.
Miller, James Eads Rural Sociology Sinton
B. S., Agricultural and Mechanical College of Texas, 1934.
Mims, Joseph Bryan
D.V.M., Agricultural and Mechanical College of Texas, 1933.
Moore, Marion Jefferson Geology Mercedes
B. S., University of Texas, 1934.
Nelson James Hugh Physics College Station
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Nelson, James Hugh Physics College Station B. S. University of Arkansas, 1932. Nelson, J. U. Agricultural Education
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 Nelson, James Hugh Physics College Station B. S. , University of Arkansas, 1932. Nelson, J. U Agricultural Education Athens B. S., Sam Houston State Teachers College, 1930. Nordsieck, Herbert H Chemistry Indianapolis, Indiana B. S., Butler University, 1934. Osburn, Robert Rankin Electrical Engineering Fort Sam Houston B. S., Agricultural and Mechanical College of Texas, 1934. Patterson, Raleigh Elwood Genetics Gueydan, Louisiana B. S., Louisiana State University, 1934. Post, John L Chemical Engineering Leesville, Louisiana B. S., University of Michigan, 1926. Powell, Thomas Hardy Municipal and Sanitary Eng Terrell B. S., Agricultural and Mechanical College of Texas, 1933. Pratt, Wayne Truman Rural Sociology Waco B. A., Baylor University, 1933. Ragsdale, Elmer Martin Horticulture McAllen B. S., Agricultural and Mechanical College of Texas, 1932. Rechenthin, Clarence Andrew Genetics College Station B. S., Agricultural and Mechanical College of Texas, 1932. Reynolds, Elmo Love Rural Education Franklin

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Rosprim, Joe A	Industrial Education	Salmon
B. S., Sam Houston State	Teachers College, 1931.	
Ross, Henry	Agricultural Education	Bryan
B. S., Agricultural and M	echanical College of Texas, 1923.	
Sanders, William Olin, Jr.	Architecture	Bryan
B. S., Agricultural and M	echanical College of Texas, 1933.	
Shepard, Groom Shirley	Chemistry	Hamlin
B. A., Hardin-Simmons Un	niversity, 1934.	
Siddall. Cameron	Entomology	Anderson
	echanical College of Texas, 1931.	
	Accounting and Statistics	Harlingen
	echanical College of Texas, 1933.	Bon
	Chemistry Shrev	enort Louisiana
B. S., Centenary College of		eport, Louisiana
	Electrical Eng	araa Maradahad
B. A., Taylor University,		arae, moradabad
		Caller Station
	Entomology	College Station
B. S., Mississippi State Co		- ·
	Genetics	Temple
	echanical College of Texas, 1933.	
Stone, Homer L	Agricultural Education	College Station
B. S., North Texas State	e Téachers College, 1933.	
Stubbs, Stoney Milton	Accounting and Statistics	Hearne
	echanical College of Texas, 1934.	
Sturkie, Paul David	Genetics	Proctor
B. S., Agricultural and Me	chanical College of Texas, 1933.	
Thomas, Marion Brown	Rural Education	Anderson
B. A., Southwestern Unive		
Timm, Tvrus Ramon	Agricultural Economics	Hallettsville
B. S., Agricultural and M	echanical College of Texas, 1934.	
	Mechanical Engineering	Tuler
B S Agricultural and M	lechanical College of Texas, 1933.	I yici
	Physics	Wanahashia
B. S., Trinity University,	1024	waxanacme
	Econemics	D
M S Minimit Autol	Econemics	Brownsville
Wallian Oliver Dautes	tural and Mechanical College, 1917.	
walker, Oliver Paxton	Electrical Engineering	Fort Worth
B. S., Agricultural and M	echanical College of Texas, 1934.	
webb, Lester Ira	Rural Sociology	College Station
B. S., Agricultural and M	lechanical College of Texas, 1934.	
Wright, Robert Alexander, J	r. Rural Sociology	Lampasas
B. S., Agricultural and Me	chanical College of Texas, 1932.	
Yun, Sang Won	Animal Husbandry	Song-Do, Korea
B. S., Agricultural and M	lechanical College of Texas, 1934.	

UNDERGRADUATE STUDENTS

ABBREVIATIONS

AA-Agricultural Administration Agr-Agriculture AgEd—Agricultural Education Arch—Architecture ArchEng—Architectural Engineering CE—Civil Engineering CE—Civil Engineering ChE—Chemical Engineering EE—Electrical Engineering GE—Geological Engineering IE—Industrial Education LA-Liberal Arts ME-Mechanical Engineering

Abbott, Olen Williford, 2 ChE McAllen Acker, Voscoe, 1 PPEVelasco Adair, Robert Edward, 2 PPEVelasco Adams, George Barton, 1 CE Bryan Adams, Joseph Bartholomew, 2 VM Bryan Adams, John Charles, 2 PPEBryan Adams, Samuel Leon, 3 EEBeaumont Adams, Thomas Wilson, 2 VM Forney Adams, Thomas Wilson, 2 VM Crockett Adams, William Arnold, 2 AgrEl Paso Adamson, Arthur Douglas, Sp LA Houston Addison, Robert Clifton, 1 ME Addison, Robert Clifton, 1 ME

Adkerson, Clinton Penn, Jr. 1 EE, Belton Adler, Vernor Tommins, 2 Sci ... Boerne Adwany, Ramchand Khushaldas, 4 EE Aiken, William Hambler, 1 ChE Salado

Airhart, Wallis Hendricks, 2 AA Blue Ridge

Albright, Jack Donald, Z AA Wichita Falls Aldredge, Harry Wilson, A AgEng Gilmer Aldrich, Johnnie Lee, 1 AA Temple Aldwell, Lea Roy, 4 AA Sonora Alexander, George Morgan, 1 AA Paris Alexander, George Morgan, 1 AA Paris Alexander, George Morgan, 1 AA Paris Alexander, George Morgan, 1 AL Grange Alexander, Richard, 4 AA LaGrange Alexander, Ulysses McDonald, 1 EE Fort Worth

Allen, Dick, 1 LA College Station Allen, Frank Ray, 1 EE Little Rock, Ark.

College Station Altick, Frank Joseph, 1 Sci Dallas Altman, Benny, 1 CE Mexia Amsler, Dan Wood, 1 LA Hempstead Anderson, Clarence Alexander, 1 AgEng

PPE-Pertoleum Production Engineering RE-Rural Education Sci-Science TE-Textile Engineering VM—Veterinary Medicine CM—Two-year Course in Cotton Marketing and Classing

.

4-Senior -Junior 2-Sophomore

1-Freshman

Sp—Special

Marshall Anderson, Roxford Kosciusko, 3 ME

Anderson, John Anderson, Viliam Kermit, 1 LA Anderson, William Kermit, 1 LA Andrews, Verne Cook, 4 Agr Bryan Andrus, George Loran, 4 VM Galveston Angus, Richard Hull, 4 Che Dallas Ankeny, Clayton Jennings, 2 LA Lincoln Nebrocks

Ansley, Benjamin Thomas, Jr., 2 AA

Anthis, Bellvin J., 1 AgEng Temple Anthony, Walter Wesley, 1 LA Naples Appelt, Osborne West, 1 ME Gonzales Appelt, Weldon Ferdinand, 3 ME

Arcularius, Harry Robert, 1 ChE Kilgore Arendale, John Morris, Jr., 1 Sci Houston Arisco, Charles Vincent, 3 ChE

Armstee, Charles Vincent, 3 Che Port Arthur Armbruster, Courtney, 1 Agr Armita, George Gonzy, 1 Che, San Antomio Armistead, William, 1 VM Houston Armstrong, Donald Elmo, 1 AA Cleburne Arneson, Edwin Park, Jr., 1 CE

Arneson, Edwin Park, Jr., 1 CE San Antonio Arney, Thomas Farl, 1 CE Arthur, Morris Manley, 1 Agr, Plainview Aschbacher, Charles Frederick, 1 CE Hallettsville Ashford, John Thomas, 1 PPE Askwe, William Clark, 1 Agr Coolidge Askins, Jack Watt, Jr., 4 Arch Eng Dallas Atkins, Claude James, 1 Agr Tabor Atkinson, Robert Mount, 2 ChE Houston Atmar. Tom Ralph, 1 Sci Houston Atkinson, Robert Mount, 2 ChE Houston Atmar, Tom Ralph, 1 Sci Houston Austin, Harry Guiden, Jr., 1 EE Belton Austin, Oren Lyle, 1 PPE Houston Ayers, Harry Kester, 2 Arch Wichita Falls Ayers, John Walter, 2 Agr Chillicothe Babb, Bennie William, 2 AA Comstock Bacon, John Roscoe, 4 ME Stephenville Badgett, James Roscoe, 3 IE Denison Baggett, William Ramsey, Jr., 1 Agr Ozona

Bailey, Carl Bliss, 1 PPE, Wichita Falls Bailey, Harold Thomas, 4 AA Corpus Christi Bailey, John Thomas, 1 CE Bailey, John Thomas, 1 CE Bailey, Leonard Gorand, 1 EE College Station Bailey, Royce Elmer, 1 Agr Bailey, Robert Morgan, 1 Che Bailey, Woodrow Wilson, 3 Agr Lancaster Baker, Alva Otto, 1 Agr Baldwin, Ben Armistead, 1 CE Baldwin, Ben Armistead, 1 CE Baldwin, Ben Armistead, 1 CE Ballerstedt, Richard Herman, 2 Sci Bryan Balmer, Wilbur James, 3 CE Baltis, Russell Forrest, Jr., 2 IE College Station Bancroft, Donald Huntley, 2 PPE Banister, Arlin James, 1 Agr Mount Vernon Bannister Bannister, James Harvey, I LA Baram, George Gregory, 2 PPE Mexico City, Mexico Barbeck, Arthur Herman, 4 PPE San Antonio Barber, Charles Record, 1 LA Abilene Barker, James Robert, 1 ME _____ Dallas Barkuloo, Paul Lawrence, 1 AA ______ College Station Barnard, William Clifford, 4 AgEng ... Barnes, Edward Austin, Sp Voc College Station Barnes, Emmet Frederick, 4 AgEd Bryan Barnes, George Wallace, 1 ChE ... Bryan Barnes, William Wright, Jr., 2 CE Barnett, John Franklin, Jr., 3 Sci Bass, Ben Clayton, 1 Sci Chandler Bass, Henry Tilden, 3 Agr Tuleta Bass, Merriman Claude, 1 ChE Bryan Bass, Sam Dennis, 2 EE Tuleta Basse, Wallace Frazier, 1 Agr College Station Bassett, Alton Benton, 1 LA Dallas Bateson, Edwin Paul, 2 CE Cleburne Batjer, Joseph Harris, 1 ME Houston Batts, Joseph Woodyard, Jr., 3 Sci Bryan Baugh, Charles Robert, 1 EE Pauls Valley, Okla. Bayless, Frederick Black, 1 EE Houston Bayless, Frederick Black, 1 EE Houston Bean, John Thomas, 4 Agr McNary

Bean, Raymond Franklin, 1 Agr Temple Beard, Rufus Arch, 3 Agr Thorndale Bearden, Harold James, 4 TE Bearden, Harold James, 4 TE College Station Beasley, James Otis, Sp LA Beaty, Clyde Bowden, 2 Sci Lockhart Beavers, William Howard, 1 ME Becka, John, 2 ME Beckeom, Edwin Augustus, 1 VM Jacksonville Beckeom, Edwin Augustus, 1 VM Jacksonville Beckeom, Edwin Augustus, 1 VM Jacksonville Becker, George, Jr., 3 AA Beckley, Robert Alfred, 1 Arch San Antonio Bedingfield, James Morris, 1 LA, Freeport Bednarek, Frank, 4 Agr Beene, Jesse Herman, 2 Agr Comanche Begeman, Herman Louis, 1 LA Belden, Leonard, 1 LA Belden, Leonard, 1 LA Belden, Leonard, 1 LA Belden, Leonard, 1 LA Bell, John Payne, 1 ME Bell, Richard Arthur, 1 Agr Bell, Richard Arthur, 1 Agr Bell, Richard Arthur, 1 Agr Bell, Woodrow Morris, 1 ChE Bell, William Thomas, 1 VM Bell, William Thomas, 1 VM Bell, William Thomas, 1 E Bell, William Thomas, 1 E Bell, William Thomas, 1 College Station Beloate, Charles Felix, 4 PPE San Antonio Bender, Charles Robert, 1 PPE ... LaPorte Benner, Archie Vivian, Jr., 1 ArchEng Bentley, George Ewing, 2 ChE Dallas Bentley, William Carey, 4 ChE Lufkin Berg, Lothar Edward, 1 ME Fredericksburg Berg, Winfred Emil, 1 AgEng Bering, August Charles, III, 2 LA Houston Berlocher, S. Harry, 1 Che...... Houston Berndt, Paul Edmund, 1 EE...... Bellville Betanzo, Robert Adolph, 1 PPE Mexico City, Mexico Bettis, Howard Elmo, 1 PPE Iraan Revan, David Henry, 1 FE College Station Revers Bibb, James Richard, 1 ChE Munford, Tennessee Bielstein, Charles Max, 2 Sci Baytown Bielstein, Walter Joe, 1 PPE Baytown Bierce, Walter Bernice. 1 LA Brownsville Biggs, Aubrey Roy, 4 PPE Luling Rills, James Hulen, 1 RE Dawson Bingham, Henry Todd, 1 CE Glen Ellyn, Illinois Birdsong, Searcy, Jr., 1 Sci Longview Birnbaum, Joseph, 1 PPE, San Antonio Birt, Bryan Benton, 2 ME Harper Bisbey, Joseph Blackard, 2 IE Houston Bischoff, Helmut Albert, 2 PPE Bishop, George Finley, 1 ChE Tothe Bishop, George Finley, 1 ChE Troy

Bradshaw, Thomas Eugene, 1 ME Houston Brady, George Myron, 4 EE Texas City Braikovich, Andrew Christopher, 2 AA ... Galveston Brailsford, George Whitfield, 3 ChE

..... Houston -----

Jacksonville, Florida Bratcher, Woodrow Wilson, 1 ME

Gladewater Brauche, Robert Rudolph Renn, 1 Agr San Antonio Braunig, Fred Talley, 1 LA ... Yorktown Bravenec, Edward Emil, 2 RE College Station Bray, Harold Lowell, 1 CF

Bray, Harold Lowell, 1 CE — Pampa Brazelton, William Buchanan, 1 CE . Waco Breazeale, William Griffin, 4 IE

Crockett

...... Temple

Bridges, Charles Woodrow, 4 Agr

Corpus Christi Brooks, John Oliver, Sp Voc College Station Broussard, Paul Denis, 1 AA Freeport Brown, Arthur King, 2 PPE ... Fort Worth Brown (Dennes Verl 2 Chr Brown, Arthur King, 2 PPE ... Fort Worth Brown, Clarence Karl, 2 ChE Houston Brown, Charles Sumners, 1 Agr Mathis Brown, Donald Henry, 1 PPE Decatur Brown, Edgar Dodd, Jr., 2 Arch Clint Brown, Ewing Ernest, 2 RE

.... College Station

Brown, Harry George, Jr., 1 CE Buffalo, Kansas Brown, Johnnie Alborn, 1 Sci, Henderson Comnas, George Demetrie, 4 ChE, Cuero Brown, Joe Louis, 2 LA, San Antonio Brown, James Nelson, 2 VM

Aberdeen, Mississippi Brown, Jack Tyre. 1 AA Luling Brown, Toom, 1 PPE Bronte Brown, Thomas Markham, 2 PPE, Houston

..... Corsicana Corsicana Bruckner, John, 1 Arch, Chicago, Illinois Brumleu, Mayne Lewis, 3 LA Houston Brummerhop, George Hamman, 3 Agr

Brundrett, Frank Wilfred, 2 VM Dallas Bruns, Stockton Donald, 4 PPE, Louise

Bittle, George Thomas, 2 Agr Eastland Black, Hardy Henry, 1 AgEd

Black, Joseph Marion, Jr., 2 VM Marshall Black, Joseph Marion, Jr., 2 VM Marshall Black, John William, 2 Sci Bryan Black, Robert Sigman, 2 CC Clifton Ariz. Black, Robert Sigman, 2 CC Inform Ariz.

Blackstone, Sam Neil, 1 ME Austin Blackwelder, I. J., Sp LA Bryan Blackwelder, I. J., Sp LA Bryan Blackwell, Claude North, 1 Agr Hochmuh Blackwood, James Cosby, 3 PPE

Blair, James Allen, 1 LA College Station Blair, Phillip Joseph, 2 AA

..... College Station

Bolanos, Frederico Albert, 1 ChE _______ Mexico City, Mexico Boling, Jack Austin, 1 AA ______ Temple Bolton, Charles Lee, 1 TE _____ Quanah Bond, Edmond Van, 1 PPE _____ Cuero Bond, Monroe George, 1 Agr _____ Bryan Bone, John Henry, 1 AA ____ Wichita Falls Bonner, Richard Barnett, 2 LA ____ Eureka Boothe, Walter Lea, Jr., 4 Agr Sweetwater Boots, James Earl, 3 ME _____ Dallas Boriskie. Ben Bernard. 3 EE _____ Bryan

Bradford, William Gordon, Jr., 4 Arch Dallas

Calvert, Wilbert Adair, 1 LA, Archer City Calvin, Charles Burton, 1 Sci San Antonio

Cameron, Robert Gerald, 1 LA

Campell, Bruce Burnett, 1 Mg. Sabinal Campbell, Bruce Burnett, 1 Mg. Sabinal Campbell, Gordon Miller, 1 CE Tyler Campbell, Joe Haskell, 1 PPE Thurber Campbell, Thomas Grayson, Jr, 1 AgEng....

........... Campbell, William Gibbs, 1 Agr

Canada, John Richard, 1 Agr ... LaPorte Cantrell, Edmond Eugene, 1 AA, Mexia Canuteson, Alvin Clarence, 3 AgEng Clifton

Cardona, Carlos Juan, 3 VM _____ Ponce, Puerto Rico Carleton, Charles Samuel, 4 Arch

..... Lamkin

Carnahan, Bailey Gordon, 2 Agr San Antonio Carney, Charles Russell, Jr., 3 AA, Cuero Carpenter, Claude Cecil, 2 EE, Littlefield Carpenter, Hugh Curlee, 2 PPE ______ Dallas

Carpenter, Meade Aubrey, 3 ME Carpenter, Robert William, Jr., 1 LA

Carpenter, Willis Tessier, 1 PPE Globe, Arizona Carrell, Dayton Moses, 3 Agr

Carroll, Bayton Moses, 5 Agr College Station Carroll, Robert Everette, 1 VM ... Abilene Carroll, William Robert, 1 ChE ... Houston Carson, Archie Hugh, 2 ME Bryan Carstens, Joseph Eugene, Jr., 1 PPE

Carswell, Horace Seaver, Jr., 1 Agr Fort Worth Carter, Howard Arthur, 1 EE

... Somerset Caruthers, Edward Blount Blair, 1 ChE

Caruthers, Robert Eldon, 1 RE, Moody Casbeer, Thomas Jefferson, Jr.; 2 Agr South San Antonio

..... Lampasas Case, Charlie Harmon, 1 AgEd

Castle, Harry Wendell, 4 PPE

Castleberry, Harold J., 1 Sci Albany Cate, Robert Marvin, 1 PPE Cleburne Cauthan, Weldon Davis, 1 PPE, Trinity Cazell, Gabriel Francois, Jr., 2 Sci Callin, Gabriel Francois, Jr., 2 Sci San Antonio Cellum, Louis Blanchard, 1 ME ... Lubbock Cely, Tom Rogers, 2 Sci Frankston Cely, William Hampton, 3 AA, Frankston Cervenka, Landis Edward, 1 ME ... Rowena Chaffin, Alexander Prichard, Jr., 1 Sci....

Chambers, Kenneth, 1 LA ... McKinney Chambless, Rodney Frank, 2 AgEd Madžonville Chandler, Darrell Edison, 1 PPE Gilmer

Bryson, Bernard Glenn, 1 VM ... Shreveport, Louisiana Bryson, Charles Edward, 1 LA Hamlin Buchanan, Kenneth St. Clair, 4 Agr.

