

BUILDINGS

Administration Building

Horse Barns

Asimal Industries Building Agricultural Engineering Building Veterinary Medicine Group Animal Husbandry Pavilion

Agriculture Building

Francis Hall

Chemistry Building

Petroleum Engineering, Geology, and Engineering Experiment Station Building

Laundry

Aeration Tank
A. & M. Consolidated School 13.

Wool Scouring Plant Building

Agricultural Experiment Station Building

Agricultural Experiment Station Building

Science Hall Cushing Library

Textile Engineering Building

Military Science Building M. E. Shops

21.

Power Plant Guion Hall 22. 23.

Extension Service Building

Physics Building

Hart Hall (Dormitory)

Civil Engineering Building Foster Hall (Dormitory)

Academic Building
Electrical Engnieering Building
Legett Hall (Dormitory)
Mechanical Engineering Building

Exchange Store
Gathwright Hall (Dormitory)
Building and College Utilities
Milner Hall (Dormitory)

35.

Warehouse

Sbisa Hall (Mess Hall) 39.

Armory

40.

Armory
Bizzell Hall (Dormitory)
Goodwin Hall (Dormitory)

Y. M. C. A. Building

Mitchell Hall (Dormitory) Puryear Hall (Dormitory)

Law Hall (Dormitory) Assembly Hall

Aggieland Inn

Hospital

Walton Hall (Dormitory)

Post Graduate Hall (Dormitory)
Bachelor Hall (Dormitory)
Grand Stand (Baseball)
Kyle Field

54.

Practice Field

Stadium

Athletic Office 57.

Memorial Gymnasium

Swimming Pool Intramural Gymnasium

Tennis Courts

U. S. Post Office

63. Missouri Pacific Station

Southern Pacific Station

65. Ross Hall

President's Home

66. President's 67. Flag Pole

BULLETIN

OF THE

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

Fourth Series, Vol. 4

April 1, 1933

No. 4

CATALOGUE NUMBER

RECORD OF THE SESSION 1932-33
ANNOUNCEMENTS FOR THE SESSION 1933-34



57

COLLEGE STATION, TEXAS

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Calendar

1933	. 19	934	1935	
JULY	JANUARY	JULY	JANUARY	
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SEPTEMBER	MARCH	SEPTEMBER	MARCH	
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NOVEMBER	MAY	NOVEMBER	MAY	
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DECEMBER	JUNE	DECEMBER	JUNE	
S M T W T F S	S M T W T F S	SMTWTFS	S M T W T F S	
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THE COLLEGE CALENDAR

Summer Session of 1933

JUNE 6, TUESDAY, 8 a.m. - 12 m., Registration for the first term.

June 6, Tuesday, 1 p. m. - 5 p. m., Classes begin.

June 9, Friday, Last day for registration in the College division for credit during the first term.

July 4, Tuesday, Independence Day, a holiday.

July 14-15, Friday, Saturday, First term examinations.

JULY 17, MONDAY, 8 a. m. - 12 m., Registration for the second term.

JULY 17, Monday, 1 p. m. - 5 p. m., Classes begin for the second term.

July 20, Thursday, Last day for registration in the College division for credit during the second term.

August 25-26, Friday, Saturday, Second term examinations.

Regular Session of 1933-34

1933

SEPTEMBER 15, FRIDAY, Entrance Examinations.

SEPTEMBER 18, MONDAY, Opening of the First Semester, Registration of new students.

SEPTEMBER 18 to 23, Inclusive, Freshman Week.

SEPTEMBER 20, WEDNESDAY, Registration of old students and graduate students.

SEPTEMBER 21, THURSDAY, First Semester classes being at 8 a. m.

November 11, Saturday, Observance of Armistice Day, 11 a, m.

November 30 to December 2, Inclusive, Thursday, Friday, Saturday, Thanks-giving recess.

DECEMBER 20, WEDNESDAY, Christmas recess begins at noon.

1934

JANUARY 3, WEDNESDAY, Classes resumed at 8 a. m.

JANUARY 22 to 27, Inclusive, Semester examinations.

JANUARY 29, MONDAY, Registration for the Second Semester.

JANUARY 30, TUESDAY, Second Semester classes begin at 8 a.m.

APRIL 19-21, THURSDAY, FRIDAY, SATURDAY, Spring recess.

May 21-26, Inclusive, Semester examinations in senior courses.

May 27, Sunday, Commencement Sunday.

MAY 28 to JUNE 2, Inclusive, Semester examinations in other courses.

JUNE 2, SATURDAY, Commencement Day.

(The announcements in this Catalogue are based upon present conditions and are subject to change without notice.)



Part I

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OFFICERS OF ADMINISTRATION AND OF INSTRUCTION

BOARD OF DIRECTORS

Members

TERM EXPIRES 1935

F. MARION LAW, President, First National Bank Houston
BYRD E. WHITE, Lawyer and Banker Lancaster
WALTER G. LACY, President, Citizens National Bank Waco
TERM EXPIRES 1937 HENRY C. SCHUMACHER, President, Schumacher Co. Houston JOSEPH KOPECKY, Publisher Halletsville G. R. WHITE, Banker and Ranchman Brady
TERM EXPIRES 1939
EDWARD J. KIEST, Owner and Publisher, Dallas Times-HeraldDallas
L. J. WARDLAW, Attorney-at-LawFort Worth
GUY T. ANDERSON, Planter Calvert

Officers

F. M. LAW, President
BYRD E. WHITE, Vice-President
S. G. BAILLY, Secretary

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.

IJAMES O. MORGAN, Ph.D., Vice-Dean of the School of Agriculture.

R. E. KARPER, 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.

*WILLIAM E. MORGAN, B.S., Recorder.

L. B. Jones, B.S., Acting Recorder.

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.

†Died, October 8, 1932. *On leave, 1932-33.

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, M.A., Librarian.

MRS. W. H. THOMAS, Assistant Librarian.

MRS. R. L. TREICHLER, A.B., B.S., Assistant Librarian.

Mrs. R. K. Fletcher, B.A., Head Cataloguer.

MRS. R. T. STEWART, B.A., Supervisor of Periodicals.

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

JOSEPHINE STEWART, Cataloguer.

MRS. R. G. REEVES, Assistant Supervisor of Periodicals.

CORA GARTH, Assistant Cataloguer.

Office of the College Architect

Frederick E. Giesecke, M.E., Ph.D., College Architect.

S. C. P. Vosper, Architectural Designer.

PHILLIP G. NORTON, B.S., Draftsman.

J. M. Forsyth, B.S., Mechanical Engineer.

M. W. WILSON, B.S., Structural Engineer.

Buildings and College Utilities

B. D. MARBURGER. B.S., Superintendent.

W. A. ORTH, B.S., Assistant Superintendent.

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

W. A. Duncan, Supervisor of Subsistence.

R. K. CHATHAM, Manager of the Exchange Store.

J. E. Angell, Manager of Student Publications.

FACULTY

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

THOMAS OTTO WALTON, L.L.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.

*James Oscar Morgan, Vice-Dean of the School of Agriculture, Professor of Agronomy. (1912)

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

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 Engineering. (1912, 1913)

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

CHARLES BOYLE CAMPBELL, Professor of Modern Languages. (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 BARZILIA CLARK, Professor of Economics. (1916)

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

ERIC OTTO SIECKE, Professor of Forestry; Director of Texas Forest Service. (1918)

B.A., Nebraska, 1904; B.S.F., 1905.

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.

^{*}Died, October 8, 1932.

- DAVID 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.
- VIRGIL PORTER LEE, Professor of Marketing and Finance. (1923, 1926) B.A., Texas, 1918; M.A., 1919; Ph.D., Wisconsin, 1923.
- THOMAS WILLIAM LELAND, Professor of Accounting and Statistics. (1922, 1926) B.A., Wisconsin, 1921; M.A., 1922; C.P.A., 1929.
- SAMUEL AUGUSTUS McMillan, Professor of Farm and Ranch Management. (1910, 1926)
- B.S., Agricultural and Mechanical College of Texas, 1909; M.S.A., Cornell, 1917.
 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.
- MADISON BELL, Professor of Physical Education. (1929) B.S., Centre College, 1920.
- JOHN BERRY JOYCE, Professor of Petroleum Engineering. (1929) B.S., Agricultural and Mechanical College of Texas, 1917.
- 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 (D.O.L.), 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 of the College. (1930, 1932)

B.S., Agricultural and Mechanical College of Texas, 1922; M.S., 1932.

LUTHER GOODRICH JONES, Professor of Agronomy; Acting Head of the Department. (1919, 1933)

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

OTHER MEMBERS OF THE TEACHING STAFF

Professors

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

GILBERT ALLEN GEIST, Professor of Architecture. (1909, 1921)

B.S., St. John's College, 1899.

WILLIAM HENRY THOMAS, Professor of English. (1906, 1921)
B. Litt., Texas, 1902; A.M., Coumbia, 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.

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.
- JOHN PARSONS WHEELER, Major, Cavalry (D.O.L.). Professor of Military Science and Tactics. (1928)
- ROBERT GATLIN REEVES, Professor of Biology. (1928)
 - B.S., Missippi State College, 1922; M.S., 1923; Ph.D., Iowa State College, 1928.
- LINTON ELIAS GRINTER, Professor of Civil Engineering. (1928, 1929) B.S., Kansas, 1928; C.E., 1980; M.S., Illinois, 1924; Ph.D., 1926.
- BENJAMIN FRANKLIN DELAMATER, JR., Major, Infantry (D.O.L.) Professor of Military Science and Tactics. (1929)
 Graduate, United States Military Academy, 1912.
- JUSTUS WHEELER BARGER, Professor of Economics. (1929)
 B.S., Kansas State College, 1922; M.S., 1923; M.A., Leland Stanford, 1929; C.L.U., 1932.
- JEFFERSON CHENOWTH DYKES, Professor of Agricultural Education. (1929)
 B.S., Agricultural and Mechanical College of Texas, 1921.
- Paul Larue Neal, First Lieutenant, Signo' Corts (D.O.L.), Professor of Military Science and Tactus (1923) 1925
- 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, 1918; 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, 1930.
- 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, Major, Field Artillery (D.O.L.) Professor of Military Science and Tactics. (1931)
 - A.B., St. John's College, 1905.
- WILLIAM CLAUDE WASHINGTON, Major, Coast Artillery Corps (D.O.L.) Professor of Military Science and Tactics. (1931)
 - B.S., Agricultural and Mechanical College of Texas, 1912.
- JOHN STATES SEYBOLD, First Lieutenant, Corps of Engineers (D.O.L.), Professor of Military Science and Tactics. (1928, 1932)
 - Graduate, United States Military Academy, 1920; C.E. Rensselaer Polytechnic Institute, 1922.

Associate Professors

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

 B.S., Agricultural and Mechanical College of Texas, 1914; D.V.M., Kansas City Veterinary College, 1917.
- 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.
- FRITZ ERNEST LICHTE, Associate Professor of Textile Engineering. (1917, 1922)

 B.S., Agricultural and Mechanical College of Texas, 1906; M.S., 1930.
- THOMAS FRANKLIN MAYO, Associate Professor of English; Librarian of the College, (1916, 1923)
 - B.A., Mississippi, 1913; A.M., Oxford, 1922.
- 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.
- *Pennoyer Francis English, Associate Professor of Biology. (1922, 1926)

 B.S., Oregon Agricultural College, 1919; M.S., Agricultural and Mechanical College of Texas, 1925.
- 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, 1922)
 - 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)
 B.A., Sam Houston State Teachers College, 1922; M. S., Agricultural and Mechanical College of Texas, 1925.

^{*} On leave, 1932-33.

- *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.
- OSCAR ARNOLD WEINKE, Associate Professor of Accounting and Statistics. (1924, 1928)
- B.A., Wisconsin, 1921; M.S., Agricultural and Mechanical College of Texas, 1928.
- CLARENCE JACK FINNEY, Associate Professor of Architecture. (1926, 1928)

 B.S., Agricultural and Mechanical College of Texas, 1922; Diplome, Ecole des Beaux-Arts, Fontainbleau, 1923.
- 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.
 *GEORGE HENRY FERN, Associate Professor of Industrial Education. (1924, 1930)
 B.S., Agricultural and Mechanical College of Texas, 1929.
- Chauncy 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 Engineering Drawing. (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.
- ROBERT LOCKHART MILLS, Associate Professor of Petroleum Engineering. (1930)
 B.S., Oklahoma, 1929.
- NAT EDMONSON, JR., Acting Associate Professor of Mathematics. (1931) B.A., Austin College, 1924; M.A., 1925; Ph.D., Rice, 1929.

^{*} Resigned, February 1, 1933.

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.
- *JOHN HENRY BINNEY, Assistant Professor of Mathematics. (1925) B.S., Sam Houston State Teachers College, 1924; M.A., Texas, 1925.
- 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.
- ROBERT LEE HUNT, Assistant Professor of Marketing and Finance. (1927)

 B.S., Agricultural and Mechanical College of Texas, 1924; M.S., North Carolina State College, 1927.
- 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.
- JAMES VINCENT CARROLL, First Lieutenant, Field Artillery (D.O.L.), Assistant Professor of Military Science and Tactics. (1928)
 Graduate, United States Military Academy, 1918; B.S., Yale, 1925.
- WILLIAM FORD MUNNERLYN, Assistant Professor of Poultry Husbandry. (1926, 1928)
 - B.S., Agricultural and Mechanical College of Texas, 1926; M.S., 1930.
- LEONARD RANDALL NACHMAN, First Lieutenant, Infantry (D.O.L.), Assistant Professor of Military Science and Tactics. (1929)
 Graduate, United States Military Academy, 1918.
- CALVIN SUTTON RICHARDS, Captain, Field Artillery (D.O.L.), 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.
- HENRYK BRONISLAW STENZEL, Assistant Professor of Geology. (1925, 1929) Dr. Phil., Breslau, 1924.
- ROBERT PAGE WARD, Assistant Professor of Electrical Engineering. (1925, 1929)
 B.S., Agricultural and Mechanical College of Texas, 1924.
- JOHN PAUL ABBOTT, Assistant Professor of English. (1926, 1929) B.A., Vanderbilt, 1925.

^{*} On leave 1932-33.

- CLIFTON CHILDRESS DOAK, Assistant Professor of Biology. (1926, 1929)

 B.S., North Texas State Teachers College, 1922; M.S., Agricultural and Mechanical College of Texas, 1928.
- IRA GILLESPIE ADAMS, Assistant Professor of Economics. (1927, 1929)
 A.B., Evansville College, 1923; A.M., Minnesota, 1927.
- JAMES GORDON HOLMES, Assistant Professor of Physical Education. (1929) B.S., Agricultural and Mechanical College of Texas, 1928.
- ULMONT STERLING ALLISON, Assistant Professor of Agricultural Engineering. (1930)
 - B.S., Agricultural and Mechanical College of Texas, 1924.
- *GROVER CLEVELAND VAUGHN, Assistant Professor of Economics. (1926, 1930)
 B.A., Texas, 1921; M.A., 1925.
- JOSEPH ANDERSON ORR, Assistant Professor of Civil Engineering. (1928, 1930) B.S., Agricultural and Mechanical College of Texas, 1922.
- KAY HAINES BEACH, Assistant Professor of Horticulture. (1930) B.S.A., Kansas State College, 1928; M.S., Michigan State College, 1930.
- WAYNE EGGLESTON LONG, Assistant Professor of Mechanical Engineering. (1930)
 B.S., Agricultural and Mechanical College of Texas, 1927.
- ROBERT MABRY MILLHOLLIN, Assistant Professor of Animal Husbandry. (1926, 1930)
 - B.S., Agricultural and Mechanical College of Texas, 1923.
- ROBERT FREDERICK KILE, Assistant Professor of Mechanical Engineering. (1931)
 B.S., Michigan, 1925.
- JOHN ELMER REIERSON, First Lieutenant, Coast Artillery Corps, (D.O.L.), 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 (D.O.L.), Assistant Professor of Military Science and Tactics. (1932)

 A.B., Chattanooga, 1916.
- JOHN JOSEPH BINNS, First Lieutenant, Field Artillery (D.O.L.), Assistant Professor of Military Science and Tactics. (1932)
 Graduate, United States Military Academy, 1923.
- KINGSLEY SHERMAN ANDERSSON, First Lieutenant, Corps of Engineers (D.O.L.)

 Assistant Professor of Military Science and Tactics. (1932)

 B.S., Michigan, 1923.
- Dallas Royce Alfonte, Captain, Infantry (D.O.L.), Assistant Professor of Military Science and Tactics. (1932)
- MORRIS HASLETT MARCUS, First Lieutenant, Cavalry (D.O.L.), Assistant Professor of Military Science and Tactics. (1932)
 Graduate, United States Military Academy, 1921.
- MEREDITH VERNON McDougal, Acting Assistant Professor of Economics. (1931) B.A., Rice, 1926; Ph.D., Johns Hopkins, 1931.

Instructors

RICHARD WALTER DOWNARD, Instructor in Mechanical Engineering. (1913, 1920)
WILLIAM WARREN McCarter, Instructor in Mechanical Engineering. (1922)
FRANCIS FREDERICK BISHOP, Instructor in Chemistry. (1923)
B.S., Clarkson College of Technology, 1922; M. S., 1923.

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^{*} On leave, 1932-33.

ALBERT ASA BLUMBERG, Instructor in Mathematics. (1924) B.A., Texas, 1929.

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

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.

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

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

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

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

JAMES WENDELL Ross, Instructor in Mathematics. (1926) B.A., Texas, 1923; M.A., 1931.

RICHARD ARTHUR EADS, Instructor in Chemistry. (1927)

B.S., East Texas Normal College, 1917; B.S., East Texas State Teachers College, 1923; M.S., Agricultural and Mechanical College of Texas, 1929.

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

CLYDE HAROLD TARNEY, Instructor in Physics. (1927)

Ph.B., Ph.M., Wisconsin, 1927.

*ROGER VALENTINE McGEE, Instructor in Mathematics. (1928) B.S., Agricultural and Mechanical College of Texas, 1922.

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

Graves Baxter Roberts, Instructor in Modern Languages. (1928)

A.B., Davidson College, 1923; A.M., Colorado State Teachers' College, 1926.

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.

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.

HUBERT LIONEL CAMP, Instructor in Mathematics. (1929)

A.B., Oklahoma, 1928; M.A., 1929.

James Charles Cheatham, Instructor in Mechanical Engineering. (1929) B.S., Clemson College, 1923.

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

M. P. Frank, Instructor in Civil Engineering. (1929)

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

JOHN O'DELL GRAGG, Instructor in Accounting and Statistics. (1929) B.A., Texas, 1924; B.B.A., 1924; M.A., 1930. 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.

JAMES COZBY BYRD, Instructor in Architecture. (1929)

B.Arch., Pennsylvania, 1922.

HENRY CECIL Spencer, Instructor in Engineering Drawing. (1929)

A.B., Baylor, 1929; M.S., Agricultural and Mechanical College of Texas, 1931.

CYRIL SAMUEL ADAMS, Instructor in Civil Engineering. (1930)

B.S., Agricustural and Mechanical College of Texas, 1930.

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.

CLOYD RUSSELL WALLACE, Instructor in Geology. (1930)

A.B., Missouri, 1928; A.M., 1930.

WILLARD IRVING TRUETTNER, Instructor in Mechanical Engineering. (1930)
B.S., Michigan, 1928; M.S.E., 1930.

CLARENCE ALFRED JOHNSON, Instructor in Architecture. (1927, 1931) B.A., Rice, 1925; B.S., 1927.

HARPER GLOVER BROWN, Instructor in English. (1931)

B.A., Texas, 1927; M.A., Tulane, 1931.

JAMES HERBERT SIKES, Instructor in Industrial Education. (1932)
B.A., Abilene Christian College, 1922; M.S., Agricultural and Mechanical College of Texas, 1931.

RAYMOND O. BERRY, Acting Instructor in Biology. (1931)
B.S., North Texas State Teachers College, 1928; M.S., Agricultural and Mechanical College of Texas, 1932.

Assistants

MARTIN NAPOLEON BROUGHTON, Assistant in Geology. (1931)

B.A., Texas, 1930; M.A., 1931.

CHARLES EDWARD BEESON, Assistant in Rural Sociology. (1932) B.S., Agricultural and Mechanical College of Texas, 1932.

LAWRENCE MILTON COOK, Assistant in Architecture. (1932)

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

WOODY LEON COWAN, Assistant in Civil Engineering. (1932) B.S., Agricultural and Mechanical College of Texas, 1928.

George Winzer Davis, Assistant in Entomology. (1932)

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

JAMES RENEAU DAY, Assistant in Geology. (1932)

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

GEORGE JOSEPH FIX, JR., Assistant in Mechanical Engineering. (1932) B.S., Agricultural and Mechanical College of Texas, 1932.

CLEVE CRUMBY NASH, JR., Assistant in Electrical Engineering. (1932) B.S., Agricultural and Mechanical College of Texas, 1932.

WILLIAM BASSETT ORR, Assistant in Agricultural Economics. (1932)

B.S., Agricultural and Mechanical College of Texas, 1925.

SUMMARY OF THE TEACHING STAFF AS OF APRIL 1, 1933.

Heads of Departments and Other Members of the General Faculty	46
Other Full Professors	40
Associate Professors	35
Assistant Professors	3 9
Instructors	40
Assistants	9
*TOTAL	209

^{*} Including 3 on leave, Session 1932-33.

THE AGRICULTURAL EXPERIMENT STATION

STAFF (As of January 1, 1933)

Administration:

A. B. Conner, M.S., Director.

R. E. KARPER, M.S., Vice-Director.

CLARICE MIXSON, B.A., Secretary.

M. P. Holleman, Jr., 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.

J. Franklin Fudge, Ph.D., Chemist.

S. E. ASBURY, M.S., Assistant Chemist.

E. C. CARLYLE, M.S., Assistant Chemist.

T. L. OGIER, B.S., Assistant Chemist.

ATHAN J. STERGES, M.S., Assistant Chemist.

WALDO H. WALKER, Assistant Chemist.

VELMA GRAHAM, Assistant Chemist.

RAY TREICHLER, M.S., Assistant Chemist.

JEANNE F. DEMOTTIER, Assistant Chemist.

RALPH L. SCHWARTZ, B.S., Assistant Chemist.

C. M. Pounders, B.S., Assistant Chemist.

Horticulture:

- S. H. YARNELL, Sc.D., Chief.
- *L. R. HAWTHORN, M.S., Horticulturist.
- H. M. REED, M.S., Horticulturist.
- J. F. Wood, B.S., Horticulturist.
- L. E. Brooks, B.S., Horticulturist.

Range Animal Husbandry:

- J. M. Jones, A.M., Chief; Sheep and Goat Investigations.
- B. L. WARWICK, Ph.D., Animal Husbandman; Breeding Investigations.
- S. P. Davis, Wool Grader.

Entomology:

- F. L. THOMAS, Ph.D., Chief: State Entomologist.
- H. J. REINHARD, B.S., Entomologist.
- R. K. FLETCHER, Ph.D., Entomologist.
- W. L. OWENS, JR., M.S., Entomologist.
- J. N. Roney, M.S., Entomologist.
- J. C. GAINES, JR., M.S., Entomologist.

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

- S. E. Jones, M.S., Entomologist.
- F. F. Bibby, B.S., Entomologist.
- S. W. CLARK, B.S., Entomologist.
- *E. W. Dunnam, Ph.D., Entomologist.
- *R. W. MORELAND, B.S., Assistant Entomologist.
- CECIL E. HEARD, B.S., Chief Foulbrood Inspector.
- C. SIDDALL, B.S., Foulbrood Inspector.
- S. E. McGregor, 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 Invetsigations.
- B. C. LANGLEY, M.S., 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.
- R. A. GOODMAN, D.V.M., Veterinarian.

Plant Pathology and Physiology:

- J. J. TAUBENHAUS, Ph.D., Chief.
- W. N. EZEKIEL, Ph.D., Plant Pathologist and Laboratory Technician.
- W. J. BACH, M.S., Plant Pathologist.
- C. H. Rogers, Ph.D., Plant Pathologist.

Farm and Ranch Economics:

- L. P. GABBARD, M.S., Chief.
- W. E. PAULSON, Ph.D., Marketing Research Specialist.
- C. A. Bonnen, M.S., Farm Management Research Specialist.
- 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.

ELIZABETH D. TERRILL, M.A., Nutrition Specialist.

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

Soil Survey:

*W. T. CARTER, B.S., Chief.

E. H. TEMPLIN, B.S., Soil Surveyor.

A. H. BEAN, B.S., Soil Surveyor.

R. M. MARSHALL, B.S., Soil Surveyor.

Botany:

V. L. CORY, M.S., Acting Chief. SIMON E. WOLFF, M.S., Botanist.

Swine Husbandry:

FRED HALE, M.S., Chief.

Dairy Husbandry:

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

Poultry Husbandry:

R. M. SHERWOOD, M.S., Chief.

J. R. Couch, 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.

IAMES 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.

SUBSTATIONS

No. 1, Beeville, Bee County:

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

[•] In co-operation with U. S. Department of Agriculture.

No. 2, Lindale (near Tyler), Smith County:

- P. R. JOHNSON, M.S., Superintendent.
- *B. H. HENDRICKSON, B.S., Soil Erosion.
- *R. W. BAIRD, B.S., Associate Agricultural Engineer.

No. 3, Angleton, Brazoria County:

- R. H. STANSEL, M.S., Superintendent.
- H. M. REED, M.S., Horticulturist.

No. 4, Beaumont, Jefferson County:

- R. H. WYCHE, B.S., Superintendent.
- *H. M. BEACHELL, B.S., Junior Agronomist.

No. 5, Temple, Bell County:

HENRY DUNLAVY, M.S., Superintendent.

- C. H. Rogers, Ph.D., Plant Pathologist.
- H. E. REA, B.S., Agronomist; Cotton Root Rot Investigations.

SIMON E. WOLFF, M.S., Botanist; Cotton Root Rot Investigations.

- *H. V. GEIB, M.S., Soil Erosion.
- *H. O. HILL, B.S., Junior Civil Engineer.

No. 6, Denton, Denton County:

- P. B. DUNKLE, B.S., Superintendent.
- *1. M. ATKINS, B.S., Junior Agronomist.

No. 7, Spur, Dickens County:

- R. E. DICKSON, B.S., Superintendent.
- B. C. LANGLEY, M.S., Agronomist.

No. 8, Lubbock, Lubbock County:

D. L. Jones, Superintendent.

FRANK GAINES, Irrigationist and Forest Nurseryman.

No. 9, Balmorhea, Reeves County:

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

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

- R. M. SHERWOOD, M.S., Animal Husbandman in Charge of Farm.
- L. J. McCALL, Farm Superintendent.

No. 11, Nacogdoches, Nacogdoches County:

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

*No. 12, Chillicothe, Hardeman County:

- J. R. QUINBY, B.S., Superintendent.
- *J. C. Stephens, M.A., Assistant Agronomist.

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

No. 14, Sonora, Sutton-Edwards Counties:

- W. H. DAMERON, B.S., Superintendent.
- I. B. BOUGHTON, D.V.M., Veterinarian.
- W. T. HARDY, D.V.M., Veterinarian.
- V. L. Cory, M.S., Grazing Research Botanist.
- *O. G. BABCOCK, B.S., Assistant Entomologist.
- O. L. CARPENTER, Shepherd.

No. 15, Weslaco, Hidalgo County:

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

No. 16, Iowa Park, Wichita County:

- C. H. McDowell, B.S., Superintendent.
- L. E. Brooks, B.S., Horticulturist.

No. 19, Winterhaven, Dimmit County:

- E. Mortensen, B.S., Superintendent.
- *L. R. HAWTHORN, M.S., Horticulturist.

Members of the Faculty of the School of Agriculture Carrying Co-operative Projects with 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.
- V. P. LEE, Ph.D., Professor of Marketing and Finance.
- A. K. MACKAY, 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. R. D. Eddy, B.S., 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.

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

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

J. B. JOYCE, B.S., Professor of Petroleum Engineering.

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

J. T. Lonsdale, Ph.D., Professor of Geology.

J. J. RICHEY, C.E., Professor of Civil Engineering.

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

O. W. SILVEY, Ph.D., Professor of Physics.

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

THE EXTENSION SERVICE

STAFF (As of January 1, 1933)

Administration:

O. B. MARTIN, Director.

H. H. WILLIAMSON, Vice-Director and 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, Associate Editor.

D. L. WEDDINGTON, Chief Clerk.

ROLAND C. NUNN, Bookkeeper.

Mrs. Lilla Graham Bryan, Librarian.

Farm Demonstration Work:

GEORGE E. ADAMS, District Agent.

GEORGE W. BARNES, Agent in Animal Husbandry.

M. R. Bentley, Agricultural Engineer.

R. H. Bush, Special Agent—Pasture Work.

A. W. Buchanan, District Agent.

PAUL A. CUNYUS, Assistant Poultry Husbandman.

JOHN R. EDMONDS, District Agent.

E. R. EUDALY, Extension Dairy Husbandman.

STERLING C. EVANS, District Agent.

E. N. Holmgreen, Poultry Husbandman.

GEORGE W. JOHNSON, District Agent.

JOHN H. JONES, Agent in Animal Husbandry.

R. R. LANCASTER, District Agent.

E. A. MILLER, Agronomist.

W. R. NISBET, Agent in Animal Husbandry.

G. W. ORMS, District Agent.

M. T. PAYNE, State Boys' Club 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.

L. C. WHITEHEAD, Leader Rodent Control.

T. B. Wood, District Agent.

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.

INEZ DERRYBERRY, Specialist in Landscape Gardening.

MINNIE MAE GRUBBS, District Agent.

Sadie Hatfield, District Agent.

MAMIE LEE HAYDEN, Specialist in Home Industries.

KATE ADELE HILL, District Agent.

SALLIE. F. HILL, District Agent.

ZETHA McINNIS, Specialist in Home Industries.

MYRTLE MURRAY, District Agent.

HELEN H. SWIFT, District Agent.

Negro-Extension Work:

C. H. WALLER, State Leader.

H. S. ESTELLE, District Agent.

MRS. IOLA W. ROWAN, District Agent.

MRS. JEFFIE ALLEN CONNER, Assistant District Agent.