Bryan

College Station Buckner, Roy William, 1 CE, Fort Worth Bueno, Placido Oscar, 4 Arch Monterrey, Mexico

Buescher, Jack Flavell, 1 LA, Smithville Buford, William Ragsdale, 2 EE Terrell

Bullock, Thomas Albert, 1 PPE ... Bryan Buntin, Lewis Doss, 1 Agr ... Plainview Burch, George Riley, Jr., 1 VM Wichtig, 7, 11 Wichita Falls

Burda, Edward John, Jr., 3 EE

College Station Burrus, Joe Howard, 2 EE — Houston Burton, Arthur Lee, 1 ME — Kirbyville Burton, George Harris, 1 ME — Tyler Burton, Henry Edgar, 1 VM, Kirbyville Burton, Morris Sheppard, 4 EE — Tyler Bush, Forest Woodrow, 1 Arch — Houston Butler, Elwin DeWitt, 1 ChE — Graham Butler, Lowas Herman 1 Arch — Luftin Buttrill, Carroll Oliver, 1 ChE, Port Arthur Buttrill, Harlon Crawford, 2 TE, Decatur Pynum, Rufe Sinclair, 1 PPE, San Antonio Byrd, Charles Lively, 2 Agr. ... Mesquite Byrd, Lawrence Herman, 2 ChE

Jacksonville Byrd, Lynn Lyndell, 2 Agr Mesquite Byrom, J. C., 1 AgEd McKinney Cade, Charles Miller, 2 AgEd, San Antonio

Chaney, Preston Earl, 3 ChE Anahuae Chapin, John Letcher, 3 ChE El Paso Chapman, Oscar Clark, 1 EE, Wellington Chase, Jack Balloch, 1 PPE Dallas Chatmas, James Constantine, 1 AA, Marlin Chaudoin, Dallas Leslie, 1 Arch, Dublin Chemoke, John Joyce, 1 LA Kilgore Chenault, Maxey Cleburne, 2 ArchEng Snyder

Cheshire, Herbert Coke, 1 PPE Wichita Falls

Wichita Falls Chiako, William, 1 ChE, College Station Chick, Lewis William, 1 ME, San Antonio Childers, Charles Orie, 1 AA Merkel Christian, Ben Emory, 1 Arch Claude Christian, Bernard Gaston, 2 VM, Dallas Christy, Richard Binford, 2 Sci Kansas

Scott, -----Church, Warren Elan, 1 LA Colorado Claiborne, Amos Lee, 1 LA, Mineral Wells Clark, Charles Eugene, 1 AA

Clark, Charles Eugene, 1 AA College Station Clark, Everett Cleveland, 1 CE Devers Clark, Edward Napoleon, 1 AA Sabinal Clark, Fred Wright, Jr., 1 EE Van Horn Clark, George Jenner, 2 LA, Breckenridge Clark, James Elmer, 1 Agr Liberty Clark, Nathan Ray, 1 ME Burleson Clavell, Cesar, 4 VM, College Station Clary, Jim Cunningham, 1 CM, El Paso Claunch, Earl Elmer, 1 ME Henderson Clearman, Hugh Lee, 1 Agr Lamesa Close, William Epperson, 1 PPE Clearman, Hugh Lee, 1 Agr Lamesa Close, William Epperson, 1 PPE

College Station College Station Cloudt, Frank Otis, 1 Agr, Rocksprings Clute, J., 1 AgEd Marquez Cochran, Chudleigh Ben, 1 ME

San Antonio Cochran, Randolph Viser, 1 AA

Cochran, William Benjamin, 4 ME

Cochran, Woodrow N., 1 PPE Lufkin Cockrell, Joseph Elmore, 2 AgEng

Dallas Coffey, Murray Bradfield, 2 Agr

Coffey, Murray Bradfield, 2 Agr Richland Springs Coffin, William Arthur, 1 Agr ... Mathis Coker, Robert Howard, 1 ME San Antonio Cokinos, Geneos Pete, 1 CE Cokinos, Geneos Pete, 1 CE Cola Farneia Dill, 1 Ad Corrigono Coleman, Charles Leonard, 3 VM, Alpine Coleman, Charles Leonard, 3 VM, Alpine Coleman, Paul Frederick, 1 LA Coleman, Paul Frederick, I LA College Station College Station Collerain, Joseph Bernard, 1 PPE, Houston

Collerain, Joseph Bernard, 1 PPE, Houston Collie, Robert Monroe, 1 ChE Alvin Collie, Robert Monroe, 1 ChE Pecos Collier, Fred Allan, 1 LA Giddings Collins, William Denny, 2 AgEd, Crockett Collins, Warren Linton, 2 CM College Statioa Colquitt, Rawlins Murrell, Jr., 1 PPE Dallas

..... Dallas

Colson, William Nolan, 1 AA Colvert, Warren Pelote, 1 CE, San Antonio Common, Glenn Gurney, 4 ME, Mercedes

Comnas, George Demetrie, 4 ChE Cuero Comnas, Peter Harold, 1 AA Cuero Compton, Joe Washington, 1 Sci Cothran, Lee Pate, 1 Agr Cotter, Robert Paul, 4 ME, San Antonio Couch, J. B., 1 VM Grandview Couch, Weldon Morris, 4 VMGrandview Coulson, Bennett, 1 ÉE Houston Coulson, Charles Kenneth, 3 ChE, Brenham Coulson, Charles Kenneth, 3 ChE, Brennam Coulson, Edward Donald, 1 LA.... Houston Coulter, William Wallace, 3 Sci, Houston Courtade, Arthur Henry, 1 Agr..... Riesel Couser, William Lee, 2 LA, Breckenridge Cousins, Otie Columbus, 1 ME...... Bryan Covaint, Franklin James, 1 EE.... Bryan

Covington, Homer Baker, 1 Arch College Station Cowan, Marvin David, 1 Agr College Station Cowan, Marion Glenn, 1 Sci, San Antonio Cowan, Robert Clifton, Jr., 1 EE, Gulfport Cowles, Alvin Walter, 1 ChE New Braunfels Cowsert, Otis Corder, 2 AA, Rocksprings Cox, Daniel Glenn, 2 LA, Wichita Falls Cox, Feed, 1 EE _______ Henderson Cox, George Walter, 4 CE, San Antonio Cox, Luther Benton, 2 TE ______ Houston Cox, N.A. 1 VM ______ Pa^{ll} Coy, Mack Chester, 1 CE Seymour

Crabtree, Lloyd George, 1 PPE, Daisetta

Daeuble, Thomas Arthur, 1 ME El Paso Daffron, Phillip Logan, 2 AA Plano Dagner, Charles William, 2 AgEng Matagorda

Matagorda Dahl, Max Gilmore, 1 ChE, Savanna, 111, Dansby, Durant Martelle, 1 LA Bryan Dansby, Guy Melvin, 1 AgEd Bryan Darden, Sidney Isler, 1 PPE Waco Dark, James Marion, 1 EE, College Station Dark, James Marion, 1 EE, College Station Daughtrey, Jewel, 1 Agr Colorado David, Albert Lewis, 4 EE, Alexandria, La. Davidson, Duval Adam, 1 PPE, Cleveland Davidson, John King, 3 CE E Eagle Lake Davidson, John King, 3 CE E Eagle Lake Davidson, Sam Norris, 4 CE Eagle Lake Davis, Annis Lamar, 1 Agr, Mount Vernon Davis, Doyle Truitt, 1 EE Bruis Davis, John Barnes, 1 Agr Washachte Davis, John Barnes, 1 Agr Washachte Davis, John Barnes, 1 Agr Daine Davis, Paul Clendenen, 1 EE Dallas Davis, Russell Ralph, 1 VM

. Shawnee, Okla. Davis, Thomas Bridwell, Jr., 1 AA Huntsville

Davis, William Herbert, 1 ChE Pampa Davisson, William Campbell, 1 Agr

Day, Thomas Gaylord, 1 ChE

DeArmond, Graves Leverett, 2 LA .. McKinney December, Franklin Otto, 3 EE

College Station Delaune, Russell Robert, 1 ME ... College Station

College Station DeLay, Roy Earl, 2 ChE _____ Dallas Delleney, Ned Bullock, 1 Agr ___ Marlin Delong, David Elworth, 1 Agr ___ El Dorado De Maret, Jack Skains, 1 Sci ___ Franklin Dempsey, Jesse Dale, Jr., 1 Sci ___ Forsan Dampwolf, Charles Martin, 4 ChE, Cleburne Dempwolf, Edward Newton, 1 ChE

..... Cleburne Denman, William Bryan, 1 Sci Gonzales Dennis, Franklin Honeycutt, 1 LA

Denton, Joseph Alexander, 1 AA ... Cleburne Denton, James Gerald, 1 EE Cleburne Derryberry, George Andrew, 2 Agr Derryberry, James Perry, 3 Agr, McKinney Dershimer, John Edward, 1 CE San Antonio . Cleburne

...... San Antonio Devine, Charles Robert, 1 PPE, Daisetta DeWaal, Roland Constant, 1 ME, Houston DeWalt, Ivan Brown, 1 ME Houston

Craddock, John Martin, 3 EE, Stephenville Craft, Herbert Gray, 1 EE Alvarado Craig, Bobby Neal, 2 AgEng, Panhandle Craig, Norman William, 4 Agr

Crain, William C., 1 CM, College Station Cramer, Alan Campbell, 4 ChE Pharr Cramer, John Milton, 1 ChE Pharr Cramer, Maurice Boyd, 2 LA Pharr Crane, Edjar John, 1 ChE Galveston Crase, Harold James, Jr., 4 Arch College Station Craven, James David, 2 LA Laredo Cravens, Edward Eugene, 2 EE Crawford, John Carroll, 2 PPE, Houston Crenshaw, Robert Hunter, 1 AgEng Crews, James Franklin, 2 CE El Campo Crews, James Franklin, 2 CE Dallas Crews, Jack MacMaster, 3 ME ... Trinidad Crews, Lloyd Inge, 1 ChE Trinidad Crews, Sim Harlton, 2 PPE Crichton, Jack Alston, 2 PPE East Point, La Crigler, Philip Hall, 4 LA Crawford, Mississippi Crisler, James Seymour, 4 CE El Paso

Bryan

Bryan Cummins, Harry Edgar, 2 PPE, Woodsboro Cunningham, Calvin Perry, 1 Sci, Tyler Cunningham, Edgar Bobby, 1 ME, Tyler Cunningham, George Henderson, 1 Agr Corsicana

Cunningham, Henry Allan, 1 LA, Bonham Cunningham, Irwin Edmond, 1 CM Houston Cunningham, Joseph Anderson, 1 Agr

Custer, George Bussey, 1 LA Longview

DeWare, Charles Allen, Jr., 1 Agr Brenham DeWare, Jesse Marmaduke, III, 3 Sci

Dewey, Brownrigg Hefferron, 1 LA, Bryan

Dibrell, Charles Frederick, 1 LA San Antonio

Dickey, Joe Hubert, 3 IE Fort Worth Dickie, Joe Alex, 2 Agr Woodson Dickson, John Lafayette, 1 EE Freeport

Dillon, William Sheriden, Jr., 2 CE Longview Dismukes, Charlie Monroe, Jr., 2 AA Camp Verde Dismukes, Jesse Valentine, 1 LA, Palacios Dixon, Howard C., 1 Agr, College Station Dixon, Jess Garnett, 2 Arch, Wichita Falls Dixon, Kenneth Aldon, 1 PPE Houston Doane, John Stephen, 2 LA Bryan Dodson, Frederick Wilkins, Jr., 1 Sci Amarillo

Dodson, Ralph Jordan, 4 ChE Decatur Dollinger Francis City Dollinger, Francis Oliver, 4 PPE, Beaumont Donahue, Donald Paul, 1 EE Verron

Dollinger, Francis Onver, 4 Fr.E., Deaumon. Donahue, Donald Paul, 1 EE Verron Donald, William Jenkins, 1 Sci Dallas Donaldson, Graham Philip, 3 ME College Station Donalson, James Lee, 1 Agr, Prairie Lea Donelson, Henry, 2 VM Stanton Dooley, Thomas, 4 Ag Eng McKinney Doornbos, Cornelius, Jr., 1 VM, Nederland Dorman, Herschel Dodd, 1 VM Orange Dorsett. Hubert Charles, 1 AgEd Lufkin Dorsett, Hubert Charles, I AgEd ... Lufkin Dorsett, Theodore Monroe, 1 ME, Galveston Doss, Robert Lawrence, 1 Sci, Whitewright Dotson, Allston M., 1 ChE Wharton Douglas, William Jackson, Jr., 4 AA Trinity

Douglass, Earl Joseph, 1 ME, Gainesville Dowling, Alfred Pete, 1 LA Houston Doyle, Jack Franklin, 4 Arch, Brownwood Doyle, William Earl, 1 PPE Slidell Drake, Ezra Wilbur, 1 PPE Slidell Drake, Ezra Wilbur, 1 LA Commerce Dwappen, Robert Fisher, 4 AA Commerce Drennan, Weldon Bailey, 1 LA, Cleburne Drinkard, John Edward, 1 AA Mart

...... Mount Calm

Duncan, Wayne Oral, 1 AgEng Troup Dunckleman, Dwight Joseph, 2 Agr Clarence, La. Dunn, Norman Percy, 1 ME Lufkin Dunwoody, Cullen Bryant, 1 ME Pharr DuPerier, Ralph Henry, 1 PPE, Houston Dupuy, James Bryant, 3 EE, Comanche Durham, Angus Pat, 1 AA Lufkin Durham, Robert Wayne, 1 LA Bryan Durst, Roy Thorne, 3 ME Bruceville Dwyer, Tim Hall, 1 LA San Antonio Dyer, William Walter, 1 Sci Dallas

..... Groesbeck Eastham, John Moise, Jr., 1 LA, Beaumont Echols, Woodrow, I Agr Dallas Echterhoff, James Henry, 3 ChE

Effenberger, Ewald Joseph, 3 CE ... Shiner Egg, Albert Charles, Jr., 1 Agr Edna Fgger, Samuel Levi, 2 EE, Wichita Falls Eichblatt, Owen Hugh, Jr., 2 Agr, Houston Eidson, John Russell, Jr., 3 CE, Hamilton Eikel, Ernest Ogden, 4 ChE, New Braunfels Eisen, Herman Murray, 1 Sci ... Tyler Elder, Melville Adolf, 1 ME Luling Elder, Donald Everett, 2 Agr Dayton Elder, John George, Sp CE Bryan Flderbrook, Fred, 1 Agr, College Station Elliott, Charles Holdman, 1 PPE, Trinity Elliott, Karl Finley, 4 CE Kress Elliott, Rawleigh Smyth, 1 Agr Kress Elmore, Robert Edison, 1 EE, Fort Worth Elrod, John Thompson, 3 ME ... Houston Embry, George Clark, 1 ME

Emory, George Clark, 1 ME Shawnee, Okla. Emery, Charles Kieth, 1 Sci _____ Dallas Emery, Clinton Leon, 1 PPE ____ Palestine Emery, Lewis Vernon, 2 Agr ____ Denton Engel, Godfrey, 2 CE _____ Albany English, Marlin Thomas, 1 ME ____ Falestine Eppner, Frank C., Jr., 1 LA ____ Palestine Eppner, Robert Lee, 2 Agr _____ Freeport Eriksen, Merrill Kiellin, 1 EE Houston Erisman, Robert Elmore, 2 VM, Fort Worth Eschenburg, Elwood Henry, 2 AA, Shiner

Fluitt, Linwood Curtis, 1 PPE Iraan Flynn, Cecil Frank, 1 Agr Chillicothe Flynn, James Paul, 3 PPE Port Arthur Foshee, Neill, 2 CE _____ Longview Foote, Daniel Avery, 1 AA, San Antonio Ford, Clarence Berton, 1 Agr _____ College Station Ford, Edward Raymond, 1 LA _____ Theyare Miscourie

Thayer, Missouri

Fort Worth Fortenberry, James Claude, 4 ChE, Zaval!a

Foster, Charles Bradford, 1 CE

..... Shreveport, Louisiana Foster, Edired Leroy, 1 Agr, Heidenheimer
Foster, G. A., 2 ChE
Bryan
Foster, G. A., 2 ChE
Bryan
Foster, Robert Henry, 1 CE
Calvert
Foster, Thomas Grady, 1 Agr, Pecan Gap
Fowler, John Albert, 1 AZ
Fox, Edward Franklin, 1 CM
Terrell
Fox, Robert Lee, 1 EE
San Antonio
Francis, James Harrison, 1 Agr, Houston
Francis, James Harrison, 1 Agr, Houston
Franz, Julius August, 4 ME
Baytown
Franz, Julius August, 4 ME
Dailas
Frederick, Daniel Cecil, 2 VM, Jacksonville
Freeman, Lavy Akmer, 1 Agrn, Cockhart French, David Alexander, 1 Agr., Lockhart French, William Allen, Jr., 2 PPE, Abilene Frick, John Hertel, 4 ChE Bay City Friddle, Marvin Lawson, 1 RE

...... College Station Friedline, John Walters, 1 ME

Grand Saline Friedman, Clarence John, 1 ChE

Fritsch, Curtis Paul, 1 ChE, San Antonio

Fuller, William Calvin, 3 AgEng ----

Etter, Eugene Thomas, 1 Sci Etu, Clarence Richard, 1 LA Eut, Clarence Richard, I LA De Quincey, La. Eubank, Charles William, 1 PPE Waco Evans, Andrew Jackson, Jr., 1 PPE Wichita Falls

 Wichita Falls

 Evans, Jess Eldridge, 1 AgEd
 Neches

 Evans, Joe Earl, 3 AA
 Bryan

 Evans, John Willis, 1 Agr
 Floresville

 Evans, Lynn Augustus, 3 Arch
 Houston

 Evans, Paul Charles, 2 PPE
 Fort Worth

 Evans, Raymond Scott, 3 Sci, San Antonio
 Levers, Richard E., 4 Agr

 Ewing, John Donald, 1 AA
 McAllen

 Ewing, Sankie Leslie, 2 CE
 Laredo

 Faber, Damon Charles, 3 ChE
 West Columbia

 Fahring, Thomas Lloyd, 2 Sci
 Anahuac

 Fahring, Thomas Lloyd, 2 Sci Anahuac Fairbanks, George Hofford, 4 EE, Dallas Fambrough, Truman Elmer, 2 Agr Breckenridge Farquhar, James Thomas, 1 CE, Jonesboro Farr, James Wesley, 2 ME Caddo Mills Fasken, Robert Andrew Murray, 1 LA ... Feagin, James Hill, 1 Sci Midland Fell, George Kreplin, 3 AA, Enid Oklahoma Fennell, William Alonzo, 1 PPE Seguin Fenner, Leonard Wray, 1 AgEd Ferebee, Edward Lee, 1 LA, College Station Ferguson, Charles Winston, 3 Sci. Bryan Ferguson, Frank Maxwell, 1 PPE, Conroe Ferguson, Henry Bismark, 4 EE Ferguson, John Gilbert, 2 EE Leesville, Louisiana Ferguson, Jack Newton, Jr., 4 Sci, El Paso Fernandez, Roberto Simeon, 1 ChE Monterrey, Mexice File, Maurice Clarence, 1 LA College Station File, Wayne Oran, 1 LA, College Station Filizola, Harold Joseph, 2 LA Victoria, Mexico Fincke, Melvin Fred, 4 ChE, San Antonio Finkenburger, Fred Bernard, 2 Sci Houston -----Finley, James Herbert, 1 EE ... Knox City Finney, Reginald Horace, 1 AA Paris Fischer, Walter Ernest, 1 EE Marlin Fisherman, Henry, 4 VM Big Spring Fistel, Edward Robert, 1 LA Fitzgerald, James Linzie, 2 ME, Aspermont Fitzgerald, William Edward, 4 ME College Station Fitzhugh, Thomas Champe, 1 Arch, Waco Fix, Robert Eugene, 1 ChE Dallas Flanagan, Christopher John, Jr., 1 PPE.... Houston Fletcher, Alfred George, 1 Sci ...

Wichita Fails Fletcher, Robert Kemble, Sp Agr

Flippo, Richard Mason, 2 GE, Fort Worth Flopre, John Wilson, 1 Arch, Fort Worth Flowers, Ernest Andrew, Jr., 2 ME, Waco Floyd, Moore Franklin, 1 PPE Lufkin

Goode, James Philip, 1 LA Shreveport, Louisiana Goode, Jack Reagan, 4 LA Goodnight, Edward Clyde, 1 Sci College Station Goodwin, Edward Lee, 1 EE Goodwin, Edward Lee, 1 EE Gorin, Edwin, 3 EE Gorman, Bose, 2 Sci Gorsuch, Lester Joshua, Jr., 1 PPE Abilane Abilane Abilane

Wills Point Graham, Hugh, 1 AgEd Wills Point Granmer, Richard Beverly, 2 Sci, Pittsburg Granes, Edward Anthony, 1 PPE, Kerrville Grant, Donald L., 1 ChE, Savanna, Illinois Grant, Guilford B., 3 Agr, Dozier, Alabama Grant, Ralph Gordon, 2 ME Houston Consthem Conbern Bachert 1 DPE Grantham, Graham Robert, 1 PPE

Grassman, Joseph Meyer, 1 AA, Chenango Grasso, Warren Alwin, 1 CE, San Antonio Graves, Francis Marion, 4 ChE, Fort Worth Gray, Darrell Leighton, 1 Agr

Gray, Jay Clifton, 1 CM, College Station Gray, Joseph Thomas, 2 LA Eastland Gray, Joseph Thomas, 2 LA Eastland Gray, Laurence Hard, 1 ME, Madisonville Grayson, Jack Lee, 2 Sci Texarkana Greak, John Gaither, 1 AgEd Liberty Greak, William Gerald, 4 Agr Liberty Green, Carl Victor, 1 EE Hope, Ark. Green, Dee Minton, 1 LA, College Station Green, Julian Clarence, 4 AgEd Pecos Greenherg, Samuel Mendel, 2 ChE, Dallas Greenhaw, Denton Keith, 1 Sci Tuckerman, Ark. Greenwald, Tom Sieg, 1 PPE, Sugar Land Heidenheimer Griffin, Levi Hall, 4 RE — Moks Griffin, Percy E., 2 LA — Electra Griffin, Robert Jefferson, 2 LA Garrison Griffin, William Richard, Jr., 2 AA, Bryan

Griffith, Willie Brown, 2 Agr Abllene Grimes, Rudyard Kipling, 1 EE Abilene Grimes, Thomas Boyce, 4 EE Dunn Grimm, Albert Frederick, 1 Agr Grissette, William Arnold, 1 PPE

Guerra, Joe Benjamin, 1 Soi Gully, William David, 1 PPE, Brownwood Gump, James Frederick, 1 PPE Dallas Gunter, Cecil Edward, 4 ME Buna

Garza, Michael Henry, 3 ChE

Gates, Albert Edward, 2 Agr Laredo Gates, Leslie Charles, 1 AgEd Pearsall Gay, George Stevens, Jr., 1 CE, Asherton Gayden, John Henry, 2 Agr Groesbeck Gearhart, Benjamin Franklin, Jr., 1 VM... Marfa

Gearhart, George Leonard, 3 LA

Gerhardt, Edgar Lewis, 2 ChE

Gerhardt, Edgar Lewis, 2 ChE Wichita Falls Gershovitz, Joe Benjamin, 4 ChE, Hillsboro

Hughes Springs

Giesecke, Leonard Frederick, 2 TE, Houston Giesen, Bernard William, 2 EE

Alleyton

Gillette, Leon Dick, 1 Agr Columbus Gillis, Travis O'Quinn, 1 CM Conter Gillum, Howard Eugene, 1 LA, Georgetown Gilmore, Bernard Benson, 1 AgEd Throckmorton

Glenney, Julius George, * 112 San Antonio Glenney, Walter Samuel, 4 IE San Antonio

Glenney, watter Samuel, 4 1E San Antonio Glidden, Joseph Daniel, 3 ChE ... Orange Glover, Joseph, Jr., 2 Agr Baird Godfrey, J. W., 2 EE Sweetwater Goedeke, Ted Morgan, 4 Sci Dallas Goforth, Morris Sheppard, 1 PPE, Overton Goldenberg, Charles, 1 PPE Houston Goldsmith, Earl Allen, 2 ChE, Port Arthur Gomez, Jose Silver, 2 EE Galveston Gomez, Ralph Garcia, 3 VM Bryan

Gunter, Malcolm Lee, Jr., 1 AA, Wheeler Gurley, John, Jr., 1 Agr Ferrs Gwin, William Arthur, 1 Agr Oenaville Haas, John Reamy, 1 ChE, College Station Hable, Paul Reginald, 1 LA Corsicana Hall, James Augustus, Jr., 2 PPE, Houston Hall, Charles Patrick, 1 EE _____ Dallas Hall, Valton, 1 Agr _____ Electra Hallmark, Glen Duncan, 4 EE _____ Mexia Hallmark, Lee James, 1 LA _____ Houston Halsell, Kay, II, 3 ME _____ Bryan Halter, Richard Carlisle, 3 ChE _____ San Antonio Hammack, Doyle Fletcher, 1 TE, Lehman Hamner, Bennett Barron, 1 CE Henderson College Station Hamner, John Gilbert, 2 GE Waco Hamner, Robert Marvin, 1 LA Diball Hanbury, Norman John, 1 LA College Station Hancock, James Thomas, 1 PPE Corpus Christi Okmulgee, Oklahoma Hansen, Alton Arthur, 1 AA Harben, Ray Chap, 4 ChE — Fredericksburg Harben, Ray Chap, 4 ChE — Richardson Harber, William Herbert, 1 CE, Abilene Harbin, Andrew Lee, 4 CE — Waxahachie Hard, William Godfrey, 4 ChE, Beaumont Harrell, George Jasper, 1 RE Harrell, George Jasper, I KE College Station Harrell, John Mangram, I Agr Austin Harris, Eugene Truett, 4 LA Houston Harris, George Erwin, I AA Brazoria

Harris, Glen Hugh, 1 CE Tuleta Harris, Glynn Lovett, 2 Arch Palacios Harris, James Albert, 1 GE, Jenks, Okla. Harris, James Dawson, 1 ME ... Mineola Harris, James Halbert, 1 AgEd Wills Point Hartman, William Thomas, 1 Agr McKinney Harvin, Albert Kenneth, 1 EE

Harvin, Albert Kenneth, 1 EE Nacogdoches Haseman, John Diederich, 1 PPE, Houston Hats, Arthur Edward, 2 CE Mission Hatch, Reginald Joseph, 2 Agr Yoakum Hatcher, Archie Ray, 4 AgEd, Beeville Hattox, Jake C., 4 AgEd Stephenville Hattox, Jake C., 4 AgEd Beeville Hawkins, Edward Beggs, 1 Agr, Amarillo Hay, Thomas Gamble, 1 Che, San Antonio Hayden, Guy Wilson, 1 CE, College Station Hayes, Parker, Jr., 1 Agr Belton Heatt Lawrence Pleasant, Jr., 1 Sci

..... Stephenville

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Heimitun, dus inchen, 2 Jahren Heimitun, dus inchen, 2 Bridgeport Helms, Hammond Andrew, 2 ME Fort Worth Helpert, Raymond, 2 ChE Burlington Helton, Edward Mills, 2 RE Waco Henard, John Robert, 1 Sci, Wellington Henderson, Andrew Ralph, 1 PPE, Iraan Henderson, J. Y., 2 VM Ingram Henderson, Samuel Whilden, Jr., 3 EE Houston

Hendricks, John Clay, 1 LA

Hendricks, John Clay, 1 LA College Station Hendrix, Ernest Elmer, 1 ME Dallas Henley, Charles Preston, Jr., 3 ChE Henry, Marvin Milton, 1 ChE, Port Arthur Hensler, Homer Lewis, Jr., 1 VM Member Lewis, J. Amboy, Indiana Henson, Thurman Franklin, 3 CE, Dublin Herring, Woodrow Wilson, 1 ME Mew Braunfels Herring, John William, 4 AA Cauton, Miss. Hewitt, Clarence Ben, 1 LA Mewitt, James Neil, 1 AA Giddings Hewitt, James Neil, 1 AA Giddings Hewye, Jone 2 ME Heyendah, Harold Harry, 1 PPE, Victoria Hickerson, Joseph Couch, 1 Agr. Rosebud Hickman, Hector Harrison, 1 LA Rising Star Hicks, John Irvin, 1 ME Orange

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..... Bastrop

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Beaumont

Hoffmeister, Carroll King, 4 ChE Hormelster, Carlon Hing, 4 Chie San Antonio Hogan, Addie Joss, 1 LA Hogan, Eddie Walsh, 1 AA Waco Hokanson, Oscar Lawrence, 1 ChE Holden, Thomas George, 2 Agr Bryan

Holekamp, Morris Kurt, 1 Agr, Comfort

Hollingsworth, James Monroe, 2 CM Holloway, Ernest Robert, 3 ME, Galveston Holloway, Rufus Hardy, 1 ME, Corsicana Holmes, Ralph Conlon, 1 AA El Paso Holmes, Robert West, 1 PPE Silsbee Holmes, Wilson Hartwell, 1 ChE ... Donna Holmgreen, Herbert Howard, Jr., 2 ChE.... San Astronic Petty Honey, John Robert, 2 LA Ixmiquilpan, Mexico Ixmiquilpan, Mexico Hood, Esquire Tennyson, 1 RE, Groesbeck Hooker, Harry Rudyard, 1 RE Carthage Hooker, Harry Rudyard, I KE ... Carthage Hooker, William Alan, 1 RE Carthage Hooks, A. B., 1 ChE Livingston Hooser, William Bonis, 4 Agr ... Seymour Hopper, Robert Finley, Jr., 1 LA, Neches Horn, Alex Hammond, 1 EE, Sugar Land Horn, James Howard, 1 AgEng Horn, James Howard, 1 AgEng Kirbyville Horn, Jefferson Lee, 2 Agr Lorn, Noah, 1 AA Horn, Wiley Henry, 2 VM, Fort Worth Horne, Walker Eugene, 1 ME Horner, Paul Welton, 3 Agr Horton, Robert William, 4 Agr Nacozari, Mexico Horton, Ulric Guy, 2 ME, College Station Hotchskiss, William Theodore, 2 LA Horton, Ulric Guy, 2 Sci Howard Lesse Coldwall Agr Howard Lesse Coldwall Martin San Antonio Howen, bergen Brokaw, 1 Che San Antonio Howard, Jesse Caldwell, 2 PPE, Center Howard, J. M., 1 GE Howard, Joe Noel, 1 Agr. San Antonio Howard, Lewis Benton, 4 PPE Shreveport, Louisiana Howe, Parker William 2 Action Howe, Parker William, 2 AgEng ... Dallas Howells, Roy John, 1 LA, College Station Hubbard, Fred Avery, 3 AA Temple Hubbard, William Edward, 1 ME Sweetwater Hubby, Laurence Meade, 4 EE ... Waco Huckabee, Roy Lee, 3 Agr ... Holland Hucker, Robert Edward, 2 Arch Huffman, Henry John, 1 Agr Brady Hughes, Charles Reynolds, 1 Arch

 Hughes, Charles Reynolds, 1 Arch
 Long Branch

 Hughes, George Weeks, 1 LA
 Claude

 Hughes, Hiram Chandler, 1 ChE, Munday

 Hughes, Harry Homer, 1 AgEng
 College Station

 Hughes, James Coy, 2 ME
 Palestine

 Hughes, Robert Holloway, 2 Sci
 College Station

 Hughes, Thomas Kleberg, 1 EE, Galveston
 Huley, Louis Bonner, 1 CE

 Hult, Burton Edward, 2 PPE
 Houston

Humbert, Robert Pierre, 1 ME Hunt, Lorenzo Jefferson, 1 EE Carthage Hunt, Milton Tillman, 3 LA ... Bracketville Hunt, Walter Emmett, 2 Sci Olney Hunt, Wheeler Houston, 1 Agr Pearsall Hunter, Edmund Scott, 1 Sci Wichita Falls Hunter, Felix Albert, 4 ChE Dallas Hunter, Thomas Frank, 4 PPE Wichita Falls Hurley, Robert Roscoe, 1 CM Hurt, William J., 1 ChE, College Station Huskey, Homer, 2 EE ______ Carrolton Huston, Jack Charles, 1 Arch ______ Hutson, Jack Charles, I Alch — College Station Hutchins, Moral Louis, 1 LA McKinney Hutchison, John Elton, Jr., 2 Agr, Itasca Hutson, Richard Woodward, 4 LA Huttoli, Richard Woodward, 4 LA College Station Hutto, Thomas Louie, 3 Agr Coahoma Huvelle, Veral Whitley, 2 EE Dallas Hyland, John Oliver, 1 CE, College Station Hysaw, Howard Caldwell, 1 CM, Kenedy Ingraham, Chester Weston, 3 EE Beaumont Irvin, Robert McNutt, 1 Sci Wallis Irwin, Theodore Kendall, 2 LA, Dallas Isaacks, Dwight Waylam, 1 LA Isbell, Garnett Knowlton. 2 ChE, Navasota Isbell, James D., Jr., 1 CM, College Station Isenberg, Nathan Simon, 1 LA, Galveston Jackson, Charles Edward. 1 VM, Christoval Jackson, Harold De, 2 AA Midlothian Jackson, James Roy, Jr., 3 Sci Jackson, Mason, Jr., 1 LA Shreveport, Louisiana Jackson, Roger William, 2 ChE Jackson, Urban Blake, 1 AA Corpus Christi Jalufka, Lawrence Alfonse, 2 AA Hallettsville Jamail, Clarence Joseph, 1 LA ... Houston James, Cecil Proctor, 1 RE, College Station James, Lee Eynon, 3 Agr ... Pendleton Jamison, Max Jose, 1 EE Comanche Jamison, Paul Hugus, 2 PPE Dallas . Hallettsville Jamison, William Quillin, 2 Sci, Denison Japhet, Gustav Daniel, 2 LA Houston Jarrard, Newton Eanes, 1 AA Houston Jaynes, Jay, 1 AgEng Marshall Jenkins, Elton Lee, 1 PPE Houston Jenkins, Munn, 1 EE Hempstead Johansen, Johnnie Otto, 2 Agr Hubbard

Johnson, Andrew Griffith, 1 LA Johnson, Bernard Grover, 2 EE Houston Johnson, Burt, Henry, 2 Sci Houston Johnson, Charles Edgar, 1 Agr Seymour Johnson, Charles Monroe, 1 LA . Johnson, Charles Mongan, 1 Chege Station Johnson, Charles Morgan, 1 ChE ... Paris Johnson, Charles Samuel, 2 ME ... Luling Johnson, Charles Williford, 1 AA Port Neches ----Johnson, Erwin Velmont, 1 Agr College Station Johnson, Glover Douglas, 3 EE, Corsicana Johnson, George Kenneth, 1 Arch Ardmore, Oklahoma Johnson, George Norris, 2 Sci Bryan Johnson, Howard Beale, 1 Agr ----..... Mount Vernon Johnson, Luther Elman, 4 EE College Station Johnson, Lynn Page, 2 Agr ... McKinney Johnson, Thomas Paxton, 1 Agr ... El Paso Johnson, Walter Frederick, 4 Agr, Yoakum Johnson, William Samuel, Jr., 2 AA. Bryan Johnston, Cecil Allan, 1 ChE ... Victoria Victoria Johnston, John Milton, 2 ChE Ardmore, Oklahoma Joiner, James Robert, 3 CE Jolley, James Clayton, 1 AA Jones, Albert Gallatin, 2 Agr Jones, Andrew Pat, 4 EE _____ College Station Jones, Bart Lee, 1 PPE _____ Houston Jones, Carl Clifton, Jr., 1 Agr _____ College Station Jones, Charles Howard, 1 AA, Livingston Jones, Clarence Keller, 1 LA Jones, Clarence Keller, 1 LA College Station Jones, Clyde Luther, 1 AA Jones, Clayton Val, 1 Agr Jones, Claiborne William, 1 CM Jones, David Cluie, Jr., 1 EE Bryan Jones, Enoch Gerald, 2 EE, Fort Worth Jones, Herschel Voit, 1 CE Jones, Jack Garner, 1 LA Jones, John Irving, 1 Agr Jones, James Marion. 4 ME Dones, Temple Jones, Jack Redick, 1 PPE ... Orangeneid Jones, James Theodore, 2 Agr ... Belton Jones, Morris Walker, 1 Sci Kenedy Jones, Noble David, 1 CE Dallas Jones, Robert Lee, 1 Agr, Shreveport, La. Jones, Stafford Langram, 1 EE Dallas Jones, Virgil B., 1 ChE Sweetwater Jordan, Eric Wall, 1 GE Carthage Jordan, Hugh Edgar, 1 ArchEng Navasota Jordan, Wharton Thomas, 4 RE Fort Worth Joseffy, Rafael, II, 2 Agr San Antonio Joseph, Johnny Raymond, 1 LA Austin

Judson, William Warren, 1 VM Tampico, Mexico Juenger, Hugh Vincent, 1 PPE Houston Justice, Appleton Doyle, 1 Agr Post Kaczmarek, Louis Albert, 4 RE Panna Maria

Kana, Rudolph Tom, 1 PPE Panna Maria Kana, Rudolph Tom, 1 PPE Bryan Kane, Edward Theodore, 1 EE, San Antonio Kaplan, Monte, 1 ME Waco Karnes, Tom Ezelle, 3 PPE Dallas Kaufman, Arthur Louis, 1 Agr Bryan Kavanaugh, Don Lee, 1 PPE Houston Kavanaugh, Robert Joseph, 1 ChE Port Arthur . Port Arthur

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Kissman, Ernest Carl, 1 Agr Lexington Kitching, Jim Haydon, 1 EE McKinney

Kitley, Donald Ralph, 1 ChE Troup Kittleband, Harold Patton, 3 AA, Midway Kleber, John Preston, 4 ChE Dallas Klein, James Ernest, 2 Agr, Fort Worth Klingelhoefer, Marshall Herbert, 1 LA.... Klingelhoefer, Marshall Herbert, 1 LA ... Fredericksburg Klink, Robert John, 3 LA McAllen Klossner, Robert Henry, 4 CE, Edinburg Klossner, Roy Othello, 1 ME, Edinburg Knapp, Frank Gilson, 3 LA Calvert Knapp, George Parker, 3 LA Calvert Knight, Harper Lee, 3 AgEd, Valley View Knight, William Rozelle, 2 Sci Houston Knouse, Anthony Mark, 4 EE Knouse, Anthony Mark, 4 EE Shreveport, Louisiana

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Langlord, Binest Reich, I PE College Station Langham, Noel Thomas, 4 Sci Mission Langley, James Robert, 1 LA Houston Langley, Marshall Arlon, 3 LA Fentress Langley, Roy Martin, 3 EE Bon Wier Langley, Samuel Firth, 4 LA Carrizo Springs **College** Station ... Carrizo Springs

Langston, Wallace Randolph, 4 AA Houston

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San Antonio Lundien, Dan Ellis, 1 LA, Wichita Falls Lundquist, James Hagendar, 1 GE

Lurie, Benjamin Franklin, 1 Agr, Houston Lurie, Benjamin Frankin, 1 Agr, Houston Lurie, Meyer Hirsch, 2 Agr Houston Lutrick, Robert Sidney, 1 Agr, Hale Center Lyle, Clayton Bane, 3 ME Denison Lyle, Henry Fletcher, 1 LA Houston Lyne, John Thomas, 1 Agr ... George West Lynn, Bert Hausmann, 1 ChE, Kilgore Lynn, Harry, 1 EE _____ Dallas Lynn, John William, 1 VM, Compton, Cal. Lynn, Patrick Ignatius, 4 CE ______ College Station

Lyon, James Alvoir, 3 PPE Buffalo McAdams, Harley Hobbard, 2 Sci, Liberty McAdams, James Orien, 2 AA Liberty McAuley, Walter J., 1 ChE, Mount Vernon McBride, Martin, Jr., 1 Sci, Greenville McBride, Walter Lee, Jr., 1 AA, Dallas McCall, Richard Hawley, 2 CE Waco McCampbell, Ralph Henderson, 1 AA Corruge Christi

McCann, Albert Hews, 1 ME

McCanne, Albert Hews, I ME Shreveport, La. McCanne, Jack Frost, 1 ChE ... Lakeview McClain, John Randall, 1 LA College Station McClain, Newton Bailey, 2 AA, Fort Worth McClellan, William DeRouhlac, 2 EE

McClelland, John Robert, 1 PPE, Beaumont McClendon, Ernest Andrew, 4 ChE Cleburne

College Station McMillan, William Roy, 1 RE

..... San Antonio

McQuillen, Everett Eugene, Sp Agr

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Mackey, Robert Charles, 1 AA, Robstown Maddox, Frank Ollin, 1 ChE Ennis Madeley, Roland Curtis, 4 Agr Conroe Madison, William Frederick, 2 Agr

Man, Howard Dowden, 1 LA Wichita Falls Man, John Clark, 1 CM, Wichita Falls Maness, James Thomas, 3 AgEd, Alexander

Marsh, Gareld Eugene, 1 ME Amarillo Marshall, John Alton, 1 AgEd

Marshall, Kenneth Jacob, 1 AgEd Marshall, Lewis Hickerson, 1 Agr

Marshall, William Horace, Jr., 1 PPE

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McClure, Luther Worth, Jr., 1 PPE

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McCorkle, Bert Ray, 4 RE Comanche McCracken, Harold Edmond, 3 Agr Kingsville

McCracken, Richard, 1 LA, College Station McCrary, Chester Overton, 1 CM

..... Winnsboro

McCraw, Gray Hays, 1 CM

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College Station McCullough, William Robert, 3 Agr McDevitt, James Ferries, 1 Agr McDonald, Euclid Samuel, 1 Agr, Wolf City McElroy, Henry Beamish, 1 LA College Station

College Station McGrath, Joe Stanislaus, 1 AA Houston McGregor, Theodore, 4 Agr Bryan McGregor, Walter Scott, 1 Sci Temple McGuire, Nathan Bedford Forrest, 3 AA ...