THE TEXAS FOREST SERVICE

Administration:

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

R. F. Balthis, M.S., M.F., Assistant State Forester.

WM. A. NORMAN, Chief Clerk.

Division of Forest Protection:

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

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

I. H. Jones, B.S.F., Lufkin, Assistant Forester.

W. O. Durham, Lufkin, Inspector.

J. M. TURNER, Kirbyville, Inspector.

E. B. Long, Willis, Inspector.

B. D. HAWKINS, Woodville, Inspector.

I. R. THIGPEN, Huntsville, Forest Lecturer.

KNOX IVIE, Ratcliff, Forest Engineer.

Forty patrolmen, eight lookout men and thirteen smokechasers on duty seven months annually.

One hundred and eight forest guards on annual retainer basis.

Division of Forest Management:

- C. B. Webster, M.S.F., Chief.
- V. V. BEAN, Kirbyville, Superintendent, Kirbyville State Forest.
- H. A. Budde, Conroe, Superintendent, Conroe State Forest.

Division of Farm Forestry:

C. W. SIMMONS, M.F., Farm Forester. (In cooperation with the Extension Service.)

ADMINISTRATION OF STATE LAWS

Fertilizer Law:

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

Foulbrood Law:

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

Forestry Law:

Administered by the Director of the Texas Forest Service.

Feed Control Law:

Administered by the Director of the Agricultural Experiment Station.

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 communication 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

- 1862—July 2. Approval by President Lincoln of the Morrill Act, donating public lands to the several states and territories to provide colleges for the benefit of Agriculture and the Mechanic Arts.
- 1866—November 1. Acceptance of the provisions of the Morrill Act by the Legislature of Texas.
 - 1871—April 17. Establishment of the Agricultural and Mechanical College of Texas by Act of the Legislature of Texas. Appropriation of \$75,000 for the Main Building.
 - 1871—Sale, at 87 cents per acre, of the 180,000 acres of land scrip received by Texas under the provisions of the Morrill Act. Proceeds of the sale invested in seven per cent gold frontier bonds of the value of \$174,000, which consituted the original endowment of the College.
 - 1872—June 20. Location of the College at College Station, Brazos County, on a site of 2416 acres donated to the State by the citizens of the county.
- 1874—April 2. Additional appropriation of \$40,000 for Main Building.
- 1875—February 8. Appropriation of \$32,000 for erection of Mess Hall.
- 1875—March 9. Passage by the Legislature of Texas of an Act providing for the government of the Agricultural and Mechanical College of Texas.
- 1875—June 1. First meeting, at Bryan, Texas, of the original Board of Directors, Governor Richard Coke, ex-officio Chairman.
- 1876—Passage of the Constitution of 1876, containing provisions for the support and regulation of the Agricultural and Mechanical College of Texas.
- 1876—June 24. Additional appropriation of \$40,000 for completion of buildings, and for equipment and improvements.
- 1876—July 15. Appointment of the first faculty. Thomas S. Gathright, A.M., elected President.

1876—Accrued interest of \$35,000 invested in six per cent, state bonds and added to original endowment, making a total of \$209,000.

1876—September. Completion of Main Building, cost \$100,000; Gathright Hall (Mess Hall), cost \$38,500; and five residences for professors, cost \$3,000 each.

1876—October 4. Formal opening of the College to students.

1879—November 24. Appointment of John Garland James as President; reorganization of the faculty and program of instruction; curricula reduced to three years.

1883—April 1. Appointment of James R. Cole, A.M., as Acting President.
1883—July 19. Appointment of Hardaway Hunt Dinwiddie as Chairman of the Faculty. Office of President abolished.

1883—First telephone connection between College Station and Bryan.

1887—Appointment of Louis L. McInnis, A.M., as Chairman of the Faculty.

1887—Erection of Pfeuffer Hall. Cost \$11.500.

1887—Curricula extended to four years.

1887—March 2. Passage by Congress of the Hatch Act, providing for the establishment of agricultural experiment stations in the several 'states.

1888—January 25. Establishment of the Texas Agricultural Experiment Station as a Division of the College, under the provisions of the Hatch Act.

1888-Erection of Austin Hall. Cost \$11,000.

1889—Erection of Assembly Hall. Cost \$27,500. Razed in 1929.

1890—June 7. Office of Chairman of the Faculty abolished.

1890—July 1. Appointment of Lawrence Sullivan Ross as President, effective February 1, 1891.

1890-1891—July 1 to February 1. Service of W. L. Bringhurst, Ph. D., Vice-President and Professor of English, as Acting President.

1890—Installation of first electric lighting system.

1892—Erection of Ross Hall. Cost \$20,000.

1892—Erection of Mechanical Engineering Shops. Cost \$11,500.

1893-Erection of President's Home.

1893—Erection of first power plant. Cost \$10,000.

1895—Erection of Infirmary. Cost \$4,000. Razed in 1932.

1897—Erection of Mess Hall. Cost \$25,000.

1898—January 3. Death of President Lawrence Sullivan Ross. Appointment of R. H. Whitlock, M.E., as Acting President

1898—July 1. Appointment of L. L. Foster as President.

1899-Eerection of Foster Hall. Cost \$28,000.

1899—Passage by the Legislature of Texas of the Texas Fertilizer Law, to be alministered by the Professor of Chemistry in the Agricultural and Mechanical College of Texas.

1900—Erection of Agricultural Building, now Science Hall. Cost \$31,000.

1900—June 18 to July 28. First Summer Session; no further summer sessions until 1909.

1900—Construction of sewage disposal plant, designed by James C. Nagle, Head of the Department of Civil Engineering.

- 1901-Erection of New Power Plant. Cost \$17,000.
- 1901—December 2. Death of President L. L. Foster. Appointment of R. H. Whitlock, M.E., as Acting President.
- 1902—April 7. Appointment of David F. Houston, A.M., LL. D., as President,
- 1902—Erection of Chemistry and Veterinary Building. Cost \$31,000.
- 1904—Erection of Textile Engineering Building. Cost of building \$31,000; equipment \$20,000.
- 1905—July 14. Passage by the Legislature of Texas of the Texas Feed Law; administration of the Law placed in the hands of the Board of Directors of the College, and by them delegated to the Feed Control Service of the Agricultural Experiment Station.

 The Law amended in 1907, 1911 and 1917, and codified in 1925.
- 1905—September 8. Appointment of H. H. Harrington, M.S., LL.D., as President.
- 1906—March 16. Passage by Congress of the Adams Act, for increased support of Agricultural Experiment Stations.
- 1907—March 4. Passage by Congress of the Nelson Act, for the further endowment of Colleges of Agriculture and the Mechanic Arts.
- 1908-Erection of Goodwin Hall. Cost \$53,500.
- 1908-Erection of Natatorium. Cost \$10,000. Razed in 1933.
- 1908—Erection of Veterinary Hospital. Cost including improvements made in 1922, \$18,000. Razed in 1933.
- 1908-Appointment of Robert Teague Milner as President.
- 1909—Erection of Civil Engineering Building. Cost \$65,000.
- 1909—Erection of Agricultural Experiment Station Building. Cost \$34,000.
- 1909-Summer Session re-established.
- 1911—Erection of Leggett Hall. Cost \$75,000.
- 1911—Erection of Milner Hall. Cost \$75,000.
- 1911—Establishment of the School of Agriculture.
- 1911—Establishment of the School of Engineering.
- 1911—Revision by the Legislature of Texas of the Texas Fertilizer Law, originally passed in 1899; administration of the Law placed in the hands of the Chemist of the Agricultural Experiment station who was designated by the Law as State Chemist.
- 1911-November 11. Mess Hall destroyed by fire,
- 1912—May 27. Main Building destroyed by fire.
- 1912—Eerection of Electrical Engineering Building. Cost \$75,000.
- 1912—Erection of Mitchell Hall. Cost \$75,000.
- 1912—Organization of the Agricultural Extension Service as a division of the College.
- 1912-1914—Erection of Academic Building on the site of the original main building. Cost \$225,000.
- 1912-1926—Erection of Bernard Sbisa Hall. Cost \$205,000.
- 1913—Purchase of 74 acres for the use of the Agricultural Experiment Station. Cost \$2,200.
- 1913—March 27. Passage by the Legislature of Texas of the law creating the

- office of the State Entomologist, and locating the office at the Agricultural and Mechanical College of Texas.
- 1913—August 18. Appointment of Charles Puryear, M.A., C.E., LL.D., as Acting President.
- 1914—Erection of Young Men's Christian Association Building. Cost \$120,000.
- 1914—Organization of the Texas Engineering Experiment Station.
- 1914—Passage by Congress of the Smith-Lever Act, for the development of Extension Work in Agriculture.
- 1914—August 25. Appointment of William Bennett Bizzell, Ph.D., LL.D., as President.
- 1915—March 31. Passage by the Legislature of Texas of an Act creating the office of State Forester; jurisdiction over state forestry activities given to the Board of Directors of the Agricultural and Mechanical College of Texas.
- 1915-1917—Erection of new Power Plant. Cost of building and equipment, \$175,000.
- 1915-1920—Erection of Laundry Building. Cost \$25,000.
- 1916—Establishment of the School of Veterinary Medicine.
- 1916—Summer Session reorganized.
- 1916—October 19. Establishment at the College of a Senior Unit of the Reserve Officers Training Corps, under the provisions of the National Defense Act of June 3, 1916.
- 1916—Erection of Hospital. Cost \$58,000.
- 1916-1923-1926—Erection of Dairy Barns and Creamery, Total cost \$57,000.
- 1917—Erection of Animal Husbandry Pavilion. Cost \$56,000.
- 1917—Erection of Serum Laboratory. Cost \$30,000.
- 1917—Erection of Horticultural Green house. Cost \$10,600.
- 1917—Purchase of 192 acres additional land for the use of the Agricultural Experiment Station. Cost \$5,700.
- 1917—Establishment of John Tarleton Agricultural College, Stephenville, and North Texas Agricultural College, Arlington, as Junior branches of the Agricultural and Mechanical College of Texas.
- 1917—February 23. Passage by Congress of the Smith-Hughes Act, for the training of teachers of agriculture, trades and industries, and home economics.
- 1918-Erection of Guion Hall. Cost \$113,500.
- 1918-Erection of Bizzell Hall. Cost \$90,000.
- 1918-Erection of Francis Hall. Cost \$92,000.
- 1918—Erection of Administration Building for Agricultural Experiment Station. Cost \$90,000.
- 1918—Designation of the Agricultural and Mechanical College of Texas as an institution for training teachers of agriculture and the trades and industries, under the provisions of the Smith-Hughes Act.
- 1918—Purchase of 170 acres for the use of the Department of Agricultural Engineering. Cost \$8,500.

- 1919—Purchase of 106 acres additional land for the use of the Department of Agricultural Engineering. Cost \$2,600.
- 1919—Erection of Mechanical Engineering Building. Cost \$76,000.
- 1920-Erection of Physics Building. Cost \$100,000.
- 1920—Erection of Military Science Building. Cost \$17,500.
- 1920-1931—Erection of Military Barracks and Barns. Cost \$38,500.
- 1920—December 5. Mechanical Engineering Shops destroyed by fire.
- 1922—Erection of New Mechanical Engineering Shops. Cost \$150,000.
- 1922—Erection of Agricultural Building, Cost \$225,000.
- 1922—Erection of College Utilities Building. Cost \$20,000.
- 1923—Establishment of the School of Vocational Teaching.
- 1923—Erection of Assembly Hall. Cost \$40,000.
- 1923—Erection of Baseball Grandstand. Cost \$7,500.
- 1923-1927—Erection of 165 one-room frame cottages to supplement existing dormitories. Cost \$43,000. Use of these cottages discontinued, 1931.
- 1924—Organization of the School of Arts and Sciences.
- 1924—Organization of the Graduate School.
- 1924—Erection of Memorial Gymnasium. Cost \$140,000.
- 1924—Erection of Extension Service Building. Cost \$100,000.
- 1924—Old Agricultural Building remodeled for use as a Science Hall. Cost \$15,000.
- 1924—Erection of College Greenhouse. Cost \$14,000.
- 1924—Erection of College Warehouse. Cost \$10,000.
- 1924—Erection of Post Office Building. Cost \$4,000.
- 1925—February 24. Passage by Congress of the Purnell Act, providing an increased annual appropriation for Agricultural Experiment Stations.
- 1925—September 1. Appointment of Thomas Otto Walton, LL.D., as President.
- 1925-Erection of Graduate Hall. Cost \$29,000.
- 1925—Erection of Aggieland Inn. Cost \$62,000.
- 1925—Erection of Exchange Store. Cost \$26,000.
- 1925—Erection of Poultry Husbandry Building. Cost \$9,000.
- 1925—Purchase of 1700 acres of forest land in East Texas for the use of the Forest Service. Cost \$10,200.
- 1926—Purchase of 1627 acres of additional forest land in East Texas for the use of the Forest Service. Cost \$10.800.
- 1926—Purchase of 150 acres additional land for the use of the Agricultural Experiment Station. Cost \$30,000.
- 1926—May 12. Activities of the State Forester organized into the Texas Forest Service, and made a major division of the work of the College.
- 1926—Erection of Genetics Laboratory. Cost \$3,500.
- 1927-1929—Erection of Memorial Stadium. Cost \$350,000.
- 1928-Erection of Law Hall. Cost \$155,000.
- 1928—Erection of Puryear Hall. Cost \$155,000.
- 1929—Gift from John Henry Kirby, Houston, Texas of 600 acres of forest land in Tyler Country; income to go to the Loan Fund of the Association of Former Students.

1929—Erection of Auxiliary Gymnasium. Cost \$8,000.

1929-1933—Erection of new Chemistry Building. Cost \$400,000.

1930—Erection of Cushing Memorial Library on site of original Chemistry Building. Cost \$225,000.

1930—Erection of Hart Hall on site of original Assembly Hall. Cost \$215,000.

1930—Erection of temporary Armory. Cost \$9,500.

1931-Erection of Walton Hall. Cost \$250,000.

1931—Purchase of 834 acres for the use of the School of Agriculture. Cost \$20,400.

1931—Passage by the Legislature of Texas of an Act providing for the division of the income from the University of Texas endowment, on a basis of two-thirds to the University of Texas and one-third to the Agricultural and Mechanical College of Texas; and a further provision enabling the two institutions to borrow from the endowment for immediate building purposes.

1932—Beginning of enlarged building program. Approximate cost \$1,500,000.

1932—Gift from Mr. and Mrs. Robert M. McFarlin, Tulsa, Oklahoma, of 7000 acres of improved farm lands in Kaufman, Ellis and Navarro Counties, valued at \$1,500.000; income to go to the Loan Fund of the Association of Former Students.

1933—Erection of Agricultural Engineering Building. Cost \$200,000.

1933—Erection of Animal Industries Building. Cost \$250,000.

1933—Erection of Veterinary Hospital Group of Buildings. Cost \$180,000.

1933—Erection of Dissecting Laboratory. Cost \$20,000.

1933—Erection of Petroleum Engineering. Geology, and Engineering Experiment Station Building. Cost \$225,000.

1933—Erection of Swimming Pool. Cost \$75,000.

1933—Erection of Administration Building, Cost \$350,000.

1933—Erection of Horse Barn. Cost \$25,000.

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 forty departments of instruction, listed in Part IV under the heading "Couses of Instruction by Departments."

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

School of Agriculture.—Accounting and Statistics, Agricultural Economics, Agricultural Engineering, Agronomy, Animal Husbandry, Dairy Husbandry, Entomology, Forestry, Genetics, 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 on 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.)

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; I 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,

^{*} Prior to September, 1932, the passing grades were: A, Excellent; B, Good; C, Pass. The grade D was a condition, and the grade E a failure.

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 on 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.

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 two 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. A card index is maintained of all publications of the United States Department of Agriculture and of the State Experiment Stations.

Having recently absorbed the extensive collection of books and documents accumulated by the Agricultural Experiment Station, the Library now offers unusual facilities 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.

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 twice a month an Extension Service News Letter of seasonal advice, and numerous circulars from time to time covering both matters of general agricultural interest and matters of unexpected development.

The Daily Bulletin.—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 Longborn—the College Annual, published by the Senior Class.
- . 3. The Texas Aggie Countryman—a bi-monthly, published by the students of the School of Agriculture.
- 4. The Technoscope—a quarterly, published by the students of 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 Episcopal 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 act of Congress of June 3, 1916, known as the National Defense Act, provides for the establishment in civil educational institutions of units of the Reserve Officers' Training Corps (R. O. T. C.). The object of the Reserve Officers' Training Corps is best stated by the War Department in its Army Regulations No. 145-10 which governs the R. O. T. C. and is as follows:

Object.—The primary object of the Reserve Officers' Training Corps is to provide systematic military training at civil educational institutions for the purpose of qualifying selected students of such institutions for appointment as reserve officers in the military forces of the United States; the Re-

serve Officers' Training Corps, is therefore, an important agency in making effective the plan for national defense.

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

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

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

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

With the exception of those who enter with junior or senior standing, 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 are not obligated further than to pursue the course diligently and properly care for the equipment and apparatus used in the instruction.

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

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

The student in the advanced course obligates himself:

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

The student in the advanced course receives the following benefits:

- (a) Commutation of uniform totaling \$35.00 for the two years.
- (b) Subsistence now allowed at 30 cents per day from the beginning of his Junior year to the end of his Senior year, excepting during camp when he is given rations in kind. Commutation of rations will not be paid for more than two years.
- (c) While at camp he will receive 70 cents per day and will also receive transportation to and from camp.
- (d) After graduation he may be eligible for appointment as an officer in the Reserve Corps.
- (e) Honor graduates applying for appointment as second lieutenants, U. S. Army, are exempt from the mental part of the examination for appointment, if such vacancies exist.
- (f) Graduates may be given the opportunity to take competitive examinations for a Regular Army Commission and may be granted exemptions in some subjects.

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 select the Signal Corps Unit. The instruction given in this Unit is very closely allied to the course given by the College in Communication Engineering.
- 2. 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 select the Engineer Corps.

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

3. Other Branches.—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 select Infantry, Field Artillery, Coast Artillery (Anti-aircraft), or Cavalry. No student weighing more than 180 pounds will be eligible for enrollment in the Cavalry.

The number of students in each of the various branches 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 allotted 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 claily 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.

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, basket ball, 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 100 members furnishes music for occasions of social and military importance, gives open-air concerts in season, plays at review, and leads the corps of cadets in marching to the mess hall. Trips are made during the fall to intercollegiate football contests played away from the College, and a concert tour in the spring to surrounding cities and other colleges. Students desiring to join the band should communicate with Richard J. Dunn, Director, College Station, Texas.

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.

LECTURES AND ENTERTAINMENT

The College offers each year a series of musical and dramatic entertainments, and lectures on pertinent topics by men of recognized authority. Moving pictures are presented at least twice a week by the Y. M. C. A. The College Little Theater 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 aricles 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 \$3,000,000.

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, contains administrative offices for the School of Agriculture, and offices, class rooms, and laboratories for various agricultural departments.

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

BUILDINGS 45

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 Serum Laboratory, erected in 1917, contains laboratories for the diagnosis of diseases of animals and poultry, and class rooms and laboratories for the teaching of diseases of poultry, and isolation wards for animals used in the veterinary clinic.

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

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

The 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 post-mortem laboratory and for the disposal of carcasses.

The Veterinary Stables "B" and "C", erection contemplated in 1933.

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 in 1916, provides adequate accommodations 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.

Gathright Hall, erected in 1876; named in honor of Thomas L. Gathright, the first President of the College, Contains 31 rooms.

Pseuffer Hall, erected in 1887; named in honor of George Pseuffer, a former President of the Board of Directors. Contains 24 rooms.

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 supplied 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.

The department is also provided with a 100 acre farm which is used for laboratory work. This farm offers an opportunity to use, in actual field practice, farm machinery and automotive equipment. It also has two artificial ponds which supply water for irrigation purposes.

AGRONOMY

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

The main soils laboratory is equipped with a centrifuge, shaking machine, Briggs filter, electric air 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.

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

The 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 rat-proof grain bins. Type samples and specimens of all the important field and forage crops are kept in stock for study. For work in grain grading the chief items of equip-

ment are two Brown-Duvel moisture testers, a wild-oat kicker, several complete sets of dockage sieves for determining dockage in the various kinds, classes and grades of grain.

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

The department maintains a technical library, in which will be found most of the standard works and journals pertaining to agronomy, 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 will be completed by the fall of 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 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 equipment 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 lock-desk containing the necessary equipment. Special apparatus, such as colorimeters, refractometers, Lovibond tintometer, and gas burettes, 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 20,000 pounds. There is also one torsion machine having a capacity of 50,000 inch pounds. For testing cement and sand there are the usual briquette molds, tension machines, and other apparatus for making tests of fineness, soundness, and other properties of cement.

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

In addition to laboratory and drafting room facilities there is a well furnished library of books and periodicals on civil engineering and related subjects, 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 of pasturizers, 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 motor-generator sets located in the machinery laboratory. The small set consists of a 2300-volt, 50-horse power induction motor direct connected to a 35 kw., 125-volt, compound wound direct current generator. The larger set consists of a 2300-volt, 100-horse power synchronous motor direct connected to two 35 kw., 250-volt Dobrowolsky, three-wire direct current generators, so arranged that they may be operated independently or connected in series for obtaining 500 volts. A three panel switchboard controls the above equipment and the feeders to the 6-panel switchboard used for the distribution of power within the machinery laboratories and to the switchboard located in the other laboratories. Throughout all laboratories the distribution of power is controlled by a plug-and-socket system thus securing absolute flexibility.

The equipment of the machine laboratories is as follows: two street car motors mounted on a single shaft with prony brake attachment, and equipped with both a hand controller and a master controller operating an electropneumatic system, twenty-eight direct-current machines ranging in size from 1½ horse-power to 20 kilowatts and provided with various means of speed and voltage control; eight alternators ranging from 2½ K. V. A. to 30 K. V. A.; three 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 laboratories are provided with a total of more than 200 voltmeters, ammeters, wattmeters, and meters for measuring other electrical quantities.

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

The electrical measurements laboratory has a full equipment of the apparatus needed for the study of the fundamentals of electrical measurments. The equipment includes the following: various types of Wheatstone bridges;

a Kelvin double bridge; a Cary-Foster bridge; magnetometers, dynamometers; portable, semi-portable and wall galvanometers; astatic galvanometers; universal tangent galvanometer; calorimeters; sechometer; influence machine; electrostatic apparatus; spark coils; apparatus for testing magnetic qualities of iron and steel; standard resistances; standard cells; physical balances; 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.

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 reading and reference work.

ENGINEERING DRAWING

This department is located on the fourth floor of the Academic 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, Genera Insectorum, Journal of the New York Entomological Society, Entomological News, The Canadian Entomologist and Psyche. In addition, a reading table is maintained, on which are kept recent publications of economic entomology and apiculture.

GENETICS

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

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

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

GEOLOGY

The department 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 discases, 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 horticultural 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 and sketches.

In addition, the department has under its supervision the College greenhouse, several acres in ornamental plants, a young nursery, hot beds, cold frames, lath houses, tree moving wagon and other equipment designed for general landscape practice, all of which is available for student use.

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 vices. 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 twenty-four-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 Engines Works of Austin, a complete one-ton York ice machine, a fifty-horsepower 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, one 155 mm Howitzer and caisson, 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, smoke puff equipment 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; I 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 technical 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 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 are available.

Connections have been established by the department for giving the student practical contact with local and State social problems, especially in the field of community 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 Northrop looms and one Stafford loom which are entirely automatic, and two plain looms for ordinary plain goods. There are two dobby looms with box motion, to insert four colors for filling; one dobby loom for terry towels; one dress goods loom, with dobby and boxes for making seven-colored pattern; one loom for weaving narrow Jacquard dress goods, one Jacquard loom for weaving table covers, 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 necropsy 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.

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, indicanometers, hydrometers, electric centrifuge, electric water bath (for digestion experiments), respiratory and circulatory schemes, microscopes, spectroscope, drug mill, sup-

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pository machine and mold, tablet machine, triturate tablet molds and all other necessary equipment.

THE SCHOOL OF VOCATIONAL TEACHING

Officers and general class rooms for the School of Vocational Teaching are provided on the third floor of the Academic building. Two additional rooms have been provided in the Mechanical Engineering Shops building for Industrial Education classes. These rooms are furnished with modern equipment—one for mechanical drawing and the other as a general shop for wood, metal and electrical work, and are used by the classes from A. & M. Consolidated School studying industrial arts under trainees (senior student teachers) in Industrial Education.

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

Part III

ADMISSION—EXPENSES

ADMISSION

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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 small pox and typhoid-paratyphoid fever, or be vaccinated against both upon entering the College.

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.

List A-Distribution Of Units Required For Admission

SCHOOL OF—	*	Nı	ımber	of Ur	its Re	quired i	n-
Agriculture:	English	Algebra	Plane Geom.	Social Science	Natural Science	Elective Subjects	Total
All curricula except Agri-							
cultural Engineering	. 3	1	1	1	1	8	15
Agricultural Engineering	g 3	2	1	1	1	7	15
Arts and Sciences:	3	2	1	2	1	6	15
Engineering:	3	2	1	2	1	6	15
(Including Architecture)							
Veterinary Medicine:	3	1	1	1	1	8	15
Vocational Teaching:	3	1	1	1	1	8	15

List B-Elective Units

English (4th unit) 1 unit Mathematics:	Natural Sciences: Biologyl unit			
Solid Geometry1/2 unit	Botany 1 unit Chemistry 1 unit			
Trigonometry	General Science1 unit			
Advanced Arithmetic ½ unit	Physics1 unit			
Social Sciences:	Physiography½ unit			
Ancient History 1 unit	Physiology			
Modern History1 unit	Zoology1 unit			
English History	Vocational Subjects: Agriculture1 to 4 units Bookkeeping1 unit Drawing1 to 4 units			
Foreign Languages:	Com. Arithmetic			
Latin2 to 4 units	Commercial Law			
French 2 to 4 units	Com. Geography1/2 unit			
German 2 to 4 units	Shop Work1 to 4 units			
Spanish2 to 4 units	Stenography and			
	Typewriting1 unit			
•	Public Speaking1/2 or I unit			

NOTES.—(a) Students who plan to enter the School of Engineering should complete Physics and Solid Geometry as a part of their course of study in high school.

- (b) 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.

Fall entrance examinations will be held at the College September 15, 1933 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 equiva-

lent 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 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

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CORRECTION

57TH. ANNUAL CATALOGUE

EXPENSES

The necessary expenditures for the regular session of nine months range from \$340 to \$355 for new students, and from \$325 to \$340 for old students, distributed as follows:

,	First	Second
	Semester	Semester
Matriculation Fee (See note 1, below)	\$ 25.00	* note 4, below) * 25.00
*Room Rent	15.00	15.00
Medical Service Fee	5.00	5.00
Text Books and supplies, about	20.00	10.00
Student Activities Fee (voluntary)	11.00	* **
Room key deposit, returnable	1.00	
	· -	
	\$ 77.00	\$ 55.00
	,	
*Maintenance (Board and Laundry)(Payable in four installments for each semester as		96.00
Additional expenses for certain groups: Uniform (see note 2, below), about	16.00	*.
Drawing instruments for Freshmen in		* *
Engineering, about	15.00	ī.

Post Office Box Rent.—Students may rent post office boxes in the Student Exchange for 50 cents per semester, payable in advance.

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 \$390 to \$415 for new students, and \$375 to \$425 for old students. In many cases these amounts can be materially reduced by careful economy.

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

NOTES .- 1. Old students who in either semester do not register on the days set

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.

2. Members of the basic R. O. T. C. course will be furnished the major part of the uniform by the Government. The estimated expenditure for uniform is for the necessary parts that are not furnished by the Government and applies primarily to new students. The estimate does not include shoes as most new students will have a pair of tan shoes that can be worn with the uniform. Duplicate parts of the uniform are not furnished by the Government but may be purchased if desired. In the case of old students the expenditure will depend upon the articles of the uniform which must be replaced. This part of the uniform may be purchased at the College Exchange Store.

3. Members of the advanced course will receive commutation of uniform totaling \$35.00 for the two years and subsistence at 30 cents per day from the beginning of the Junior year to the end of the Senior year, except during camp when they receive

Junior year to the end of the Senior year, except during camp when they receive rations in kind.

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.

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.

PAYMENTS

All fees except Maintenance are payable at the beginning of the semester. The Maintenance Fee is payable in four installments, as follows:

	First Semester		Second Semester
1.	On entrance\$36.00	1.	On entrance\$24.00
2.	November 124.00	2.	March 124.00
3.	December 1 16.00	3.	April 1 24.00
	January 1 20.00		

The last three installments for each semester are due on the first of each month as listed and if not paid by the fifth day of the month indicated, the student is automatically dropped from the rolls of the College. Installments paid after the fifth of the month will cost \$1.00 extra.

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New students will need from \$130 to \$145 at the opening of the session, depending on the course of study. This includes the fees for the first semester, supplies, uniform, room rent, and the first installment of the Maintenance.

Old students will need approximately \$115, plus the cost of the articles of the uniform which must be replaced.

Payments 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.—The Matriculation Fee, Medical Service Fee and Laboratory Fees are in no case refunded.

No deductions will be made from the charges for maintenance and room rent in the 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.

In other cases, refund of maintenance and room rent will be made only when a student is required to withdraw for balance of semester by Faculty action, or in case of sickness disqualifying him for the discharge of his duties for the remainder of the semester. Such sickness must be attested by the College Physician before a refund can be made.

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

Duplicate Receipts.—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.

EXPENSES 65

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 18, 1933, will be devoted to the registration of **new** students; old students will register on Wednesday, September 20. Formal Class work begins Thursday, September 21.

EXPENSES

(The expenses listed below have been determined before the adjournment of the Forty-third Legislature and are subject to any changes that might be made by that body.)