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McHaney, John Grover, 1 AA Bryan McIlhenny, Thomas Henry Franklin, 4 CE

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McKamie, Robert Lee, I AgEd ... Moody McKee, Charles J., 1 Agr, College Station McKemie, Jack Furman, 1 LA Hearne McKemie, Wesley Warren, 2 Agr, Hearne McKendry, Norman Jarvis, 3 EE Mandan; North Dakota McKenzie, Clem B., 1 Agr Schulenburg McKenzie, Blevins, 1 Agr El Paso McKenzie, Kenneth Wilkes, 1 ChE, Miami McKenzie, Oak O., Jr., 1 LA Bryan McKinney, Olen Jed, 1 CE McKinnon, Joseph Weldon, 1 ChE

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Mt. Pleasant

McLernon, George Justus, 1 FFE San Antonio McLeroy, Ervin Balfour, 3 Agr Bryan McLeroy, John Otto, 1 ME Alvarado McMahan, Glen Edgar, 1 LA, Columbus McMahan, Justie Otto, 1 Agr Spur McMahon, David Thomas, 1 LA Dallas

Martin, Wallace, 3 AgEd McKinney Martinez, Homer Thomas, 2 VM Martinez, Manuel Ernesto, 2 CE Victoria, Mexico Martyn, Valentine, 4 VM, Matanza, Cuba Mason, Robert Houston, 3 Agr Raymondville Massey, Raymond Manley, 1 PPE, Caldwell Mathews, Grover Cleveland, 1 PPE Houston Mathews, Raymond Clifford, 1 ME Hathews, Raymond Clifford, 1 ME Hot Springs, Ark. Mathews, Thomas Osborne, 1 RE, Angleton Mathews, Woodrow Haynes, 1 AA, Lufkin Mathieu, Lewis Gaulden, 1 EE Mathis, Glenn Forest, 1 Sci, Madisonville Mathis, Glenn Forest, 1 Sci, Madisonville Mathis, Thomas Henry, 1 CM Corpus Christi Matthews, John Bassett, 1 CM, Houston Mattingly, Edward, Jr., 4 Arch, LaGrange Maxwell, Carl Eugene, 2 LA Strawn Maxwell, Roith 1 ChE Maxwell, Roith 1 ChE Maxwell, Roith 1 ChE Maxwell, Roith 1 ChE Maxwell, Robert William, 3 LA, Abilene Maxwell, Robert William, 3 LA, Abilene Maxwell, Stam Nolan, 4 RE Leonard May, Jonathan Thomas, 4 ChE May, Monroe Upton, 1 Agr San Antonio Mayfield, Silas A., 3 EE, Hughes Springs San Antonio Mayfield, Silas A., 3 EE, Hughes Springs Mayhew, Charles Milton, 1 ME ... Dallas Mayo, Jesse Lee, 2 PPE Saratoga Mayo, Jesse Lee, 2 PPE Saratoga Mayse, Kowe Franklin, 4 Agr Mertzon Maywold, Frank Melvin, 1 EE Longview Meabon, Don Mitchel, 1 PPE Olney Meador, Aubrey Peter, Jr., 4 LA, Waco Meador, Armour Ross, 2 Agr, San Antonio Meador, Charles Leon, 1 AA El Dorado Meador, Charles Leon, 1 AA ... El Dorado Mears, Edward Lamar, 4 Agr Menard Medlock, Landrum Leslie, 3 LA Roscoe Meek, Leonard Lloyd, 2 Agr, Mount Vernon Meek, Robert Lee, 1 Sci Freeport Meier, Woodrow Francis, 1 PPE Mount Pleasant Meinke, Wilmon William, 2 ChE, Yoakum Meisell, Harry Ernest, 3 CE Columbus Melback, Paul DeVere, 1 LA, San Antonio Melton, Garrett Fonville 2 LA Melton, Garrett Fonville, 2 LA ... Houston Melton, John Freeman, 2 VM, Lone Oak Melton, Thurman Jefferson, 2 PPF, Ranger Menefee, John Wesley, 1 Sci El Campo Menefee, O car Turner, 1 ME, Fort Worth Bryan Merka, Jereman Huss, 4 AgEd Bryan Merriman, Harold, Frederick, 1 AgEng Throckmorton Merritt, Arthur, Jr., 1 VM Robstown Metcalfe, Joseph Davis, 2 CE Pearsa! Metz, Thomas Wesley, 2 EE Center Metzger, Jacob, 4 AA Dallas Mewhinney, Logan Underwood, 1 Sci ... Holland Meyer, Chester Felix, 1 ME, San Antonio Meyer, Charles Henry, 4 AA Ellinger

Meyer, George Bernard, 1 VM Newport, Rhode Island Meyerson, David Wolford, 4 ChE, Houston Meynier, James Otto, 1 Sci Houston Michael, Ralph, 2 Agr, College Station Michaelson, Bernard Leon, 2 EE Baton Rouge, La. Michetich, Charles Anthony, 1 EE, Houston Miciotto, Samuel Joseph, 1 LA Mildagh, John Judy, 2 LA Mildagh, John Judy, 2 LA Middlekauf, Charles Baker, 1 Arch Middleton, Jack, 1 IE Mount Vernon Middleton, William Arthur, 2 PPE, Bryan

 Middleton, William Arthur, 2 PPE, Bryan

 Miears, Frank, 3 Agr
 Kountze

 Miles, Monta Crouch, 1 Agr
 Yoakum

 Miller, Arthur A., Sp VM
 Newton

 Miller, Cecil Emery Gerald, 2 PPE, Ibex
 Niller, Entery Gerald, 2 PPE, Ibex

 Miller, Eli Hans, 1 CE, College Station
 Miller, Frederic Halley, 2 Sci, Fort Worth

 Miller, Frederic Halley, 2 Sci, Fort Worth
 Miller, Glenn Rush, 1 PPE

 Miller, Glenn Rush, 1 PPE
 Houston

 Miller, Lee Bernard, Jr., 3 AA
 San Antonio

 Miller, L. K., 1 Agr
 Edna

 Miller, Stanley Jackson, 2 ME
 San Antonio

 Mitchell, William Dornton, 1 PPE Richmond Mitchener, William Carroll, 1 Sci Beaumont Moehlman, Roger, 1 CE Mogford, John Larry, 2 Agr Mohler, Charles, William, 1 Sci College Station Monier, Kurt A. J., 4 ME, San Antonio Monk, John C., 3 Sci Monroe, James William, 1 AA Monroe, Thomas Holt, 1 EE College Station Montague, Kenneth Elwin, 1 ChE Richmond Montague, Kenneth Elwin, 1 ChE Montgomery, James Troy, 1 CM College Station Montgomery, Morris Bailey, 2 RE, Richards Montgomery, Reed, Jr., 2 EE ... Pandora Mood, Bernard Farr, 3 VM

Moore, Wendell Richardson, 2 EE College Station Mooty, Jake T., 2 LA College Station Moran, Henry Charles, 1 AA Houston Morehead, John Henry, 1 IE, Port Arthur Moreman, Cecil E., 1 LA, College Station Morgan, Claud Edward, 1 AA Paris Morgan, Charles Lewis, 1 LA, Longview Morgan, Guy Crawford, 1 EE Mucton Morgan, Granville Slatin, I LA ... Houston Morgan, Isaac Alvin, Jr., I AA, Marshall Morgan, John Young, I LA Keatchie, Lousiana Morgan, Lucion, Minor 4 Morgan, Lucian Minor, 4 AA College Station Morris, Albert Earl, 2 ME Graham Morris, Charles L., 1 AA Laneville Morris, Don Keith, 2 LA Henderson Morrison, Richard Roberts, Jr., 3 AgEd... Liberty Morriss, James Caldwell, 1 ME Douglasville ... Quanah Moseley, William Marshall, 1 LA Moser, Norman Nagle, 3 AA Dallas Mosesman, Max Abe, 3 ChE Dallas Mosley, Walter Oliver, 1 EE, North Zulch Moss, Robert Marshall, 1 CM Amarillo Mosty, Raymond Francis, 4 Agr

Muhi, Julius Ignatius, I LA College Station Muil, Robert Staggs, 1 Agr ... Kingsville Mullen, William Charles, 1 ME, Fort Worth Muller, James Anderson, 4 ChE ... Dallas Muller, John Gordon, 4 ME Commerce Muller, Westley Fedell, 4 AgEd Nacogdoches Munson, George McCauley, 1 VM, Angleton Murphey, Rozier Chapman, Jr., 1 LA ... Shreveport, Lousiana Murphy, A. B., 1 PPE Beaumont Murphy, David, Jr., 2 PPE Mexia Murphy, Joseph George, 2 Sci, Palestine Murrah, Tom Armstrong, 1 LA ... Bartlesville, Okla. Murray, Daniel Joseph, 1 AA ... College Station Murray, Grady Odell, 2 Agr Quitman Murray, Grady Odell, 2 Agr Quitman Murray, Ray Leroy, 4 LA Murray, William Diaz, 1 Agr Granger Murray, William Diaz, 1 Agr Granger Murray, William Diaz, 1 Agr Granger Murray, Clyde Purvis, 4 Sci Floresville Myers, Elton Philip, 1 CE, Palestine Myers, LaRue Davenport, 4 CE Myers, Lyle Wesley, 1 EE, Savanna, Ill. Myers, Philip, Sp VM Floresville Machinger, Elmo Emmett, 1 CE, Almeda Nagai, George, 4 ME Almeda Nagel, Gilbert, 2 Agr Fredericksburg Nagy, Louis, 1 Agr Murelex Munson, George McCauley, 1 VM, Angleton Nagai, George, 4 ME ______ Aimeoa Nagai, Gilbert, 2 Agr ____ Fredericksburg Nagy, Louis, 1 Agr _____ Millett Nall, John Lyndall, 1 ME ____ Palestine Nance, Dan Oliver, 1 LA ____ George West Nance, Felix Alvin, 1 Agr ____ George West Nash, William Elton, 3 Arch _____ Bryan Nations, Felix Tucker, 1 VM ______ Navley Harry Benjamin, 2 VM _____ Center Newsome, Reese Woodville, 1 LA Newton, Arthur Roy, 1 PPE _____ Mingus Newton, Charles Ladell, 1 Aged, Maysfield Newton, John Martyn, Jr., 3 Sci Nicholas, James Morris, 3 EE, Port Arthur Nicholl, Elden Carrol, 2 VM Amarillo Nichols, Albert Gordon, 2 ChE Dallas Nichols, Marvin Elvern, 1 AgEd Nicholson, Edward Benjamin - College Station Nicholson, Edward Benjamin, 1 EE Nicholson, Harold Earl, 2 AA Wheeler Nicholson, John Noble, 1 ME Houston

Nicholson, Harold Earl, 2 AA Wheeler Nicholson, John Noble, 1 ME ... Houston Nickols, John Elvy, 1 Arch, College Station Nickerson, George, 3 EE San Antonio Nix, William Dale, 3 AA Canadian

Noelke, Herbert Clayton, 3 AA, San Angelo Noles, Lawrence Eugene, 2 AA Mexia Noone, Edward James, 3 PPE Houston Nordhaus, Alexander, Jr., 1 ChE San Antonio

San Antonio Norman, Clyde Thomas, 2 CE Dallas Norris, Doyle Winston, 1 Agr Celeste Norris, Raymond Francis, 1 Agr, Houston Northrop, Page Harris, 1 Arch, Houston Northrup, Alfred Benjamin, 1 EE, El Paso Norton, Douglas Nelson, 2 PPE

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Null, Glenn Garland, 1 CM, College Station

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 rate, Francis MacInerney, 1 ChE
 Galveston

 Patrick, Lindsey Allen, 1 EE
 Galveston

 Patterson, Archie Balfour, 1 ChE
 Dallas

 Patterson, Alph Carl, 1 AA
 Bryan

 Patterson, Ned Houghton, 1 PPE, Temple

 Patterson, Wylie Mann, 1 PPE
 Rogers

 Pattor, Nat, Jr., 1 LA
 Crockett

 Paudit, Vishvambher Hariher, Sp Agr
 Kolhanur, India

 Kolhapur, India

Pearce, Reggie Brown, 1 EE

Sterling City Pearson, Lee Oswald, 1 RE, San Antonio Peavy, Herbert Leonard, 1 AA .. Beaumont Pedigo, Edward Maurice, 1 LA Sherman Peers, Harry Lawrence, 2 ME, Fort Worth Peers, Harry Lawrence, 2 ME, Fort Worth Peevy, Jakey O., 1 Agr. College Station Pegues, Curtis Scott, 4 AA, Crystal City Peirce, Theron LeRoy, 1 GE _____ Waco Pemberton, Lyle Henry, 1 PPE, Fort Worth Pena, Gustavo Jose, 1 CM _____ Laredo Pendery, Arthur Ludlow, Jr., 4 Agr _____ Fort Worth Pendery, Roger Adrian, 1 PPE, Fort Worth Pennington, Malcolm Cleopas, 1 Agr _____ Harrold

Perrin, Weldon George, 4 AgEng

Perritte, Herbert Hoover, 1 ME

Perritte, Herbert Hoover, 1 ME College Station Perrone, John Paul, 1 LA Hearne Perry, Clifton Gayle, 1 CM Herry, Clifton Gayle, 1 CM Herryman, James Charles, 1 LA, Dallas Peterson, Leland Fred, 3 PPE Peterson, Malcolm Laurance, 4 PPE, Temple Peterson, Malcolm Laurance, 4 PPE, Temple Peterson, Troy Eliot, 2 ChE Cher Constraint, 1 Cher Constraint Peterson, Sinclair, 1 PPE Peterson, Jess Willard, 1 Agr Peveto, Jess Willard, 1 Agr Phillips, Joseph Elias, 1 PPE. Red Barn Phillips, Luther Preston, 1 CE College Station Pickett, Arnold Herd, 1 ChE Picton, Charles Jerald, 1 ME Rockport Pierce, Charles Ray, 4 ME Bowie Pierce, Charles Ray, 4 ME Bowie

Pinney, James Eugene, 1 ChE College Station Pipkin, Andy Edward, 1 AA, Breckenridge Pirtle, George W., 1 CE, College Station Pitner, Homer Melton, 1 RE ... Denton Pittenger, James Earl, 4 ChE Belflower, Mo. Pletcher, George Henry, Jr., 3 Agr Harlingen

Pletcher, William Phelps, 1 AA

...... Memphis, Tennessee Porter, Harold Andrew, 2 CE DeKalb Porter, Mark William, 1 Agr, Palestine Porter, Thomas Warner, 2 LA, Pilot Point Porterfield, Clyde Jackson, 1 AgEd, Moody Pos, Robert Eugene, 2 Agr. Bryan Pos, Robert Eugene, 2 Agr. Bryan Post, Perkins Gardner, 4 EE, San Antonio Post, Thomas Gressam, 3 PPE, Montgomery

Pribble, Oscar Maurice, 3 Agr, Fort Worth Cherokee

Primm, Hugh Robert, 1 CM Dawson Pringle, Jefferson Parker, 1 PPE Marlin Pritchard, Elmer Marion, 3 CE

Procter, William Sydney, 1 EE Bellvue Pittsburgh, Penn.

Beaumont

Pry, William Freeman, 1 EE **College** Station

College Station Puckett, Ray Herbert, 4 EE Big Lake Puryear, Cecil Elmo, 1 VM Fort Worth Puryear, Orville Kennard, 1 Arch

Putpear, or mile Reinard, 1 Arch Navasota Putnam, Hiram Aldine, 1 PPE Dobbin Pye, Herbert Paul, 1 PPE, Wichita Falls Qualtrough, Henry Mosehart, 3 LA Houston

Quattlebaum, Wendell Warren, 1 LA

Quintin, Romeo Richard, 1 LA Quortrup, Earl Richard, 3 VM

College Station Raabe, Martin Luther, 1 ChE Waco Rachels, Alex Stephen, 1 ChE, San Antonio Racki, Matthias Michael, 3 CE, Beaumont Radack, Edmund Andrew, 1 PPE, Glidden Radbury, Joseph Allen, 1 Agr

Rader, Clarence Carl, 1 CE Amarillo

Ragland, Robert Louis, 3 EE Fort Smith, Ark.

San Antonio Railey, Randolph Stroud, 1 PPE, Eastland

Madisonville Randolph, Jack Sirl, 1 LA, Wichita Falls Randolph, Tom Ball, 3 Agr Cherokee Randow, Wilbert Henry, 2 Agr, Halletsville Raney, Alfred Lafayette, 1 AA

Reed, Albert William, 51, 2 GHZ Brownsville Reed, Charles Farl, 4 AA Mart Reed, Joe Glen, 1 Agr Carthage Reeder, Vendor Harvard, 2 AA Hughes Springs Reese, George Gordon, 1 Agg Josephine Reese, Russel Herbert, 1 ArchEng Brownsville

..... Eagle Lake

Reeves, George Carter, 1 AA Fort Stoskton

Reeves, Timothy Douglas, 1 PPE, Ranger Reeves, William Otho, 2 AA Mexia Regmund, Jerry, 1 CE Corpus Christi

Rubenstein, Mathews, Samuel, 2 Sci

Rucker, Robert Henry, 1 Agr Franklin Rudasill, Nichols Homer, 1 EE, Rocksprings

Russell, Edward Earle, 1 CM Kenedy Russell, James Scotti, 1 ME, Fort Worth Russell, William Andrew, 1 PPE, Kilgore Russi, Robert Wilson, 4 CE Houston Rutherford, Eugene Ernest, 1 AA, Houston Rutherford, James Arvel, 1 LA

College Station Rutledge, Robert Morton, 4 PPE, Dallas Rutledge, Samuel Scott, 2 AgEng

Rutledge, Thomas Hearon, 1 CM Paris

Regmund, William Charles, 2 Arch Corpus Christi Rehmet, Joe Reynolds, 1 PPE ... Alice Beid, Percy Raeburn, 8 AA, Corpus Christi Reinarz, Alvin Robert, 2 ME, San Antonio Rektowic Lulius 2 ArEd Robertown

Kemschei, Kobert Henry, Jr., 5 Agr Kerville Reneau, John Bryant, Jr., 2 VM, Munday Renz, Robert Lewis, 1 PPE Houston Renz, Tom Bernard, 1 VM Dallas Resser, Wayne Allan, 2 Sci Millican Reynolds, Clyde Martin, 3 Agr, Bastrop Reynolds, Lelmer C., 2 Agr Bryan Rhader. John Charles, 1 AA Beaumont Rhea, William Joseph, 1 ME McKinney Rhode, Carman Griffith, 2 AgEng San Antonio

Rhoden, Wyndham Burton, 1 PPE Crockett

Richardson, Mackie Zenas, 1 EE

. Kirbyville Richey, Robert Thomas, 3 Sci

Kichey, Kobert Thomas, 3 Sci College Station Richie, Mack W., 1 LA. College Station Richman, Wallace Ridgeway, 2 CE College Station Richmond, Jason Logan, 4 Agr Kyle Richmond, Jack Samuel, Jr., 1 Agr Mexico City, Mexico Richmond, Wallace Parrish, 2 CE, Kyle Richter, Albert Earl, 3 AA Richter, Francis Joseph, 3 LA Laredo Ricks, Morgan, 1 LA Houston

Ricks, Morgan, 1 LA Houston

Roberts, Charles Von, Jr., 1 PPE, Overton Roberts, George Edward, 4 ChE, Rockport Roberts, J. Frank, 3 AgEng Dallas Roberts, James Robert, 1 ME, San Antonio Roberts, Lewis Melvin, 3 AgEd ... Terrell Roberts, William Mathews, 1 ME Sweetwater

Robinett, Grady, 1 LA, College Station

Seago, William Hughlen, 1 Agr Gilmer Seaman, William Henry, 4 ArchEng Gilmer College Station Sells, James Chat, 2 Agr College Station Senbera, Thomas Ervin, 1 ME Bryan Severa, Joknnie Anton, 2 ME Bryan Severa, Joknnie Anton, 2 ME Corpus Christi Seward, Oscar A., III, 2 Agr, Groesbeck Shaddix, John Arthur, 1 AA Naples Shade, John Albert, 1 Sci Houston Shain, H. M., 2 LA Wichita Falls Shands, Percy Clinton, 4 Agr Forney Shaneberger, Jack Henry, 1 EE Easten Shannon, James William, 1 VM Brance, Frank Lester, Jr., 1 ChE, Beaumont Shaw, Guy Graham, Jr., 2 Sci Kaufman Shaw, Thad G., 2 Sci Houston Shea, Harry Neale, 2 AgEd, College Station Sheffield, Clarence Douglass, 3 EE College William William College Station Colmesneil Shelby, William Welcome, 1 Agr Shepard, Neal David, 1 CE Queen City Shepherd, Edd Minter, 1 Sci Shepherd, Edd Minter, 1 Sci College Station Shepherd, Guilford Cunningham, 4 EE Shepherd, William Smythe, 1 LA Shepler, James Emmet, 1 PPE, Houston Shepperson, John William, 1 AA Shepperson, John William, 1 AA San Angelo Sherman, William David, 1 AA, Lovelady Sherrill, Francis Mack, 1 AA, Rocksprings Sherwood, Robert Spencer, 3 ME College Station Shields, Marion Alexander, 1 RE Neches Shillinburg, F. C., 2 Agr Dublin Shipman, Frank Morton, 1 LA **College** Station Shipman, Roy Marvin, 1 CE, Three Rivers Shipp, Robert Dayton, 3 AA Burnet Shirar, Verne Edward, 1 ChE Houston Shockey, James Charles, 1 AA Gilmer Shope, Edward Allen, 1 LA Shope, Edward Allen, 1 LA College Station Short, Blaine, 1 LA College Station Shows, John Hilburn, 2 AgEd Onett, Mississippi Shudde, Lee Joseph, 1 LA Shudde, 1 LA S

San Miguel, Rudolph Robert, 1 Arch San Antonio Sawyer, Edwin Eugene, 4 AA Sonora Saxe, Merle Reid, 1 VM, Albion Illinois Sayers, Leonard Raymond, 1 EE Schoenfeld, Perry Cornelius, 1 ChE Schraub, Lester Phillip, 1 CE Seguin Schraub, Malford Charles, 2 CE Seguin Schreiber, Harry Julius, 3 AgEng Galveston Schriewer, David William, 2 PPE, Seguin Schroeder, Bruno Erwin, 1 Agr, Lockhart Schucany, Oscar William, 4 EE, Lockhart Schucany, Oscar William, 4 EE, Lockhart Schultis, Emanuel Herman, 2 AgEng Schwertner Scoates, William Dan, 4 AgEng College Station Scott, Bill Harrison, 1 PPE, Fort Worth Scott, Charles Kahlden, Z. IE, Kingsville Scott, Clarence Potts, I LA, San Antonio Scott, Floyd Logan, Jr., 1 ME... Houston Scott, Franklyn Wendell, 1 Sci .. College Station College Station

Smith, Lon Champlin, Jr., 2 LA Smith, Lawrence Douglas, 1 AA, Troup Smith, Lawrence Drummand, 4 Agr Caldwell

 Smith, Lloyd Newton, 1 AA
 Caldwell

 Smith, Morrell Bishop, 4 Agr
 Troup

 Smith, Mack D., 3 Arch
 Arlington

 Smith, Niley Judson, 2 Agr
 Cameron

 Smith, Newt Post Post
 Arr

 Smith, Niley Judson, 2 Agr
 Cameron

 Smith, Reet Poe, 1 Agr
 Killeen

 Smith, Robert Carl, 2 ME
 Van

 Smith, Robert Long, 2 EE
 Dallas

 Smith, Robert Long, 2 EE
 Dallas

 Smith, Vern Allen, 1 AgEd
 Houston

 Smith, Vern Allen, 1 AgEd
 Houston

 Smith, William Cagle, 2 ME
 Kilgore

 Smith, William Ernest, Jr., 1 ChE
 Iola

 Smith, William Lafayette, 2 LA
 Monroe, Louisiana

 Smith, William Lafayette, 2 LA College Station Smith, William Porter, 2 Sci Smith, winnam 10tet, 2 Sci College Station Smyre, Guy J., 2 EE Tyler Smyth, Joe Grigsby, 3 Arch Uvalde Snell, David Muuro, 2 CE Della Snell, Phillip Gordon, 1 Sci Sugarland Spingle Cour Bill 4 AcEd Dublic Snell, Phillip Gordon, 1 Sci Sugarland Snively, Guy Bill, 4 AgEd Dublin Snuggs, Roland Edward, Sp AA Bryan Snyder, Robert Dudley, 2 PPE Dallas Sodd, William, 3 LA Fort Worth Solovey, Isadore Lee, 4 ChE Waco Sommers, Lee Marion, 3 EE, San Antonio Sorenson, Jerome Wallace, Jr., 4 AgEng Cornue Christi Sorrels, Warren Douglas, 4 PPE, Houston Sorrels, Warren Douglas, 4 PPE, Houston Sory, Carl Gerlach, 2 PPE ... Livingston Souder, Hildreth Francis, 3 AA Souder, Hildreth Francis, 3 AA College Station Sparks, Samual Swift, 2 AA Paradise Sparra, Charis Roger, 1 Sci Conroe Speed, Carter C., 3 Agr Kerens Spellman, Homer, 1 AA, College Station Spellman, Rudolph Randall, 4 CE, Smiley Spencer, Bruce Nelson, 2 ChE Dalles Spencer, Ted L., 4 Agr Gilmer Spiker, Ralph Edwin, 3 Agr Harlingen Spiker, Ralph Edwin, 3 CE, Canadian Spihks, Thomas John, 1 CE Spitzer, Arnold Holle, 1 Agr Meridian Sprague, Denton Elston, 2 Agr Tulia Springer, Richard Allison, 1 ChE St. John, Alvin Daniel, 1 Agr, San Antonio St. John, Robert Thomas, 1 ME Staatse, Levi Albert, 1 LA, College Station Stach, Stanfield August, 3 AA Cameron Stages, William Edward, 1 LA Waco Stagner, Elvey Jimmie, 1 LA, Colorado Staley, Vernon Edwin, Jr., 3 CE San Antonio Stallings, Frederick Allan, 1 AA Moody Stallings, McLendon Montgomery, 3 AA

...... Bowie

Sierra, Carlos Luis, 2 EE Mexico City, Mexico Sikes, Noble Claudell, 1 Agr, Summerfield Silvey, Fred Joseph, 1 LA ... San Antonio Silvey, John Oscar, 3 EE, College Station Simmang, Clifford Max, 3 ME, San Antonio Simmons, Stoney Jay, 1 LA, College Station Simmons, Woodrow James, 1 LA College Station Simmons, William Waldrip, 1 IE, Sabinal Simms, Marvin Jackson, 2 Agr... Celina Simms, Otho Monroe, 1 Sci, Normangee Simons, Hubert Eugene, 1 CE...... Mount Vernon Simpson, Ormond Ralph: 3 ME Corpus Christi Simpson, Richard Rains, 4 Agr., El Paso Simpson, Willard Eastman, 1 CE San Antonio

Sierra, Carlos Luis, 2 EE

Simpson, Warren Weldon, 3 PPE

Simpson, Warren Weldon, 3 FFE Bridgeport Sims, Ellis Marcus, 3 ME Bryan Sims, James Milton, 1 ME Floydada Sinclair, James Alva, 2 ME Mexia Sinclair, William Stanley, Jr., 4 ME Galveston

Sinex, Charles Helm, 4 EE, Fort Worth Singletary, George Frederick, 1 PPE Bryan

Singletany, deorge Frederick, FFF Bryan Singleton, Jack Ralston, I LA, Houston Singleton, Raymond Cecil, I Agr, Terry Sippel, John Adolf, I ME, New Braunfels Skaggs, Jack Allen, I CE _____ Plano Skalnik, Victor Eugene, 3 EE, League City Skripka, Charley Frank, I Sci, Rosenberg Skripka, Walter Martin, 4 LA, Rosenberg Skrip Dick, I CE _____ Ganado

3 AA McKinney Smith, Charles Alexander, 1 PPE, Dallas Smith, Charles Brado, 1 ME Houston Smith, Charles Henry, 1 ME College Station Smith, Charles William, 1 AA, Naples Smith, Douglas Larry, 1 PPE San Antonio Smith, Elmer Gillam, Sp LA College Station Everett L., 1 PPE Overton Foster Carroll, 2 Agr Blanco Fred Lewis, Jr., 1 Sci Houston Henry Herman, 1 Sci Amarillo Harwood Knox, 4 Arch Smith, Smith, Smith, Smith, Smith.

Stanford, Allen Murrel, 1 LA

College Station Stansbury, Edward James, 1 PPE, Houston Stansel, Ellis Frederick, 4 Agr Gueydan, Louisiana

Staples, Edwin Anthony, 1 ChE Edna Staples, Ercelle Horace, 2 CE Ennis Stark, John Wayne, 1 LA Winters Statum, Charles Douglas, Jr., 1 AA Comanche

Staudt, Charles Edward, 1 Arch

Steedman, Edward Adolphe, 1 LA, Sherman Steeger, Charles Joseph, 3 VM Dallas Steele. Jack 1 Arr

Stephens, Thomas Franklin, 3 ChE, Waco Stephens, William Henry, 1 ME San Antonio

Stephens, Wallace L.; 1 LA College Station

..... Stephenson, Ralph Roy, Sp Agr Vidor Sterling, James Bennett, 1 LA Dayton Stern, Henry Walter, 1 EE Rosenberg Sterns, Frank David, 1 PPE Houston

Steves, Edward, 3 LA San Antonio Stewart, Albert Roland, 2 AA Lewisville Stewart, H. R., 1 ME Lohn Stewart, Jestus Howard, 1 VM, Lewisville Stewart, Norman Arthur, Jr., 2 LA, Bryan Stewart, Robert Waters, 1 ME, Fort Worth Steiles, Marshall Francis, Jr., 4 PPF Stiles, Marshall Francis, Jr., 4 PPE Houston

Stile;, William Edmund, 1 PPE Houston Stilwell, Henry Wesley, 2 Agr, Texarkana Stine, Joe Carl, 3 ME Beaumont Stine, Joe Carl, 3 ML Stinson, Joseph - Nored, 1 Agr Mount Vernon

Stinson, Joseph Nored, I Agr Mount Vernon Stockton, William Nolan, 1 PPE Kerens Stokes, Virgel Malone, 1 LA Victoria Stokes, William Luther, 1 AA Bartlett Stone, Chester Alan, 1 ME Dallas Stone, Sidney Smith, 1 CE, Nacogdoches Stone, Wilton Irdill, 1 AA, College Station Stoneham, Sebron Lloyd, 1 CE, Stoneham Stroey, Bruce Allen, 3 CE, College Station Storms, Harvey Harrell, 1 Agr Buda Storms, Raymond Edwin, 2 PPE San Antonio

..... San Antonio Stough, John Rutherford, 1 AgEd Corsicana

Streicher, Wilhelm, 1 PPE, Seagoville Stufflebeme, Jacob Wallace, 1 Agr, Itasca Stukenburg, John Darrell, 1 PPE

Sullivan, James Earl, Sp Voc

Sullivan, Maurice Leon, 1 PPE ... Odessa Sullivan, Maurice Leon, 1 PPE ... Odessa Summers, Orville, Sp Voc, Fort Worth Summers, Stanley Marvin, 1 PPE, Nocona Sutton, Alexander Garrett, 4 EE, Dallas Swan, Harris, William, 2 EE ... Houston Swank, Archie B., 4 Arch ... Wills Point Swanson, Wilbur Eugene, 1 Agr, El Campo Swarthout, Carl Alvis, 2 EE Zavalla Swarthout, Dalton Frank, 2 EF Sweeten, Donald W., 1 GE Lott Syphrett, Donley William, 3 CE Winnie

Tabor, Alga Meredith, 1 Sci **College** Station

College Station Tabor, Ewell Otis, 1 PPE ______ Tyler Taggart, James Neil, 1 ME, College Station Talbott, Ross West, 2 Agr _____ Miles Tankersley, Max, 1 Agr _____ Mertzon Tanner, Harry, 1 GE ______ Columbus Tapal, Joseph John, 1 ME, Fayetteville Tardy, Percy Alexander, 8 ChE ____ Bryan Tardy, Walter Earle, 3 Sci ______ Bryan Tarver, Jack Hamilton, 1 PPE ______ Shreveport, La. Taylor, George Henry, 1 Agr, Floresville Taylor, Herman Franklin, 1 AgEd ... Rogers Taylor, John Jacob, 3 PPE

Taylor, John Jacob, 3 PPE College Station Taylor, Jack Lynn, 2 PPE Taylor, John Robert, Jr., 4 CE, Dallas

..... Corsicana Teaff, James Joseph, 1 CM, College Station

Teague, James Lee, 1 AgEd Rosser

Tolbert, James Oliver, 1 LA College Station Tolleson, Gerald Christopher, 1 ME, Ennis Torn, Roland Sarrazin, 1 Agr — Dallas Torn, Roland Sarrazin, 1 Agr — Taylor Totah, David Salim, 1 Agr — Victoria Trabue, William, 1 Sci — Dallas Trainer, Wyatte Gristie, 3 CE, San Antonio Travi, George John, 1 AA, Ottawa, Illinois Traylor, James Jimmy, 1 PPE — Hughes Springe Hughes Springs Traylor, Leonard Cunningham, 3 Agr Trembly, W. Agib, 4 ME Dallas Trevino, Salvador Narro, 1 ChE Monterrey, Mexico Tucker, Jack Wilson, 1 LA Burke Turman, Paul Manuel, 1 VM Tyler Turner, Cullen Yeates, 3 CE Fort Worth Turner, Harry Stewart, Jr., 3 ME Longview Turner, Joe Gordon, 1 VM Marathon Turner, Jayne Wilbur, 2 PPE Ranger Turner, Thomas Thaddeus, 1 ME Richards Turner, William Augustus, 1 ArchEng Crockett Turney, Henry Wilson, 4 AgEd Dr Twilley, John Fougerousse, 2 ChE Dublin Pineville. Louisiana Tyler, Denzil Grey, 1 PPE, College Station Tvnes, Walter Angustus, 1 GE Mabank Uhr, Clinton William, 1 AA. San Antonio Ulmer, James Arthur. 1 PPE. San Angelo Underwood, Warner Rox, 1 LA San Antonio Underwood, Claud Wesley. 2 ME ... Dentonio Underwood, Harris, Jr., 3 PPE ... Houston Unsell, Glenn Harry, 1 CE Amarillo Ubchurch, Chas. O., 1 ChE. San Antonio Ubchurch, Melvin Louis. 3 AA Canyon Upham, Ernest Denton, 2 AA West Columbia West Columbia Upshaw, Lloyd Donald, 2 ChE _____ Luling Uzzell, Dale Hatton, 1 LA, College Station Vackar, Mittanck Clinton, 1 Sci ... Gonzales Valadez, Carlos Martinez, Sp CE Valentino, Ernest Di, 1 ArchEnc, Houston Van Atten, James Leroy, 1 EE Vance, John Thomas, Jr., 1 PPE Edna

...... College Station Terrell, William Randolph, 3 EE Terry, Homer Lee, 2 AA Beaumont Terry, Homer Lee, 2 AA Tyler Terry, James Thomas, 3 Agr Cameron Terry, Richard Seth, 1 Agr Jefferson Thaxton, John Henry, 1 VM Cherokes Thedford, Welty Oren, 1 Agr, Littlefield Therrell, Grover Demar, 1 AgEng, Marshall Thomae Carel Hightower 1 Ageng Onor Beaumont Therrell, Grover Demar, 1 AgEng, Marshall Thomas, Carol Hightower, 1 AgEng, Olney Thomas, Clarence Milton, 1 Sci College Station Thomas, Fred Clayton, 2 ME, Gainesville Thomas, Fred Purnell, 1 Arch Dallas Thomas, George Oliver, Jr., 1 VM Ringgold, Louisiana Thomas, James Elliott, 1 LA Tom Bean Thomas, Lawrence Edward, 1 LA San Antonio Thomas, Robert Hunter, 1 ME, Eagle Lake Thomas, Robert Marion, 1 CM Post Thomas Seward Welburn, 1 AA Ringgold, Louisiana Thomasson, William Landrum, 3 ME Louisville, Kentucky Thompson, Aubrey Leon, 1 Agr Thompson, Charles Malcolm, 1 LA ... Dallas Thompson, James Ceaphus, 1 Agr Marfa Thompson, John Columbus, 1 AA Thompson, Nash Ody, 3 Agr Fort Worth Thompson, Uel Dee, 1 Agr Forreston Thempson, William Alexis, 1 LA Thompson, William Moses, 4 VM Thorburn, George William, 1 CM Winnsboro Wichita Falls Thorn, Elbert Gunter, 2 ChE Thornhill, Kit Carson, Sp Voc Thornton, Julian Roy, Jr., 1 Arch, Farwell Thornton, John Toliver, 1 CM, Whitewright Thornton, Walter Blackwood, 1 CE Thornton, William Ernest, 1 Agr, Farwell Galveston Tidwell, Courtney Adair, 4 AgEd Alexander Till, Raymond Charles, I AA ... La Feria Tilley, Eugene Donwood, I AA ... Mineola Tinkle, William Joseph, 2 RE Garrison Tisinger, David Loving, 4 LA,

Tison, Bob S., 1 Agr College Station Tittle, Roger Mills, Jr., 2 Sci, Wichita Falls

Warner, George Carter, 2 Agr ... Abilene Warren, Charles William, 4 ME, Galveston Warren, Hoyt Read, Jr., 3 EE, San Antonio Warren, Jesse Travis, 1 Sci Center Warren, Lester Geruis, 1 LA Center Washington, Courtenay Carven, 4 Arch

Galveston

...... College Station Weatherbee, Frank Loring, 1 PPE

Galveston Weatherby, Edward Pace, 4 ME Dallas Weaver, Lonnie Hobson, 1 VM, San Antonio Weaver, Lonine Robson, I via, San Antonio Weaver, Roy Stanley, 1 ME Navasota Weddington, Orville, 2 RE, College Station Wedel, William Leo, 2 PPE, Heidenheimer Wedemeyer, William Charles, 1 Agr

Wedemeyer, William Charles, 1 Agr Crockett Wehner, Frederick William Henry, Jr., 4 EE Del Rio Wehrman, Jack Knighton, 4 EE, Brenham Welch, George Noble, 1 EE Del Rio Wells, Tom Jesse, 2 TE Port Neches Wells, Paul D., 1 Arch Corpus Christi Wennberh, Luther Andrew, 1 EE, Houston Wertz, Don Roy, 4 Agr Bay City Wessendorff, Joe Clyde, 2 LA Richmond West, Cecil Clarence, 1 PPE Neches West, George William, 2 CE Anna West, George William, 2 CE Anna West, James Lawrence, 1 AgEd Terrell West William Carl, 3 LA Olney Westbrook, James Harrison, 1 AA Waco Westmoreland, William Peck, 1 AA

..... Lockhart Whatley, James Arnold, 3 Agr ... Hearne Wheeler, Buford Esker, 1 PPE ... Rogers Wheeler, Carroll Burke, 1 LA, Texarkans Wheeler, Lionel Harris, 1 ME Houston Whitaker, Joseph McSwain, Jr., 2 LA Long Branch Whitacher, Carrol Marchand, 2 LA

White, Albert Irving, 3 Agr Amarillo White, Carlton Gaily, 4 EE Amarillo White, Cecil Smythe, 1 LA, Corpus Christi White, Drew Cade, 1 Sci Port Arthur White, Grover Cleveland, 1 EE Bryan White, Harry Chester, 2 Agr College Station Georgetown

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Vanek, Frank Joseph, 4 CE Placedo Van Loan, Alonzo Hudson, 1 LA

Varnell, Donald Dexter, 4 PPE Barry Vaughan, John Graham, Jr., 2 ChE, Dallas Vaughan, Jerry Richard, Jr., 2 Ohr, Denry Vaughan, Jerry Richard, Jr., 1 ME, Forney Venner, Ralph Clifton, 1 PPE, Wolfe City Verbois, James Darvil, 1 PPE ... Houston Vestal, Donald McKee, 2 PPE, Fort Worth Vick, Clarence Covington, Jr., 1 Agr Bryan Vick, Jack Farquhar, 1 ChE Bryan Vick, Roy McMahan, 4 ME Bryan Vieman, Lewis Dowe, 1 Agr Houston Vigus, Robert Edward, 2 LA, Wichita Falls Villarreal, Noel Onesimo, 1 CM, Falfurrias Vinson, Jack McGee, 1 LA Trinity Vinson, Ralph Nicholas, 1 CE Trinity Vitek, Richard Darius, 1 AA Granger Voelkel, Albert Farl, 2 AA Fayetteville Voelkel, Travis Traugott, 4 RE, Fayetteville

Vogt, Ralph Folkert, 1 EE .. San Antonio Vollentine, Jesse William, Jr., 2 ME

Vordenbaum, Malcolm Arthur, 1 LA Vordenbaum, Malcolm Arthur, 1 LA Vrazel, Gordon Frank, 1 Agr Waide, Elbert, 3 Agr Waide, Elbert, 3 Agr MoKinney Waidhofer, Joe John, 1 ChE Wakefield, Gerald Alan, 2 Agr Madigorville

Wakefield, Troy Parten, 1 AgEd

Waldman, Herman Morris, 3 TE .. Liberty Walker, Asa Lamar, 1 VM Crockett Madisonville Walker, Chester Curtis, 2 AgEng

Walker, Charles Warren, Jr., 1 ChE

Walker, Hugh Alexander, 1 LA Henderson Walker, Jack Kenneth, 3 AgEng

..... Fort Worth Walker, Paul Kenneth, 2 Arch

Walters, Golding Frederick, 1 PPE Houston Walton, Thomas Ously, Jr., 3 Sci College Station Ward, Howard Clay, 1 Agr Ward, Harold Edgar, 1 LA Ward, Jeremiah, III, 2 EE Ward, Marshall Eugene, 1 Agr Ward, Neal Pershing, 1 AA Warden, John Ashley, Jr., 4 EE, McKinney

Wolcott, Leo Frederick, 2 AA Ysleta Wolfson, Sidney Isaac, 2 Sci College Station

Wollner, Otto Eric, 1 ChE Fort Worth Womack, Charles Minter, III, 1 PPE Fort Worth

Womack, Charles Minter, III, 1 PPE Eagle Lake Womack, Glenn Edwin, 1 AABryan Womack, James Leroy, 1 AgEd ... Paxton Wonnacct, George Merton, 1 LA College Station Wood, Clayton Flanery, Jr., 1 Agr ... Sadler Wood, Jim Quinn, 1 ChENavasota Woodard, Harold Woodmen Circle, 1 Agr ... Elkhart

Elkhart

Woodfield, Michael Edward, 1 LA College Station Woodfin, George Smiley, 3 AA _____ Paris Woods, Charley A., 1 RE, College Station Woods, Harley William, 1 CM

...... College Station Woolbright, Allsey Allen, 1 Sci

Word, McGehee, 2 PPE ______ College Station Worley, John Aaron, 4 Arch _____ Dallas Wright, Alfred Philip, 2 LA _____ Alice Wright, Clemens Joe, Sp Voo

Wright, Clemens Joe, Sp Voc College Station Wright, Elzie Elick, 1 LA College Station Wright, Fred Graves, 1 LA Red Rock Wright, Roger Erwin, 3 EE Wupperman, Walter Ernest, Sp VM, Austin Wyatt, Newman Ellwood, 1 LA

Wyse, George Elmer, 4 Sci Palestine Yeager, William Henry, IV, 1 VM

...... Hebbronville

Yarbrough, John Roy, 1 LA ...