The necessary expenditures for the regular session of nine months range from \$325 to \$340 for new students, and from \$310 to \$325 for old students, distributed as follows:

alberta de la latera	325	~# '	
340 355	,	First	Second
.53	25.01	Semester	Semester
	- 2.0	(See	note 4, below)
Matriculation Fee (See note 1, below)		\$ 75.00	\$ 10.00
*Room Rent		15.00	15.90
Medical Service Fee			5.00
Text Books and supplies, about		20.00	10.00
Laboratory fees, about	>	5.00	5.00
Student Activities Fee (voluntary)		11.00	
Room key deposit, returnable		1.00	
		\$ 72.00	\$ 45.0 0
Additional expenses for certain groups:			
*Maintenance (Board and Laundry)		96.00	96.90
(Payable in four installments for each s	emester as	listed on Pag	ge 66.)
Uniform (see note 2, below), about		16.00	
Drawing instruments for Freshmen in			
Engineering, about		15.00	

Post Office Box Rent.—Students may rent post office boxes in the Student Exchange for 50 cents per semester, payable in advance.

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

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 \$375 to \$400 for new students, and \$360 to \$410 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.

2. Members of the basic R.O.T.C. course will be furnished the major part of the uniform by the Government. The estimated expenditure for uniform is for the necessary parts that are not furnished by the Government and applies primarily to new students. The estimate does not include shoes as most new students will have a pair of tan shoes that can be worn with the uniform. Duplicate parts of the uniform are not furnished by the Government but may be purchased if desired. In the case of old of tal shoes that can be worn with the uniform. Bullinear parts of the uniform are not furnished by the Government but may be purchased if desired. In the case of old students the expenditure will depend upon the articles of the uniform which must be replaced. This part of the uniform may be purchased at the College Exchange Store.

3. Members of the advanced course will receive commutation of uniform totaling \$35.00 for the two years and subsistence at 30 cents per day from the beginning of the Stories were the story when they receive

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.

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 who is not a member of the College staff is required to pay the matriculation fee, medical service fee, and laboratory fees. 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.

Full time members of the College staff pay a matriculation fee of \$10.00 the first year, and \$5.00 each succeeding year; and laboratory fees in certain courses. They are not permitted to register in any semester for more than onefourth of a full semester's work.

PAYMENTS

All fees except Maintenance are payable at the beginning of the semester. The Maintenance Fee is payable in four installments, as follows:

	First Semester		Second Semester
1.	On entrance\$36.00	1.	On entrance \$24.00
2.	November 1 24.00	2.	March 1 24.00
3.	December 1 16.00	3.	April 1 24.00
4.	January 120.00	4.	May 124.00

The last three installments for each semester are due on the first of each month as listed and if not paid by the fifth day of the month indicated, the student is automatically dropped from the rolls of the College. Installments paid after the fifth of the month will cost \$1.00 extra.

New students will need from \$125, to \$140 at the opening of the session, depending on the course of study. This includes the fees for the first semester, supplies, uniform, room rent, and the first installment of the Maintenance.

Old students will need approximately \$110, plus the cost of the articles of the uniform which must be replaced.

Payments should be made by/cashier's check, or money order, payable to

EXPENSES 67

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.—The Matriculation Fee, Medical Service Fee and Laboratory Fees are in no case refunded.

No deductions will be made from the charges for maintenance and room rent in the 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.

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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.

Laboratory Fees.—The laboratory fees cover in part the cost of materials used by the student in his laboratory work. The total amount of these fees varies according to the classification of the student. The fees for the several courses are listed under "Courses of Instruction by Departments." No laboratory fees are refunded after the first week of regular class work.

Student Activities Fee.—The Student Activities fee is for the support of student activit—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.

SWIMMING POOL

The new Swimming Pool will be available to undergraduate and graduate students. Students will be required to pay a fee of \$1.00 for each semester of the regular session and each term of the summer school session. The fee is not required of Freshmen taking swimming as a part of their required physical education course. It is required of Freshmen who desire to take recreational swimming outside of class.

Privilege cards for the use of the pool may be obtained at the Athletic Ticket Office.

STUDENT EMPLOYMENT

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 Registrar of the College.

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 sixteen 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. Group I (Design) of the course in Architecture covers a period of five years. Graduate courses and a short course are also offered, as shown below:

FOUR-YEAR COURSES

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

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 description of the work of the Graduate School, page 80.

TWO-YEAR COURSE

Cotton Marketing and Classing.

THE SCHOOL OF AGRICULTURE

The following four-year courses are offered in the School of 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 indispensable prerequisite to successful farmer-business organizations.

Such sciences as statistics and accounting are used as tools to bring the great mass of world data pertaining to agriculture into such form that they may be analyzed and interpreted. It is because the problems relating to the economics of agriculture require exact measurements 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 predominantly 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) Acounting 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 conveniences, and more land to be reclaimed by drainage, irrigation and clearing.

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

THE SCHOOL OF ARTS AND SCIENCES

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

*LIBERAL ARTS

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

Economics (Business, Commerce and Finance)

English (Language and Literature)

History (Including Government)

Mathematics

^{*}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.

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

Architecture (Group 1, five years; group 2, four years).
Chemical Engineering
Civil Engineering
Electrical Engineering
Mechanical Engineering
Petroleum Production Engineering
Textile Engineering

TWO-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.

ARCHITECTURE

The course in architecture is planned to give thorough instruction in the subjects which are generally recognized as necessary in preparation for architectural design and building construction. It is 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. Waile particular emphasis is given throughout the course to the unison of design and construction which exists in all practical architectural work, the course is arranged in two groups: group 1, Architectural Design, which develops special ability in composition, planning, and rendering in the later years of the course; group 2, 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 groups, and as the courses develop, the emphasis upon the special work of each group is increased, until in the last year, it becomes distinct and separate. Both groups give a sufficiently broad training in architecture to make the student effective in general architectural work after graduation.

In the selection of either of these groups the student should be guided by his natural inclination toward the type of work which is emphasized in that group. Graduates in Architecture find positions as 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 portable 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 practical 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.

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, sewerage and sewage disposal; railway location, construction and maintenance; the design and construction of dams, reservoirs, canals, foundations, buildings, bridges and other structures; design construction and maintenance of roads and pavements; planning and execution of sanitary measures for rural and urban communities; administration of city business as city manager; research work in colleges or government bureaus; technical service of various kinds in the industries, leading to executive positions,

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 illustration of their applications in engineering practice. In the senior year, without reducing the time devoted to fundamental subjects, an opportunity is given to the student to make a study of the application of electrical engineering to some field of engineering. This is done with two purposes; the first, and more important, 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. A few of the fields which he may enter are outlined below:

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

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

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

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

engineers which, while comparatively new, bids fair to become of considerable importance.

Many electrical engineers are needed in organizations engaged in the manufacture of electrical machinery and its proper application, sale and erection. There are also a great many other subdivisions, such as that of the illuminating engineer, the signal engineer, the battery engineer.

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

A branch of the American Institute of Electrical Engineers has been organized among the students and affords the means of keeping students in touch with the latest 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 pattern 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 petioleum is lustry 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 architure, 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, market-

ing, 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 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 tudies of a technical nature.

Those who expect to engage in ranching, dairying or some other branch of enimal industry, will find the course of great value to them in preventing ser, us losses from diseases or mismanagement of their animals. Those who postess a biological mind will find it an interesting life study, and such men are in great demand in matters of public health or as investigators in experiment stations. Those who pursue the course from commercial motives will find that its rewards are similar to those of any other form of human endeavor in that 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) forty-five semester hours of technical agriculture; (2) fourteen 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 general continuation and trade and industrial schools of Texas. Since students completing this course are to qualify as teachers under the State plan for Vocational Education, a candidate for a degree in Industrial Education must satisfy one of the following requirements:

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

(Group 2)

This course is designed to train teachers of industrial arts for junior and senior high schools.

RURAL EDUCATION

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

Teacher's 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 thecase may require.

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

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

Graduate study presupposes a higher standard of excellence than undergraduate study. No graduate credit is granted for work of a lower gradethan "C", and to receive the M. S. degree, the candidate must have earned a total of 48 grade points on not to exceed 32 credit hours of graduate work.

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

REQUIREMENTS FOR THE MASTER'S DEGREE

General.—The Master's degree denotes that attainment which a student of good native ability, who has received an appropriate Bachelor's degree, may

reasonably expect to attain in one year of entire and successful devotion to advanced studies, with adequate facilities and under competent direction. The courses of study leading to this degree do not make research the chief consideration, but are intended to serve as an introduction to the methods and discipline of research.

Specification as to Course.—The course of study pursued is specified in the diploma. In his application for admission, the student must designate his major course of study.

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

- 1. He must be a graduate of this College or of some other approved institution whose requirements for graduation are substantially equivalent to those of this college.
- 2. To major in any department, a candidate for the Master's degree must meet the requirements of that department for the Bachelor's degree at this College. This is especially important as regards basic sciences and fundamental technical subjects.

To minor in any department, the candidate must meet such undergraduate requirements as, in the opinion of the head of the department concerned, are prerequisite to the graduate courses taken.

3. His undergraduate record must be of such high order as to satisfy the committee that he is qualified by native ability and by training to pursue graduate studies with profit and with credit. In case it does not fully meet this requirement, the committee may require the completion of additional undergraduate work with a satisfactory grade.

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

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

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

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

Course of Study.—The subjects constituting the student's complete course of study are to be chosen subject to the approval of the Executive Committee,

Of the eight full-semester courses required, at least seven must be done in this College.

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

Major and Minor Subjects.—For the degree of Master of Science, the candidate must choose a major subject and one or two minor subjects. A major or minor denotes the field of knowledge of a department. With the approval of the Executive Committee, the major may be taken in two closely allied departments. In his major subject the student must take at least two full-semester courses each semester, in addition to his thesis. Courses in minor subjects must be chosen by the student after consultation with the head of his major department.

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

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

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

Extension Class Work.—Work done in extension classes may be allowed graduate credit to the extent of not more than six credit hours, provided:

- 1. That in each case both the course and the instructor be approved by the Committee on Graduate Studies and by the faculty of the Agricultural and Mechanical College of Texas.
- · 2. That before taking such a course the applicant be accepted by the Registrar for admission to the Graduate School and admitted to the course by the Committee on Graduate Studies.
- 3. That no such credit be finally allowed as part of the requirements for a degree in this institution until the student has demonstrated, by work done in residence at the Agricultural and Mechanical College, of Texas, that he can pursue graduate study with profit.

Students who are in residence during summer sessions only must do the greater part of their thesis work between summer sessions, as stated above.

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

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

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

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

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

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

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

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

written, or both, and is open to the committee and to members of the Faculty.

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

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

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

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

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

PROFESSIONAL DEGREES IN ENGINEERING

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

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

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

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

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

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

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

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

FELLOWSHIPS OFFERED BY THE COLLEGE

The College offers annually a limited number of graduate fellowships, each carrying a stipend of \$500. Payments are made in eight equal installments.

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

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

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

ADDITIONAL FELLOWSHIPS

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

S	tipend
Texas Power and Light Company Fellowship\$	600.00
Open to graduate students in Electrical Engineering	
or Mechanical Engineering.	
Texas Rock Asphalt Fellowship	600.00
For the study of the uses of Texas Rock Asphalts.	
2 Texas Cotton Seed Crushers' Association fellowships, each	600.00
2 National Cotton Seed Products Association Fellowships, each	600.00
For the study of cotton seed oil mill problems.	

NORTH TEXAS CHAPTER A. I. A. HONORS

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

THE WITCHELL MEDAL IN ARCHITECTURE

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

CURRICULA

Theory, Practice.—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 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

	ESHMAN redit	YEAR Second Semester Credit
Agricultural Economics 101(3-0)	3	Agricultural Economics 102(3-0) 3
Agricultural Resources Animal Husbandry 107(2-4)	3	Agricultural Resources Agronomy 105
General Animal Husbandry Biology 101(2-4)	3	Crop Production Biology 102(2-4) 3 General Botany
General Botany Chemistry 101(3-3)	4	Chemistry 102
Inorganic Chemistry English 103(3-0)	3	Inorganic Chemistry English 104(3-0) \$
Rhetoric and Composition Military Science(1-2)	1	Rhetoric and Composition Military Science(1-2)
	17	18
SOP	HOMORE	YEAR
†Biology 207(2-4)	3	Agricultural Eng. 201(2-2) 3 Farm Machinery
Dairy Husbandry 202(2-2)	3	†Biology 206
English 203(2-0)	2	Chemistry 212(3-0) 3
Composition and Literature Entomology 201(2-2) General Entomology	3	Agricultural Chemistry Chemistry 214(1-3) 2
	3	Agricultural Analysis English 210(2-0) 2
Horticulture 201	1	Argumentation Military Science(1-2) I
	-	*Elective
,	18	, 16
NOTE.—Students who intend to (Architectural Drawing) and Architemore year.	take Gro cture 109	up 10 should elect Architecture 101, 102, 110 (Freehand Drawing) in the Sopho-
(Architectural Drawing) and Architemore year.	cture 109	, 110 (Freehand Drawing) in the Sopho-
(Architectural Drawing) and Architemore year. *To be cho Agricultural Eng. 203(2-2) Gas Engines	sen from	, 110 (Freehand Drawing) in the Sopho- the following: Animal Husbandry 202(2-2) 3 Breed Types
(Architectural Drawing) and Archite more year. *To be cho Agricultural Eng. 203	sen from	, 110 (Freehand Drawing) in the Sopho- the following: Animal Husbandry 202(2-2) 3
(Architectural Drawing) and Architemore year. *To be cho Agricultural Eng. 203(2-2) Gas Engines Animal Husbandry 203(2-2) Market Classes and Grades Poultry Husbandry 201	sen from 3 3 who have	the following: Animal Husbandry 202
(Architectural Drawing) and Architemore year. *To be cho Agricultural Eng. 203	sen from 3 3 who have should contutions.	the following: Animal Husbandry 202
(Architectural Drawing) and Architemore year. *To be cho Agricultural Eng. 203	sen from 3 3 3 who have should contutions. hosen ung	the following: Animal Husbandry 202
(Architectural Drawing) and Architemore year. *To be cho Agricultural Eng. 203	sen from 3 3 3 who have should contutions. hosen ung	the following: Animal Husbandry 202
(Architectural Drawing) and Architemore year. *To be cho Agricultural Eng. 203	sen from 3 3 who have should contutions. hoosen unnt is major 2 4. ACUNIOR 3	the following: Animal Husbandry 202
(Architectural Drawing) and Architemore year. *To be cho Agricultural Eng. 203	sen from 3 3 who have should contuit tutions. hosen unnut is major 4. ACUNIOR 3 4	the following: Animal Husbandry 202
(Architectural Drawing) and Architemore year. *To be cho Agricultural Eng. 203	sen from 3 3 who have should contuit tutions. hosen unnut is major 4. ACUNIOR 3 4	the following: Animal Husbandry 202
(Architectural Drawing) and Architemore year. Agricultural Eng. 203	sen from 3 3 who have should contuit tutions. hosen unnut is major 4. ACUNIOR 3 4	the following: Animal Husbandry 202
(Architectural Drawing) and Architemore year. *To be cho Agricultural Eng. 203	sen from 3 3 who have should contuit tutions. hosen unnut is major 4. ACUNIOR 3 4	the following: Animal Husbandry 202

[†]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. Students who intend to take Group 4 or 9 should substitute Biology 213, (Plant Physiology) for Biology 207.

SENIOR YEAR

First Semester Cr	edit	Second Semester Cree	dit
Agricultural Economics 314(3-0) Marketing	3	Agricultural Economics 421(3-2)	4
Agricultural Engineering 413 (2-3)	3	Farm Management Agronomy 413(3-0)	3
Farm Buildings Agronomy 314(3-2) Field Crops	4	Soil and Crop Problems Agronomy 416(1-0)	1
	1	Soils and Crops Seminar English 401 (2-0)	2
Soils and Crops Seminar Animal Husbandry 409(3-3)	4	Public Speaking History 305(3-0)	3
Animal Nutrition and Feeding	3	American Government Elective	5
	18		18
CROUP F		LULICDANIDDY	
GROUP 3.	ANIMA	L HUSBANDRY	
	UNIOR Y		
Agronomy 301(3-2)		Animal Husbandry 410	3
Animal Husbandry 303(3-3) Animal Nutrition	4	Principles of Economics	3
Animal Husbandry 307(1-3) Farm Meats		English 307	2
Animal Husbandry 421(2-0) Advanced Breed Study	2	Animal Breeding	3
Genetics 301(3-2)	4	Veterinary Anatomy 302(2-2) Anatomy and Physiology	3
Elective	2	Elective	4
	18 ENIOR Y	TE A ID	18
Agricultural Economics 314(3-0)	3	Agricultural Economics 421(3-2)	4
Marketing Animal Husbandry 403(0-6)	2	Farm Management Agricultural Engineering 424(0-3)	1
Advanced Judging Animal Husbandry 413(2-3)	3	Terracing Animal Husbandry 406(2-3)	3
Horse Production	3	Beef Cattle Production Animal Husbandry 412(2-3)	3
History 305	4	Swine Production English 401(2-0)	2
Veterinary Medicine 403(3-2) Animal Diseases Elective	3	Public Speaking Elective	5
	18	*	18
GROUP 7		HUSBANDRY	10
GROUP 7.	DAIRI	HUSBANDKI	
	UNIOR Y	EAR Dairy Husbandry 306(3-2)	
Agronomy 301(3-2) Soils	•	Butter Making; Factory Mgmt. Economics 403(3-0)	4
Dairy Husbandry 301(3-2) Market Milk		Principles of Economics	3
Dairy Husbandry 301	4	English 307 (2-0) Technical Writing History 305 (3-0) American Government	2
Genetics 301(3-2)	4	American Government (3-0)	3
Elective	3	Elective	<u>6</u>
SI	19 ENIOR Y	EAR	18
Agricultural Economics 314(3-0) Marketing	3	Agricultural Economics 421(3-2) Farm Management	4
Animal Husbandry 303(3-3) Animal Nutrition	4	Agricultural Engineering 424(0-3) Terracing	1
Dairy Husbandry 417(3-3) History and Development of Da	4	Dairy Husbandry 415(3-0)	3
Cattle English 401(2-0)	iry o	Condensed Milk Dairy Husbandry 418(3-2) Dairy Cattle Feeding and	4
Public Speaking		Management	
Elective	7 .	Elective	6
•	20		18

GROUP 8. ENTOMOLOGY

JUNIOR YEAR

	First	Semester	Cre	edit	Second Semester	Credit
Agronomy Soils	301		(3-2)	4	English 307(2- Technical Writing	0) 2
Entomology	301	1	(2-4)	3	Entomology 302(2-	4) 3
Entomology	305	tomology	(2-3)	3	Systematic Entomology Entomology 306(2-	3) 3
Morpho Horticulture Fruit	logy e 317		(2-3)	3	Morphology Horticulture 318(2-	3) 3
Fruit I	Product	ion		5	Horticulture 318 (2- Fruit Production Elective	7
				18		18
			SI	ENIOR	YEAR	
Economics	403		(3-0)	3	English 401(2-	0) 2
Princip Entomology	401	Leonomics	(2-4)	3	Public Speaking Entomology 402(2-	4) 3
Econom *Entomolog Special History 30	y 417	mology	(3-2)	4	Economic Entomology *Entomology 418(3-	2) 4
Special History 30	Proble	ms	(3-0)	3	Special Problems Elective	9
America Elective	an Gov	rernment		5		18
	•			18		
		GR	ROUP 9.	НОГ	RTICULTURE	
Agronomy Soils English 30 Technic Genetics 30 Genetics Horticulture Fruit I Horticulture	7al Wri	ting	JU(3-2)(2-0)(3-2)(2-3)	HOPUNIOR 4 2 4 3	YEAR Economics 403	2) 4 2) 3 3) 3
Soils English 30 Technic Genetics 30 Genetics Horticulture	7s 2 317 2 7roduct 2 423 1tural	ting ion	JT((3-2)(2-0)(2-0)	JNIOR 4 2 4 3	YEAR Economics 403	2) 4 2) 3 3) 3
Soils English 30 Technic Genetics 30 Genetics Horticulture Fruit I Horticulture Horticul	7s 2 317 2 7roduct 2 423 1tural	ting ion	JT (3-2) (2-0) (3-2) (2-3) (2-0)	JNIOR 4 2 4 3	YEAR Economics 403	2) 4 2) 3 3) 3
Soils English 30 Technic Genetics 30 Genetics Horticulture Fruit I Horticulture Horticul	7s 2 317 2 7roduct 2 423 1tural	ting ion	JT(3-2)(2-0)(2-3)(2-0)	JNIOR 4 2 4 3 2 3	YEAR Economics 403 (3-Principles of Economics Genetics 304 (3-Plant Breeding Horticulture 310 (2-Commercial Veg. Production Horticulture 318 (2-Fruit Production Horticulture 425 (2-History and Literature Elective	2) 4 2) 3 3) 3 0) 2

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

GROUP 10. LANDSCAPE ART

	UNIOR	VEAD	
First Semester Cre	dit	Second Semester Cre	dit
Agricultural Engineering 305 (2-4)	3		1
Terracing and Drainage Agronomy 301(3-2)	4	English 307 (2-0)	2
Soils		Freehand Drawing English 307 (2-0) Technical Writing	-
Architecture 205(0-4) Freehand Drawing	1	Entemology 204(2-2)	3
History 305(3-0) American Government	3	History of Landscape Art Landscape Art 302	2
Landscape Art 301(2-4)	3	Landscape Art 304(0-8)	3
Introduction to Landscape Art	•	Landscape Construction	_
Elective	3	Ornamentals (2-2)	3
	17	Elective	4
			18
~		7	
Accounting and Statistics 201(3-3)	ENIOR	Economics 403 (3-0)	3
Principles of Accounting		Principles of Economics	
English 401(2-0)	2 .	Horticulture 318(2-3)	3
Public Speaking Horticulture 317(2-3)	3	Fruit Growing Landscape Art 402(3-8)	6
Fruit Growing Landscape Art 401(3-8)	6	Advanced Landscape Art Landscape Art 404(2-2)	3
Advanced Landscape Art		Floriculture	•
Elective	3	Elective	3
	18		18
CROUD II I	OUL T	DV HIEDANDDY	
GROUP II. P	OOLI	'RY HUSBANDRY	
Ţ	UNIOR	YEÁR	
Agronomy 301(3-2)	4	Economics 403(3-0)	3
Soils Animal Husbandry 303(3-2)	4	Principles of Economics English 307 (2-0)	2
Animal Nutrition Genetics 301(3-2)		Technical Writing	
Genetics 301(3-2)	4	English 307 (2-0) Technical Writing Entomology 208 (2-2) Animal Parasites Poultry Husbandry 302 (3-2)	3
Poultry Husbandry 301(3-2)	4	Poultry Husbandry 302(3-2)	4
Market Poultry Elective	3	Feeding and Brooding Poultry Husbandry 303(3-2)	4
	_	Turkey Production	-
	19	Elective	3
•			19
91	ENIOR	VEAR	
Agricultural Economics 314(3-0)		English 401(2-0)	2
Marketing Agricultural Engineering 413(2-3)	3	Public Speaking	3
Farm Buildings		History 305(3-0) American Government	_
Poultry Husbandry 401(3-2)	4	Poultry Husbandry 402 (3-2)	4
Culling and Management Poultry Husbandry 403(2-2)	3	Poultry Farming Veterinary Medicine 455(2-0)	2
Poultry Judging Elective	5	Diseases of Poultry Elective	7
Diettive	_		
	18		18
GROUP 12.	RUR	AL SOCIOLOGY	
	TATIOD	VEAD	
Agricultural Economics 307(3-0	UNIOR) 3	Economics 493(3-0)	3
Advertising		Principles of Economics	3
Rural Education 321(3-0) Secondary School Methods	3	Economics 493	_
Rural Sociology 303(3-0)	3	Rural Sociology 312(3-0)	3
Rural Sociology 303(3-0) Introduction to Social Problems Rural Sociology 311(3-0)	3	General Sociology Elective	9
Social Psychology	6		18
Elective	_		10
	18		

SENIOR YEAR

SI	ENIOR Y	YEAR
First Semester Cre	dit	Second Semester Credit
History 305(3-0)	3	Agricultural Economics 314(3-0) 3
American Government Rural Sociology 407(2-2)	3	Marketing Agricultural Economics 426(3-0) 3
Rural Sociology	3	Sales Organization
Rural Sociology 415(2-2) Agricultural Journalism	• .	Public Speaking
Elective	9	Rural Sociology 404(3-0) 3 Rural Organization
	18	Elective7
		18
COURSE IN AGRICU	ULTUR	AL ADMINISTRATION
FRI	ESHMAN	YEAR
	edit	Second Semester Credit
Agricultural Economics 101 (3-0) Agricultural Resources	3	Agricultural Economics 102(3-0) 3 Agricultural Resources
Agronomy 105(3-2) Crop Production	4	Animal Husbandry 107(2-4) 3 General Animal Husbandry
Chemistry 101(3-3)	4	Chemistry 102(3-3) 4
Inorganic Chemistry English 103(3-0)	3	Inorganic Chemistry English 104(3-0) 3
English 103 (3-0) Rhetoric and Composition Mathematics 101 (3-0)	3	English 104
Algebra Military Science(1-2)	1	Algebra Military Science(1-2) 1
Military Belefice(1-2)		· · · · · · · · · · · · · · · · · · ·
NOTES.—1. At the beginning of	18 the Soph	omore year the student will choose one of
the following groups: 1. Accounting a	ınd Stati:	stics; 2. Marketing and Finance (includ-
ing Agricultural Economics and Farm 2. Electives must be ch	osen und	der the advice and direction of the head
of the department in which the stude	ent is m	ajoring.
GROUP I. ACCO	UNTIN	G AND STATISTICS
SOP	HOMORI	E YEAR
Accounting and Statistics 201(3-3)	4	Accounting and Statistics 202(3-3) 4
Principles of Accounting Economics 203(3-0)	3	Principles of Accounting Economics 204(3-0) 3
Principles of Economics English 203(2-0)	2	Principles of Economies English 210(2-0) 2
Composition and Literature	_	Argumentation
History 305(3-0) American Government	3	Mathematics 202 (3-0) 3 Mathematical Theory of Investment Military Science (1-2) 1
Military Science(1-2) Elective	1 3	Military Science(1-2) 1 Elective
	16	16
**		
Accounting and Statistics 301(3-3)	UNIOR 1	Accounting and Statistics 302(3-3) 4
Theory and Practice of Accounting Accounting and Statistics 303(3-3)	3]	Theory and Practice of Accounting
Statistical Method		Cost Accounting
Accounting and Statistics 403(3-0) Income Tax	3	Accounting and Statistics 406(2-3) 3 Agricultural and Business Cycles
Elective	7	Elective
	18	18
NOTES.—Recommended Program 1. Elect or substitute	for stude in the S	ents majoring in Statistics:
culus).		ophomore and Junior years Agricultural wing 111 (Mechanical Drawing); Mathe-(Analytics); Mathematics 203, 204 (Cal-
2. Elect or substitute (Price Analysis) and Accounting and	in the S	enior year Accounting and Statistics 503 cs 504 (Advanced Statistics). ure will be approved as substitutions for
3. Courses in technical	agricult	ure will be approved as substitutions for
required courses in Group 1.		•

SENIOR YEAR

Accounting and Statistics 402(2-2) 3 Accounting Systems	Accounting and Statistics 408(3-0) Advanced Auditing	3
Accounting Systems Accounting and Statistics 407(3-3) 4	Accounting and Statistics 410(3-0)	3
Auditing Agricultural Economics 425(3-0) 3	Seminar Economics 316(3-0)	3
Wholesale and Retail Merchandising	Business Law	
English 401(2-0) 2 Public Speaking	Elective	9
Elective		18
=======================================	•	
10		

GROUP 2. MARKETING AND FINANCE

*(Including Agricultural Economics and Farm Management)

sor	номон	E YEAR	
First Semester Cr	edit	Second Semester Cree	lit
Accounting and Statistics 201 (3-3) Principles of Accounting Economics 203 (3-0) Principles of Economics English 203 (2-0) Composition and Literature History 305 (3-0) American Government Military Science (1-2) Elective	4 3 2 3 1 3 16	Accounting and Statistics 202(3-3) Principles of Accounting Agricultural Economics 314	4 3 3 2 1 3 16
Accounting and Statistics 303(3-3) Statistical Method Agricultural Economics 307(3-0) Advertising Agricultural Economics 413(3-0) Co-operative Marketing Economics 311	UNIQR 4 3 3 5 18	Accounting and Statistics 406	3 3 3 6 18
S	ENIOR	YEAR	
Agricultural Economics 425	3	Agricultural Economics 419(3-0) Agricultural Finance Agricultural Economics 420(3-0) Market Analysis Agricultural Economics 426(3-0) Sales Organization Elective	3 3 9 18

^{*}Students specializing in Agricultural Economics or Farm Management may substitute certain technical agricultural courses appropriate to their field of study for some of the courses required in Group 2.

COURSE IN AGRICULTURAL ENGINEERING

*FRESHMAN YEAR

First Semester Cre	Ai+	Second Semester Cre	.dit
Chemistry 101 (3-3)	4	Chemistry 102(3-3)	4
Inorganic Chemistry Engineering Drawing 111(0-6)	2	Second Semester Cre Chemistry 102	3
Mechanical Drawing English 103(3-0)	3	Descriptive Geometry English 104(3-0)	3
Rhetoric and Composition	6	Rhetoric and Composition Mathematics 112 (6-0) Mathematical Analysis	6
Mathematics 111(6-0) Mathematical Analysis		Mathematical Analysis	-
Mechanical Engineering 101(1-2) Engineering Problems	1	Mechanical Engineering 102(1-2) Engineering Problems	1
Military Science(1-2)	1	Military Science(1-2)	1
•	17		18
SOP	HOMORE	E YEAR	
Agricultural Engineering 203 (2-2)	3	Agricultural Engineering 216 (3-3)	4.
Gas Engines Agricultural Engineering 205(2-3)	3	Automotive Machinery English 210(2-0)	2
Farm Buildings and Structures	2	Argumentation Mathematics 204(5-0)	5
English 203(2-0) Composition and Literature		Calculus	-
Mathematics 203(5-0)	5	Mechanical Engineering 212(3-0) Engineering Mechanics	3
Military Science	1 4	Military Science (1-2) Physics 204 (3-3)	1
General Physics (3-3)	4	General Physics (3-3)	4
,	18	•	19
•		•	
Jī	UNIOR Y	TEAR .	
Agronomy 301(3-2)	4	Agricultural Engineering 201(2-2) Farm Machinery	3
Civil Engineering 201(3-3)	4	Agronomy 314(3-2) Field Crops	4
Plane Surveying Electrical Engineering 305(3-3)	4	Civil Engineering 305(4-0) Mechanics of Materials	4
Electrical Machinery Geology 201(3-3)	4	Mechanics of Materials Dairy Husbandry 202(2-2)	3
General Geology	3	Dairying English 307(2-0)	2
Elective 1		Technical Writing	_
3	19	Elective	3
			19
SI	ENIOR Y	TEAR	
Agricultural Engineering 413(2-3)	3	Agricultural Engineering 418(2-3) Designing of Farm Structures	3
Farm Buildings Agricultural Engineering 425(1-0)	1	Agricultural Engineering 426(1-0)	1
Seminar Animal Husbandry 409(3-3)	4	Seminar 3-6 Agricultural Engineering 428(2-3)	85
Animal Nutrition and Feeding	•	Irrigation and Drainage	1
Civil Engineering 311(3-0) Hydraulics	3	Civil Engineering 336(0-2) Hydraulics Laboratory	-
Economics 403(3-0) Principles of Economics	3	Electrical Engineering 431(2-0) Engineering Administration	2
English 401(2-0)	2	History 305(3-0) American Government	3
Public Speaking Elective	3	Elective	64
	19	•	19
			AL 185

^{*}Identical with curricula for all engineering courses.

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

(See note 1, below)

First Semester Cree	dit	Second Semester Cre	dit
Chemistry 101 (3-3) Inorganic Chemistry English 103 (3-0) Rhetoric and Composition History 103 (3-0) Modern Europe Mathematics 101 (3-0) Algebra Military Science (1-2) Modern Language (3-0) French, German or Spanish	4 3 3 3 1 3 17	Chemistry 102 (3-3) Inorganic Chemistry English 104 (3-0) Rhetoric and Composition History 104 (3-0) Modern Europe Mathematics 103 (3-0) Trigonometry Military Science (1-2) Modern Language (3-0) French, German or Spanish	4 3 3 3 1 3 —
SOP	HOMORE	E YEAR	
(See	Note 2,	below)	
Biology 211 (2-4) General Biology (3-0) Economics 203 (3-0) Principles of Economics (3-0) English 231 (3-0) English Literature (1-2) Modern Language (3-0) French, German or Spanish Elective	3 3 3 1 3 3 16	Biology 212 (2-4) General Biology Economics 204 (3-0) Principles of Economics English 232 (3-0) English Literature Military Science (1-2) Modern Language (3-0) French, German or Spanish Elective	3 3 1 3
ju.	JNIOR Y	TEAR	
Elective	17	History 305(3-0) American Government Elective	3 14 17
SE	ENIOR Y	EAR	
English 401(2-0) Public Speaking Elective	2 16 18	Elective	18

NOTES

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

Mathematics 102 (Advanced College Algebra), or Mathematics 104 (Analytics), must be taken in the second semester of the Freshman year in place of Mathematics 103

must be taken in the second semester of the Freshman year in place of Mathematics 103 (Trigonometry), if the latter subject was completed in preparatory school.

2. In the Sophomore year one of the following may be taken in place of Biology 211-212: Biology 101-102 (General Botany), Biology 203-204 (Zoology), or Geology 201-202 (General and Historical Geology).

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.

MAJOR AND MINOR STUDIES

By April 15 of his Sophomore year the student selects a major and a minor field of

- study, according to the following directions:

 1. One of the following departments must be chosen as the field of major study: 1. One of 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 students majoring in Economics or in Physical Education are outlined on page 96.

 2. For his minor study the student may select one of the above departments other than that of his major study, or one of the following: Biology, Chemistry, Entomology, Geology, Physics.

 3. The remainder of the elective work may be taken in any of the departments indicated above, or from other departments of the College, subject to the approval of the Dean of the School of Arts and Sciences.

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 presentd 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 regaling happunged of that language. 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:

Freshman Year

English 103-104 Rhetoric and Composition
Mathematics 101-103 Algebra; Trigonometry ory 215-216 History 215-216 United States History Chemistry 101-102 or Biology 211-212 An Approved Elective Military Science Physical Training

Sophomore Year

English 231-232 English Literature Economics 203-204 Principles of Economics History 211-212 Comparative Government History 213-214
History of England
Accounting and Statistics 201-202
Principles of Accounting Military Science

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

PROGRAM FOR STUDENTS MAJORING IN ECONOMICS

FRESHMAN YEAR

As outlined for the Course in Liberal Arts.

SOPHOMORE YEAR

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

JUNIOR YEAR

First Semester Cre Accounting and Statistics 303(3-3) Statistical Method	4	Second Semester Cre Economics 316 (3-0) Business Law	3
Agricultural Education 207(3-0) Psychology	3	Economics 318(3-0) Labor Problems	3
Economics 311(3-0)	3	History 322(3-0)	3
Money and Banking Elective	7	Industrial History of The U. S. Elective	8
•	-		_
	17		17
Economics 315(3-0)		YEAR Economics 412(3-0) Public Finance and Taxation	3
Economics 413(3-0) Advanced Economic Theory	3	Economics 414(3-0) Advanced Economic Theory	3
Economics 409(3-0) Yes Foreign Trade and Exchange	3	History 305(3-0) American Government	3
English 401(2-0) Public Speaking	2	Elective	9
Elective	7		18
	18		

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 regulation on page 95 and with reference to the student's chosen objective in the field of economics.

Suggested electives in the Junior and Senior years:

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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 408 (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 420 (Marketing Analysis)
Agricultural Economics 425 (Wholesale and Retail Merchandising)
Agricultural Economics 426 (Sales Organization)
Economics 408 (Corporation Finance)
Economics 416 (Public Utility Economics)
Economics 416 (Public Utility Economics)
Economics 420 (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
         Military Science
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PROGRAM FOR STUDENTS MAJORING IN PHYSICAL EDUCATION

FRESHMAN YEAR

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

SOPHOMORE YEAR

First Semester Credit Biology 341 (3-4) 4 Economics 204 (3-0) 3 Principles of Economics 203 (3-0) 3 English 231 (3-0) 3 English 231 (3-0) 3 English Literature Military Science (1-2) 1 Modern Language (3-0) 3 French, German or Spanish Physical Education 207 (3-0) 3 Athletic Training Elective (3-0) 3 Athletic Training				
Principles of Economics Principles of Economics Principles of Economics Principles of Economics English 232 (3-0) 3	First Semester Cre	edit	Second Semester Cre	edit
Principles of Economics Principles of Economics Principles of Economics Principles of Economics English 232 (3-0) 3	Biology 341(3-4)	4	Economics 204(3-0)	3
Principles of Economics English Literature Military Science (1-2) 1 Modern Language (3-0) 3 French, German or Spanish Physical Education 207 (3-0) 3 Athletic Training Elective 4 Physical Education 207 17 17 17 17 17 17 17	General Physiology			
Principles of Economics English Literature Military Science (1-2) 1 Modern Language (3-0) 3 French, German or Spanish Physical Education 207 (3-0) 3 Athletic Training Elective 4 Physical Education 207 17 17 17 17 17 17 17	Economics 203(3-0)	3	English 232(3-0)	3
English Literature	Principles of Economics			
Military Science (1-2) 1 French, German or Spanish Physical Education 208 (3-0) 3 Athletic Training Elective 4 Athletic Training Electiv		3		
Modern Language			Modern Language(3-0)	3
French, German or Spanish Athletic Training Elective 4				
Physical Education 207		3	Physical Education 208(3-0)	3
Health Education	French, German or Spanish			
To To To To To To To To	Physical Education 207(3-0)	3	Elective	4
JUNIOR YEAR Agricultural Education 207(3-0) 3 Psychology Physical Education 305(3-2) 4 Public School Physical Education Physical Education 311(3-2) 4 Fundamentals of Athletic Coaching Rural Education 321(3-0) 3 Secondary School Methods JUNIOR YEAR History 305	Health Education			_
Agricultural Education 207(3-0) 3 Psychology Physical Education 305				17
Agricultural Education 207(3-0) 3 Psychology Physical Education 305(3-2) 4 Public School Physical Education Physical Education 311(3-2) 4 Fundamentals of Athletic Coaching Rural Education 321		17		
Agricultural Education 207(3-0) 3 Psychology Physical Education 305(3-2) 4 Public School Physical Education Physical Education 311(3-2) 4 Fundamentals of Athletic Coaching Rural Education 321	*		•	
Psychology Physical Education 305	Ji	UNIOR	YEAR	
Psychology Physical Education 305				
Physical Education 305		3	History 305(3-0)	3
Public School Physical Education Physical Education 311				
Physical Education 311(3-2) 4 Fundamentals of Athletic Coaching Rural Education 321(3-0) 3 Secondary School Methods Physical Education 312(3-2) 4 Fundamentals of Athletic Coaching Rural Education 322(3-0) 3 Secondary School Methods Secondary School Administration		4		4
Fundamentals of Athletic Coaching Rural Education 321				
Rural Education 321(3-0) 3 Secondary School Methods Secondary School Methods Secondary School Administration				
Secondary School Methods Secondary School Administration		ing		ing
		3		3
Elective 3	Secondary School Methods		Secondary School Administration	
	Elective	3	Elective	3
17 17		17		17
SENIOR YEAR	SI	ENIOR	YEAR	
English 401(2-0) 2 Physical Education 402(3-2) 4	English 401 (2.0)	9	Physical Education 402 (2.2)	4
Public Speaking Theory and Practice of		2		4
Physical Education 401(3-2) 4 Athletic Coaching		4		
Theory and Practice of Physical Education 404(3-2) 4		*		
Athletic Coaching Organization and Administration				4
Physical Education 403(3-2) 4 of Physical Education		4		
Organization and Administration *Elective		*		10
of Physical Education -			DICCHYC	10
*Elective		Q		10
Elective	Elective	0		10
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.

^{*}Three hours of senior electives must be taken in Education to complete the requirements for a general teachers certificate. The other electives should be carefully used to prepare for the teaching of some high school subject.

- 2. To train teachers of Science in secondary schools and other institutions of learning.
- 3. To provide the necessary fundamental preparation for students planning to enter upon the study of medicine. (See page 99).

FRESHMAN YEAR

First Semester Cre Biology 203(2-4)	dit	Second Semester Cre Biology 204(2-4)	
Zoology	190	Zoology	
Chemistry 103(3-4) Inorganic Chemistry	4	Chemistry 104(3-4) Inorganic Chemistry	4
English 103(3-0)	3	English 104(3-0)	3
Rhetoric and Composition		Rhetoric and Composition Mathematics 103(3-0)	3
Mathematics 101(3-0)	3	Trigonometry	0
Military Science(1-2)	1	Military Science(1-2)	1
Modern Language(3-0) French or German	3 .	Modern Language(3-0) French or German	3
French of definan	_	Trends of Gorman	=
	17		17
SOP	HOMORI		
English 231(3-0)	3	English 232 (3-0) English Literature	3
English Literature Military Science(1-2)	1	Military Science(1-2)	1
Modern Language(3-0)	3	Modern Language(3-0)	3
French or German Physics 201(3-2)	4	French or German Physics 202(3-2)	4
College Physics		College Physics	_
Elective	7	Elective	7
*	18		18
. Jī	UNIOR Y	EAR	
Economics 403(3-0) Principles of Economics	3	History 305(3-0) American Government	3
Elective	15	Elective	15
	18		18
g	ENIOR Y	TEAD	٠.
English 401(2-0)		Elective	18
Public Speaking	_		
Elective	16		
	18		

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 99.

 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. 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 require-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 smester 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 Preparatry 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

As outlined for the Freshman year of the course in Science, page 98.

Sophomore Year

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).

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"

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

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 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 98, except that Language 103-104 (German) should be taken in satisfaction of the language requirement.

SOPHOMORE YEAR

As outlined for the course in Science, except that German is continued, and Geology 201-202 (General and Historical Geology) and Engineering Drawing 213-214 (Mechanical Drawing), are taken as electives. (Students entering on sophomore work in 1934-35 will take History 305 and Civil Engineering 206 in that year, deferring English 231-232 until the junior year).

JUNIOR YEAR

First Semester Cre	\mathbf{dit}	Second Semester Cre	dit
Geology 303(3-4)	4	Civil Engineering 206(1-3)	2
Petrology		Plane Surveying	
Geology 305(3-3)	4	Geology 304(3-4)	4
Palentology Geology 307(3-4)		Petrology Geology 306(3-3)	
Mineralogy and Petrology	4	Palentology	-
History 305(3-0)	3	Geology 312(3-2)	4
American Government	•		
Elective	3	Structural Geology Elective	5
	-		_
	18	•	19
SI	ENIOR	YEAR	
Economics 403(3-0)		English 401(2-0)	2
Economics 403(3-0)	3	English 401(2-0)	_
Economics 403	3 4	English 401(2-0) Public Speaking Geology 404(3-3) Geology of Petroleum	4
Economics 403	3 4	English 401(2-0) P'ublic Speaking Geology 404(3-3)	4
Economics 403	3 4	English 401	4
Economics 403	3 4 4	English 401 (2-0) Public Speaking Geology 404 (3-3) Geology of Petroleum Geology 420 (3-4) Advanced General and Field Geology Geology	4
Economics 403	3 4	English 401 (2-0) Public Speaking Geology 404 (3-3) Geology of Petroleum Geology 420 (3-4) Advanced General and Field Geology Elective	4
Economics 403	3 4 4	English 401 (2-0) Public Speaking Geology 404 (3-3) Geology of Petroleum Geology 420 (3-4) Advanced General and Field Geology Geology	4

Suggested elective 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 201, 202 (Drilling and Development); Physics 407 (Geophysics); advanced courses in English.

THE SCHOOL OF ENGINEERING

COURSES IN ARCHITECTURE

(For the Class of 1935, and thereafter.)

GROUP 1. ARCHITECTURAL DESIGN

FRESHMAN YEAR

First Semester Cre	$_{ m dit}$	Second Semester Cre	dit
Architecture 101(0-4) Architectural Drawing	1	Architectural Drawing (0-6)	2
Architecture 107(2-0)	2	Architecture 108(2-0)	2
History of Architecture Architecture 109(0-4)	1	History of Architecture Architecture 110(0-4)	1
Freehand Drawing Engineering Drawing 124(2-4)	3	Freehand Drawing Chemistry 101(3-3)	4
Descriptive Geometry English 103(3-0)	3	Inorganic Chemistry English 104(3-0)	3
Rhetoric and Composition Mathematics 111(6-0)	6	Rhetoric and Composition Mathematics 112(6-0)	6
Mathematical Analysis Mechanical Engineering 101(1-2)	1	Mathematical Analysis Mechanical Engineering 102(1-2)	1
Engineering Problems Military Science(1-2)	_	Engineering Problems Military Science(1-2)	1
Military Science(1-2)	_	mintary science(1-2)	<u> </u>
	18		20
SOP	HOMORE	YEAR	
Architecture 201(0-10) Architectural Design	3	Architecture 202(0-10) Architectural Design	3
Architecure 203(0-6) Shades, Shadows, Perspective	2	Architecture 206(0-4) Freehand Drawing	1
Architecture 205	1	Architecture 216(2-0) History of Architecture	2
Architecture 215(2-0)	2	Civil Engineering 206(1-3)	2
History of Architecture English 203(2-0)	2	Plane Surveying English 210(2-0)	2
Composition and Literature Military Science(1-2)	1	Argumentation Military Science(1-2)	1
Military Science	3	Military Science (1-2) Modern Language (3-0) French or German	3
Physics 201(3-2)	4	Physics 202(3-2)	4
College Physics	_	College Physics	
,	18	•	18
Jt	JNIOR Y	EAR	
Architecture 301(0-16) Architectural Design	5	Architecture 302(0-16) Architectural Design	5
Architecture 305(0-4)	1	Architecture 306(0-4)	1
Freehand Drawing Architecture 313(4-0)	4	Modelling Architecture 314(3-3)	4
Mechanics of Materials Architecture 315(2-0)	2	Stress Analysis Architecture 320(0-6)	2
Modern Architecture Modern Language(3-0)	3	Building Construction Modern Language(3-0)	3
French or German Elective	3	French or German	3
2000 VA 1 0 1000 1000 1000 1000 1000 1000	18	and the second s	18
	19		10

SENIOR YEAR (Not offered until 1934-35; for present Senior program see page 103.)

(Not offered until 1934-35; for	r presen	t Senior program see page 103.)	
First Semester Cre Architecture 401	dit 7 3 2 3 3 18 IFTH Y fered unt	Second Semester Cre Architecture 402	dit 7 3 2 3 3 18
Architecture 451(0-27)	9	English 401 (2-0)	2
Economics 403(3-0) Principles of Economics	3	Public Speaking Landscape Art 302(2-0) History of Landscape Art	2
Elective	2	Elective	3
	18		18
FRE	TECTU SHMAN as in (
SOP Architecture 201	HOMORE 3 2 1 5	Architecture 202	3 1 2 3 5 4 1 1 1 9
Architecture 201	HOMORE 3 2 1 2 5 4 1 18 UNIOR V	Architecture 202	1 2 3 5 4 1
SOP Architecture 201	HOMORE 3 2 1 2 5 4 1 18 UNIOR V	Architecture 202	1 2 3 5 4 1
SOP Architecture 201	HOMORE 3 2 1 2 5 4 1 18 UNIOR Y	Architecture 202	1 2 3 5 4 1 19
SOP Architecture 201	HOMORE 3 2 1 2 5 4 1 18 UNIOR Y	Architecture 202	1 2 3 5 4 1 1 19
SOP Architecture 201	HOMORE 3 2 1 2 5 4 1 18 UNIOR Y 2 2 4	Architecture 202	1 2 3 5 4 1 1 19
SOP Architecture 201	HOMORE 3 2 1 2 5 4 1 18 UNIOR V 2 2 4 3	Architecture 202	1 2 3 5 4 1 1 19 4 2 2 3
SOP Architecture 201	HOMORE 3 2 1 2 5 4 1 18 UNIOR Y 2 2 4 3 2	Architecture 202	1 2 3 5 4 1 1 19 4 2 2 3 2 2

^{*}Offered in 1934-35 and alternate years thereafter. Not offered in 1933-34.

Not offered until 1934-35; for present Senior program see page below)

First Semester	Credit	Second Semester Cre	edit
Architecture 415	(2-0) 2	Architecture 416(2-0) The Fine Arts	2
Architecture 417	(3-0) 3	Architecture 418(2-3) Concrete Structures	3
Architecture 421	(2-6) 4	Architecture 422(2-6) Structural Design	4.
Architecture 425	(2-0) , 2	*Electrical Engineering 436(2-0) Wiring and Lighting	2
English 401	(2-0) 2		8
Elective	6		19
	19		

COURSES IN ARCHITECTURE

(For the Class of 1934)

GROUP 1. ARCHITECTURAL DESIGN

SUMMER WORK

Architecture 400, Working Drawings, three weeks

SENIOR YEAR

(For the Class of 1934)

Architecture 401(0-18)	6	Architecture 402(0-20) Design	7
Architecture 407(2-0)	2	Architecture 406(2-0)	2:
History of Art		Professional Practice	
Architecture 409(0-4)	1	Architecture 410(0-4)	1
Freehand Drawing		Freehand Drawing	_
Mechanical Engineering 335(3-0)	3	Architecture 414(1-0)	1
Heating and Ventilation	•	Modern Architecture	_
			-
Modern Language 201(3-0)	_ 3	English 401(2-0)	2
French		Public Speaking	
Elective (See page 110)	3	Modern Language 202(3-0)	3
2.000.0 (2.0 2-2)	_	French	•
	18	Elective (See page 110)	9
		Dicetive (See page 110)	J
			19

GROUP 2. ARCHITECTURAL ENGINEERING

SUMMER WORK

Architecture 400, Working Drawings, three weeks

SENIOR YEAR (For the Class of 1934)

Architecture 407(2-0) History of Art		Architecture 406(2-0) Professional Practice	2
Architecture 411(0-14) Structural Design		Architecture 412(2-12) Structural Design	•
Geology 201(3-3) General Geology		Architecture 414(1-0) Modern Architecture	_
Mechanical Engineering 335(3-0) Heating and Ventilation	3	*Electrical Engineering 436(3-0) Wiring and Lighting	_
Elective (See page 110)	6	English 401(2-0) Public Speaking	2
	20	Elective (See page 110)	<u>6</u>
			20

^{*}Offered in 1934-35 and alternate years thereafter. Not offered in 1933-34.

COURSES IN ENGINEERING

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

,			
F	RESHMAN	YEAR	
First Semester	Credit	Second Semester Cre	edit
Chemistry 101(3-	-3) 4	Chemistry 102(3-3)	4
Inorganic Chemistry		Inorganic Chemistry	
Engineering Drawing 111(0.	-6) 2	Engineering Drawing 124(2-4)	3
Mechanical Drawing		Descriptive Geometry	
English 103(3-	-0) 3	English 104(3-0)	3
Rhetoric and Composition		Rhetoric and Composition	
Mathematics 111(6-	-0) 6	Mathematics 112(6-0)	6
Mathematical Analysis		Mathematical Analysis	
Mechanical Engineering 101(1-	-2) 1	Mechanical Engineering 102(1-2)	1
Engineering Problems		Engineering Problems	
Military Science(1-	-2) 1	Military Science(1-2)	1
			_
` i	17		18
· i . ; i			
· ·		I ENGINEEDING	
COURSE IN C	HENLICA	L ENGINEERING	

(Gas, Petroleum Refining and Cotton Seed Oil)

FRESHMAN YEAR (See page 104.) SOPHOMORE YEAR

SOP	HOMOL	RE YEAR	
Chemistry 205(2-8)	5	Chemical Engineering 202(2-8)	5
Qualitative Analysis Engineering Drawing 201(0-2)	1	Quantitative Analysis Engineering Drawing 202(0-2)	1
Mechanical Drawing	_	Mechanical Drawing	•
English 203(2-0)	2	English 210(2-0)	2
Composition and Literature	5	Argumentation Mathematics 204(5-0)	5
Mathematics 203(5-0) Calculus	J	Calculus	э
Military Science(1-2)	1	Military Science(1-2)	1
Physics 203(3-3)	4	Physics 204(3-3)	4
General Physics		General Physics	_
	18		18
TI	UNIOR	VEAD	
	5-	Chemistry 302(3-4)	4
Chemical Engineering 301(2-8) Quantitative Analysis	•	Organic Chemistry	*
Chemistry 301(3-4)	4	Civil Engineering 206(1-3)	2
Organic Chemistry		Surveying	
Economics 403(3-0) Principles of Economics	3	Electrical Engineering 305(3-3) Electrical Machinery	4
History 305(3-0)	3 .	Electrical Engineering 431(2-0)	2
American Government		Engineering Administration	
Elective (See page 110)	3	Mechanical Engineering 320(5-0) Thermodynamics	5
	18	Elective (See page 110)	3
g	ENIOR	VEAD	20
Chemical Engineering 409(3-6)	5		4
Gas and Oil Technology	,	Chemical Technology	-
Chemical Engineering 411(3-4)	4	Chemical Engineering 418(3-4)	4
Physical Chemistry		Physical Chemistry	
English 401(2-0) Public Speaking	2	Chemistry 438(1-0) Seminar	1
Geology 401(2-3)	3	*Geology 408(3-3)	. 4
Geology for Engineers		Geology for Engineers	
Mechanical Engineering 403(1-3)	2	Mechanical Engineering 404(1-3) Engineering Laboratory	2
Engineering Laboratory Elective (See page 110)	3	Elective (See page 110)	3
(pee kage ere)	_	(222 2-2)	_
	19		18

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

COURSE IN CIVIL ENGINEERING

FRESHMAN YEAR

(See page 104.)

a. so	PHOMOR	E YEAR	
First Semester Cr Civil Engineering 201) 1) 2) 3) 5	Second Semester Cre	4 1 2 5 3
		•	
s	UMMER '	WORK ·	
Civil Engineering 305 (4-0 Mechanics of Materials Civil Engineering 335 (0-3) Railroad Surveying Civil Engineering 335 (0-4 Estimating and Drafting Economics 403 (3-0 Principles of Economics Electrical Engineering 305 (3-3 Electrical Machinery Mechanical Engineering 313 (3-0 Engineering Mechanics Elective (See page 110)	JUNIOR :) 4) 1) 1) 3) 4		
s	SENIOR Y	TEAR .	*
NOTE.—By proper choice of tec specialize to some extent in Highw Engineering.	chnical ele ay, Hydr	ectives from the list below students maulic, Municipal, Sanitary, or Structu	ay ral
Civil Engineering 407	3	Civil Engineering 414	3 1 2 2 3 6 3
			90

^{*}See list of Technical Electives on next page.

*Technical Electives to be chosen for	from the following:
Civil Engineering 417(2-3) 3 Bituminous Materials	Structural Engineering
Civil Engineering 448(3-0) 3 Engineering Economy	3 Civil Engineering 456(2-3) 3 Highway Adm. and Design
Civil Engineering 455(2-3) 3 Steel Buildings	
Civil Engineering 463(3-0) 3 Hydrology	3 Municipal and Sanitary Engineering 408(3-0) 3
Municipal and Sanitary	Municipal Administration
Engineering 403(1-5) 3 Sanitary Design	Engineering 412(1-5) 3
Municipal and Sanitary Engineering 406(3-0) 3 Sanitation and Public Health	Sanitary Laboratory

COURSE IN ELECTRICAL ENGINEERING

FRESHMAN YEAR

(See page 104.)

SOPHOMORE YEAR

Electrical Engineering 201 Electricity and Magnetism	(3-6) 5	Electrical Engineering 202(2-4) Elementary Electrical Engineering	
Engineering Drawing 201 Mechanical Drawing	(0-2) 1	Civil Engineering 206(1-3) Surveying	2
English 203	(2-0) 2	Engineering Drawing 202(0-2) Mechanical Drawing	1
Mathematics 203		English 210(2-0) Argumentation	
Mechanical Engineering 201 Pattern Making and Foundry		Mathematics 204(5-0) Calculus	5
Military Science Physics 207		Mechanical Engineering 309(0-3) Machine Shop	1
General Physics		Military Science(1-2)	
		Physics 208(3-2)	4
	19	General Physics	
			19
			137

JUNIOR YEAR

Economics 403(3-0) Principles of Economics	3	Civil Engineering 305(4-0) Mechanics of Materials	4
Electrical Engineering 301(3-6) Direct Currents	5	Electrical Engineering 302(5-0) Alternating Currents	5
Mathematics 305(2-0) Differential Equations	_	Electrical Engineering 304(0-6) Alternating Current Laboratory	2
Mechanical Engineering 212(3-0) Engineering Mechanics	3	History 305(3-0) American Government	3
Mechanical Engineering 323(4-0) 'Thermodynamics	4	Mechanical Engineering 313(3-0) Engineering Mechanics	3
Elective (See page 110)	3	Elective (See page 110)	3
<u>.</u>	20		20

	311101	• 12111	
First Semester Cre	dit	Second Semester Cre-	dit
Electrical Engineering 401(4-0)	4	Electrical Engineering 402(4-0)	4
Alternating Current Machinery		Alternating Current Machinery	
Electrical Engineering 403(1-6)	3	Electrical Engineering 404(1-6)	3
Alternating Current Laboratory		Alternating Current Laboratory	
Electrical Engineering 405(3-0)	3	Electrical Engineering 432(3-0)	3
Electric Transmission		Public Utility Problems	
Electrical Engineering 431(2-0)	2	English 401(2-0)	2
Engineering Administration		Public Speaking	
Mechanical Engineering 403(1-3)	2	Mechanical Engineering 404(1-3)	2
Engineering Laboratory		Engineering Laboratory	
General Elective (See page 110)	3	General Elective (See page 110)	3
*Technical Elective	3	*Technical Elective	3
`	_		
	20		20
* The technical electives of the Senior Civil Engineering 311(3-0)		are to be chosen from the following: Electrical Engineering 406(2-2)	3
Hydraulics .		Elec. Distribution and Transmissi	
Electrical Engineering 409(2-2)	3	Electrical Engineering 410(2-2)	3
Advanced Communication		Advanced Communication	
Engineering		Engineering	
Electrical Engineering 426(2-2) Illumination Engineering	3	Electrical Engineering 416(3-0) Motor Applications	3
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 MECHANICAL ENGINEERING

FRESHMAN YEAR (See page 104.)

SOPHOMORE YEAR

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19 3
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3 4 3
3 4 3
3 4 3 1 5

SE	ENIOR Y	EAR	
First Semester Cree	lit	Second Semester Cree	dit
Electrical Engineering 431(2-0)	2	English 401(2-0)	2
Engineering Administration Mechanical Engineering 303(2-3)	3	Public Speaking Mechanical Engineering 304(2-3)	3
Machine Design Mechanical Engineering 403(1-3)	2	Machine Design Mechanical Engineering 404(1-3)	2
Engineering Laboratory	-	Engineering Laboratory	_
Mechanical Engineering 417(3-0) Power Engineering	3	Mechanical Engineering 418(3-0) Power Engineering Mechanical Engineering 420(3-0)	3
Mechanical Engineering 419(3-0) Industrial Engineering	3	Mechanical Engineering 420(3-0) Industrial Engineering	3
Mechanical Engineering 423(3-0) Industrial Administration	3	General Elective (See page 110) *Technical Elective	3
Elective (See page 110)	3	Technical Elective	_
	19		19
*Technical Electives to be chosen	from th	e following:	
Mechanical Engineering 407(3-0)	3	Mechanical Engineering 428(3-0)	3
Refrigeration Electrical Engineering 416(3-0)	3	Aerodynamics Mechanical Engineering 430(2-3)	3
Motor Applications		Production Engineering	
		DDUCTION ENGINEERING	
FRI	ESHMAN	YEAK	
(\$	see page	104.)	
SOP	HOMORI	E YEAR	
Engineering Drawing 201(0-2)	1	Civil Engineering 206(1-3)	2
Mechanical Drawing English 203 (2-0)	2	Surveying Engineering Drawing 202(0-2)	1
Composition and Literature		Mechanical Drawing	2
Geology 201(3-3) General Geology	4	English 210(2-0) Argumentation	4
Mathematics 203(5-0) Calculus	5	Geology 202(3-3) Historical Geology	4
Military Science(1-2) Petroleum Engineering 201(2-0)	1 2	Mathematics 204(5-0) Calculus	5
Drilling and Development Physics 203(3-3)	4 .	Military Science(1-2) Petroleum Engineering 202(2-0)	1 2
General Physics	4	Drilling and Development Physics 204 (3-3)	4
	19	General Physics (3-3)	4
		*	21
	*,		
Ji	UNIOR	YEAR	
Electrical Engineering 307(3-3)	4	Economics 403(3-0)	3
Electrical Machinery Geology 307(3-4)	4	Principles of Economics Electrical Engineering 308(3-3)	4
Mineralogy and Petrology Mechanical Engineering 212(3-0)	3	Electrical Machinery Geology 312(3-2)	
Engineering Mechanics .		Structural Geology	
Mechanical Engineering 324(3-0) Steam and Gas Power	3	Mechanical Engineering 320(5-0) Thermodynamics	
Petroleum Engineering 302(3-2) Equipment and Applications		Petroleum Engineering 301(2-0) Oil and Gas Transportation	
Elective (See page 110)	3	Elective (See page 110)	3
	21		21

3	English 401(2-0) Public Speaking	2
4	Geology 404(3-3)	4
3	History 305(3-0)	3
2	Mechanical Engineering 404(1-3)	2
4	Petroleum Engineering 402(3-2)	4
1	Petroleum Engineering 404(0-4) Petroleum Problems	1
3	Elective (See page 110)	3
_		_
20		19
	4 3 2 4 1	Public Speaking Geology 404

COURSE IN TEXTILE ENGINEERING

FRESHMAN YEAR

(See page 104.)