Yardley, James Thomas, 1 ChE . Port Arthur

Yezak, Herman Robert, 1 Agr, Bremond Young, Archie Pat, 3 AA, Grand Prairie Young, Colquitt Fleet, 2 VM Marshall Young, John Garland, 1 Agr Lockhart Young, James Hayes, Jr., 2 PPE, Midway Young, John Wallace, 3 ME Kyle Young Olympus, 1 CE College Station Young, Roy, 1 Sci Port Arthur

Zalmanzig, Fred Dodge, 4 CE, San Antonio Zedlitz, Alfred Charles, 2 VM ... Ballinger Zeigler, Robert Edward, 2 Agr Kilgore Zellers, James Thomas, 3 AA

. College Station

Zubl, Andrew Mose, 4 VM Greenville Zumwalt, Robert William, 4 Arch De Ridder, Louisiana

Zunker, Louis Nelson, 1 CM Seguin

wicker, Edward Henry, 1 CM Corpus Christi Widlake, Arthur Parrish, 1 AA Widlake, Arthur Parrish, 1 AA Wider, Harvey Shearer, 1 VM College Station Wilder, Harry Stanley, Jr., 1 ME Austin Wiley, Bruce Foster, 3 EE El Campo Wiley, Paul Manning, 2 ChE Wiley, Thomas Walter, 3 Agr Wiley, Vernon Cramer, 2 Arch Houston Wiley, William Henry, 3 Agr, Port Arthur Wilka, Vernon Loyd, 1 PPE Great Bend, Kansas Great Bend, Kansas Carrizo Springs Williams, Kay Robert, 1 AA ... Panhandle Williams, Maurice Robert, 2 EE, Edinburg Williams, Robert Hays, 1 AA ... Minden Williams, Robert Murphy, 1 PPE Greenville

Whorton, Edgar Harris, 1 AA Bryan Wicker, Edward Henry, 1 CM

Williams, William Pinkney, 1 PPE, Dallas Williamson, Howard Morris, 2 Agr, Bryan Willingham, Jasper Earle, 1 LA Willis, Nicholas William, 3 LA

...... San Antonio

Witkowski, Leo Victor, 2 Agr Plainview Woorndol Hormon Otto Woerndel, Herman Otto, 1 Agr

UNDERGRADUATE STUDENTS

SUMMARY OF ENROLLMENT, REGULAR SESSION 1934-35

(Excluding Short Courses and Extension Courses)

By States and Foreign Countries

Texas	042	New Jersey	1
Alabama	2	New York	1
Arizona	2	North Dakota	2
Arkansas	9	Ohio	1
California	3	Oklahoma	15
Colorado	1	Pennsylvania	1
Florida	1	Rhode Island	1
Idaho	1	South Dakota	1
Illinois	9	Tennessee	3
Indiana	4	Utah	1
lowa	1	District of Columbia	2
Kansas	6	China	1
Kentucky	1	Cuba	2
Louisiana	45	India	3
Massachusetts	3	Korea	1
Minnesota	2	4	1
Mississippi	8	Mexico	27
Missouri	6	Puerto Rico	3
Nebraska	1	Total	213
-			

SUMMER SESSION, 1934

c--College cc--Cotton Classing

.

Abbott, Truman C., c Grandbury
Adams, George Barton, c Bryan
Adams, J. Carl, c Kirbyville
Adams, John Charles, c
Adams, Leon Milton, c
Adams, Samuel Leon, c
Addison, James Morris, c Willis
Adwany, Ramchand Khushaldas, c
Karachi, India
Aldredge, Harry W., c Gilmer
Alexander, Alice Elizabeth, c Hearne
Allen, Jack C., c Grapeland
Allen, John R., Jr., c
Allen, Luris Porter, c Gilmer
Allen, William James, c Groveton
Anchondo, Rodolfo Valderrama, cc
Anderson, Ronald, c Silverton
Andrews, Bess, c
Andrews, Clarence Lorin, c Bryan
Anthis, Bellvin J., c
Appelt, Osborne West, c
Armentrout, Allen D., c
Aschbacher, Charles Frederick, c
Hallettsville
Ashby, Clarence, c Dalhart
Askew, William Clark, c Coolidge

Askins, Jack W., Jr., c Dallas
Astin, Nina Bess, c Bryan
Atkins, Claude, cc Robstown
Atkins, Claude James, c Bryan
Atkins, James Roy, c Bryan
Atkinson, Charles Wallace, c Houston
Avery, James O., c Kenedy
Ayers, Harry Kester, c Wichita Falls
Badgett, James Roscoe, c Denison
Bagley, Tom Bittle, c College Station
Baham, Wilmer D., c Oakdale, La.
Bailey, Christobel, c College Station
Bailey, Woodrow Wilson, c Lancaster
Ballerstedt, Richard Herman, c Bryan
Balmer, Wilbur James, c Beaumont
Balthis, Russell F., Jr., c College Station
Banks, Clayton Charley, c Kemp
Barber, Henry Goodson, c Bryan
Barfield, Helen Dunlap, c Millican
Barfield, Rue E., c Port Arthur
Bargmann, George, c Gonzales
Barham, George, c Nacogdoches
Barker, Joe Wallace, c, Humboldt, Tenn.
Barker, W. W., c Taylor
Bartlett, Elizabeth C., c Hearne
Barnes, E. F., c Bryan
Barnes, George Wallace, c Bryan
Barnes, William Wright, Jr., c, Fort Worth
Barron, Iola, c Bryan
Bartlett, Mary Evelyn, c San Benito

Bayless, Fred Black, c Houston Besse, Celestine Paul, c College Station Besse, Celestine Paul, c College Station Bethany, Claude M., c Bryan Bewley, Frank, c Sour Lake Biggs, Aubrey R., c Luling Birt, Bryan Benton, c Harper

 Blinn, Claude William, cc
 Brownwood

 Blount, Tom Burrus, c
 San Augustine

 Blumberg, Willyemae Cook, c
 College Station

 Bobbitt, Edward, c
 College Station

 Bobbitt, Edward, c
 College Station

 Bohner, Richard Barnett, c
 Quanah

 Bonner, Richard Barnett, c
 Eureka

 Bonner, William Pierre, Jr., c
 Athens

 Boone, James Leroy, c
 Beasley

 Boothe, W. Lea, Jr., c
 Sweetwater

 Bortle, Frank Edward, c, College Station

 Boswell, James Nelson, c
 Beasley

 Boyd, Mrs. Emma M., c Franklin Boyd, Fannye Elizabeth, c Franklin Bradbury, Mrs. Miller, c Franklin Brummerhop, George H., c Seabrook

Brundrett, Frank W., c Dallas Buchanan, Kenneth S., c Bryan Buchel, Floyd McRae, c Cuero Buford, William Ragsdale, c Terrell Pendleton Clearman, Hugh Lee, c Lamesa Clendenin, Cecil, c Bluff Dale Clennin, Ralph William, c Hereford Commons, Glenn G., c Mercedes Comnas, Pete H., c Cuero Compton, W. Z., c De Leon Cox, Luther Benton, c Houston

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 Faith, Mrs. Angie, c
 Bynum

 Faith, Cecil M., c
 Karnes City

 Faith, Otto A., c
 Bynum

 Farber, Leonard, c
 Denver, Colorado

 Farrow. Morris, c De Leon Felsenthal, Leonhard, c, Ardmore, Okla. Ferner, Olen, c. Brownwood Ferguson, Charles W., c. Bryan Ferguson, Ethel, c. Bryan Ferguson, Jack Newton, c. El Paso Finkenburger, Fred Bernard, c Houston Foster, G. A., c Bryan Fowlkes, John Abner, c Schulenburg Franz, Julius August, c _____ Dallas Fraser, Tom Harlan, c _____ Fort Worth Fridel, Bernardetta, D., c _____ Kurten Fridel, Victoria Julia, c ._____ Kurten Gabrysch, Claude John, c Falls City Gaida, John J., cc Marlin Gaither, George Harrison, c Brenham Garrard, Samuer Loen, C. Tyler Garrard, William Lash, c. Tyler Garvin, Mildred Eudora, c. Navasota Gensberg, Frank, c. Big Spring Gentry, Porter C., c. Thrali Gerloff, John Leland, c. Mabank Gerloff, Otto A., c. Moody Gibson, Elmer Hubbard, c. Alto Gibson, Eugene M., c. Calvert Cibson Waylon Garvin. c. Hughes Springs Gibson, Waylon Garvin, c .. Hughes Springs Gideon, Howard Wayne, c Abilene Giesecke, Leonard Fredrick, c Houston Gillham, Clara Alexander, c Carey Gillham, John R., c Carey Gilmore, Bernard Benson, c. Throckmorton Gilmore, Horace D., c Turnersville Gillespie, Robert Williamson, c, Alleyton

Gilpin, Carp Dean, c Alice Glassford, David Morris, c Dallas Goadeke, Ted M., c Dallas Golasinski, Joe Alex, c Houston Gorran, Bose, C Winnsboro Gorzycki, Elizabeth Jane, c Beynan Coss, William Truett, c Belmont Gottlieb, Benjamin Manuel, cOrsicana Gould, Thomas Alvin, c Galveston Gourley, William Milton, c Chillicothe Graham, Marie, c Extand Grean, Joseph Thomas, c Eastland Green, Soseph Thomas, c Paxton Green, Roscoe H, c Tulsa, Oklahoma Greer, Sydney Robert, c Paxton Green, Roscoe H, c Tulsa, Oklahoma Greer, Sydney Robert, c Mart Gruy, Andrew Melrose, c Victoria Guerra, Robert Ruben, cc Roma Gunter, Cecil Edward, c Mart Gruy, Andrew Melrose, c Ounn Grusendorf, Glen H., cc Roma Gunter, Cecil Edward, c Onnau Gunter, Cecil Edward, c De Leon Hall, Byron Franklin, c Hughes Springs Hallmark, Glen D, c Hughes Springs Hallmark, Glen D, c Mexia Hamilton, Durwood K., c Henderson Harni, James Robert, c Mexia Hankla, Randolph Allen, c San Augustine Hanrahan, Jon Joseph, c OKmulgee, Oklahoma Harbin, Andrew L., e Waxahachie Hardy, Sam, c College Station Harris, Edna, c College Station Harris, Edna, c College Station Harris, Edna, c Revina Haris, Edna, c Revina Harris, Edna, c Revina Harris, Edna, c Revina Harris, Due, c Bervina Harris, Clifford Graves, c Fluvanna Heaton, Cyrus Robert, c Houston Hart, Grodon Lee, c Reeville Heldenfels, James
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Gorman, Bose, c
Gottlieb, Benjamin Manuel, c Corsicana Gould, Thomas Alvin, c
Graham, Marie, c Bryan Grassman, Joseph Meyer, c Chenango
Gray, Joseph Thomas, c Eastland Green; Julian Clarence, c Paxton Green, Roscoe H., c Tulsa, Oklahoma
Greer, Sydney Robert, c
Grusendorf, Glen H., cc
Gunter, Cecil Edward, c
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Hallmark, Glen D., c Mexia Hamilton, Durwood K., c Henderson Hamilton, Edwin Lee, c
Hamilton, Leonard K., c
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Hardin, Hughe Jackson, c
Hare, J. Malvin, c
Harper, Hvin Washington, c
Harrison, Festus Howell, c
Hart, Gordon Lee, c
Hattox, J. C., c
Hearne, Evie G., c
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Henderson, Mary Katherine, c Bryan Henderson, Samuel Whilden, Jr., c, Houston Hendrick, Jasper R., c Fort Worth
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Hewitt, Clarence Ben, c
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and, Harolu Henry, CC Hillsboro

Hill, Melvin Bernard, c Bryan
Hill, Ralph Kelly, c Telferner
Hilley, Willis Garland, c Waco
Hix, Richard Milton, c Hearne
Hobgood, Price, c Iredell
Hodgson, R. B., Jr., c Houston
Hoffmeister, Carroll King, c San Antonio
Holcomb, Ernest James, c Bryan
Holden, Julia, c
Holden, Thomas George, c Bryan
Holland, George D., c Atlanta
Holland, Zula Lillian, c
Holler William Corl a Minoral Walls
Hollion Anton John on Ognavilla
Holloway Ernest Robert c Galve ton
Holzmann Mrs C B c Bryan
Homever, Paul Gustay, c Fort Worth
Hood, M. D., c Rising Star
Hopkins, Ted Alvin, c
Horn, James Howard, c Kirbyville
Horton, Ulrich Guy, c
Hostrasser, Beverley, c
Houston, John R., cc Granger
Howe, Parker William, c Dallas
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Hucker, Robert Edward, c San Antonio
Hudson, Mary Ellen, c Hearne
Hudson, Oliver Greer, Jr., c Hearne
Huebel, Leon William, c Glidden
Hughes, E. J., c Dublin
Hughes, Robert Holloway, c, College Station
Humbert, Bertha Ellen, c College Station
Humbert, John Leroy, c College Station
Hutcheson, Ernest O., c Bay City
Hutchison, John Elton, Jr., C Itasca
Hutson, Barney Brown, C Mexis
Island Park New York
Hude Morris S a Sulphur Springe
Irone Murrey E c Sulphur Springs
Jackson Belva W c Austwell
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Jackson Jesse c Lafavette Louisiana
Jackson, Jesse, c Lafayette, Louisiana Jackson, James Roy, c
Jackson, Jesse, c Lafayette, Louisiana Jackson, James Roy, c Montgomery James, Lee Evnon, c
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Jackson, Jesse, c Lafayette, Louisiana Jackson, James Roy, c Montgomery James, Lee Eynon, c Pendleton James, Thomas McCurry, c Breckenridge Jenkins, Mrs. E. G., c
 Hill, Melvin Bernard, cBryan Hill, Ralph Kelly, cTelferner Hilley, Willis Garland, cWaco Hix, Richard Milton, cHearne Hobgood, Price, cIredell Hodgson, R. B., Jr., cHouston Hoffmeister, Carroll King, cSan Antonio Holden, Julia, cSan Antonio Holand, George D., cAtlanta Holland, Zula Lillian, cSan Antonio Hollem, Anton John, ccOenaville Hollem, Anton John, ccOenaville Holoway, Ernest Robert, cBryan Hood, M. D., cSan Antonio How, Parker William, cBising Star Hopkins, Ted Alvin, cBryan Horton, Ulrich Guy, cSanial Hostrasser, Beverley, cHearne Huoker, Robert Edward, cSanial Hubbard, Fred Avery, c
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Jackson, Jesse, c Lafayette, Louisiana Jackson, James Roy, c
Jackson, Jesse, c Lafayette, Louisiana Jackson, James Roy, c Montgomery James, Lee Eynon, c Pendleton James, Thomas McCurry, c Breckenridge Jenkins, Mrs. E. G. c Caldwell Johansen, Johnnie Otto, c Hubbard Johnson, George Kenneth, c Ardmore, Oklahoma Johnson, George Norris, c Bryan Johnson, John Gordon, c Carrizo Springs Johnson, John Gordon, c Dallas Johnson, John Peyton, c Johnson, John Peyton, c
Jackson, Jesse, c Lafayette, Louisiana Jackson, James Roy, c
Jackson, Jesse, c Lafayette, Louisiana Jackson, James Roy, c

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Knapp, Josephine, c _____ Calvert Knight, Harper, c _____ Valley View Knight, John Wesley, c _____ Spurger Knight, William R., Jr., c _____ Houston Knouse, Anthony Mark, c ______ Shreveport, Louisiana Kocurek, Tom Adolph, c Lyons Koonce, Kenneth Newell, c Timpson Kugler, Ricardo, c Kyle, Albert Burleson, c Whitney Lanford, L. Earl, c Longview Lang, John Edward, c Dallas Langston, Gordon George, c, College Station Lasseter, Ramsey Allen, c Henderson Lednicky, Henry M., cc West Leibs, Jerome Stanley, c Tyler Leighman, Albert Henry, c, College Station Lichte, Bess M., c _____ Bryan Lightfoot, Ashburn Jarrett, c ____ Dallas Lightsey, George David, c _____ Littlefield Lilly, Bob Thomas, c _____ Sinton Lloyd, Irvin Henry, c Bryan Lorgwood, Mrs. E. G., C. Bryan Long, Henry M., C. Marshall Long, Jack Buford, C. Farmersville Long, Oscar Symms, C. Greenville Longoria, Edward, C. Laredo Loper, James Frederick, C. Teague Lord Mrs. Clara, C. El Paso Lyle, Clayton B., c Denison