SOPHOMORE YEAR

(Same as Mechanical Engineering. See page 107)

NOTE.—Upon approval of the head of the department, Accounting and Statistics 201, 202 may be substitued for Mathematics 203, 204.

JUNIOR YEAR

, J	UNIOR	YEAR	
History 305(3-0) American Government	3	*Chemistry 308(3-3) . Dyeing	4
Mechanical Engineering 309(0-3) Machine Shop	1	Electrical Engineering 305(3-3) Electrical Machinery	4.
Mechanical Engineering 324(3-0) Steam and Gas Power	3	Mechanical Engineering 307(2-3) Kinematics	3
Textile Engineering 301(2-3) Yarn Manufacture		Textile Engineering 302(0-2) Yarn Manufacture	
Textile Engineering 303(0-3) Fabric Design		Textile Engineering 304(0-3) Fabric Design	
Textile Engineering 307(3-6) Weaving		Textile Engineering 306(3-3) Weaving	
Elective (See page 110)	3	Elective (See page 110)	3
	19		20
S	ENIOR	YEAR	
Economics 403(3-0) Principles of Economics	3	Electrical Engineering 431(2-0) Engineering Administration	2
Mechanical Engineering 419(3-0) Industrial Engineering	3	English 401(2-0) Public Speaking	
Textile Engineering 401(3-2) Yarn Manufacture	4	Textile Engineering 402(2-3) Yarn Manufacture	
Textile Engineering 413(1-3) Cotton Classing		Textile Engineering 414(0-3) Cotton Classing	
Textile Engineering 415(0-3)		Textile Engineering 416(1-3) Fabric Design	
Textile Engineering 419(1-3) Weaving	2	Textile Engineering 420(0-3) Weaving	
Elective (See page 110)	5	†Textile Engineering 422(3-0) History of Textile Industry	3
	20	Elective (See page 110)	6
			20

^{*}Offered in 1933-34 and alternate years thereafter. †Offered in 1934-35 and alternate years thereafter. Offered in 1933-34.

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.

First Semester Cree	lit	Second Semester Cree	lit
Accounting and Statistics 409(3-0) Accounting for Engineers	3	Architecture 416(2-0) The Fine Arts	2
Agricultural Education 207(3-0) Psychology		General Bacteriology (2-4)	
Architecture 315(2-0) Modern Architecture		Economics 318(3-0) Labor Problems	
Architecture 415(2-0) The Fine Arts		Economics 408(3-0) Corporation Finance Economics 412(3-0)	3
General Bacteriology (2-4)		Public Finance and Taxation (3-0)	3
Economics 311(3-0) Money and Banking English (See page 155)	3	English (See page 155)	4
Survey of Eugenics (3-0)		History 312(3-0) Modern and Contemporary Europe	
Geology 201(3-3) General Geology	4 .	History 322(3-0) Industrial History of U. S.	3
Modern and Contemprary Europe		American Foreign Relations (3-0)	
History 423(3-0) American Foreign Relations		Mechanical Engineering 307(2-3) Kinematics	3
Modern Language(3-0) French, German or Spanish	3	Municipal and Sanitary Engineering 408(3-0)	3
Rural Sociology 311(3-0) Social Psychology	3	Municipal Administration Modern Language(3-0) French, German or Spanish	3
		Rural Sociology 312(3-0) General Sociology	3

TWO-YEAR COURSE IN COTTON MARKETING AND CLASSING

FIRST YEAR

First Semester Cre	dit	Second Semester Cre	dit
Agricultural Economics 101(3-0)	3	Agricultural Economics 102(3-0)	3
Agricultural Resources Chemistry 101(3-3)	4	Agricultural Resources Chemistry 102(3-3)	4
Inorganic Chemistry English 103(3-0)		Inorganic Chemistry English 104(3-0)	3
Rhetoric and Composition Mathematics 101(3-0)		Rhetoric and Composition Mathematics 102(3-0)	3
Algebra		A lorobus	-
Military Science(1-2) Textile Engineering 107(2-5)	1	Military Science	14
Cotton Classing	*	Cotton Classing	4
	18		18
	10	•	10
SI	ECOND	YEAR	
Accounting and Statistics 201(3-3) Principles of Accounting	4	Accounting and Statistics 202(3-3) Principles of Accounting	4
Economics 203(3-0)	3	Economics 204(3-0)	3
Principles of Economics English 203(2-0)	2	Principles of Economics Economics 316(3-0)	3
Composition and Literature	2		
History 305(3-0)	3	Business Law English 210(2-0) Argumentation	2
American Government Military Science(1-2)	1	Military Science(1-2)	1
Textile Engineering 205(3-0) Cotton Exchanges	3	Textile Engineering 212(1-5)	3
Cotton Exchanges		Cotton Classing	
Textile Engineering 211(1-5) Cotton Classing	3	Cotton Classing Textile Engineering 218(3-0) Foreign Cotton Markets	3

NOTE.—Completeion of this Course will be accepted for full Junior Standing in Group 2 of the Course in Agricultural Administration.

THE SCHOOL OF VETERINARY MEDICINE

COURSE IN VETERINARY MEDICINE

FRESHMAN YEAR

First Semester Cre	edit	Second Semester Cre	dit
Animal Husbandry 107(2-4)	· 3	Biology 102(2-4)	3
General Animal Husbandry Biology 101(2-4)		General Botany Chemistry 102(3-3)	4
General Botany		Inorganic Chemistry	_
Chemistry 101(3-3) Inorganic Chemistry	4	English 104(3-0) Rhetoric and Composition	3
English 103(3-0) Rhetoric and Composition	3	Military Science(1-2) Poultry Husbandry 201(2-2)	1
Military Science(1-2)		Poultry Production Veterinary Anatomy 112(3-6)	_
Veterinary Anatomy 111(3-6) Anatomy of Domestic Animals		Anatomy of Domestic Animals	5
Vet. Phys. and Pharm. 121(2-0) Physiology of Domestic Animals	2	Vet. Phys. and Pharm. 122(2-0) Physiology of Domestic Animals	2
	21		21
SOF	РНОМОБ	RE YEAR	
Chemistry 206(3-2)	4	Biology 206(1-4)	2
Organic Chemistry English 203(2-0)	2	Bacteriology Biology 207(2-4)	3
Composition and Literature Entomology 201(2-2)		Zoology *English 307(2-0)	2
General Entomology	1	Technical Writing	3
Military Science(1-2) Veterinary Anatomy 211(3-6)		Entomology 208(2-2) Animal Parasites	•
Anatomy of Domestic Animals Veterinary Anatomy 213(2-4)	3	History 305(3-0) American Government	3
Histology and Embryology Vet. Phys. and Pharm. 221(2-0)		Military Science(1-2) Veterinary Pathology 242(3-2)	14
Physiology of Domestic Animals		General Pathology	_
	20	Vet. Phys. and Pharm. 222(3-4) Physiology of Domestic Animals	4
			22
•			
J	UNIOR	YEAR	
Dairy Husbandry 301(3-2)	4	Genetics 301(3-2)	4
Market Milk Veterinary Medicine 351(3-0)	3	Genetics Veterinary Medicine 352(3-0)	3
Non-infectious Diseases Veterinary Medicine 361(3-0)		Non-infectious Diseases Veterinary Medicine 362(3-0)	3
General Surgery		General Surgery	
Veterinary Medicine 371(0-7) Clinic		Veterinary Medicine 372(0-12) Clinic	4
Veterinary Pathology 341(2-0) Special Pathology	2	Veterinary Pathology 342(2-4) Special Pathology	3
Veterinary Pathology 343(2-4) Special Bacteriology	3	Vet. Phys. and Pharm. 334(3-0) Pharmacology	3
Vet. Phys. and Pharm. 333(3-4)	4	Elective	3
Pharmacology Elective	3		23
•	24		

^{*}Or English 317.

First Semester Cre	dit	Second Semester Cre	dit
Animal Husbandry 409(3-3) Animal Nutrition	4	English 401(2-0) Public Speaking	2
Veterinary Medicine 451(3-0) Diseases of Small Animals	3	Veterinary Medicine 452(3-0) Practice of Medicine	3
and Fowls	•	Veterinary Medicine 462(3-4)	4
Veterinary Medicine 453(3-0) Infectious Diseases	3	Operative Surgery Veterinary Medicine 472(0-7)	2
Veterinary Medicine 461(2-0) Obstetrics	2	Clinic Veterinary Pathology 442(2-2)	3
Veterinary Medicine 471(0-7)	2	Meat Hygiene Veterinary Pathology 444(2-2)	
Veterinary Pathology 441(2-2) Immunology; Serum Therapy	3	Laboratory Diagnosis	
Veterinary Pathology 443(2-2)	3	Vet. Phys. and Pharm. 432(1-2) Toxicology	
Parasitology Elective	3	Elective	3
Diccorre			21
	22		

THE SCHOOL OF VOCATIONAL TEACHING

COURSE IN AGRICULTURAL EDUCATION

FRESHMAN YEAR

First Semester Cre Animal Husbandry 107 (2-4) General Animal Husbandry Biology 101 (2-4) General Botany Chemistry 101 (3-3) Inorganic Chemistry English 103 (3-0) Rhetoric and Composition Military Science (1-2) Elective	3	Second Semester Cre	3 4 3 1 3 18
SOP	HOMORE	E YEAR	
Agricultural Engineering 321(1-3) Farm Shop Chemistry 212	2 3 2 3 8 1 3	Agricultural Engineering 322(1-3) Farm Shop Dairy Husbandry 202(2-2) Dairying English 232(3-0) English Literature Entomology 204	2 3 3 3 1 5 - 18
Jī	UNIOR Y	YEAR	
Agricultural Education 301(3-0) Educational Psychology Agronomy 301(3-2) Soils Animal Husbandry 409(3-3) Animal Nutrition and Feeding Poultry Husbandry 401(2-2) Culling and Management Elective	3 4 4 3 4 18	Agricultural Economics 312(3-0) Agricultural Economics Agricultural Education 302(3-0) Principles of Education Genetics 301	3 4
SI	ENIOR Y	TEAR .	
Agricultural Economics 314(3-0) Marketing Agricultural Education 401(2-6) Teaching Vocational Agriculture English 401(2-0) Public Speaking History 305(3-0) American Government Elective	3 4 2 3 4	Agricultural Education 402	4

COURSE IN INDUSTRIAL EDUCATION

GROUP 1. 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

General Education Credits	Professional Education Credits
English 10 Mathematics 6 Economics 6 Rural Sociology 3 History (Including History 305) 6 Public Speaking 2 Technical Shop Work 24 Engineering Drawing 4 Sciences	The courses required by the State Department of Education for the Smith-Hughes certificate and any other courses in educa- tion suited to the needs of the student. Electives To be approved by the head of the department 34
Chemistry 8 Physics 8 Modern Industries 3 Industrial Management 2	TOTAL CREDITS140

GROUP 2. FOR INDUSTRIAL ARTS TEACHERS

FRESHMAN YEAR

First Semester Credit	Second Semester Credit
Chemistry 101(3-3) 4	Chemistry 102(3-3) 4
Inorganic Chemistry	Inorganic Chemistry
Engineering Drawing 111(0-6) 2	Engineering Drawing 124(2-4) 3
Mechanical Drawing	Descriptive Geometry
English 103(3-0) 3	English 1043-0) 3
Rhetoric and Composition	Rhetoric and Composition
Mathematics 101(3-0) 3	Mathematics 103(3-0) 3
Algebra	Trigonometry
Mechanical Engineering 101(1-2) 1	Mechanical Engineering 102(1-2) 1
Engineering Problems	Engineering Problems
Mechanical Engineering 105(1-6) 3	Mechanical Engineering 106(1-6) 3
Wood Work	Cabinet Making
Military Science(1-2) 1	Military Science(1-2) 1
-	
17	18

SOPHOMORE YEAR

Second Semester

Credit

Credit

First Semester

2 1 2 1 1 0rk 1 4 6 17	Arcitecture 222 (1-4) Architectural Construction Electrical Engineering 204 (2-4) Electrical Wiring and Repair Engineering Drawing 202 (0-2) Mechanical Drawing English 210 (2-0) Argumentation Industrial Education 204 (3-0) Development and Practices Military Science (1-2) Physics 202 (3-2) College Physics Elective (1-4)	2 3 1 2 3 1 4
JNIOR	YEAR	19
3 2 3 2 1 3 4 18	Agricultural Engineering 402 (2-4) Automobiles and Trucks History 305 (3-0) American Government Industrial Education 310 (3-0) Course Making Industrial Education 324 (1-3) Teaching Machine Drawing Industrial Education 418 (1-5) General Shop Methods Mechanical Engineering 310 (0-3) Machine Shop Elective	3 3 2 3 1 5
3 2 3 9	YEAR English 401(2-0) Public Speaking *Industrial Education 416(1-5) Practice Teaching Elective	2 3 12 17
	1 2 1 1 4 6 17 1 4 4 6 17 1 4 18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Architectural Construction (2-4) Electrical Engineering 204 (2-4) Electrical Wiring and Repair Engineering Drawing 202

^{*}Approved teaching experience with written reports may be substitued for Industrial Education 415,416, on the basis of two semester hours for each year of such experience. If the student wishes to apply this course toward a teacher's certificate he must complete a minimum of 36 clock hours of supervised practice teaching under the direction of the Department of Industrial Education.

COURSE IN RURAL EDUCATION

FRESHMAN YEAR

First Semester Cre	edit	Second Semester Cre	dit
Animal Husbandry 107 (2-4)	3	Agronomy 105(3-2)	4
General Animal Husbandry Biology 101(2-4)	3	Crop Production Biology 102(2-4)	3
General Botany English 103(3-0)	3	General Botany English 104(3-0)	3
Rhetoric and Composition Poultry Husbandry 201(2-2)	3	Rhetoric and Composition Mathematics 101(3-0)	3
Poultry Production Military Science(1-2)	1	Algebra Military Science(1-2)	1
Rural Education 121(3-0) Elementary School Methods	3	Rural Education 122(3-0) Elementary School Methods	3
,	16		17
		•	
SOP	HOMOR	E YEAR	
Chemistry 101(3-3) Inorganic Chemistry	4	Chemistry 102(3-3) Inorganic Chemistry	4
English 231(3-0) English Literature	3	Dairy Husbandry 202(2-2)	
Entomology 201(2-2) General Entomology	3	English 232 (3-0)	3
Wilitary Science(1-2) Rural Education 221(3-0)	1	English Literature Military Science(1-2) Rural Education 222(3-0)	1
Rural School Methods	3	Rural School Administration	
Elective	<u>3</u>	Elective	3
	17		17
J	UNIOR	YEAR	
Biology 207(2-4)	3	Economics 403(3-0)	3
Zoology Rural Education 321(3-0)	3	Principles of Economics History 305(3-0)	3
Secondary School Methods Rural Sociology 407(2-2)	3	American Government Rural Education 322(3-0)	3
Rural Sociology Elective	9	Secondary School Administration Elective	9
	18		18
	ENIOR		
English 401(2-0) Public Speaking		History of Education	3
Rural Education 426(3-0) Tests and Measurements	3	Elective	15 —
Elective	13		18
	18		

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 39.

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
DEPARTMENT Accounting and Statistics	119 121 125 126 128 130 133 135 137 142 146 148 150 154 155 157	Horticulture Industrial Education	164 167 170 170 171 172 178 181 181 181 183 184 185 187 189 191 192 194
Geology History		Pharmacology	197

DEPARTMENT OF ACCOUNTING AND STATISTICS

Professor Leland, Associate Professors Weinke, Hamilton, Mr. Gragg.

201. Principles of Accounting. (3-3). Credit A.

I, II

Analysis and recording of transactions, use of the journal, ledger, and trial balance, location of errors, columnar journals, controling accounts, working sheets, financial statements, adjusting and closing entries, business procedure and forms.

Laboratory fee, 75 cents.

202. Principles of Accounting. (3-3). Credit 4.

П

A continuation of course 201. Accrued and deferred items, depreciation, corporation accounting, accounting for manufacturing concerns, voucher systems, classification and interpretation of accounts and financial statements. Laboratory fee, 75 cents.

301. Theory and Practice of Accounting. (3-3). Credit 4.

Ī

Statement preparation and analysis, partnerships, corporations, instalment sales, agencies and branches, consignments, joint ventures, insolvent concerns, inventories, receivables and cash. Prerequisite: Accounting and Statistics 201, 202.

Laboratory fee, 50 cents.

302. Theory and Practice of Accounting. (3-3). Credit 4.

П

Estate accounting, actuarial accounting, appraisals, depletion, good will, investments, reserves, funds, consolidations, foreign exchange, insurance, fixed liabilities, current and contingent liabilities. Prerequisite: Accounting and Statistics 301.

Laboratory fee, 50 cents.

303. Statistical Method. (3-3). Credit 4.

1

Application of statistical method to agricultural subjects: collection, tabulation, presentation, and analysis of data. A study of sampling, graphics, averages, ratios and coefficients, dispersion, skewness, probability and error, index numbers, seasonal and long-time trend, barometers and linear correlation.

Laboratory fee, 50 cents.

401. Cost Accounting. (2-3). Credit 3.

H

Development of cost accounting principles, cost elements, methods of control, order and process systems, estimated and standard costs, debatable points of theory, uniform methods, cost accounting for agricultural enterprises. Prerequisite: Accounting and Statistics 301.

Laboratory fee, 50 cents.

402. Accounting Systems. (2-2). Credit 3.

A study of the special features of accounting for various types of cooperatives, an analysis of the accounting systems devised and recommended by

government agencies and farmer organizations. Each student is expected to devise a system for some cooperative organization. Prerequisite: Accounting and Statistics 301.

Laboratory fee, 50 cents.

403. Income Tax. (3-0). Credit 3.

I

Income tax legislation; the present income tax law, regulations, treasury decisions, court decisions and departmental rulings, income tax problems and returns. Prerequisite: Accounting and Statistics 202.

Laboratory fee, 50 cents.

406. Agricultural and Business Cycles. (23). Credit 3.

П

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 from an agricultural point of view. Prerequisite: Accounting and Statistics 303.

Laboratory fee, 50 cents.

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).

Laboratory fee, \$1.00.

408. Advanced Auditing. (3-0). Credit 3.

П

Case studies in auditing, financial investigations, auditing reports, certificates, statements giving effect to financing. Prerequisite: Accounting and statistics 407.

Laboratory fee, 50 cents.

409. Accounting for Engineers. (3-0). Credit 3.

1

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.

Laboratory fee, 50 cents.

410. Accounting Seminar. (3-0). Credit 3.

H

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.

1

An analytical study of the different kinds of statements for the guidance of exceutives, investors and creditors; the balance sheet; profit and loss ratios, Prerequisite: Accounting and Statistics 401, 407.

Laboratory fee, 50 cents.

502. Specialized Accounting. (3-2). Credit 4.

П

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.

Laboratory fee, 50 cents.

503. Price Analysis. (2-3). Credit 3.

I

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 Statistics 303, Economics 203, 204.

Laboratory fee, 50 cents.

504. Advanced Statistics. (2-3). Credit 3.

П

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.

Laboratory fee, 50 cents.

DEPARTMENT OF AGRICULTURAL ECONOMICS

Professor Lee, Professor McMillan, Associate Professor Paine,

Assistant Professor Hunt

101. Agricultural Resources. (3-0). Credit 3.

I. II

The basic principles of geography which determine man's activities, with particular reference to the physical and economic conditions influencing agricultural development; relationship between climate and vegetation, soils and man; economic and physical conditions influencing trade in agricultural products; a determination of potentialities of our remaining agricultural frontiers.

102. Agricultural Resources. (3-0). Credit 3.

I

A survey of potentialities and limitations of agricultural production in relation to population pressure; the agricultural revolution as manifested in changes in agriculture in old regions and in new parts of the world; physical bases of productions of the leading agricultural commodities of the world, and the United States in particular, commercial movements with reference to surplus and deficit producing regions; present trends in the utilization of the world's agricultural resources. Prerequisite: Agricultural Economics 101.

301. Agricultural Geography of North America. (3-0). Credit 3.

A survey of the physical bases of production in the different portions of the continent, with especial attention to the factors most influential in determining America's agricultural development; a classification of the lands of North America; past development, present production, trends and possibilities of agriculture in Canada, New England, North America and Central States.

303. Economic History of Agriculture. (3-0). Credit 3.

I

The economic development of American agriculture, with some review of European agriculture prior to the settlement of this country. Problems of land tenure, farm labor, credit and marketing; analysis of methods by which American farmers have attempted to solve these problems.

307. Advertising. (3-0). Credit 3.

I

Place of advertising in business and agriculture; advertising media, such as the newspaper, trade paper, magazine, direct mail, poster, and the radio; description of the various methods of advertising; development of copy and layout of advertisements; consumer habits and psychology; methods of investigation for advertising campaigns; cost of advertising; legal and ethical problems involved in advertising; consideration of advertising from the standpoint of consumers. Prerequisite: Economics 203 and 204, or 403.

310. The Credit System. (3-0). Credit 3.

П

The origin, forms, and sources of credit and the part credit plays in business. Historical development of the use of credit; the place of credit in modern business; the theory of credit; analysis of fallacies regarding the origin and supply of credit; sources and distribution of credit; development of instalment credit used in the purchase of automobiles, radios and other merchandise; automobile and other finance companies handling instalment credit; development of merchant credit accounts and the advantages and disadvantages of such credit in merchandising; factors determining the cost of credit; government regulation of credit. Prerequisite: Economics 311.

312. Agricultural Economics. (3-0). Credit 3.

П

An application of the principles of economics to agriculture. Economic data affecting agriculture as a national industry; a comparison of agriculture with the other important industries. The topics covered include farm population and farm life; land as a factor in production; land values; land policies; farm credit; insurance; labor; price economy; specialization and management; foreign markets for farm products; the relation of the tariff to agriculture; taxation; price cycles; land tenure; farmers' movements; farm wealth and income.

314. Marketing. (3-0). Credit 3.

I, II

The services performed in marketing agricultural products, such as grading, standardizing, packing, transportation, storage, financing, and risk-taking; marketing methods; marketing agencies; analysis of the operations of produce exchanges; price making; future trading; demand creation; adapting production to market conditions; government authority in relation to marketing. Prerequisite: Economics 204, or 403, or Agricultural Economics 312.

321. Farm Records and Cost Analysis. (2-2). Credit 3.

Objectives of farm record keeping; desirable and useless types of farm records, taking farm inventories; property valuation; preparation of financial statements; farm inventory analysis; measures of farm profits; labor records; live stock and crop accounts; cost of production studies with intensive and extensive types of enterprises; complete farm cost system; the use of complete cost data in planning the farm business. Laboratory work is based on records of actual farms. Prerequisite: Twelve hours of credit in technical Agriculture.

404. Field Studies in Farm Management. (1-6). Credit 3.

11

Methods of analyzing the agriculture of a farming region; finding the facts as to its outstanding advantages and deficiencies; building a constructive long-time program to fit the needs of selected farms within the area. Detailed studies of the farm resources, farm organization and practice of one or more important agricultural regions of Texas. Students who take this course should be prepared to spend several consecutive days in field survey work. Prerequisite: Agricultural Economics 321, Agricultural Economics 421.

410. Transportation. (3-0). Credit 3.

H

An economic interpretation of the function and importance of transportation as related to agriculture. The four great agencies of rail, water, motor, and air, both as separate agencies and as parts of a coordinated system. Regulation through the Interstate Commerce Commission and other governmental bodies; rates affecting the movement of agricultural products.

413. Cooperative Marketing of Farm Products. (3-0). Credit 3.

A study of farmer's cooperative selling organizations. Historical background of modern cooperation; economic philosophy of cooperation; prerequisites to organization; systems of organization; fundamental principles; types of cooperatives; legal basis of agricultural cooperation; problems of pooling, contracts, financing, management, advertising and surplus control; analysis of suspensions and failures; national policies with respect to the cooperative movement. Prerequisite: Agricultural Economics 314, or Agricultural Economics 312.

419. Agricultural Finance. (3-0). Credit 3.

H

Analysis of credit requirements of farmers; investors and depositors as sources of credit; description of financial institutions which serve agriculture, such as farm mortgage companies, insurance companies, federal and joint stock land banks, intermediate credit banks, live stock loan companies, national and state banks, and the federal reserve banks; principles upon which credit is extended; credit forms; the cost of credit. Prerequisite: Economics 203, 204, or 403.

420. Market Analysis. (3-0). Credit 3.

H

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

of the profitableness of different types and sizes of operating units; determination of effectiveness of advestising 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.

I. II

The relation of farm management to agricultural and economic sciences; farming as a business; farm profits; factors limiting farm profits; types of farming; agricultural regions; farm organizations; live stock in relation to farm management; the soil factor; labor distribution; farm capital; choice of equipment; size and shape of fields; farm building and improvements; cropping systems; farm labor; getting started in farming; choosing a farm; leases and tenants; duties and responsibilities of a farm manager. Laboratory work on problems of actual farms; two or more field trips to near-by farms. Prerequisite: Twenty hours of credit in technical agriculture.

425. Wholesale and Retail Merchandising. (3-0). Credit 3.

Ī

A study of the wholesale and retail merchandising of goods bought by farmers; different types of stores serving the farmers; retail store costs, margins, and prices; causes of the development of the chain store and the mail order house; services of these stores to the agricultural community. Factors determining the size of the trade territory of agricultural towns; distribution of purchases between the small town and the larger center. Prerequisite: Economics 203, 204, or 403.

426. Sales Organization. (3-0). Credit 3.

11

Principles underlying successful salesmanship; types of customers and types of goods in relation to salesmanship. Buying motives and methods of demand creation; analysis of problems confronting the sales manager, such as the sales organization, selection and training of salesmen, compensation plans, contacts with salesmen, sales campaigns and selling costs. Prerequisite: Economics 203 and 204, or 403.

427. Cotton Marketing. (3-0). Credit 3.

I

Historical survey of the development of cotton marketing problems; the functions performed in marketing cotton; description of the local, central and spinners' markets; the economic functions of cotton exchanges; future trading and speculation and their relation to the price of cotton; the evolution of cotton standardization; the origin and operation of cotton cooperative marketing associations. Prerequisite: Agricultural Economics 314.

FOR GRADUATES

501, 502. Advanced Marketing Problems. (2-6). Credit 4 each semester.

Price making; economics of future trading; adjustment of production to the market; the collection and dissemination of demand and supply information; the margin between local and central market prices; costs of marketing; individual versus cooperative method of price making and marketing. Prerequisite: Agricultural Economics 312 and Agricultural Economics 314.

503. Land Problems. (2-6). Credit 4.

I

An extensive study of such problems as land tenure, land classification, land utilization, land taxation, and land valuation.

504. Historical Development of Agricultural Economics. (2-6) Credit 4. II

Agricultural economics defined and described; origin of agricultural economics; historical development of agricultural economics in Rome, England, Germany and France. This part of the historical work deals very largely with the biographical sketches of the writers concerned and with the history of economic conditions at the time they wrote; especially as related to agriculture. The works of such men as Arthur Young, Albrecht Thaer, and Von Thunen, modern agricultural economics; recent developments in agricultural economics; relation of agricultural economics to farmers' movements; relation of agricultural economics to general economics; essentials of a sound agricultural economics course. Prerequisite: Agricultural Economics 312.

511. Farm Management Surveys. (2-4). Credit 3.

I

512. Cotton Marketing Problems. (2-6). Credit 4.

П

The potential supply of cotton; potential demand for cotton; price making in local, central, and spinners' markets; relation of spot and futures prices; problems of estimating current demand and supply; the economics of cotton standardization; analysis of the Cotton Futures Act; cooperative versus individual sale of cotton. Prerequisite: Agricultural Economics 314.

571, 572. Research Methods. (2-6). Credit 4 each semester.

General survey of methods of research employed in various agricultural economic research organizations over the country, with special emphasis upon the methods and program of the Texas Agricultural Experiment Station in farm organization, marketing, taxation, and agricultural finance.

DEPARTMENT OF AGRICULTURAL EDUCATION

Professor Winkler, Professors Alexander, Dykes, Mr. Sherill 207. Psychology. (3-0). Credit 3.

I, II

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

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.

- 505. Supervised Practice. (4-0). Credit 4.

 An advanced study of supervised practice in vocational agriculture.
- 507. Future Farmer Activities. (2-0). Credit 2.

 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. I Methods of organizing and conducting part-time classes in vocational agriculture.
- 510. Evening Schools. (2-0). Credit 2.

 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
- 512. Agricultural Outlook Material. (2-0). Credit 2. II Methods of using Agricultural Outlook Material. Open to teachers of agriculture and county agents who have had a course in cooperative marketing.

evening school instruction.

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, Assistant Professor Allison.

201. Farm Machinery. (2-2). Credit 3.

Construction, adjustment, operation and repair of all types of farm

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machinery; tilling, seeding, cultivating, fertilizing and power machinery. Laboratory fee, 50 cents.

- 203. Gas Engines. (2-2). Credit 3. Construction, operation, care and repair of farm gas engines. Laboratory fee, \$1.00.
- 205. Farm Buildings and Structures. (2-3). Credit 3. Methods of construction of various buildings found on the farm. Includes masonry, as well as wood, construction and installation of utilities. Laboratory fee, \$2.00.
- 216. Automotive Machinery. (3-3). Credit 4. H Construction, operation, care and repair of tractors, automobiles, and trucks. Prerequisite: Agricultural Engineering 203. Laboratory fee, \$2.00.
- 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. Laboratory fee, 50 cents.
- 321, 322. Farm Shop. (1-3). Credit 2 each semester. A course for vocational teachers; soldering, belt lacing, rope knots and splices, concrete construction, carpentry, forging. Laboratory fee, \$1.50 each semester.
- 413. Farm Buildings. (2-3). Credit 3. Design and location of farm buildings; building materials; construction, arrangement; ventilation, heating, lighting, water supply and sewerage disposal.
- 418. Designing of Farm Structures. (2-3). Credit 3. H A continuation of course 413.
- П 424. Terracing. (0-3). Credit 1. The control of soil erosion and soil moisture by the use of terraces and other obstructions.

Laboratory fee, 50 cents.

425, 426. Seminar. (1-0). Credit 1 each semester.

A review and presentation of the results of selected lines of research in Agricultural Engineering. 2 - 1

428. Irrigation and Drainage. (2-3). Credit 1. Principles of irrigation practice; source of water supply; methods of obtaining water; distribution systems; application of water to crops; measurement and duty of water; control of alkali. Principles of farm drainage as applied to open ditches, terraces, tile drains; promotion of drainage districts; use of dynamite; removal of stumps; law with respect to farm waters.

Laboratory fee, 50 cents.

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.
- 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. I Advanced study of farm shop with special emphasis on teaching problems; equipment, methods, supplies and projects. Prerequisite: Agricultural Engineering 321, 322.

 Laboratory fee, \$1.50.

DEPARTMENT OF AGRONOMY

- *Professor J. Oscar Morgan, Professor L. G. Jones, Associate Professors Mogford, Stewart.
- 105. Fundamentals of Crop Production. (3-2). Credit 4. I, II Classification and distribution of farm crops; importance of good varities 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.

 Soil forming processes: geological classification of soils: physical nature

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; soil air; absorptive properties of soil; removal of nutrients by cropping and leaching; alkali soils; soil acidity; soil organisms; principles of fertilizer practice; farm manures; green manures; maintenance of soil fertility; laboratory and field tests. Prerequisite: Chemistry 101, 102.

Laboratory fee, 50 cents.

^{*}Died, October 8, 1932.

AGRONOMY 129

308. Forage Crops. (2-2). Credit 3.

П

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.

Laboratory fee, 50 cents.

314. Field Crops. (3-2). Credit 4.

Ì

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.

Laboratory fee, 50 cents.

315. Fiber Corps. (2-2). Credit 3.

Cotton production, including species, varities, improvement, adaptation, fertilization, tillage practices, harvesting, insects and diseases. Flax, hemp, and other miscellaneous fibre crops are treated briefly.

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 varving soil and climatic conditions.

Prerequisite: 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.

420. Cotton Research Problems. (1-0). Credit I.

H

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, varities, 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.

DEPARTMENT OF ANIMAL HUSBANDRY

Professor D. W. Williams, Professor Mackey, Buchanan, Associate Professor Knox, Assistant Professor Milhollin.

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 live stock producer; the place and special advantages of each class of livestock; classifications used in showing live stock; classifications of the breeds and market types of horses, beef cattle, hogs, sheep and goats; the marketing machinery of the live stock industry.

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.

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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. Prerequisite: Animal Husbandry 107.

303. Animal Nutrition. (3-3). Credit 4.

I

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.

ī

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.

308. Live Stock Judging. (1-3). Credit 2.

П

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.

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An advanced course in live stock judging. Prerequisite: Animal Husbandry 202.

406. Beef Cattle Production. (2-3). Credit 3.

II

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. I 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.

П

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.

11

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.

I

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.

H

A modification of courses 406, 410, 412, 413. Prerequisite: Animal Husbandry 409.

418. Wool and Mohair. (2-3). Credit 3.

11

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.

Ī

Reseach 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.

H

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 breeding 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 Geist, Associate Professor Finney, Mr. Byrd, Mr. Johnson.

NOTE: The descriptions below apply to subjects included in the Courses in Architecture outlined for the Class of 1935 and thereafter. Descriptions of subjects included in the Courses in Architecture outlined for the Class of 1934 will be found in the 54th Catalogue.

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 Perspecitive. (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 darwing from the full length figure and from casts of architectural ornaments; water color studies; pen and ink drawing; 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.

301, 302. Architectural Design. (0-16). Credit 5 each semester.

Major and sketch design problems of small ensemble involving composition, planning and presentation. Archaeological 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.

J

An analysis of modern buildings; historical influences; modern development and tendencies. Prerequisite: Architecture 216.

320. Building Construction. (0-6). Credit 2.

H

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 esemble involving composition, planning, and presentation. Archaeological problems and library research. Prerequisite: Architecture 302.

412. Building Construction. (2-3). Credit 3.

11

Design of wood and steel framing as used in building construction; beams, girders, columns, roof trusses; analytic and graphic methods. Prerequisite: Architecture 313 and 314.

415, 416. The Fine Arts. (2-0). Credit 2 each semester.

History of the fine arts in their relationship to architecture; the historic styles of decoration; the development of furniture and furnishings; a study of the history of sculpture and paintings. 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. Prerequisite: Architecture 314, Civil Engineering 305.

BIOLOGY 135

423. Materials of Construction. (2-0). Credit 2.

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. I
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, superitendence, office methods.
 507, 508. Architectural Presentation. (0-6). Credit 2 each semester.
- 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 building sanitation.

DEPARTMENT OF BIOLOGY

Professor Ball, Professor Reeves, *Associate Professor English, Assistant Professors Gibbons, Doak, LaMotte, Acting Instructor Berry.

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. Laboratory fee, 50 cents each semester.

- 211, 212. General Biology. (2-4). Credit 3 each semester.
 Biological types and principles; interdependence of living things.
 Laboratory fee, \$1.00 each semester.
- 213. Plant Physiology. (3-2). Credit 4. II Preparation for advanced work in agronomy and horticulture; physiology

^{*}On leave, 1932-33.

of growth, nutrition and reproduction in plants. Prerequisite: Biology 101, 102.

Laboratory fee, \$1.00.

315. The Cotton Plant. (2-2). Credit 3.

I

Botanical relationships, morphology, special physiology and pathology of the cotton plant. Prerequisite: Biology 101, 102.

Laboratory fee, \$1.50.

(Offered in 1934-1935 and alternate years thereafter or on demand. Not offered in 1933-34).

416. Plant Diseases. (2-4). Credit 3.

1

Biology and classification of fungi with special reference to pathogenic forms; more important plant diseases occurring in Texas; routine methods of cultivation and identification; diagnosis and control. Prerequisite: Biology 101, 102; 206.

Laboratory fee, \$1.00.

(Offered in 1933-34 and alternate years thereafter or on demand).

ZOOLOGY

203, 204. General Zoology. (2-4). Credit 3 each semester.

Classification, morphology and physiology of representatives of the various phyla of animals.

Laboratory fee, \$1.00 each semester.

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.

Laboratory fee, \$1.00.

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.

Laboratory fee, \$2.00 each semester.

341, 342. General Physiology. (3-4). Credit 4 each semester.

Prerequisite: Biology 203, 204, or 211, 212.

Course 341 open to students in Physical Education.

Laboratory fee, \$1.50 each semester.

(See Veterinary Physiology and Pharmacology 341, 342).

BACTERIOLOGY

206. Introductory Bacteriology. (1-4). Credit 2.

I, II

Nature and relations of bacteria related to agriculture.

Prerequisite: Biology 101, 102.

Laboratory fee, \$1.50.

309, 310. General Bacteriology. (2-4). Credit 3 each semester.

Study of selected types; routine methods of isolation, preparation, identi-

- fication. Prerequisite: Biology 101, 102, or 203, 204, or 211, 212. Laboratory fee, \$1.00 each semester. (Offered in 1933-34 and alternate years thereafter or on demand.)
- 319. Bacteriology of Milk. (2-4). Credit 3.
 Bacteriology of milk; dairy sanitation; milk-borne diseases; control.
 Prerequisite: Biology 206.
 Laboratory fee, \$1.50.

FOR GRADUATES

- 501, 502. Vegetable Morphology. (2-6). Credit 4 each semester. General cytology and morphology. Laboratory fee, \$2.00 each semester.
- 503, 504. Advanced Vertebrate Zoology. (2-6). Credit 4 each semester.

 Comparative anatomy of vertebrate types. Origin and development of organs and organ systems.

Laboratory fee, \$2.00 each semester.

- 505, 506. Advanced Bacteriology. (2-6). Credit 4 each semester. Advanced methods of bacteriological analyses. Laboratory fee, \$2.00 each semester.
- 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.

Laboratory fee, \$2.00 each semester.

513, 514. Advanced Plant Pathology. (2-6). Credit 4 each semester. Morphology and physiology of pathogenic fungi. Laboratory fee, \$2.00 each semester.

DEPARTMENT OF CHEMISTRY AND CHEMICAL ENGINEERING

Professor Hedges, Professors Thornton, Brayton, Burchard, Jensen, Associate Professor Bauer, Assistant Professors Koenig, B. C. Jones, Harter, Mr. Bishop, Mr. Harrington, Mr. Snuggs, Mr. Middleton, Mr. Potts, Mr. Eads.

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.

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.

Laboratory fee, \$2.00 each semester.

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.

Laboratory fee, \$2.00 each semester.

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 101, 102. Laboratory fee, \$4.00.

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.

Laboratory fee, \$2.50.

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 101, 102.

Laboratory fee, \$3.00.

208. Technical Analysis. (1-3). Credit 2.

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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.

Laboratory fee, \$3.00.

212. Agricultural Chemistry. (3-0). Credit 3.

I, II

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 fungi-

139

cides. An elementary study of organic chemistry is made in the beginning. Prerequisite: Chemistry 102.

214. Agricultural Analysis. (1-3). Credit 2.

1, 11

Chemical analysis of feeds, fertilizers, soils, insecticides, and fungicides. Prerequisite: Chemistry 102.

To be taken with Chemistry 212. Laboratory fee, \$3.00.

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.

Laboratory fee, \$2.00 each semester.

308. Dyeing. (3-3). Credit 4.

11

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.

Laboratory fee, \$2.00.

(Offered in 1933-1934 and alternate years thereafter.)

342. Physical Chemistry. (3-4). Credit 4.

П

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, Chemical Engineering 202.

Laboratory fee, \$2.00.

FOR GRADUATES

- 501, 502. Advanced Agricultural Chemistry. (2-6). Credit 4 each semester. Similar to courses 212, 214, with more advanced work. Laboratory fee, \$2.00 each semester.
- 503, 504. Advanced Industrial Chemistry. (2-6). Credit 4 each semester.

 A study of industrial processes. Prerequisite: Chemistry 302.

 Laboratory fee, \$2.00 each semester.
- 507, 508. Advanced Organic Chemistry. (2-6). Credit 4 each semester. Preparation of organic compounds. Prerequisite: Chemistry 302.

 Laboratory fee, \$2.00 each semester.

509, 510. Cotton Seed Oil. (2-6). Credit 4 each semester.

A study of cotton seed oil production and refining.

Laboratory fee, \$2.00 each semester. Prerequisite: Chemistry 302.

571, 572. Special Topics in the Chemistry of Animal Nutrition. (2-6).

Credit 4 each semester

Vitamines, 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.

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 of technical analysis, such as its application to the cotton seed oil industry, petroleum technology, problems of sanitation, or the chemical control of a cement plant. 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.

Laboratory fee, \$4.00.

301. Quantitative Analysis. (2-8). Credit 5.

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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.

Laboratory fee, \$4.00.

408. Metallurgy of Iron and Steel. (2-0). Credit 2.

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Metallurgy of iron and the manufacture of steel are considered in detail with especial attention to the nature and location of valuable iron ore deposits, together with suitable fluxes; the nature and availability of proper fuels, together with the furnaces used; the constitution of the resulting pig iron and the manufacture of steel therefrom; the chemistry of the different kinds of steel and their adaptability in engineering practice. Prerequisite: Chemistry 101, 102.

409. Gas and Oil Technology. (3-6). Credit 5.

J

Application of chemistry and engineering to gas, natural gasoline, petroleum, and cotton seed oil. The laboratory work comprises the refining of petroleum and the production and refining of cotton seed oil. Prerequisite: Chemistry 302.

Laboratory fee, \$4.00.

411. Physical Chemistry. (3-4). Credit 4.

I

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.

Laboratory fee, \$2.00.

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.

Laboratory fee, \$4.00.

416. Chemical Technology. (3-4). Credit 4.

П

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.

Laboratory fee, \$4.00.

418. Physical Chemistry. (3-4). Credit 4.

II

Intensive study of homogenous and heterogeneous equilibria, the phase rule, chemical kinetics, catalysis, hydrogen-ion conentration, electrolytic and galvanic cells and electrochemistry, photochemistry, and radio activity. Prerequisite: Chemical Engineering 411.

Laboratory fee, \$2.00.

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.

П

Chemical examination of animal and vegetable oils with special reference to the detection of adulterants. Prerequisite: Chemistry 302.

Laboratory fee, \$4.00.

DEPARTMENT OF CIVIL ENGINEERING

Professor Richey, Professors McNew, Munson, Grinter, Associate Professor Sandstedt, Assistant Professor J. A. Orr, Mr. Frank, Mr. C. S. Adams.

201. Plane Surveying. (3-3). Credit 4.

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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.

Laboratory fee, 75 cents.

202. Railroad Engineering. (3-3). Credit 4.

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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.

Laboratory fee, 75 cents.

206. Plane Surveying. (1-3). Credit 2.

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Fundamental principles of surveying, use of transit and level in making layouts of buildings, running profile surveys. Prerequiste: Mathematics 103 or 112

Laboratory fee, 50 cents.

300S. Surveying Practice. Summer following Sophomore year, 6 weeks.

First six weeks of summer session.

Practice in leveling, land surveying, topographic surveying including base

line and meridian measurements, triangulation, and taking topography with transit and plane table; preliminary and location surveys for railway and for highway. Full working days are spent in the field and the office. Prerequisite: Civil Engineering 202.

Laboratory fee, \$1.50.

305. Mechanics of Materials. (4-0). Credit 4.

I, II

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.

315. Strength of Materials Laboratory. (0-2). Credit 1.

I, II

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.

Laboratory fee, \$1.00.

333. Railroad Surveying. (0-3) Credit 1.

Field and office work covering turnouts, vertical curves, earthwork, overhaul, track facilities for industrial plants, grade revision. Prerequisite: Civil Engineering 202.

Laboratory fee, 75 cents.

335. Mapping and Estimating. (0-4). Credit 1.

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Topographic mapping, plans and estimates for timber bridges and roof trusses; plans, profiles, and estimates for highway construction. Prerequisite: Civil Engineering 201.

336. Hydraulics Laboratory. (0-2). Credit 1.

H

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.

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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.

H

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.

I

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.

П

A study of the design of various types of reinforced concrete structures, such as buildings, bridges, retaining walls, culverts. Practice in the making of simple designs and working drawings. Prerequisite: Civil Engineering 344.

417. Bituminous Materials. (2-3). Credit 3.

T

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.

Laboratory fee, \$2.50.

423. Structures. (2-4). Credit 3.

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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.

11

A laboratory study of the suitability of various materials of engineering, including brick, stone, sand, gravel, cement, mortars, concrete. Prerequisite: Civil Engineering 407.

Laboratory fee, \$3.50.

448. Engineering Economy. (3-0). Credit 3.

I

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. (3-0). Credit 3.

H

An introduction to the various methods of analyzing and designing inde-

I

terminate strusses, principally building frames and concrete arches. Prerequisite: Civil Engineering 423.

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 423, or registration in that course.

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, 417.

Laboratory fee, \$1.50.

458. Hydraulic Engineering. (3-0). Credit 3.

II

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 design, detention basin operation; design of pumping plants and other hydraulic structures. Prerequisite: Civil Engineering 311.

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.

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.

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.

Laboratory fee, 75 cents.

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.

i

Laboratory fee, \$1.00.

- 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. II

 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.

 Laboratory fee, \$1.00.
- 310. Advanced Dairy Cattle Judging. (0-2). Credit 1.

 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.

 Laboratory fee, \$1.00.
- 407. Ice Cream Making and Refrigeration. (3-2). Credit 4.

 Mixing and freezing ice cream, sherberts and other frozen products and

the physical principles involved; type of freezers; flavoring materials; fillers, binders, ice cream standards; the theory and practice of artificial refrigeration and its use in the ice cream plant. Prerequisite: Dairy Husbandry 202.

Laboratory fee, \$1.00.

- 408. Cheese Making and Advanced Testing. (3-4). Credit 4. II A study of the manufacture, ripening and marketing of the various types of cheese; analysis of dairy products. Prerequisite: Dairy Husbandry 202. Laboratory fee, \$1.00.
- 409. Selection and Breeding of Dairy Cattle. (2-3). Credit 3. II 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. II

 The food value, manufacture and distribution of condensed and evaporated milk, milk powder, milk sugar, caesin and other milk products; a study of milk substitutes. Prerequisite: Dairy Husbandry 301.
- 417. History and Development of Dairy Cattle. (3-3). Credit 4. I
 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.
- 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 Barger, Assistant Professors I. G. Adams, *Vaughn, Acting Assistant Professor McDougal

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 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.

l ance

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.

П

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.

П

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.

Prerequisite: Economics 203, 204, or 403.

403. Principles of Economics. (3-0). Credit 3.

I, II

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.

П

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.

^{*}On leave, 1932-33.

ECONOMICS 149

409. Foreign Trade and Exchange. (3-0). Credit 3.

1

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.

П

The purpose of the course is to give a working knowledge of public financial institutions and practices. A model system of taxation is discussed; and taxes particularly affecting the agriculturist are studied in detail. Among the topics considered are: the amount and growth of public expenditures; the sources of revenue; budgetary methods; principles which should govern appropriations; public industries and price making; the principles of taxation; the important kinds of taxes; the principles of borrowing; the management of public debts. 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 judgment is essential to its comprehension, and (2) contract 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.

H

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.

Prerequisite: Economics 203, 204 or the equivalent.

420. Principles of Investment. (3-0). Credit 3.

П

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.

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.

I

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 and expenditure of public revenues in the Uunited States and the principal European countries.

506, Labor Problems, (4-0). Credit 4.

H

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 trade unionism and labor.

DEPARTMENT OF ELECTRICAL ENGINEERING

Professor M. C. Hughes, Professors Bolton, Markle, Rode, Dillingham, Associate Professor Fouraker, Assistant Professor Ward, Mr. Kerns, Mr. Palmer, Mr. Haupt

201. Electricity and Magnetism. (3-6). Credit 5.

I. II

Lectures, recitations and problems in electricity and magnetism.

A laboratory investigation of the phenomena studied in the text-book. Prerequisite: Mathematics 111, 112.

Laboratory fee, 75 cents.

202. Elementary Electrical Engineering. (2-4). Credit 3.

11

Simple electric circuits, primary and secondary batteries, battery charging, simple telephone circuits, the mangetic 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.

Laboratory fee, 75 cents.

204. Electric Wiring and Repair. (2-4). Credit 3.

П

A study of elementary electric circuits. Practice in electric wiring and the repair of simple electric appliances. Prerequisite: Physics 201.

Laboratory fee, \$1.50.

301. Direct Currents. (3-6). Credit 5.

I. II

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.

Laboratory fee, \$1.50.

302. Alternating Currents. (5-0). Credit 5.

11

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.

304. Alternating Current Laboratory. (0-6). Credit 2.

An experimental study of the effect of resistance, reactance, and capacity on alternating current circuits; the determination of wave shapes; and tests of some of the simpler types of alternating current machines. Prerequisite: Electrical Engineering 301, Mathematics 204. Must be accompanied by Electrical Engineering 302.

Laboratory fee, \$1.50.

305. Electrical Machinery. (3-3). Credit 4.

1. 11

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.

Laboratory fee, \$1.00.

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.

Laboratory fee, \$1.00 each semester.

310. Communication Engineering. (2-2). Credit 3.

I

The principles of electric communication engineering including the study of telegraph circuits, repeaters, multiplex and printing telegraphy; the principles of automatic telephony.

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.

Laboratory fee, \$1.00.

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.

Laboratory fee, \$1.50 each semester.

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: Mathematics 305, Electrical Engineering 302.

406. Electric Distribution and Transmission. (2-2). Credit 3. 11

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, 410. Advanced Communication Engineering. (2-2). Credit 3.

Advanced telephone, telegraph and radio engineering including a study of vacuum tubes and their application in radio receiving and transmitting circuits, and in carrier current telegraphy and telephony.

The laboratory study of circuits and instruments studied in the course emphasizes fundamental principles rather than the mechanical details of modern practice. Prerequisite: Electrical Engineering 302 or 308.

Laboratory fee, 75 cents each semester.

416. Motor Applications. (3-0). Credit 3.

The determination of the proper sizes and types of motors to be applied to various industrial loads. Special emphasis is laid on the preliminary study of duty cycle and numerical calculation of starting duty and motor ratings. The study of industrial controllers. Prerequisite: Electrical Engineering 401,

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.

Laboratory fee, 50 cents.

428. Telephone Engineering. (2-2). Credit 3.

A study of the engineering principles used in telephone communication.

including transmission problems, inductive interference, transpositions, phantom circuits, repeaters, and other modern developments in telephone engineering. Prerequisite: Electrical Engineering 405.

431. Engineering Administration. (2-0). Credit 2.

I, II

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.

П

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.

- 11

- (a) A study of the fundamentals of interior wiring.
- (b) The principles of artificial illumination with a study of modern types of illuminants.

(Offered in 1934-1935 and alternate years thereafter. Not offered in 1933-1934).

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.

Laboratory fee, \$2.50 each semester.

503. Electrical Machine Design. (1-3). Credit 2.

-

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. Laboratory fee, \$2.00 each semester.

509. Advanced Communication Engineering—Telephone. (2-6). Credit 4. 1

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.

Laboratory fee, \$2.00.

510. Advanced Communication Engineering—Radio. (2-6). Credit 4.

A detailed study of the design and operation of audio amplification and

radio frequency systems with particular reference to radiating devices. Oscillographic studies and field strength measurements are the major laboratory investigations.

Laboratory fee, \$2.00.

512. Application of Electrical Machinery to Industrial Operations. (4-0).

Credit 4.

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.

DEPARTMENT OF ENGINEERING DRAWING

Professor A. Mitchell, Associate Professor Glenn, Mr. Dent, Mr. Spencer, Mr. Breland

111. Mechanical Drawing. (0-6). Credit 2.

1

Care and use of drawing instruments, freehand lettering, exercises in the use of drawing instruments, construction of plane and space curves, orthographic and axonometric projections, technical sketching, dimensioning drawings, principles and practice in working drawings.

124. Descriptive Geometry. (2-4). Credit 3.

I. I

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 elementaray 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.

155 **ENGLISH**

DEPARTMENT OF ENGLISH

Professor Summey, Professors Thomas, Cofer, Spriggs, Associate Professors Gunter, Mayo, S. S. Morgan, Assistant Professors Spahr, Key, Abbott, Mr. Hays, Mr. Brown

- 103, 104. Rhetoric and Composition. (3-0). Credit 3 each semester. Composition both oral and written, and readings from standard and current literature.
- 203. Composition and Literature. (2-0). Credit 2. Advanced composition; readings from nineteenth century and recent literature.
- 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.

H 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.

1, 11

307. Technical Writing. (2-0). Credit 2. The composition of reports, recommendations, and scientific articles suitable for publication, with some opportunity for oral presentation. Prerequisite: English 203 or 210.

NOTE: For English 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.

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. H 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.

11

The life, environment, and major dramatic works of Shakespeare. Prerequisite: English 231, 232, or 203, 210.

(Not offered in 1933-1934).

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. II 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.

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.

11

A study of recent American writings, chiefly prose, with attention to the intellectual and social movements reflected in the literature. Limited to students who have made an average grade of C in the prerequisite courses. Prerequisite: English 203 or 231.

401. Public Speaking. (2-0). Credit 2.

1. 11

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.

405. Public Speaking and Debate. (3-0). Credit 3.

I

A restricted course in debate for students interested in forensic work and likely to be of use as members of debate teams. Prerequiste: English 203, 210, or 231, 232.

406. Advanced Debating. (3-0). Credit 3. II

A restricted course in debate continuing course 405 described above.

Prerequisite: English 405 or 401.

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. Prerequsite: English 231, 232, or 203, 210.

(Not offered in 1933-1934).

415. Contemporary Continental Drama. (2-0). Credit 2.

1

A study of representative plays (in translation) by Ibsen, Strindberg, / Hauptmann, Sudermann, Schnitzler, Materlinck, Rostand, Hervieu, Brieux, Benevente, 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.

I

Its origin and development and its reflection of life and personality. Readings, discussion, and research in English prose fiction from the romance of the sixteenth century through the great novels of the eighteenth and nineteenth centuries. Prerequisite: English 231, 232.

(Not offered in 1933-1934).

DEPARTMENT OF ENTOMOLOGY

Professor Bilsing, Associate Professor Little, Assistant Professor Johnston.

201. General Entomology. (2-2). Credit 3.

I, II

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.

Laboratory fee, 75 cents.

204. Insecticides and their Applications. (2-2). Credit 3.

П

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.

Laboratory fee, 50 cents.

208. Animal Parasites. (2-2). Credit 3.

H

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.

Labroatory fee, 75 cents.

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. Laboratory fee, 75 cents.

308. Apiculture. (3-2). Credit 4.

11

In this course the life history of the honey bee, swarm control, division, feeding and general management of an apiary are considered.

Laboratory fee, 75 cents.

401, 402. Advanced Economic Entomology. (2-4). Credit 3 each semester. For students who desire a 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.

Laboratory fee, \$1.00.

405. Fruit Insects. (2-2). Credit 3.

11

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.

Laboratory fee, 75 cents.

411. Cotton Insects. (2-2). Credit 3.

1. 11

A study of the insects affecting the cotton plant, life histories, structural characteristics and classification. Dusting and spraying machinery; control by sterilization.

Laboratory fee, 75 cents.

412. Entomological Literature. (3-0). Credit 3.

11

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.

GENETICS 159

416. Quarantine Measures and Inspection Methods. (3-0). Credit 3. II

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.

Laboratory fee, \$2.00 each semester.

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.

Laboratory fee, \$2.00 each semester.

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.

Laboratory fee, \$2.00 each semester.

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.

Laboratory fee, \$2.00 each semester.

DEPARTMENT OF GENETICS

Professor Humbert, Professor Horlacher, Associate Professor Godbey

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.

Laboratory fee, \$1.00.

304. Plant Breeding. (3-2). Credit 4.

П

Improvement of field, forage and horticultural crops. Prerequisite: Genetics 301.

Laboratory fee, 50 cents.

306. Animal Breeding. (2-2). Credit 3.

H

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.

Laboratory fee, 50 cents.

403. Eugenics. (2-0). Credit 2.

1

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.

1 11

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.

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

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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.

DEPARTMENT OF GEOLOGY

Professor Lonsdale, Associate Professor Burt, Assistant Professor Stenzel Mr. Wallace, Mr. Broughton

201. General Geology. (3-3). Credit 4.

The agents and processes which have produced the surface features of the earth, and their influence upon human affairs. The laboratory work consists of detailed study of topographic maps, minerals and rock types. Some field trips. Prerequisite: Chemistry 101, or equivalent.

Laboratory fee, \$1.50.

202. Historical Geology. (3-3). Credit 4.

H

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.

Laboratory fee, \$2.00.

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.

Laboratory fee, \$2.00 each semester.

(Offered in 1934-1935 and alternate years thereafter. Not offered in 1933-1934).

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 204, or equivalent, and approval of head of department.

Laboratory fee, \$2.00 each semester.

(Offered in 1934-1935 and alternate years thereafter. Not offered in 1933-1934).

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.

Laboratory fee, \$2.00.

312. Structural Geology. (3-2). Credit 4.

H

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.

Laboratory fee, \$2.00.

401. Geology for Engineers. (2-3). Credit 3.

1

An abbreviated study of crystallography, mineralogy, and general and historical geology. Laboratory work on minerals, and topographic and geologic maps. Open only to seniors in Chemical Engineering.

Laboratory fee, \$1.50.

404. Geology of Petroleum. (3-3). Credit 4.

П

A detailed study of the observed factors involved in the occurrence 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.

Laboratory fee, \$2.00.

405. Economic Geology. (3-2). Credit 4.

I

A brief study of the metallic and non-metallic mineral deposits except petroleum. Prerequisite: Geology 202 and approval of head of department. (Offered in 1933-1934 and alternate years thereafter.

408. Geology for Engineers. (3-3). Credit 4.

П

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 only to seniors in Chemical Engineering.

Laboratory fee, \$2.00.

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.

Laboratory fee, \$2.00 each semester.

(Offered in 1933-1934 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 min-

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eral 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 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.

509, 510. Advanced Field Geology. Credit 4 each semester.

S

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, 212. Comparative Government. (3-0). Credit 3 each semester.

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.

(Offered in 1933-1934 in Sophomore pre-law 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 nation-

alism; cotton and the slavery problem; war for Southern independence; reconstruction; new social and industrial problems.

(Offered in 1933-1934 in first year pre-law 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 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. French Revolution; Napoleon; Restoration; Industrial Revolution; Revolutions of 1830 and 1848; struggle for democratic government; new nationalism; expansion and imperialism; alliances and ententes; causes and results of the World War.

(Not offered in 1933-1934).