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Morgan, Lucian M., c College Station
Morgan, Warren Ambros, c De Leon
Morkovsky, Alphonse Phillip, cc
Hallettsville
Morris, Asbury B., c Abilene
Morrison, Gerald H., c May
Morrow, Arthur De Kalb, c Wortham
Moseley, Matt Martin, Jr., c Dallas
Mosley, Walter Oliver, c North Zulch
Moses, James Luther, c Justin
Mounger, Sallie, c Teague
Muller, John G., c Commerce
Murray, Grady Odell, c Quitman
Murray, H. G., c Carlton
Mustain, Hollis Ulrich, c El Paso
Nagy, Louis, c Millett
Naylor, Harry B., c Center
Neal, Edward M., c
Neeley, Maurine, c Bryan
Neeley, Mrs. W. E., c Bryan
Neumann, Edwin Robert, c Marlin
Neumann, Erwin Reinhard, c Lufkin
Morgan, John Young, c Keatchie, Louisiana Morgan, Lucian M., c College Station Morgan, Warren Ambros, c De Leon Morkovsky, Alphonse Phillip, cc Morrison, Gerald H., c Abilene Morrison, Gerald H., c May Morrow, Arthur De Kalb, c Wortham Moseley, Matt Martin, Jr., c Dallas Mosley, Walter Oliver, c Justin Mounger, Sallie, c Teague Muller, John G., c Commerce Murray, Grady Odell, c Quitman Murray, H. G., c Commerce Murray, Grady Odell, c Commerce Murray, Grady Odell, c Bi Paso Nagy, Louis, c Millett Naylor, Harry B., c Carlton Mustain, Hollis Ulrich, c El Paso Nagy, Louis, c Millett Naylor, Harry B., c Center Neal, Edward M., c Yoakum Neeley, Maurine, c Bryan Neeley, Mary W. E., c Bryan Neeley, Mary W. E., c Caldwell Newcomb, Jane Elizabeth, c Caldwell Nicholl, Elden Carroll, c Abilene New, Jesse Lee, c Lockhart Newcomb, Jane Elizabeth, c Caldwell Nicholl, Elden Carroll, c Marilin Nevillos, Edward Benjamin, c Nocona Nix, T. R., c Clifton Oppenheim, James Randolph, c Houston Orson, Henry Greenwood, c Midland Orth, Sarah Camilla, c College Station
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Newcomb, Jane Elizabeth, c Caldwell
Newcomb, Lois, c Caldwell
Nicholl, Elden Carroll, c Amarillo
Nicholson, Edward Benjamin, c Nocona
Nix, T. R., c Hico
Norton, Douglas Nelson, c Edinburg
Norwood, Ted Alexander, c Wichita Falls
Nuckols, William Denzil, c Clifton
Oppenheim, James Randolph, c Houston
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Orson, Henry Greenwood, c Midland
Orth, Sarah Camilla, c College Station
Orth, William Alva, c College Station
Owens, Thomas Dodson, c
Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Valley View
Owens, Thomas Dodson, c
Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Milton Lawrence, c Bryan Parks, David Elmore, c Temple Parks, Lucy Largent, c Bryan Parnell, E. D., c Runge Parr, George W., c Sabinal Pare, Brantly Miller, c Galveston Pate, Brantly Miller, c Saw
Owens, Thomas Dodson, c
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Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Milton Lawrence, c Bryan Parks, David Elmore, c Bryan Parks, Lucy Largent, c Bryan Parnell, E. D., c Runge Parr, George W., c Sabinal Parsons, Frank Hall, c Nechez, Miss. Pate, Blred Henry, c Spur Payne, Alfred Henry, c Bloomington Payne, Don A., c Buffalo Payne, Don A., c Sourt
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Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Milton Lawrence, c Bryan Parks, David Elmore, c Temple Parks, Lucy Largent, c Bryan Parnell, E. D., c Runge Parr, George W., c Sabinal Parsons, Frank Hall, c Nechez, Miss. Pate, Brantly Miller, c Spur Payne, Alfred Henry, c Spur Payne, Jon A., c Bloomington Payne, Jesse B., c Santo Payne, Lee William, c Bloomington Payne, M. D. C Santo
Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Milton Lawrence, c Bryan Parks, David Elmore, c Bryan Parks, Lucy Largent, c Bryan Parnell, E. D., c Runge Parr, George W., c Sabinal Parsons, Frank Hall, c Nechez, Miss. Pate, Brantly Miller, c Galveston Payne, Alfred Henry, c Bloomington Payne, Jesse B., c Santo Payne, Lee William, c Bloomington Payne, M. P., c Bryan
Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Milton Lawrence, c Bryan Parks, David Elmore, c Temple Parks, Lucy Largent, c Bryan Parnell, E. D., c Runge Parr, George W., c Sabinal Parsons, Frank Hall, c Nechez, Miss. Pate, Brantly Miller, c Spur Payne, Alfred Henry, c Spur Payne, Jon A., c Buffalo Payne, Jesse B., c Santo Payne, M. P., c Bryan Payne, M. P., c Bryan Payne, William, c Bloomington Payne, M. P., c Bryan Payne, Westal Self, c Throckmorton Payne, Wington, C Bryan
Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Milton Lawrence, c Bryan Parks, David Elmore, c Temple Parks, Lucy Largent, c Bryan Parnell, E. D., c Runge Parr, George W., c Sabinal Parsons, Frank Hall, c Nechez, Miss. Pate, Brantly Miller, c Spur Payne, Alfred Henry, c Spur Payne, Jon A., c Bloomington Payne, Lee William, c Bloomington Payne, N. P., c Bryan Payne, Windrow C., c Bryan
Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Milton Lawrence, c Bryan Parks, David Elmore, c Bryan Parks, Lucy Largent, c Bryan Pars, George W., c Sabinal Parsons, Frank Hall, c Nechez, Miss. Pate, Brantly Miller, c Galveston Payne, Alfred Henry, c Spur Payne, Jesse B., c Santo Payne, Lee William, c Bloomington Payne, Vestal Self, c Throckmorton Payne, Windrow C., c Buffalo Payne, Windrow C., c Buffalo Payne, Windrow C., c Waren
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Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Kulus Alton, c Peniel Parker, Milton Lawrence, c Bryan Parks, David Elmore, c Temple Parks, Lucy Largent, c Bryan Parnell, E. D., c Runge Parr, George W., c Sabinal Parsons, Frank Hall, c Nechez, Miss. Pate, Brantly Miller, c Galveston Payne, Mrs. Alpha Jo, c Bloomington Payne, Don A., c Spur Payne, Lee William, c Bloomington Payne, M. P., c Bryan Payne, Westal Self, c Bryan Payne, Vestal Self, c Buffal Pegues, Curtis Scott, c Curystal City Peirce, Theron LeRoy, c Waco Pettit, Darwin Kirk, c Comanche Petty, Russell Robert, c Nolan
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Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Eulus Alton, c Peniel Parker, Milton Lawrence, c Bryan Parks, David Elmore, c Temple Parks, Lucy Largent, c Bryan Parnell, E. D., c Runge Par, George W., c Sabinal Parsons, Frank Hall, c Nechez, Miss. Pate, Brantly Miller, c Galveston Payne, Alfred Henry, c Spur Payne, Mrs. Alpha Jo, c Bloomington Payne, Jesse B., c Santo Payne, Lee William, c Bloomington Payne, Westal Self, c Throckmorton Payne, Vestal Self, c Windrow C., c Buffal Pegues, Curtis Scott, c Curstal Custine Pettit, Aaron David, Jr., c Gustine Pettit, Darwin Kirk, c Comanche Petty, Russell Robert, c Nolan Petty, Russell Robert, c Franklin Philips, Rupert L., c Iredell Pie
Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Milton Lawrence, c Bryan Parks, David Elmore, c Temple Parks, Lucy Largent, c Bryan Parks, Lucy Largent, c Bryan Parnell, E. D., c Runge Par, George W., c Sabinal Parsons, Frank Hall, c Nechez, Miss. Pate, Brantly Miller, c Galveston Payne, Alfred Henry, c Spur Payne, Mrs. Alpha Jo, c Bloomington Payne, Jesse B., c Santo Payne, N. P., c Bryan Payne, Windrow C., c Buffalo Pegues, Curtis Scott, c Crystal City Pegues, Curtis Scott, c Gustine Pettit, Darwin Kirk, c Comanche Petty, Russell Robert, c Nolan Petty, Mrs. Winnie, c Franklin Phillips, Rupert L., c Iredell Pierce, John A., c Corsicana Polansky, J. A. cc
Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Kuiton Lawrence, c Bryan Parks, David Elmore, c Temple Parks, Lucy Largent, c Bryan Parnell, E. D., c Runge Parr, George W., c Sabinal Parsons, Frank Hall, c Nechez, Miss, Pate, Brantly Miller, c Galveston Payne, Alfred Henry, c Spur Payne, Don A., c Buffalo Payne, Jesse B., c Santo Payne, Lee William, c Bloomington Payne, M. P., c Buffalo Payne, Windrow C., c Buffalo Payne, Windrow C., c Buffalo Petit, Aaron David, Jr., c Gustine Pettit, Darwin Kirk, c Comanche Petty, Russell Robert, c Nolan Petty, Mrs. Winnie, c Franklin Phillips, Rupert L., c Iredell Pierce, Frank Cushman, c San Benito Piencek Mrs, Corata
Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Eulus Alton, c Peniel Parker, Milton Lawrence, c Bryan Parks, Lucy Largent, c Bryan Parks, Lucy Largent, c Bryan Parnell, E. D., c Runge Par, George W., c Sabinal Parsons, Frank Hall, c Nechez, Miss. Pate, Brantly Miller, c Galveston Payne, Alfred Henry, c Spur Payne, Mrs. Alpha Jo, c Bloomington Payne, Jesse B., c Santo Payne, M. P., c Bryan Payne, Vestal Self, c Throckmorton Payne, Windrow C., c Buffalo Pegues, Curtis Scott, c Comanche Petti, Darwin Kirk, c Comanche Petty, Russell Robert, c Nolan Petty, Mrs. Winnie, c Franklin Philps, Rupert L., c Iredell Pierce, Frank Cushman, c San Benitu Pierce, John A.
Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Milton Lawrence, c Bryan Parks, David Elmore, c Temple Parks, Lucy Largent, c Bryan Pars, George W., c Sabinal Parsons, Frank Hall, c Nechez, Miss. Pate, Brantly Miller, c Galveston Payne, Alfred Henry, c Spur Payne, Mrs. Alpha Jo, c Bloomington Payne, Jesse B., c Santo Payne, M. P., c Bryan Payne, Vestal Self, c Throckmorton Payne, Windrow C., c Buffal. Pegues, Curtis Scott, c Comanche Pettit, Darwin Kirk, c Comanche Petty, Russell Robert, c Nolan Petty, Mrs. Winnie, c Franklin Phillips, Rupert L., c San Benitu Pierce, John A., c Corsicana Pollock, Mrs. Cora McCowen, c, Benchley Pollock, Mrs. Cora McCowen, c, Beaumont
Owens, Thomas Dodson, c Bonham Pace, Bailey William, c Yalley View Palmos, Artie Ann, c Hearne Parenica, Charlie Roy, Jr., c Port Lavaca Parker, Eulus Alton, c Peniel Parker, Kuiton Lawrence, c Bryan Parks, David Elmore, c Temple Parks, Lucy Largent, c Bryan Parnell, E. D., c Runge Parr, George W., c Sabinal Parsons, Frank Hall, c Nechez, Miss. Pate, Brantly Miller, c Galveston Payne, Alfred Henry, c Spur Payne, Don A., c Bloomington Payne, Lee William, c Bloomington Payne, Lee William, c Bloomington Payne, M. P., c Buffalo Payne, Windrow C., c Buffalo Pegues, Curtis Scott, c Crystal City Peirce, Theron LeRoy, c Waco Pettit, Darwin Kirk, c Comanche Petty, Russell Robert, c Nolan Petty, Russell Robert, c Iredell Pierce, Frank Cushman, c San Benitu Pierce, John A., c Corsicana Poll
Norwood, Ted Alexander, c. Wichita Falls Nuckols, William Denzil, c. Clifton Oppenheim, James Randolph, c. Houston Orms, James Young, c. Bryan Orson, Henry Greenwood, c. Midland Orth, Sarah Camilla, c. College Station Orth, William Alva, c. College Station Owens, Thomas Dodson, c. Bonham Pace, Bailey William, c. Yalley View Palmos, Artie Ann, c. Yalley View Palmos, Artie Ann, c. Hearne Parenica, Charlie Roy, Jr., c. Port Lavaca Parker, Eulus Alton, c. Peniel Parker, Eulus Alton, c. Bryan Parks, David Elmore, c. Bryan Parks, Lucy Largent, c. Bryan Parnell, E. D., c. Runge Parr, George W., c. Sabinal Parsons, Frank Hall, c. Nechez, Miss. Pate, Brantly Miller, c. Galveston Payne, Alfred Henry, c. Bloomington Payne, Jon A., c. Bloomington Payne, Jesse B., c. Santo Payne, Vestal Self, c. Throckmorton Payne, Windrow C., c. Buffalo Payne, Windrow C., c. Buffalo Payne, Windrow C., c. Sutfalo Pettit, Aaron David, Jr., c. Gustine Pettit, Darwin Kirk, c. Maco Pettit, Aaron David, Jr., c. Consanche Petty, Russell Robert, c. Nolan Petty, Mrs. Winnie, c. Franklin Phillips, Rupert L., c. Franklin Phillips, Rupert L., c. Dime Box Pollock, Mrs. Cora McCowen, c. Benchley Pollock, Jennie, c. Dallas Porter, Aubrey Lynn, c. Dot Arthur Porter, Harold Andrew, c. De Kalb

Porter, L. L., c High Island
Post, Thomas Gressam, c Montgomery
Prizzak, Elsie, c
Price Lola Moreene c Bryan
Pridgeon. Theron Omer. c
Pritchard, Elmer Marion, c Santa Anna
Puckett, Ray Herbert, c Big Lake
Qualtrough, Henry Mosehart, c Houston
Quigles, Murray Basile, c
Quinby, J. Roy, c Unincome
"
Racki, Matt M., c Beaumont
Ragle, Alfred Leon, c Olney
Rahn, Leon Floyd, c Dayton
Randolph, Gayle Bowden, c Madisonville Por William Olivor a Honoford
Res Robert Howard c Westberford
Reagin, Leonard Chandler, c
Rechenthin, Clifton A., c Waring
Reed, Charles Earl, c Mart
Reid, John Bond, c College Station
Reid, Ross N., C
Report Frank Lauren e Bryan
Reynolds, Clyde Martin, c Bastrop
Reynolds, Lelmer C., c Bryan
Rhader, John Charles, c Beaumont
Rich, Absalom Berry, c College Station
Rich, George Clinton, c El Campo
Richter, Francis Joseph, c Laredo
Riherd, Paul T., c
Riherd, Mrs. Paul T., c Bryan
Riley, Emmett Thomas, c Hughes Springs
Robbins, William Roland, c Fort Worth
Cornus Christi
Roberts, Forrest Earle, c
Roberts, Homer David, c Terrell
Roberts, James Elton, c Terrell
Roberts, J. Frank, c
Robertson John E c Austin
Robinson, Harry James, c
Robinson, Kid Frank, c Mexia
Robinson, Lee Edgar, c Wellborn
Roderick, Richard, c Dodd City
Rodgers, Robert James, c
Roesner George Earl c Kety
Rogers, Raymond Lewis, c
Rogers, Mrs. Lois Fincher, c
Rosenberg, Sam F., c La Grange
Ross Henry c
Rubenstein, Mathews Samuel, c. Hemphilf
Rushing, William Henry, c Hemphill
Rushing, Mrs. William Henry, c
Buanell Balah W
Russi Robert W a Houston
Rutledge. Thomas Hearon. cc Paris
Ryan, John Herald, c San Antonio
Ryan, Rosalie, c Caldwell
Salter, Ralph Greenwood, cc Brownwood
Samuels, George Henry, Jr., C
Sandifer, Mrs. Leon, c Franklin
Sandstedt, Jean Frances, c, College Station.
Sapp, William Leroy, c College Station
Porter, L. L., c

Scarborough, Alfred M., c Tabor Scardino, Pauline Rose, c ______ Bryan Scardino, Vincen Mary, c _____ Bryan Schaefer, George, c _____ San Antonio Schaefer, Seley E., c _____ Gladewater Shackelford, Floyd D., c Neches Slack, Richard C., c Presidio Smith, Joe Mims, c Houston Smith, Lawrence Drummond, c Bryan Smith, Lewis James, c Kingsville Smith, Morrell B., c Troup Smith, Mary E., c College Station

 Smith, Mary E., c
 College Station

 Smith, Vincent Eastman, c
 Houston

 Smith, Vincent Eastman, c
 Houston

 Smith, William Cagle, c
 Beckville

 Smith, William Hamilton, Jr., c
 Bryan

 Snavely, Fred, c
 Arlington

 Sneed, Robert W., c
 Hasse

 Snuggs, Roland Edward, c
 Bryan

 Snyder, Robert Dudley, c
 Dallas

 Sorenson, Jerome Wallace, c
 San Antonio

 Sorenson, Jerome Wallace, c Corpus Christi

Spellman, Rudolph, R., c Smiley Stokes, Íley Edgar, c Houma, Louisiana Storms, Raymond Edwin, c San Antonio Suber, Elizabeth H., c Bryan Sudheimer, Robert Leslie, c, College Station Wadi-Hunien, Palestine Talbott, Robert Nealy, c Miles
 Talbott, Kobert Neary, c
 muses

 Tardy, Percy Alexander, c
 Bryan

 Tardy, Walter Earle, c
 Bryan

 Taylor, Charley Scott, c
 Normangee

 Taylor, Ohn Robert, c
 Dallas

 Taylor, Mearl Glen, c
 Bryan

 Taylor, Murrell Kenton, c
 Mount Pleasant
 Thompson, Nash O., c Fort Worth Thompson, Reuben Ralph, c Hubbard Vick, Jack, c Bryan Vines, Wiley Clifton, c Mumford Wadley, Fred H., c Palmer Wadley, Mrs. Fred H., c Palmer Wagner, John Rudolph, c Sulphur Springs

 Wallin, Dan J., c
 Bryan

 Wallon, Mattie Ella, c
 Bryan

 Walton, Ernest Vernon, c
 Stephenville

 Walton, Thomas Ousley, c
 College Station

 Ward, Hubert L., c
 Goose Creek

 Ward, Henry Edward, c
 McKinney

 Ward, William Lewis, c
 Goose Creek

 Ward, Henry Edward, c
 McKinney

 Watson, Cleo Brittain, c
 Lawton, Okla.

 Watson, John D., cc
 Lawton, Okla.

 Watsor, John D., cc
 Mattiney

 Weaver, Rueal Mayne, c
 Littlefield

 Weaver, T. V., c
 Miami

 Weever, T. V., c
 Miami

 Weever, Jon R., c
 Bryan

 Weetz, Jon R., c
 Brenham

 West, George William, c
 Anna

 West, Joames Harrison, c
 Watco

 West, James Tinkle, c
 Lockhart

 Whete, James Arnold, c
 Hearne

 Wheeler, Simmie, c
 College Station

 White, Albert Irving, c
 Marillo

 White, Howard Sigman, c
 San Antonio

 White, Joe Reeves, c
 Bryan

 White, Howard Sigman, c
 San Antonio

 White, Mang

Williams, Doyle, c Colorado
Williams, Henry Lanham, c Mertzon
Williams, Harry Orval, c Galveston Williams, J. D., Jr., c College Station
Williams, J. D., Jr., c Conege Station Williams, Maurice Robert, c Edinburg
Williams, Maurice Robert, c Edinburg
Williams, Oscar Terrell, c Floydada Williams, Wilton Edward, c Cotulla
Williamson, Howard Morris, c Bryan
Wilson, Curtis Lambert, c
Wilson, Mrs. C. L., c
Wilson, Findley Paull, c Archer City
Wilson, James Woodrow, c Dallas
Wilson, Malcolm Lee, c Princeton
Wilson, Russell Owen, c Princeton
Wilson, Roy Thomas, c
Wilson, Thomas Fred, c
Wingren, Roy M., c
Wood, Joe Talmadge, c
Wood, Samuel Joshua, c
Wood, Victor Letulle, cc
Worley, James D., c College Station
Wright, Marion Fendall, c Red Rock
Wright, Roger Erwin, c Alice
Wylie, William Elisha, c Eustace
Yates, Mrs. Ruth, c Bryan
Yeager, Mrs. Carmen, c Marquez
Yeager, Fred H., c Bedias
Yeager, Jim Rice, c Marquez
Young, John Wallace, c Kyle
Yun, Sang Won, c E-Chun, Korea
Zedlitz, Alfred Charles, c Ballinger
Zeigler, Robert Edward, c Kilgore
Zellers, James Thomas, c Toledo, Ohio
Zemanek, Antone Peter, c, Benchley
Zuber, Margaret, c Bryan

SUMMARY OF ENROLLMENT, SESSION 1934-35

(June 1, 1934 to April 15, 1935)

Regular Session, 1934-35:

COURSE	Grad- uate	Sen- ior	Jun- ior	Sopho- more	Fresh- man	Spe- ial	Total
Agriculture	34	65	72	128	203	5	507
Agricultural Administration		37	48	79	150	2	324
Agricultural Engineering		13	11	13	22	_	61
Liberal Arts		15	34	81	207	11	348
Science		13	24	46	99	_	208
Architecture		18	7	15	31	_	74
Architectural Engineering		4	4	3	6	-	17
Chemical Engineering		31	34	53	110	_	229
Civil Engineering		31	35	41	78	2	196
Electrical Engineering		45	44	64	108	-	270
Geological Engineering		2	-	7	10		19
Mechanical Engineering	9	32	48	51	136	-	276
Petroleum Production Eng.	–	24	27	84	160	-	295
Textile Engineering	–	4	7	3	5	-	19
Cotton Marketing	–	-	_	7	45	-1	53
Veterinary Medicine	1	13	14	33	55	4	120
Agricultural Education	4	13	15	19	38	- .	89
Industrial Education	4	8	7	9	7	-	35
Rural Education	8	6	9	10	31	-	64
Special Vocational	–	_	_	_	-	9	9
TOTAL	118	374	440	746'	1501	34	3213
Extension Courses in Agricu	ltural	Educat	tion				· · · ·
Extension Courses in Agricu							
Extension Courses in Rural							
Total Regular Session,	1934-8						.3393
Summer Session, 1934 1. College							
							978
Grand Total							
Less Names Repeated							
Net Total Regular Session, 1934-35 and Summer Session, 1934							

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

Short Courses

Summer Session, 1934 and Regular Session, 1934-35:

.

County Superintendents and County Supervisors Conference
(July 30-August 3, 1934)
Cream Grading School (Feb. 11-15, 1935) 39
Farmers' Short Course (July 30-August 3, 1934)
Firemen's Short Course (July 16-19, 1934) 467
Highway Short Course (April 11-13, 1935) 141
Laundry Owners' Short Course (Nov. 6-8, 1934) 35
Oil Mill Operators' Short Course (June 11-16, 1934) 48
Physical Education Short Course (August 19-25, 1934) 210
Texas School Administration Conference (June 11-15, 1934) 130
Horse, Jack, and Mule Breeders' Short Course (Feb. 22-23, 1935) 134
Total, Short Courses
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DEGREES CONFERRED

DEGREES CONFERRED JANUARY 27, 1934

Master of Science (1)

Mills Herbert Byrom, B. S., A. & M. College of Texas, 1928. Major Study-Agricultural Engineering

Thesis: "Factors Affecting the Efficiency of Smooth Cotton Stripping Rolls."

Bachelor of Arts

In Liberal Arts (1)

William Gordon Carnahan

Bachelor of Science In Agricultural Administration (1)

Willie K. Palmer

In Agricultural Education (1)

Orville Kent Hoyle

Andy Lee Baggett

V. D. Fulbright Joseph Blake Winston

Arthur Charles Volz

James Frank Harlan

Lester Ira Webb

William P. Hulbert

In Civil Engineering (3)

In Agriculture (2)

Audrey J. Jennings

Neal M. Randolph

In Electrical Engineering (1)

In Industrial Education (1)

In Rural Education (1)

In Science (1)

DEGREES CONFERRED AT FIFTY-EIGHTH ANNUAL COMMENCEMENT

June 1, 1934

DOCTOR OF LAWS

Francis Marion Law, B. S., A. & M. College of Texas, 1895.

Master of Science (10)

James Otis Beasley, B. S., A. & M., College of Texas, 1932. Major Study-Genetics Thesis: "The Inheritance of Length of Lint, Percentage of Lint, and Boll Index in Varietal and Species Crosses of Cotton." With high honor. James Russell Couch, B. S., A. & M. College of Texas, 1931.

Major Study-Chemistry Thesis: "Amount of Vitamin D Required in Commercial Chick Rations." With high honor.

Harvey S. Dorman, B. S., A. & M. College of Texas, 1932.

Major Study—Entomology "The Life History of the Yellow Pecan Aphid, Monellia Thesis: nigropunctata (Granovsky)."

Paul Burch Dunkle, B. S., A. & M. College of Texas, 1917.

- Major Study-Genetics Thesis: "Shattering in Winter Wheat as Influenced by Various Head and Grain Characters."
- Albert Harrison Kerns, B. S., Kansas State College of Agriculture and Applied Science, 1926.

Major Study-Electrical Engineering Thesis: "A Study of the Cost of Producing Electrical Energy by the Power Plant of the Agricultural and Mechanical College of Texas, 1930-31."

John Henry Milliff, B. S., A. & M. College of Texas, 1931.

Major Study-Biology

Thesis: "The Filtrability of Brucella Abortus."

With honor.

Frederick W. Mueller, B. S., A. & M. College, 1932.

Major Study-Geology

"The Sedimentary Petrography and Correlation of Well Samples Thesis: from Frio County Texas."

With honor.

Bragg A. Stockton, B. S., A. & M. College of Texas, 1930.

- Major Study-Industrial Education Thesis: "The Integration of Drawing and Mathematics and Science in the Waxahachie High School During the Year of 1932-33."
- John Otis Toliver, B. S., Colorado Agricultural College, 1925.

Major Study-Animal Husbandry

Thesis: "A Study of the Feeding Value of Limestone Flour in a Lamb Fattening Ration."

With honor.

Robert Page Ward, B. S., A. & M. College of Texas, 1924.

Major Study-Electrical Engineering

Thesis: "A Study of the Desirability of Various Schemes for the Interconnection of Lightning Arrester Grounds."

With high honor.

Bachelor of Arts

In Liberal Arts (21)

Thomas William Akins Daniel C. Alanis Frank Cleveland Bolton, Jr. Harold Steenbock Brinsmade Curnie Meredith Davis

Haynes W. Dugan Allen M. Early Paul W. Edge, Jr. Russell Wedekind Fichtner Lyman Spencer Gardner, Jr. Henry T. Hall Julius Bernard Heinen Stephen A. Jones Charles Holman Lilienstern William A. McLeod Charles Millard Mast Bruce Emmet Shumate Harry Clinton Smith William Oscar Taylor Zeke Tipton William Oscar Vela

Bachelor of Science

In Agricultural Administration (32)

Cary M. Abney, Jr. John Jacob Bender William Thomas Bruton, Jr. Foy Oscar Cook Richard H. Cutting Cecil O. Dalton Joseph William Dryden George Wandelorhor Dunn Tull Neal Gearreald Harry Carl Hokanson Arthur Schuyler Jones Willard Lee Keeling Martin Homer Lee, Jr. James C. McBride Jesse W. Manley Fhomas Arch Marshall

Louis Robert Pietzsch, Jr. C. Edward Reichardt Lee Scarpinato Harry G. Seeligson John Thomas Sloan John Forrest Smith Clarence Barnard Spill Harry C. Stefani Stoney Milton Stubbs Tyrus R. Timm Wesley Hunter Turner Henry C. Wendler John Henry Willard Carter Wimberly Vernon Graham Young Wesley B. Young, Jr.

In Agricultural Education (7)

John Dave Cunningham Willian Sterling Cunningham , Dan Dudley John L. Harris Frank Shannon Lilley Estell William Scott Parker Woodul

In Agricultural Engineering (4)

Lawrence Edwin Sommers Robert Loren Thigpin James Eugene Boothe James Alfred Nichols

In Agriculture (36)

Robert Theodore Alexander, Jr. Stanley B. Archibald Hugh F. Barnhart William L. Barrett. Jr. Robert Leslie Bennett Felix Johnathan Burton Roy Franklin Cook Carroll W. Cox Geo. H. Draper Hector Fuentes Ernest Goule Fred Gremmel Frederick Louis Hansen Richard Ferd. Hartman Joseph Milton Hatton George Vernon Holmes Paul G. Homeyer John Walter Huckabee, Jr.

Frank William Brendle Luis F. Flores Philip P. Gilbert Joseph Weldon Hunnicutt George L. Ingram Paul Andrew James Jeffries B. M. Irwin William Lester Jameson Sam Thompson Logan Arthur A. Miller James E. Miller John Warren Neilson Rheyburn Emmit Nolan Tom P. Porter Carl Richard Rabb Clovis D. Ritter Louis Albert Shone, Jr. Floyd Thurman William Roy Tisdale Charles A. Tosch, Jr. Thomas McKenna Weaver Harry Koger Westerman Harold E. Wright Sang Won Yun

.

In Architecture (12)

Juan R. Muzquiz Ernest J. Reed James Garfield Schlather Charles E. Ullrich Allan Russell Wright Kenneth Elbert Zimmerman

In Chemical Engineering (20)

John Robert Ackenhausen Nathan Bahme Charles Porter Baker Unarles Porter Baker Herman Wayne Blackwood Joshua Ambrose Burns Harold B. Chamberlain Fielding B. Dickson Marvin Edward Erwin Lewis Gross Willie A Horizo Willie A. Hering

Elmer Earle Huffhines, Jr. Elmer Earle Huffinles, Jr. Clarence Boyde Hussey Thomas Edward Jarman, Jr. Johnny M. Mitchell Homer Nicholas Morrow James Everette Poole Robert Euclid Porter, Jr. Wallace M. Pratt Logan C. Roots, Jr. Oliver Shouble York, Jr.

In Civil Engineering (18)

Malcolm Marshall Anderson Malcolm Marshall Anderson Joseph Alexander Aston, Jr. Juan C. Doria Donald Sager Elliott Gus R. Herzik. Jr. William Worth Holmes Robert Edward Lewis, Jr. Eugene Harrison McCann, Jr. Andrew Jackson McKenzie, Jr.

1.1

H. Fred Martin William Wallace Orrison William Robert Parr John Robert Parr John Robert Richardson Earl T. Shepherd Luther E. Taylor Thomas Henry Terrell Worsham Carroll Whitman Lloyd O. Zapp

In Electrical Engineering (37)

Kenneth Jeffreys Baggett Charles Johnson Charske, Jr. Charles Francis Drees Frank Joe Feagin Edgar Reese Frachiseur James Thomas Grady, Jr. Zelick Greenberg Earl Oxford Hall Edwin William Hamilton Jack Harding William Henry Hickey, Jr. Alex B. Hildebrandt Herbert Weldon Leach Willard Bentley Logan Raymond Wells Long Willard Oscar Luse Chandler Younge McClellan Weldon Gray McLarry Preston Dwight McNeely

Charles Newton Hielscher Wilbur Merwin Moore

Jesse Byron Rawis Fayette Fentress Saunders Charles Royal Smith Charles Kenneth Swanson Lowell Morris Van Zandt Leonelo Hector Villarreal Oliver Parton Walker J. Ivan Walton John Edward Weaver Robert Earl White James H. Wilkinson, Jr.

In Industrial Education (3)

John H. Ratcliff

In Landscape Art (5)

James Oliver McKnight Robert Lee Mosty

In Mechanical Engineering (29)

Theodore J. Bianchi John Louis Cassell Andrew Otto Engelbrecht James Christian Erskine Newton Bernard Gililland Franklin A. Harris. Jr. Robert Thomas Nelson Edward A. Olsovsky John G. Otts Lawrence Sherman Pawkett Preston D. Phillips, Jr.

Wilkie Adsit Rambo Stone Datus Harris Donald Bedney Hooser Maynard Warren Johnson Ervin T. Kaltwasser Clarence Denman Long Edwin Oliver McKay Frank Joseph Malina Harold Minner Mastin George Archer Staples Charley Van de Putte

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Manford Freeman Noster Lloyd Wilson Nott Robert Rankin Osburn Alfred Herman Otto, Jr. Lawrence Sherman Pawkett John Whitney Pittman Harmon Eugene Platzer Jesse Byron Rawls

Earl Matthew Connor James F. Haug Kermit H. Heinrich

In Agricultural Education (5)

Asbur Bratten Morris

Howard Payne Gideon

In Petroleum Production Engineering (15)

Henry Francis Bell Ernest Delwin Brockett, Jr. Edward Hughes Burns Benjamin F. Carter William Haley Drushel Theodore G. Hollingsworth, Jr. William Bogel Hubbard John M. Kenderdine

Dan Miller LaRoe Henry Norwood Lyle Frank Eugene Owens Ernest Lee Petree Carry Neblett Smith Frank G. Thomas Hervey H. Whitfield

In Rural Education (1)

In Science (10)

Gerald K. Ashby Richard Rayburn Gantt Robert Charles Hermann Noble L. Hull Thomas P. Kennerly

Sully Swinnea Woodland

G. J. Kohler Jim Raymond Little George Archer Staples James Lucius Wallace Charles Herman Winkler, Jr.

In Textile Engineering (2)

Thomas Gustav Carlisle

Charley Van de Putte

Doctor of Veterinary Medicine (4)

William Z. Burke Warren Brown Rogers Hugh Barber Thaxton John W. Upchurch

· DEGREES CONFERRED AUGUST 25, 1934

Master of Science (18)

Leon Milton Adams, B. S., A. & M. College of Texas, 1933.

Major Study-Chemical Engineering "The Use of the Photo-Electric Cell in the Determination of Thesis: Ammonia."

With honor.

James Harvey Caddess, B. S., A. & M. College of Texas, 1933.

Major Study-Mechanical Engineering

Thesis: "Kiln Drying Hardwoods for Cabinet Use in Texas." With honor.

Harvey Lee Chenault, B. S., A. & M. College of Texas, 1932.

Major Study-Mechanical Engineering

"The Outline of a Proposed Course in Metallography for the Thesis: Mechanical Engineering Department of the Agricultural and Mechanical College of Texas."

Roy F. Cook, B. S., A. & M. College of Texas, 1934.

Major Study—Animal Husbandry Thesis: "A Study of Cotton Seed as a Feed for Lambs." With honor.

Benjamin Manuel Gottlieb, B. S., A. & M. College of Texas, 1933.

Major Study-Chemical Engineering

"The Effect of Hydrogen Sulphide on Cracked Gasoline in Thesis: Storage."

Leon William Huebel, B. S., A. & M. College of Texas, 1933. Major Study-Chemical Engineering "The Effect of Mineralized Cotton Seed on the Growth of Thesis: Albino Rats." Robert A. Manire, B. S., Sam Houston State Teachers College, 1925. Major Study-Agricultural Education Thesis: "The Relationship between Courses in Vocational Agriculture, Preparation of Teachers of Agriculture, and Types of Farming in Six Farming Areas of Texas." Alvin Julius Miller, B. S., A. & M. College of Texas, 1933. Major Study-Chemical Engineering Thesis: "The Effect of Hydrogen Sulphide on Straight-run Gasoline During Storage." With honor. Edward Douglas Parnell, B. S., A. & M. College of Texas, 1923. Major Study-Poultry Husbandry "Methods of Raising Turkeys and Costs of Production in Five Thesis: Counties of Southwest Texas." With honor. William Lee Payne, B. S., Sam Houston State Teachers College, 1926. Major Study-Entomology Thesis: "Life History and Habits of Embia Texana Milander." J. Roy Quinby, B. S., A. & M. College of Texas, 1924. Major Study-Genetics Thesis: "Radiation-Induced Variation in Sorghum." With high honor. William Oliver Ray, B. S., A. & M. College of Texas, 1930. Major Study-Electrical Engineering Thesis: "An Investigation of the Theory of Commutation." With honor. George Henry Samuels, Jr., B. S., A. & M. College of Texas, 1933. Major Study-Electrical Engineering Thesis: "An Application of the Photo-Electric Cell to Obtaining the Retardation Curves of Rotating Machinery." With honor. Jack Ezelle Simpson, B. S., North Texas State Teachers College, 1933. Major Study-Chemistry Thesis: "The Determination of Some Constituents of Various Vitamin Foods." Sarup Singh, L. Ag., Punjab Agricultural College, 1920. Major Study-Genetics Thesis: "A Study of the Inheritance of Boll-Lock Number in Cotton." Lewis James Smith, B. S., Sam Houston State Teachers College, 1924. Major Study-Rural Education "A Comparison of Some of the Educational Opportunities in the Thesis: Common School and Independent Districts of Kleberg County, Texas."

DEGREES CONFERRED

Homer Grant Towns, B. S., North Texas State Teachers College, 1933.

Major Study-Biology Thesis: "A Study of the Pollen Tubes in Nicotiana."

Roy Mathew Wingren, B. S., A. & M. College of Texas, 1927.

Major Study-Mechanical Engineering

Thesis: "A Photo-Elastic and Theoretical Investigation of the Stress Distribution in a Simple Beam Due to a Concentrated Load at the Center."

With honor.

Bachelor of Arts

In Liberal Arts (5)

Robert J. Bumpas Charles Mabry Cummings Curtis Fred Maxwell (As of 1931) Joe Merka Roger Roy Shannon

John Butler Mooney

James Milner Starr

Fred J. Jones

Leonard Chandler Reagin

Bachelor of Science

In Agricultural Education (5)

In Agricultural Administration (5) Leonard Farber

Louis Milton Bennett

In Agricultural Engineering (2) Myles Adrian Kelley

> In Agriculture (7) W. George McCubbin Hayward Allen Moncrief, Jr. Asbur Bratten Morris

In Chemical Engineering (2) William Hamilton Smith, Jr. In Civil Engineering (5)

> John Edward Robertson, Jr. Clarence Story Tilley

In Electrical Engineering (5) Rosson N. Reid Tom L. Uhr

In Industrial Education (3)

George Wilber Kadel

In Landscape Art (1)

In Mechanical Engineering (1)

In Petroleum Production Engineering (1)

In Rural Education (4) Charlie Roy Parenica Alfred Frank Vandergriff In Science (2) Jesse L. New, Jr.

Michel Ayid Haddad Reginald S. McKnight

Benjamin Davy Cook Herman Olen Henderson

Oscar Louis Billimek

James Roy Atkins John Preston Cunningham E. J. Hughes Albert Burleson Kyle

Lee Edgar Robinson, Jr.

W. Dwight Bellamy Joseph A. Golasinski Raymond Burr Hodgson, Jr.

Ralph W. Clennin Allen Lynn Clinkinbeard, Jr. Alfred Leon Ragle

Archie Edwin Caraway Howard Payne Gideon

William Leroy Sapp

Homer Wilson McKenzie

Archie Winford Baucum

Allen D. Armentrout Joseph Bowen Lloyd

Rue E. Barfield

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SUMMARY OF DEGREES CONFERRED

	1934	GRAND TOTAL
	(Jan. 27, 1934, to Sept. 1, 1934)	(1876-1934)
Advanced Degrees:		·
M. S		351
A. E		Į
Ch. E		- 5
С. Е		13
E. E		12
M. E		12
Baccalaureate Degrees:		
School of Agriculture:		×.
• B. S. A		45
B. S. H		5
B. S. in Horticulture	-	17
B. S. (Agriculture)		1317
B. S. (Agri. Administration)		476
B. S. (Agri. Engineering)		52
B. S. (Landscape Art)		26
Graduates (No Degree)	- 4 S	9
School of Arts and Sciences:	<i>q</i> ,	
B. A		193
B. S	13	111
Graduates (No Degree)		32
School of Engineering:		
B. C. E		71
B. M. E		40
B. S. (Architecture)		216
B. S. (Architectural Eng.)		33
B. S. (Chemical Engineering)		330
B. S. (Civil Engineering)		791
B. S. (Electrical Engineering)		798
B. S. (General Engineering)		1
B. S. (Mechanical Engineering)		582
B. S. (Petroleum Prod. Eng.)		67
B. S. (Textile Engineering)		99
Graduates (No Degree)		57
School of Veterinary Medicine:		
D. V. M	- 4	56 .

School of Vocational Teaching:

B. S. (Agricultural Education)	13	192
B. S. (Industrial Arts Ed.)	· `	36
B. S. (Industrial Education)	7	95
B. S. (Rural Education)	6	55
Honorary Degrees:		
LL. D	1	1
		<u> </u>
TOTAL	· 346	6197

DISTINGUISHED STUDENTS Session 1933-34

At the end of each session students who have no grade below C and who have accumulated not less than 81 grade points during the session are designated as "Distinguished Students."

Freshman Class

Abbott, Olen Williford Allen, Richard Kirk Bowie, Robert Gerald Christy, Richard Binford Crichton, Jack Alston Forman, C. W. Greenberg, Samuel Mendel Griffin, William Richard Gruy, Henry Jones Huffhines. Grover Howard Koehler, Buford Ray Kunkel, Lorenz Victor Lee, Louis Edward Love, James Perry

Bailey, Christobel Brin, Alfred Ross Caruthers. Carlton Beauford Clavell. Cezar Coleman. Charles Leonard Edds, George Tyson Gallman, Donald Poole Halter, Richard Carlisle Large, William Robert Lay, Daniel Wayne

Bednarek, Frank Berrong, Robert Weldon Blasingame, John Connor Buchanan, Kenneth St. Clair Bueno, Placido Oscar Cramer, Alan Campbell Ferguson, Jack Newton, Jr. Fincke, Melvin Fred Hubby, Laurence Meade Johnston, James Alvin Kleber, John Preston

Akins, Thomas William Archibald, Stanley Benjamin Barrett, William Lafayette Bolton, Frank Cleveland, Jr. Burke, William Zebulon Burns, Joshua Ambrose Cunningham, John Preston Dudley, Daniel Isom, Jr. Early, Allen McIntire Feagin, Frank Joe Flores, Luis Fernando Gearreald, Tull Neal Gershovitz, Joe Benjamin Gilbert, Philip Pierce Gremmel, Fred Hatton, Joseph Milton Hermann, Robert Charles Herzik, Gus Ralph, Jr. Hickey, William Lester Logan, Williard Bentley Long, Clarence Denman Lyle, Henry Norwood Ludwig, Raymond Nathan Nichols, Albert Gordon Poole, Daniel Henry Pratt, Elmer Ernest Richman, Wallace Ridgway Schriewer, David William Shea, Harry Neale Silvey, John Oscar Sims, Ellis Marcus Spencer, Bruce Nelson Staples, Ercelle Horace Upchurch, Melvin Louis Vestal, Donald McKee

Sophomore Class

Lewis, Dudley Joe Lock, Howard Harley Loving, Robert Olin Mosesman, Max Abe Quortrup, Earl Richard Spellmann, Rudolph Randall Steeger, Charles Joseph Sudheimer, Robert Leslie White, Albert Irving Woodfin, George Smiley

Junior Class

McHaney, Joe Cornelius Marek, Jerry William Mayse, Howe Franklin Reed, Charles Earl Richmond, Jason Logan Rodriquez, Alfonso Francisco Schultis, George Edward Swank, Archie B. Turney, Henry Wilson White, Karl Karey Williams, James David

Senior Class

McKenzie, Andrew Jackson, Jr. McKnight, James Oliver Martin, H. Fred Miller, James Eads Mosty, Robert Lee Parenica, Charlie Roy Porter, Tom Phil Rawls, Jesse Byron Reichardt, Charles Edward Ritter, Clovie Donese Scott, Estell William Shone, Louis Albert Terrell, Thomas Henry Tosch, Charles Adolph, Jr. Van Zandt, Lowell Walton, James Ivan White, Robert Earl Wilkinson, James H., Jr. Winkler, Charles Herman, Jr. York, Oliver Shouble, Jr. Zapp, Lloyd Ott Zimmerman, Kenneth Elbert

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