319. Recent History of Eastern Europe. (3-0). Credit 3.

Centering around Russia; the course will begin with effects of the Industrial Revolution in 1848 and will emphasize: The near-Eastern question, beginnings of Liberalism; Russian foreign policy in latter half of 19th century; the Congress of Berlin and effects on alignment of world powers; the Russian Revolution of 1905; the struggles in the Balkans; World War's repercussions in eastern Europe; Bolshevik predominance in Russia; new states of eastern Europe; the Soviet Government and five-year plan.

322. Industrial History of United States. (3-0). Credit 3.

H

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 to Juniors who have had one college course in history or government.

(Offered in 1933-1934).

DEPARTMENT OF HORTICULTURE

Professor Kyle, Professor Adriance, Associate Professor Brison, Assistant Professor Beach

201. Plant Propagation and Orcharding. (2-2). Credit 3. i 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.

Laboratory fee, 75 cents.

202. Vegetable Gardening. (2-2). Credit 3.

H

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.

Laboratory fee, 75 cents.

310. Commercial Vegetable Production. (2-2). Credit 3.

П

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. Prerequisite: Horticulture 202.

Laboratory fee, \$1.50.

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.

Laboratory fee, \$1.00.

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 varities. Practice is given with such fruits as can be obtained during the season. Prerequisite: Horticulture 317, 318.

Laboratory fee, \$2.50.

404. Systematic Vegetable Crops. (2-2). Credit 3.

I

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.

Laboratory fee, \$1.00.

418. Nut Culture. (1-3). Credit 2.

П

Early history; distribution of native nuts; development of native groves to improved varities. Practice: Budding and grafting pecans in the nursery row; top-working native pecans to improve varities by means of budding and grafting; systematic study of the standard varities of nuts; study of graft and bud unions. Prerequisite: Horticulture 201.

Laboratory fee, \$1.00.

422. Subtropical Fruits. (3-2). Credit 4.

H

A study of subtropical fruits, with attention to citrous fruits, figs, olives, and dates. Practice: Study of varities of subtropical fruits and their products; propagation and care of the various subtropical fruits. Prerequisite: Horticulture 317, 318.

Laboratory fee, \$2.50.

423. Geography of Horticultural Industries. (2-0). Credit 2.

1

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 varities of different producing sections.

425. History and Literature of Horticulture. (2-0). Credit 2.

H

The development of the art and science of horticulture with emphasis on American horticuture. 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.

П

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. Laboratory fee, \$1.00.

FOR GRADUATES

501, 502. Advanced Fruit Growing. (3-3). Creat 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 Fern, Mr. Sikes.

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.

S

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.

S

II

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.

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.

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.

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. 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.

S

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.

11

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.

1

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, and in some of the departments of the College.

418. General Shop Methods. (1-5). Credit 3.

11

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.

420. Follow-Up, Visitation, and Coordination in Part-Time Schools. (2-0). Credit 2.

S

S

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.

S

This course is to be conducted during the summer only and as a tour of inspection and research. Advance 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.

507. Organization of Industrial Education. (40). 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.

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.

П

H

The organization of occupational information; educational and vocational guidance; counseling case problems. Prerequisite: I. E. 406 or a similar course.

culture 201 or equivalent.

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, in 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. Introduction to Landscape Art. (2-4). Credit 3.

A first course in landscape design. The planting of gardens, home grounds, and the smaller public and semi-public properties. The making of garden elevations, cross-sections, fruits, and sketches. Prerequisite: Horti-

302. History of Landscape Art. (2-0). Credit 2. II
The development of gardening; Egyptian, Western Asiatic, Greek, Italian,
French, English, and American.

304. Landscape Construction. (0-8). Credit 3. II 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. Prerequisite: Horticulture 201.

Laboratory fee, \$1.00.

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. Prerequisite: Horticulture 201.

Laboratory fee, \$1.00.

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, Edmonson, Assistant Professors *Binney, Nelson, Mr. Blumberg, Mr. Ross, Mr. McGee, Mr. Chaney, Mr. Hall, Mr. Camp, Mr. Finlay

101a. Algebra. (6-0). Credit 3.

I

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.

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, undetermined coefficients.

103. Plane Trigonometry. (3-0). Credit 3.

I, II

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.

I. II

The straight line, transformation of co-ordinates, circle, ellipse, parabola, hyperbola, graphs of trigonometric, logarithmic and exponential functions. Review of certain topics of preceding 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.

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, infintesimals, integration, maxima and minima, areas, volumes, water pressure, work, introduction to solid geometry, moment of inertia, center of gravity, radius of curvature, Taylor's theorem, elementary examples of 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 differ-

^{*} On leave, 1932-33.

ential 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.	I
504.	Solid Analytic Geometry. (4-0). Credit 4.	H
505.	Vector Analysis. (4-0). Credit 4.	I
506.	Theory of Probability. (4-0). Credit 4.	H
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.	I
512.	Partial Differential Equations. (4-0). Credit 4.	H
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.	Elliptic Integrals. (3-0). Credit 3.	I

DEPARTMENT OF MECHANICAL ENGINEERING

Professor Crawford, Professors Brewer, Faires, Assistant Professors Long, Kile, Mr. Downard, Mr. McCarter, Mr. Fleming, Mr. Wingren, Mr. Cheatham, Mr. Trail, Mr. Truettner

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.

Laboratory fee, \$2.00.

106. Cabinet Making. (1-6). Credit 3.

11

Design, rod making, construction, and finishing of cabinets, study of lumber, its manufacture, seasning; 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.

Laboratory fee. \$2.00.

201. Pattern Making and Foundry Work. (0-3). Credit 1.

I. 11

Simple pattern layouts and construction of patterns; pattern storage; costs and weights of patterns and castings; the patternmaking industry. Cupolas, gas fired furnaces, moulding sands, core making, foundry layouts, and practice in moulding and casting both ferrous and non-ferrous metals.

Laboratory fee, \$2.00.

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.

Laboratory fee, \$2.00.

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.

П

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.

I. II

Practice in bench and machine tool work in metals. This includes chipping, scraping, filing, babbiting, pipe fitting, drilling, turning, boring, grinding, milling, machine work.

(See note after course 201)

Laboratory fee, \$1.50.

310. Machine Shop. (0-3). Credit 1.

11

A continuation of course 309 including also tool making and heat treatment of steel; application of factory production methods.

Laboratory fee, \$1.50.

313. Engineering Mechanics. (3-0). Credit 3.

1

A continuation of course 212, including also dynamics of rotation, work, energy, friction, impact.

320. Thermodynamics. (5-0). Credit 5.

П

A study of the laws of thermodynamics as they are applied to the be-

havior of liquids, vapors, and gases. Emphasis is placed on the application of these laws to steam turbines, steam engines, refrigeration machines, internal combustion engines, air compressors, boilers, and condensers. Prerequisite: Mathematics 204, Physics 204.

323. Thermodynamics. (4-0). Credit 4:

I

A modification of course 320, with the same prerequisites, especially arranged for Electrical Engineering students.

324. Steam and Gas Power. (3-0). Credit 3.

Ħ

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.

329. Advanced Cabinet Making. (1-6). Credit 3.

1

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.

Laboratory fee, \$2.50.

335. Heating and Ventilating. (3-0). Credit 3.

I

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; 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.

Laboratory fee, \$1.00 each semester.

407. Mechanical Refrigeration. (3-0). Credit 3.

П

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.

H

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.

I

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.

T

The fundamental principles of airplane design and construction. Recent articles on current practice; research problems. Prerequisite: Mechanical Engineering 313.

430. Production Engineering. (2-2). Credit 3.

H

A study of the management and shop methods used in plants and factories whose output is largely the product of machine tools and similar equipment. Prerequisite: Mechanical Engineering 419; to be accompanied by Mechanical Engineering 420.

431. Industrial Engineering Problems. (0-2). Credit 1.

1

Sketches and drawings of plant layouts for selected problems; reports, materials and production scheduling. Must be preceded or accompanied by Mechanical Engineering 419.

434. Airplane Design. (1-6). Credit 3.

H

Force, stress, and performance analysis of the complete airplane. Prerequisite: Mechanical Engineering 428.

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. I 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: Major S. R. Hopkins, Major B. F. Delamater, Major W. C. Washington, Major John P. Wheeler, First Lieut. Paul L. Neal, First Lieut. J. S. Seybold, Assistant Professors: Capt. D. R. Alfonte, Capt. C. S. Richards, Capt. Raymond Orr, First Lieut. J. V. Carroll, First Lieut. L. R. Nachman, First Lieut. J. E. Reierson, First Lieut. M. H. Marcus, First Lieut. J. J. Binns, and First Lieut.

K. S. Andersson.

INFANTRY UNIT

Professor B. F. Delamater, Jr., Major, Infantry. Assistant Professor D. R. Alfonte, Captain, Infantry. Assistant Professor Raymond Orr, Captain, Infantry. Assistant Professor L. R. Nachman, First Lieut., Infantry.

- 101, 102. (1-2). Credit 1 each semester.
- (a) Theoretical: National Defense Act, Military Courtesy and Discipline, Infantry drill, hygiene, sanitation, rifle markmanship, scouting and patrolling.
- (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, map reading, and combat principles.
- (b) Practical: Command and leadership as corporals, 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 and military sketching, Howitzer Company weapons, combat principles.
- (b) Practical: Command and leadership as sergeants, machine gunnery,-military sketching, and Howitzer Company weapons.

Prerequisite: M. S. 201, 202.

- 401, 402. (3-2). Credit 3 each semester.
- (a) Theoretical: Combat principles, military history, administration, military law, field engineering, and Officers' Reserve Corps Regulations.
- (b) Practical: Command and leadership as officers, combat principles, and field engineering.

Prerequisite: M. S. 301, 302.

FIELD ARTILLERY UNIT

Professor S. R. Hopkins, Major, Field Artillery.

Assistant Professor C. S. Richards, Captain, Field Artillery.

Assistant Professor J. V. Carroll, First Lieut., Field Artillery.

Assistant Professor J. J. Binns, First Lieut., Field Artillery.

- 103, 104. (1-2). Credit 1 each semester.
- (a) Theoretical: Military courtesy and discipline, military hygiene, first aid and sanitation, organization and administration, Field Artillery drill regulations, Field Artillery material and gunners instructions, and elements of Field Artillery gunnery.
- (b) Practical: School of the soldier, squad and battery (dismounted), standing gun drill, manual of the pistol, use and care of individual equipment, gunners examination, and ceremonies.
- 203, 204. (1-2). Credit 1 each semester.
- (a) Theoretical: Topography and orientation, stable management, Artillery communication, equitation and horsemanship.
- (b) Practical: Draft, the battery mounted, orientation, Field Artillery signal communications, care of animals, and adjustment of harness.

Prerequisite: M. S. 103, 104.

- 303, 304. (3-2). Credit 3 each semester.
- (a) Theoretical: Administration, equitation, field fortifications, liaison, gunnery, fire control, and preparation and conduct of fire.
- (b) Practical: Use of fire control instruments, pistol markmanship, conduct and observation of fire, terrain board, reconnaissance, and mounted drill. Prerequisite: M. S. 203, 204.
- 403, 404. (3-2). Credt 3 each semester.
- (a) Theoretical: Organization and tactical employment of Field Artillery, equitation, military history and policy of the United States, military law, and Officers' Reserve Corps Regulations.
 - (b) Practical: Duty as battery officers and instructors, command. Prerequisite: M. S. 303, 304.

SIGNAL CORPS UNIT

Professor Paul L. Neal, First Lieut., Signal Corps.

- 105, 106. (1-2). Credit 1 each semester.
- (a) Theoretical: Military courtesy and discipline, Infantry drill regulations, organization and administration of a company, military hygiene and first aid, code practice, telegraphy, military telephones, military switchboards, and automatic pistol.
- (b) Practical: Infantry drill, tent pitching and a display of equipment, basic signal 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 and display of equipment, guard duty, switchboard operation, telephone and test station operation, working in communication nets.

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, map reading and sketching.
- (b) Practical: Infantry drill, leadership and command, message center operations, operations of radio sets in communication nets, radio operator, military sketching.

In addition to the above the student must complete E. E. 310.

Prerequisite: M. S. 205, 206, and continued enrollment in Electrica! Engineering.

- 405, 406. (0-2, 3-2). Credit 1, 3.
- (a) Theoretical: Staff organization and duties, company paper work, management and interior economy of company, organization of various arms and their functions, signal organizations, general principles of signal communication for all arms, use and limitations of various signal agencies, combat orders, tactics and technique of Infantry and Signal Corps, military history.
- (b) Practical: Infantry drill, leadership 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 John P. Wheeler, 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, Cavalry drill to include the rifle platoon, elementary equitation and care of the horse, military hygiene and first aid, and scouting and patrolling.
- (b) Practical: Cavalry drill (mounted and dismounted), rifle marksmanship, scouting and patrolling.
- 207, 208. (1-2). Credit 1 each semester.
- (a) Theoretical: Equitation, musketry, conduct of fire, employment of Cavalry to include the squad.
- (b) Practical: Cavalry drill (mounted and dismounted), to include the rifle troop, the Cavalry saber, machine rifle, and pistol, employment of Cavalry (mounted and dismounted) to include the leadership of the squad.

Prerequisite: M. S. 107, 108.

- 307, 308. (3-2). Credit 3 each semester.
 - (a) Theoretical: Cavalry drill, ceremonies and inspection, pistol marks-

manship, employment of Cavalry (minor tactics), selection and care of animals, military sketching, machine gunnery, equitation.

(b) Practical: Cavalry drill (mounted and dismounted), command and leadership as sergeants, pistol marksmanship, use of the Cavalry saber, map reading, and mechanics of the machine gun.

Prerequisite: M. S. 207, 208.

407, 408. (3-2). Credit 3 each semester.

- (a) Theoretical: Military law and Officer's Reserve Corps Regulations, military history and policy of the United States, administration, field engineering, Cavalry drill to include the troop, employment of cavalry (minor tactics), command and leadership as officers, and equitation.
- (b) Practical: Employment of Cavalry (terrain exercises), Cavalry drill to include the troop.

Prerequisite: M. S. 307, 308.

ENGINEER UNIT

Professor J. S. Seybold, First Lieut., Corps of Engineers. Assistant Professor K. S. Andersson, First Lieut., Corps of Engineers.

111, 112. (1-2). Credit 1 each semester.

- (a) Theoretical: National Defense Act and R. O. T. C. Regulations, military courtesy and discipline, military hygiene and first aid, Infantry drill and command, rifle marksmanship, Infantry weapons, scouting and patrolling, military bridges (fixed and floating).
- (b) Practical: Military courtesy, Infantry drill (close and extended order), first aid, rifle marksmanship, knots, lashings, and block and tackle in field operations.

211, 212. (1-2). Credit 1 each semester.

- (a) Theoretical: Drill and command, map reading and military sketching, scouting and patrolling, musketry, and combat principles.
- (b) Practical: Command and leadership as corporals, Infantry drill (close and extended order), map reading, exercises in visibility, position, and road sketching, duties of scouts and patrol leaders, ceremonies and inspections, and combat principles of the rifle squad.

Prerequisite: M. S. 111, 112.

311, 312. (3-2). Credit 3 each semester.

- (a) Theoretical: Military roads and railways, military bridges (fixed and floating), fortifications, drill and command, combat principles of section and platoon, and military explosives and demolitions.
- (b) Practical: Command and leadership as sergeants, tactical exercises, and map problems of section and platoon, use and care of explosives, location and construction of roads and operation of railways, design and construction of military bridges, organization of the ground for defense, military field engineering, camouflage.

Prerequisite: M. S. 211, 212.

- 411, 412. (3-2). Credit 3 each semester.
- (a) Theoretical: Military law, military history and policy of the United States, administration and supply, drill and command, combat principles, military roads and railways, Engineer organization and duties of Engineers.
- (b) Practical: Command and leadership as officers and instructors, rifle and machine gun company, and Howitzer platoon, and combat Engineer company, military roads and railways, military bridges, duties of Engineers.

Prerequisite: M. S. 311, 312.

COAST ARTILLERY UNIT /

Professor William C. Washington, Major, C. A. C. Assistant Professor J. E. Reierson, First Lieut., C. A. C.

113, 114. (1-2). Credit 1 each semester.

- (a) Theoretical: National Defense Act, military courtesy, hygiene, and first aid, rifle markmanship, ammunition, telephones, nomenclature, 155 mm gun and carriage, Infantry drill, nomenclature 75 mm gun and carriage, service of the piece, and physical training.
- (b) Practical: Infantry drill, first aid, rifle markmanship, telephones and cordage, care and adjustment of guns, service of the piece.

213, 214. (1-2). Credit 1 each semester.

- (a) Theoretical: Fire control instruments, nomenclature 155 mm gun and carriage, target characteristics (war ships), range section duties, harbor defense, telephones, target characteristics (aircraft), aiming and laying, and ammunition.
- (b) Practical: Service of the piece, 155 mm gun, Infantry drill, range section duties, and aiming and laying.

Prerequisite: M. S. 113, 114.

313, 314. (3-2). Credit 3 each semester.

- (a) Theoretical: Map reading, drill and command, position finding systems, drill and target practice, conduct of fire, heavy Artillery gunnery, anti-aircraft Artillery gunnery.
 - (b) Practical: Military sketching, drill and command, tactical problems. Prerequisite: M. S. 213, 214.

413, 414. (3-2). Credit 3 each semester.

- (a) Theoretical: Military law and administration, military history and policy, leadership, motor transportation, artillery tactics, orientation, materiel, and field engineering.
- (b) Practical: Infantry drill, instruction of basic students, operation and adjustment of trucks and tractors, topographical field work, and field engineering.

Prerequisite: M. S. 313, 314.

DEPARTMENT OF MODERN LANGUAGES

Professor Campbell, Associate Professor Woolket, Mr. Roberts

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 Foreign languages, in addition to their unquestioned cultural value, have a utili-

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. A student entering college with entrance credit for two units in a foreign language

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.
- H 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.

226. Commercial and Industrial Spanish. (3-0). Credit 3. 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 pediodicals. Prerequisite: Course 206 or equivalent. Open also to students who have completed course 205 with grade of A or B.

305, 306. Modern Spanish Drama. (3-0). Credit 3 each semester.

Drama of the nineteenth and twentieth centuries, beginning with the Romanticists, Larra, Gutierrez, Hartzenbusch, Gil y Zarate, and Zorilla; followed by the Post-Romanticists, Tamayo y Baus, Nunez de Arce, Echegaray, Galdos, and Dicenta; and concluding with the contemporary writers, Marquina, Ayala, Benavente, the brothers Quintero, Linares Rivas, Martinez Sierra, Marquina, and Grau.

(Offered in 1933-1934 and alternate years thereafter.)

335, 336. Modern Spanish Novel. (3-0). Credit 3 each semester.

The study of representative Spanish and Spanish-American work from the beginning of the nineteenth century to the present time.

First semester: texts selected from the works of Caballero, Valera, Galdos, Bazan, Pereda, Lizardi, Marmol, Blest Gana, and Isaacs.

Second semester: Ibanez, Ricardo Leon, Larreta, Gamboa, Blanco-Fombona, Wast, Pio Baroja, Perez de Ayala, Valle-Inclan, Concha Espina, and others.

(Offered in 1934-1935 and alternate years thereafter.)

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 sewerage. design and construction of sewer systems; principles of sewage treatment; methods of treatment; operation of sewage disposal plants. Prerequisite:

402. Water Supply and Purification. (3-0). Credit 3.

П 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.

Civil Engineering 311.

Practical problems in the design of sewer systems and appurtenances; sewage disposal plants; water collection and distribution systems; water purification plants. Prerequisite: To be taken with Municipal and Sanitary Engineering 401.

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:

PETROLEUM ENGINEERING

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. II City government, including the city manager plan; relation of city to state; administration of city departments; public utilities; city planning.

412. Sanitary Laboratory. (1-5). Credit 3.

H

Field and laboratory work in control and operation of sewage and water treatment plants and investigation of stream pollution: Prerequisite: Municipal and Sanitary Engineering 401 or 402.

Laboratory fee, \$2.00.

Prerequisite: Junior classification.

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 A 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.

DEPARTMENT OF PETROLEUM ENGINEERING

Professor Joyce, Associate Professor Mills

201, 202. Drilling and Development. (2-0). Credit 2 each semester.

A study of the oil field, lease location, preparation for prospecting, drilling and subsequent development after oil has been found. Prerequisite: Mathematics 112.

301. Oil and Gas Transportation. (2-0). Credit 2.

The natural gas industry, manufacture of natural gasoline; means of transporting crude oil and natural gas; laws and regulations connected with pipe line transportation. Prerequisite: Petroleum Engineering 202, Physics 204. 302. Equipment and Applications. (3-2). Credit 4.

Equipment used in oil fields, and its application to a useful purpose. Prerequisite: Petroleum Engineering 301.

401. Oil and Gas Measurement. (3-2). Credit 4.

Theory and practice of oil and gas measurements; accounting for oil and gas from the well to the point of consumption. Prerequisite: Petroleum Engineering 302, Geology 307, 312.

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402. Oil Field Management. (3-2). Credit 4.

The management of oil field properties. Field trips. Prerequisite: Petroleum Engineering 302, Geology 307, 312.

403, 404. Petroleum Problems. (0-4). Credit 1 each semester.

Practical investigations, subject to approval of Head of Department. Prerequisite: Petroleum Engineering 302, and registration in 401, 402.

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.

DEPARTMENT OF PHYSICAL EDUCATION

Professor Bell, Professors Anderson, Penberthy, Associate Professor J. B. Reid, Assistant Professors Higginbotham, Holmes, Mr. Sprague

The work of the Department of Physical Education is given in the following divisions:

Physical Education and Corrective Gymnastics.

- II. Intramural Atmedia.

 III. Freshman Athletics.

 IV. Intercollegiate Athletics.

 V. Courses for Students with and Courses for Students with and Courses.
- 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 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 (c) Freshman physical training correlated with the corrective program and the intramural program in such a way that every freshman participates in some form of physical activity suitable to his health and physical needs. This work is given two hours a week throughout the year.

(d) Individual gymnastics.
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 attendance at the College. These teams are supervised by members of the Department. Freshman teams are fostered in football, basketball, baseball, and track. Contests are scheduled with teams from institutions of non-collegiate rank.

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.

The Conference of the College and Provided in the following sports: Football, basketball, track, baseball, tennis, cross country, and golf. V. Courses in Physical Education.

101, 102. Physical Education for Freshmen. (0-2). No credit. Laboratory fee, \$1.50 each semester.

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 PHYSICS 185

prevention of injury and care of athletic equipment. Prerequisite: 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 1934-1935 and alternate years thereafter. Not offered in 1933-1934.

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 1934-1935 and alternate years thereafter. Not offered in 1933-1934.

401, 402. Theory and Practice of Athletic Coaching. (3-2).

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 1933-1934 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 1933-1934 and alternate years thereafter.)

DEPARTMENT OF PHYSICS

Professor Silvey, Associate Professors Vezey, Sanders, Assistant Professors McCorkle, Smith, Mr. Tarney

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.

Laboratory fee, 50 cents each semester.

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.

Laboratory fee, \$1.00 each semester.

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.

Laboratory fee, \$1.00 each semester.

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. Prerequisite: Physics 202, 204, or 208, and Mathematics 204.

Laboratory fee, \$1.00.

(Offered in 1933-1934.)

302. Properties of Matter, (3-3). Credit 4.

П

Universal gravitation, elasticity, surface tension, diffusion, viscosity and the mechanics of fluids. Prerequisite: Physics 202, 204, or 208, and Mathematics 204.

Laboratory fee, \$1.00. (Offered in 1933-1934.)

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.

Laboratory fee, \$1.00. (Offered in 1934-1935.)

402. Electricity and Magnetism. (3-3). Credit 4.

П

Electric fields, potential, capacitance, current, resistance, electrolosis, primary and secondary cells, thermoelectric phenomena, magnetism, electromagnetic induction, electronics and Roentgen rays. Prerequisite: Physics 202, 204, or 208, and Mathematics 204.

Laboratory fee, \$1.00. (Offered in 1934-1935.)

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 PHYSICS 187

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.

FOR GRADUATES

501, 502. Analytical Mechanics. (3-0). Credit 3 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. (3-0).

Credit 3 each semester.

A study of the underlying principles of alternating electrical currents, the development of graphical methods of analysis as a basis for the solution of practical problems. The development of the equations for the propagation of an electromagnetic disturbance through a dielectric and for electromagnetic waves along wires and cables. A study of electrostatic and electromagnetic fields, the electromagnetic theory of light, thermal and electrical conduction in magnetic fields, discharge of electricity through gases, Roentgen rays, Becquerel rays and the theory of the structure of the atom.

505, 506. Theory of Thermodynamics and Thermal Radiation. (3-0).

Credit 3 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, Gibb's 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. (3-0). Credit 3.

I

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.

П

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.

DEPARTMENT OF POULTRY HUSBANDRY

Professor D. H. Reid, Assistant Professor Munnerlyn.

201. Poultry Production. (2-2). Credit 3.

I

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 productions, plans for poultry farms and poultry houses, identification of feeds methods of dressing poultry.

Laboratory fee, 50 cents.

301. Market Poultry. (3-2). Credit 4.

Pen fattening, crate fattening, fattening of the turkey flock, special feeds for ducks and geese, methods of dressing, trussing and deboning the fowls, candling eggs, preparing for cold storage and crating of poultry products.

The practice includes feeding two crates of fowls; dressing and preparing them for market; candling and grading eggs; fattening turkeys, geese, and chickens.

Laboratory fee, 50 cents.

302. Feeding and Brooding. (3-2). Credit 4.

H

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. Turkey Production. (3-2). Credit 4.

H

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. 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.

402. Poultry Farming. (3-2). Credit 4.

H

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.

I

The judging of standard breeds and varities, 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.

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 vitamines necessary for growth; vitamines necessary to avoid malformation and to secure good growth; minerals essential to good growth. Results of vitamine deficiency in rations.

(These courses are offered in cooperation with the department of chemistry).

Laboratory fee, \$1.00 each semester.

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.

DEPARTMENT OF RURAL EDUCATION

Professor W. L. Hughes, Professor Wilcox

121. An Introduction to Education. (3-0). Credit 3.

I

122. Elementary School Methods. (3-0). Credit 3.

П

221. Rural School Methods. (3-0). Credit 3. I 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.
- 321. Secondary School Methods. (3-0). Credit 3. I Methods of teaching high school subjects; for students who expect to teach in city high schools.
- 322. Secondary School Administration. (3-0). Credit 3.

 The administrative problems of the city superintendent; for teachers who expect to administer school systems.
- 422. History of Education. (3-0). Credit 3. II

 The history of modern education, with special attention to the history of education in the United States.
- 423. The Junior High School. (3-0). Credit 3.

 The organization and problems of the Junior High School.
- 424. Principles of Rural School Supervision. (3-3). Credit 4. S

 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.

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.
- 504. Development of Public School Education in Texas. (4-0). Credit 4., If The origin and development of public school education in Texas.
- 505. Principles of Educational Administration. (4-0). Credit 4.

 The administration of state and county school systems.
- 506. Principles of Educational Administration. (4-0). Credit 4.

 The problems of the city superintendent of schools.

507. Principles of City School Supervision. (4-0). Credit 4.

1

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.

H

A study of all types of school funds, and their relation to school efficiency. Problems and lectures.

509. Curriculum Construction. (2-0). Credit 2.

I

Problems and lectures in adjusting the public school curriculum to the modern philosophy of education.

510. Child Accounting. (2-0). Credit 2.

11

Devices to record and improve census taking and attendance; classification and promotional schemes; school record systems; school reports and pupil appraisals studies; grading promotions and eliminations; child accounting as affecting school efficiency.

DEPARTMENT OF RURAL SOCIOLOGY

Professor Russell.

303. Introduction to Social Problems. (3-0). Credit 3.

An introduction of 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, 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.

311. Social Psychology. (3-0). Credit 3.

I

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.

1

The position of sociology amoung 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.

П

A study of community life in the rural districts with its natural organizing and disorganizing tendencies; a survey and evaluation of attempts at community organization, as the survey, community club plan, community council plan, the school community center, the community church, the Y. M. C. A., the Red Cross.

407. Rural Sociology. (2-2). Credit 3.

I

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; rurai 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.

. 1

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 Publicity Department of the Extension Service cooperate in the course.

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.

П

A study of the rural community as to its geographic background, population, social institutions, and occupational attitudes. Different efforts at organizing the rural community, as the county public welfare project, school and church community center projects, recreational and health projects, local, state and national agencies for rural community co-operation are studied.

DEPARTMENT OF TEXTILE ENGINEERING

Professor Bagley, Associate Professor Lichte, Assistant Professor Powers

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.

Laboratory fee, \$1.25 each semester.

I

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.

Laboratory fee, \$1.25 each semester.

218. Foreign Cotton Markets. (3-0). Credit 3.

H

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 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.

Laboratory fee, 50 cents each semester.

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.

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 1934-35 and alternate years thereafter.)

DEPARTMENT OF VETERINARY ANATOMY

Professor Francis

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.

Laboratory fee, \$2.00 each semester.

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.

I

Laboratory fee, \$4.00.

213. Histology and Embryology. (2-4). Credit 3.
A lecture and laboratory course.
Laboratory fee, \$2.00.

302. Anatomy and Physiology of Domestic Animals. (2-2). Credit 3. II An introduction to the study of veterinary medicine. The course treats the fundamental process of animal nutrition in detail, so that each student may be prepared to meet the problems that arise in the economic production of beef, pork, and dairy products.

Laboratory fee, \$1.50.

FOR GRADUATES

511, 512. Veterinary Anatomy. (2-4). Credit 3 each semester.

DEPARTMENT OF VETERINARY MEDICINE AND SURGERY

Professor Marsteller, Professor Dunn, Associate Professor Lenert

351, 352. Non-infectious Diseases. (3-0). Credit 3 each semester.

Lectures and demonstrations on physical diagonosis. 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. Laboratory fee, \$2.00 each semester.

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 thousand 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. Prerequiste: Veterinary Anatomy 302.

- 451. Diseases of Small Animals and Fowls. (3-0). Credit 3.

 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.

 Symptoms, treatment and control of infectious diseases.
- 455. Diseases of Poultry. (2-0). Credit 2.

II

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. Laboratory fee, \$1.00.

462. Operative Surgery. (3-4). Credit 4. II Castrating, spaying, denistry, lameness, shoeing. Surgical exercises are required.

Laboratory fee, \$4.00.

471, 472. Clinics. (0-7). Credit 2 each semester. Laboratory fee, \$2.00 each semester.

FOR GRADUATES

501, 502. Special Surgery. (2-4). Credit 3 each semester.

Problems of surgical conditions, surgical pathology, surgical technique and sterility of animals.

Laboratory fee, \$2.00 each semester.

DEPARTMENT OF VETERINARY PATHOLOGY

Associate Professor Wharton

242. General Pathology. (3-2). Credit 4.

- 11

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 techinque. Prerequisite: Veterinary Anatomy 213.

Laboratory fee, \$1.50.

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 postmortem technique. Prerequisite: Veterinary Pathology 242.

Laboratory fee, \$4.00, second semester.

343. Special Bacteriology. (2-4). Credit 3.

1

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.

Laboratory fee, \$4.00.

441. Immunology and Serum Therapy. (2-2). Credit 3.

'The fundamental principle's of immunity. Special attention is given to the preparation of biologics used in the prevention of infectious diseases. Prerequisite: Veterinary Pathology 343.

Laboratory fee, \$4.00.

442. Food Hygiene. (2-2). Credit 3.

H

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.

I

Parasites infesting domestic animals and the pathological conditions produced by them. Attention is given to treatment and control measures. Prerequisite: Biology 207.

Laboratory fee, \$1.50.

444. Laboratory Diagnosis. (2-2). Credit 3.

П

Methods of procedure in the preparation of materials for laboratory examination; technique of examination; biological tests of special importance; animal inoculations; isolation of the organisms of diseases from lesions.

Prerequsite: Veterinary Pathology 341, 342, 343.

Laboratory fee, \$2.00.

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.

Laboratory fee, \$2.00 each semester.

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.

Laboratory fee, \$2.00 each semester.

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, milk, urine, and chemical composition of the body. The practice consists of studying blood, milk, urine, and other body fluids; action of natural and artificial digestive juices on foodstuffs; graphic records of the functioning of the muscular, nervous, respiratory, and circulatory systems. Prerequisite: V. P. P. 121, 122.

Laboratory fee, \$2.50 for course 222.

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.

Laboratory fee, \$3.00 for course 333.

341. General Physiology. (3-4). Credit 4.

l

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.

Laboratory fee, \$1.50.

(Previously designated Biology 341.)

342. General Physiology. (3-4). Credit 4.

I

Physiology of digestion, nutrition, metabolism, secretion, excretion, and reproduction. Prerequisite: V. P. P. 341 and Chemistry 206.

Elective for students in Science.

Laboratory fee, \$1.50.

(Previously designated Biology 342.)

432. Toxicology. (1-2). Credit 1.

H

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 and treament of poisons on experimental animals.

Laboratory fee, \$2.50.

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.

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, 1933, the Station System received \$90,000.00 Federal funds and \$332,566.00 State appropriation.

A brief statement of the work of the Station System follows:

MAIN STATION

Veterinary Science: The division of Veterinary Science conducts researches covering the diseases of farm animals of various kinds. Special attention is being given to diseases affecting horses, 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 Survey: 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 reconnaissance soil survey of the entire State of Texas, by counties and areas. Soil surveying is merely the recording of the soil resources by type, or an inventory of the soil. The value of a soil survey is generally recognized as an aid to agricultural advancement.

Feed Control Service: The State law regulating the sale of concentrated commercial feeding stuffs and the materials from which they are manufactured, provides for defining them, prohibiting their adulteration; for correct weighing and marking, and for collecting of samples. It also provides for the expense of enforcing the law and for fixing penalties; and places the enforcement of the act in the hands of the Director of the Texas Agricultural Experiment Station. The Director is empowered to adopt names, standards, and definitions; to refuse registration of any feeding stuff under a name which would be misleading as to the materials of which it is made, 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 farmer's cotton market, and farm taxation. The chief objective of the research program of this division is to assist farmers and ranchmen in the several agricultural areas of the State to make the most of their resources in land, labor, and equipment.

Botany. The division of Botany is engaged in the study of the flora of

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 effect 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 has 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.

Apicultural Research: The division of Apiculture has a specially equipped laboratory for beekeeping investigations, located near San Antonio, in Bexar county. This laboratory is in charge of a competent Apiculturist who is conducting researches bearing directly on the successful continuation of the beekeeping industry of the State. A competent queen breeder is also located at this laboratory.

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 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 their 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 of outlying work within the several agricultural regions of the State, and the principal lines of work are closely related to the problems peculiar to the 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).

Genetics 571, 572. Research in Cotton Breeding.

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.

Thirty-nine bulletins have been issued. So long as the supply lasts, bulletins are distributed free, except in a few cases, in which a small charge is made.

For copies of bulletins or for other information, address Texas Engineering Experiment Station, A. and M. College, College Station, Texas.

THE EXTENSION SERVICE

O. B. MARTIN, Director

The Extension Service is a Federal-State-County educational activity for country people. It has headquarters at the A. and M. College of Texas and is administered by the Board of Directors of the College and the President. Though it carries the information uncovered by research and taught at the College to every section of the State, the Extension Service is in no sense an organized correspondence course for rural citizens. Through 168 county farm demonstration agents and 115 county home demonstration agents, assisted by an administrative and specialist staff of about 50 persons located at the College, the Extension Service seeks to re-make country life in Texas by developing a growing number of thinking, self-reliant citizens capable of improving farms and homes, and the other institutions of civilization dependent upon them. This department also supervises, in cooperation with Prairie View Normal and Industrial College, a similar work for negroes with a supervisory staff of two men and two women and a field force of about 50 agents.

To bring this about, men and women, boys and girls are aided in working out for themselves demonstrations in better ways of doing farm tasks, managing the farm or home business, and of developing the desire for and the means of obtaining better standards of living. Records are kept of progress and results of these demonstrations and their effect is spread near and far by farm and home meetings, tours, news stories, and exhibits. The demonstration is a means to an end, and one success leads to another as the demonstrator develops. His own efforts, guided by the extension worker, carry him through the successive steps of "profit, comfort, culture, influence and power." It is believed that in the process of filling the State with these demonstrators, that is, educated persons, most of the serious difficulties that beset agriculture will be overcome.

The authority for this work is found in the Smith-Lever Act of Congress of 1914, the terms of cooperation between the State and the United States Department of Agriculture having been accepted by the Texas Legislature in May, 1914, and continued since then without interruption. The Act of Congress grew out of the earlier Farm Demonstration Work begun in Texas in 1903 by Dr. Seaman A. Knapp through the United States Department of Agriculture.

The Federal and State funds expended through the College for the employment of county farm and home demonstration agents are matched by the county commissioners' courts or other local organizations, these local bodies paying from one-half to two-thirds the salaries of agents. Nearly every agricultural county in Texas now has the services of one or both of such agents.

Farm demonstration work aims at economic production, better land utilization, and the facilitation of economic distribution through improved quality and standardization of farm and ranch products. The work of farm demonstration agents is directed by nine district agents assisted by fifteen specialists.

Home demonstration work deals with feeding the family cheaply and healthfully, increasing the family income by gardening, dairying, poultry keeping and home industries, and with raising farm life to higher levels of comfort and culture through improvements in the farm home, economical and appropriate clothing, and better living standards. Home demonstration agents are supervised by nine district home demonstration agents and special assistance is given by eight specialists.

In any effort at rural rehabilitation the rising generation must be given special consideration. Years are gained by starting young people on progressive careers as demonstrators, and their youthful successes should lead to lifelong development as well as stimulate adults to greater effort. For this reason boys' and girls' 4-H club work has for twenty years been an important part of extension work. The boys are helped by their respective farm demonstration agents in profitable farm, crop, and livestock demonstrations, and the girls by home demonstration agents in demonstrations with farm poultry, dairy, gardening, clothing, canning, and home and yard improvement.

In addition to these services rendered through local extension agents, aid of a more general character is rendered citizens over the State through direct correspondence, news stories, bulletins, the Extension Service Farm News, and occassional special help by nearby county agents or by staff members. The Extension Service also assists indirectly by helping other organized efforts in special fields such as cooperative marketing, grading and standardization, pure seed and stock, improved farm building.

The Extension Service, creature of Congress and the Texas Legislature, guided by the A. & M. College of Texas, aims to make rural Texas and rural Texas life strong, prosperous and beautiful in this generation. Its plan of self help is now available to nearly 400,000 of the State's 475,000 farms and ranches. Some member of the farm family on more than 100,000 farms is now enrolled as a demonstrator.

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 \$64,205.00 of State funds and \$39,238.00 of Federal funds are available for carrying on the designated activities of the office. The personnel comprises 7 technical foresters, 1 motion picture operator and lecturer, 1 forest engineer, 4 inspectors, 40 patrolmen, 8 lookout men, 13 smokechasers, and 108 forest guards.

DIVISION OF FOREST PROTECTION

This division has charge of activities relating to the protection of timber from fire, 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 reforestation and management fall in this division. It also has charge of the cooperation extended to the owners of large tracts of timber land who desire to initiate forestry practices on their holdings.

DIVISION OF FARM FORESTRY

Under the terms of 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 management 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-two 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 dissemination of diseases of honey bees, as far as may be possible. The regulations that have been issued prohibit the moving or shipping of bees across county lines without proper authority, provide for quarantining apiaries where disease may be found, make it unlawful to keep bees in hives or boxes not possessing movable frames, and prohibit the treatment of American foulbrood except by permission of the State Entomologist.

Inspectors from this office examine about thirty-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, sampled for analysis, the samples analyzed and the results published as bulletins of the Experiment Station. It is also the duty of the State Chemist to investigate the composition, properties, and agricultural values of fertilizers, and of fertilizer materials and to conduct experiments relative to the value of fertilizers. Such investigations are being made, and the results published from time to time. The people of the State are furnished with information concerning fertilizers by means of perse tal 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.

SUMMER SESSION

C. H. WINKLER, Director

The Summer Session consists of two terms of six weeks each. The 1933 Summer Session opens Tuesday, June 6, and closes Saturday, August 26. 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 véterinarians; 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

REGISTER OF STUDENTS

GRADUATE STUDENTS

Adams, Cyril Samuel Civil Engineering	College Station
B. S., Agricultural and Mechanical College of Texas, 1930. Alexander, George W., Jr Architecture	Dalhart
B. S., Agricultural and Mechanical College of Texas, 1932.	
Allison, Ulmont Sterling Agricultural Engineering	Bryan
B. S., Agricultural and Mechanical College of Texas, 1924. Bates, Clifton H	College Station
B. S., Mississippi State College, 1927.	Conogo otacion
Beasley, James Otis Genetics	Wells
B. S., Agricultural and Mechanical College of Texas, 1932.	
Beeson, Charles Edward Rural Sociology	St. Louis, Mo.
B. S., Agricultural and Mechanical College of Texas, 1932.	0.11 0.11
Blumberg, Albert Asa Mathematics	. College Station
B. A., University of Texas, 1929. Boyer, Harry Luther Entomology	College Station
B. S., Agricultural and Mechanical College of Texas, 1931.	Conege Station
Bratton, David Jonathan Civil Engineering	Houston
B. S., Agricultural and Mechanical College of Texas, 1931.	
Brentzel, Henry Reese Dairy Husbandry	Huntsville
B. S., University of Mississippi, 1915.	
Brewer, Alexander Van Mechanical Engineering	Bryan
B. S., Purdue University, 1915.	
Broughton Martin Napoleon Geology Pines	wood S Carolina
Broughton, Martin Napoleon Geology	wood, S. Carolina
M. A., University of Texas, 1931.	
M. A., University of Texas, 1931. Byrom, Mills Herbert Agricultural Engineering	Bryan
M. A., University of Texas, 1931. Byrom, Mills Herbert Agricultural Engineering B. S., Agricultural and Mechanical College of Texas, 1928. Byrd, James Cozby Architecture B. Arch., University of Pennsylvania, 1922.	Bryan College Station
M. A., University of Texas, 1931. Byrom, Mills Herbert Agricultural Engineering B. S., Agricultural and Mechanical College of Texas, 1928. Byrd, James Cozby Architecture B. Arch., University of Pennsylvania, 1922. Cheatham, James Charles Mechanical Engineering	Bryan College Station
M. A., University of Texas, 1931. Byrom, Mills Herbert Agricultural Engineering B. S., Agricultural and Mechanical College of Texas, 1928. Byrd, James Cozby Architecture B. Arch., University of Pennsylvania, 1922. Cheatham, James Charles Mechanical Engineering B. S., Clemson College, 1923.	Bryan College Station College Station
M. A., University of Texas, 1931. Byrom, Mills Herbert Agricultural Engineering B. S., Agricultural and Mechanical College of Texas, 1928. Byrd, James Cozby Architecture B. Arch., University of Pennsylvania, 1922. Cheatham, James Charles Mechanical Engineering B. S., Clemson College, 1923. Cook, Lawrence Milton Architecture	Bryan College Station College Station
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M. A., University of Texas, 1931. Byrom, Mills Herbert Agricultural Engineering B. S., Agricultural and Mechanical College of Texas, 1928. Byrd, James Cozby Architecture B. Arch., University of Pennsylvania, 1922. Cheatham, James Charles Mechanical Engineering B. S., Clemson College, 1923. Cook, Lawrence Milton Architecture B. S., Agricultural and Mechanical College of Texas, 1932. Couch, James Russel Poultry Husbandry B. S., Agricultural and Mechanical College of Texas, 1931. Cowan, Woody Leon Civil Engineering B. S., Agricultural and Mechanical College of Texas, 1928. Davis, George Winzer Entomology B. S., Agricultural and Mechanical College of Texas, 1932. Davis, Joe Eugene Rural Sociology Rural Sociology	Bryan College Station Dallas College Station Pecos San Antonio
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M. A., University of Texas, 1931. Byrom, Mills Herbert Agricultural Engineering B. S., Agricultural and Mechanical College of Texas, 1928. Byrd, James Cozby Architecture B. Arch., University of Pennsylvania, 1922. Cheatham, James Charles Mechanical Engineering B. S., Clemson College, 1923. Cook, Lawrence Milton Architecture B. S., Agricultural and Mechanical College of Texas, 1932. Couch, James Russel Poultry Husbandry B. S., Agricultural and Mechanical College of Texas, 1931. Cowan, Woody Leon Civil Engineering B. S., Agricultural and Mechanical College of Texas, 1928. Davis, George Winzer Entomology B. S., Agricultural and Mechanical College of Texas, 1932. Davis, Joe Eugene Rural Sociology Rural Sociology	College Station College Station Dallas College Station Pecos San Antonio College Station

Eddy, James Richard Dowling. Physics	College Station
B. S., University of Illinois, 1932.	
Fern, G. H Industrial Education	_ College Station
B. S., Agricutural and Mechanical College of Texas, 1929.	
Finlay, Albert Edward Mathematics M. A., Peabody College, 1929.	_ College Station
Fix, George Joseph Mechanical Engineering	Dallas
B. S., Agricultural and Mechanical College of Texas, 1932.	
Frank, M. P. Civil Engineering	College Station
B. S., Agricutural and Mechanical College of Texas, 1929.	Contage Diamon
Gatchell, Charles Barnard Industrial Education	College Station
B. S., Oregon State College, 1917.	Conege Station
Geren, Preston Murdock Architecture	Fort Worth
B. S., Agricultural and Mechanical College of Texas, 1912.	
Clover Coorgo Healtell Architecture	Damna
Glover, George Haskell Architecture	Faiiipa
B. S., Agricutural and Mechanical College of Texas, 1929.	11
Graham, Samuel Stanley Economics	Huntsville
M. S., Iowa State Colllege, 1932.	
Hansen, Carl Jasper Mechanical Engineering	Avoca
B. S., Agricultural and Mechanical College of Texas, 1932.	
Haupt, Lewis McDowell, Jr., _ Electrical Engineering	College Station
B. S., Agricultural and Mechanical College of Texas, 1927.	
Herrmann, Frederick Davenport Genetics	Galveston
B. S., Agricultural and Mechanical College of Texas, 1925.	
Huser, Carl William Horticulture	Donna
B. S., Texas College of Arts and Industries, 1931.	
Japour, Maxcine J Chemical Engineering Be	everly Hills, Calif.
B. S., Agricultural and Mechanical College of Texas, 1921.	,
Jeffrey, Jack Cassles Chemical Engineering	San Antonio
B. S., Agricultural and Mechanical College of Texas, 1932.	
Jones, Robert Steele Architecture	College Station
B. S., Agricultural and Mechanical College of Texas, 1930.	. Conege otation
Keith, James Long Architecture	Resumont
B. S., Agricultural and Mechanical College of Texas, 1932.	Deadinont
Kile, Robert Frederick Mechanical Engineering	Devon
	Diyan
B. S., University of Michigan, 1925.	Tulan
Krumholtz, David Victor Chemical Engineering	I yier
B. S., Agricultural and Mechanical College of Texas, 1932.	
Lawhon, Lester Farris Agricultural Engineering	Denison
B. S., Agricultural and Mechanical College of Texas, 1932.	
Long, Wayne E Mechanical Engineering	College Station
B. S., Agricultural and Mechanical College of Texas, 1927.	
	D
McGee, Roger V Mathematics	bryan
B. S., Agricultural and Mechanical College of Texas, 1922.	
Martin, A. D Mathematics	
Wattin, A. D Wathematics	College Station
A. B., Texas Christian University, 1920.	
A. B., Texas Christian University, 1920.	
A. B., Texas Christian University, 1920. Mitchell, John Weems Mathematics	
A. B., Texas Christian University, 1920. Mitchell, John Weems Mathematics B. A., Maryville College, 1904.	College Station
A. B., Texas Christian University, 1920. Mitchell, John Weems Mathematics	College Station College Station

GRADUATE STUDENTS .

Mueller, Frederick Walter Geology	Kenedy
B. S., Agricultural and Mechanical College of Texas, 1932.	
Nash, Cleve Crumby Electrical Engineering	Dallas
B. S., Agricultural and Mechanical College of Texas, 1932.	
Obrien, Floyd Electrical Engineering	
B. S., Agricultural and Mechanical College of Texas, 1916.	
Orr, Joseph Anderson Civil Engineering	College Station
B. S., Agricultural and Mechanical College of Texas, 1922.	D. 11
Orr, Wiliam Bassett Agricultural Economics	Dallas
B. S., Agricultural and Mechanical College of Texas, 1925.	01 1 11
Palmer, Carl Cameron Electrical Engineering	Chaimers, Indiana
B. S., Purdue University, 1926.	C-11 C4-4:
Pitts, Howard DeHaven Architecture	
B. S., Agricultural and Mechanical College of Texas, 1924. Reed, Raymond Curtis Animal Husbandry	"I salala a ala
	Lubbock
B. S., Texas Technological College, 1928.	Callana Station
Reid, Andrew Forest Rural Education	College Station
B. S., Agricultural and Mechanical College of Texas, 1931. Reynolds, Jack Allen Mechanical Engineering	Ch amma am
B. S., Agricultural and Mechanical College of Texas, 1932.	
Scheer, Robert Harold Poultry Husbandry ————	Marchall
D. S. Assisultural and Machanical College of Taxon	Maishan
B. S., Agricultural and Mechanical College of Texas. (To be awarded June 1933).	
Scott, Thomas Earl Rural Sociology	Fort Worth
B. S., Asbury College, 1932.	
Staffel, Eugene Otto Chemical Engineering	San Antonio
B. S., Agricultural and Mechanical College of Texas, 1932.	
Stewart, Heber Thomas Agricultural Engineering	Poplarville, Miss.
B. S., Agricultural and Mechanical College of Texas, 1931.	
Strieber, Alton LeRoy Civil Engineering	Yorktown
B. S., Agricultural and Mechanical College of Texas, 1927.	
Thomas, D. V. Electrical Engineering	
B. S., Agricultural and Mechanical College of Texas, 1921	
Trail, James Arthur Mechanical Engineering _	
B. S., Agricutural and Mechanical College of Texas, 1929.	
Vantine, J. T., Jr. Agronomy	Quanah
B. S., Agricultural and Mechanical College of Texas, 1931.	
Walker, Ray Agronomy	College Station
B. S., Agricultural and Mechanical College of Texas, 1931.	_
Ward, Robert Page Electrical Engineering	Bryan
B. S., Agricultural and Mechanical College of Texas, 1924.	
Warren, Clifton Court Poultry Husbandry	San Antonio
B. S., Agricultural and Mechanical College of Texas. (To be awarded June 1933).	
Watts, E. J Industrial Education	Brvan
B. S., Sam Houston State Teachers College, 1932.	
Watts, Woodrow Rural Education	Bryan
B. S., Sam Houston State Teachers College, 1931.	•
Weeks, Wesley Dale Rural Sociology	Amarillo
B. S., Agricultural and Mechanical College of Texas, 1925.	
White, Frank Marrion Dairy Husbandry	Littlefield
B. S., Agricultural and Mechanical College of Texas, 1932.	

Wingren, Roy Matthew Mechanical Engineering Brya B. S., Agricultural and Mechanical College of Texas, 1927.	n
Wipprecht, Carl Animal Husbandry Bryan	n
B. S., Agricultural and Mechanical College of Texas, 1918. Young, Balwin N Architecture Stephenvill	e
B. S., Agricultural and Mechanical College of Texas, 1932. Yun, Sang Won Chemistry E-chun, Kore A. B., Southwestern University, 1931.	a

UNDERGRADUATE STUDENTS

ABBREVIATIONS

AA—Agricultural Administration Agr—Agriculture Agricultural Education ChE—Chemical Engineering Arch—Architecture CE—Civil Engineering ChE—Chemical Engineering EE—Electrical Engineering IAE—Industrial Arts Education IA—Liberal Arts Land—Landscape Art ME—Mechanical Engineering

PPE—Petroleum Production Engineering RE—Rural Education Sci—Science TE—Textile Engineering VM—Veterinary Medicine CM—Two-year Course in Cotton Marketin and Classing 4—Senior 3—Junior 2—Sophomore 1—Freshman Sp—Special

Anderson, Robert Jewell, Jr., 3 VM

Marshall
Andrews, Clarence Lorin, 3 CE
Bryan
Andrews, Leldon Lee, 2 LA
Bryan
Andrews, Verne Cook, 3 Agr
Bryan
Andrews, Wilton Wayland, 4 CE
Madisonville
Andrus, George Loran, 3 VM
Galveston
Angus, Richard Hull, 2 ChE
Dallas
Apple, Spencer Butler, Jr., 4 Agr
College Station
Archibald, Stanley Benjamin, 2 Agr
College Station
Arisco, Charles Vincent, 2 ChE
Port Arthur
Arnett, John Milborne, 4 CE
San Antonio
Ash, Clark William, 1 ME
Canyon
Ashby, Gerald K., 3 ChE
Dallas
Aston, Joseph Alexander, Jr., 3 CE
Farmersville
Aston, James William, 4 CE
Aston, James William, 4 CE
Aston, James Roy, 2 Agr
Atkinson, Robert Mount, 1 ChE
Bar, Houston
Austin, Samuel Thomas, 3 Agr
Fort Worth
Ayers, Harry Kester, 1 Arch
Baar, Leo John, 2 EE
Backloupe, Joseph Jennings, 4 ChE
Backloupe, Joseph Jennings, 4 ChE
Backloupe, Joseph Jennings, 4 ChE
Badgley, Abe Sedell, 2 LA
Goose Crreek
Baggett, Kenneth Jeffreys, 3 EE
Gustine
Baggett, Lawrence Witherspoon, 1 EE
Shreveport, La
Bahme, Nathan, 3 ChE
Waco
Backloupe, Joseph, La
Bahme, Nathan, 3 ChE
Waco

Bailey, Harold Thomas, 2 AA	Bennett, Robert Leslie, 3 AgrDecatur
Bailey, Woodrow Wilson, 1 Agr	Bennett, Robert Leslie, 3 AgrDecatur Bennet, Richard McCoy, 1 LAHarlingen
Bailey, Woodrow Wilson, 1 Agr	Benz, Harry, I AAPort Arthur
Baker, Altus Gratz, 4 LA Abilene Baker, Charles Porter, 3 ChE Paris Baker, Denzil Laval, 4 LA Mathis Baker, Herbert Henry, 4 Agr Somerville Baker, Loran Dee, 1 ME Fort Worth Baldassari, Carlo, 4 EE Galveston Ball, Ralph Eugene, 1 IAE Bryan Ballerstedt, Richard Herman, 1 PPE Bryan	Bergendahl, John Lawrence R., 4 PPE
Baker, Charles Porter, 3 ChE Paris	Bering, August Charles III, 1 LA
Baker, Denzil Laval, 4 LAMathis	Houston
Baker, Herbert Henry, 4 Agr Somerville	Berndt, Edgar, 1 EEBellville
Baker, Loran Dee, 1 MEFort Worth	Berrong, Robert Weldon, 2 Agr
Baldassari, Carlo, 4 EEGalveston	Posse Colortine Paul 4 CF Frair
Ballerstedt, Richard Herman, 1 PPE	Revers James Canter 1 ChE Hull
Bryan	Bianchi, Thedore Jacob, 4 ME Dallas
Balthis, Russel Forest, Jr., 1 IAE	Bibby, Flavius Francis, Sp LABryan
College Station	Biggs, Aubrey R., 3 PPELuling
Balthis, Russel Forest, Jr., 1 IAE College Station Barbeck, Arthur Herman, Jr., 2 ChE San Antonio	Bering, August Charles III, 1 LA Houston Berndt, Edgar, 1 EE Bellville Berrong, Robert Weldon, 2 Agr Fort Worth Besse, Celestine Paul, 4 CE Ennis Bevers, James Canter, 1 ChE Hull Bianchi, Thedore Jacob, 4 ME Dallas Bibby, Flavius Francis, Sp LA Bryan Biggs, Aubrey R., 3 PPE Luling Billimek, Oscar Louis, 3 CE Poth Binkley, Hamilton Brown, 1 Arch El Paso Bisbey, Joseph Blackard, 1 IAE Houston Bittle, George Thomas, 2 Agr Eastland Black, Hiley Perkins, Sp LA Bryan Blackburn, Louis James, Jr., 1 EE Galveston Plackstone Rolf Evel J ChE
Barber, William Boyd, 1 LA San Antonio Barbisch, Joe Bill, 1 Arch	El Paso
Barbisch, Joe Bill, 1 ArchAustin	Bisbey, Joseph Blackard, 1 IAEHouston
Barfield, Rue Edward, 2 Sci Port Arthur	Bittle, George Thomas, 2 AgrEastland
Bargmann, George, 3 AAGonzales	Black, Hiley Perkins, Sp LABryan
Nacordoches	Calveston
Barhan, James Carlton, 1 LAMoody Barnard, Ralph Alva, 2 CEBrownsville	Blackstone, Ralf Ersel, 1 ChE Hearne
Barnard, Ralph Alva, 2 CEBrownsville	Blackwell, Finley Dunn, 1 Sci Hochheim
	Blackwell, Leslye Tom, 2 LAMercedes
Power William D. 2 ME Power Arthur	Blackwood, Herman Wayne, 1 ChE
Barnes, William D., 2 MEPort Arthur Barnett, John Franklin, Jr., 1 Sci	Blackwood James C. 1 PPE Rosenberg
Palacios	Blair, Robert James, 3 CEHouston
Barnett, Robert Lee, 3 AA Karnes City	Blakeney, Thomas Gill, 1 EEBowie
Barnhart, Hugh Franklin, 3 Agr	Blalock, John Wilmer, 1 SciTroup
Rembert Poul F 1 PPF Delles	Bleker John Shearn 1 ME Houston
Barrett, William Lafavette, 3 Agr	Blodgett, Harold Furman, 4 ME Crane
Arlington	Blodgett, Robert Waye, 2 AACrane
Barrington, Charles P., 1 AgEng	Blodgett, Wiliam S. Jr., 4 ArchCrane
Barron Task Claudo 4 CF Contor	Blackburn, Louis James, Jr., 1 EE
Barron John M. 2 LA Bryan	Bobbitt, Edward Haines, 1 Agr
Barron, John Pinkney, 2 EEBryan	Book Marris 4 ChE
Bartlett, Roger Frost, Jr., 4 MERice	Bock, Morris, 4 ChEDallas
Barnhart, Hugh Franklin, 3 Agr Gainesville Barnhart, Paul F. 1 PPE Dallas Barrett, William Lafayette, 3 Agr Arlington Barrington, Charles P., 1 AgEng Talferner Barron, Jack Claude, 4 CE Center Barron, John M., 2 LA Bryan Barron, John Pinkney, 2 EE Bryan Bartlett, Roger Frost, Jr., 4 ME Rice Barton, Delbert Hamilton, 2 ME Somerville Barton, Henry Garland, 1 TE Marlin Barton, Jerry Curtis, 2 Arch Abilene Basden, William Wimbish, 2 EE Groesbeck	Bock, Morris, 4 ChE Dallas Bogevold, Trygve, 4 Arch Waco Boles, Cecil Calvert, 2 CE Bryan Bolton, Frank Cleveland, Jr., 2 EE
Barton, Henry Garland, 1 TE Marlin	Bolton, Frank Cleveland, Jr., 2 EE
Barton, Jerry Curtis, 2 ArchAbilene	College Station
Basden, William Wimbish, 2 EE	Bone, Robert S., 2 MEDallas
Groesbeck Glaboratory	Bonner, Richard Barnett, 1 MEEureka
Bateson, Edwin Paul, 1 CECleburne Batjer, Attwell Linton, 4 PPEHouston	Roothe Walter Lea 2 Agr Sweetwater
Batjer, John Francis, 4 ME Houston Batjer, Joseph Harris, 1 ME Houston Batts, Joseph Woodyard, 1 Agr Bryan Baucum, Archie Winford, 3 PPE	Boots, James Earl, 1 MEDallas
Batjer, Joseph Harris, 1 MEHouston	Boren, Thomas Madison, 2 Arch Carthage
Batts, Joseph Woodyard, 1 AgrBryan	Boriskie, Ben Barnard, 2 EEBryan
Baucum, Archie Wintord, 3 PPE	Boriskie, Thedore Frank, 2 UneBryan Roriskie Willie Woodrow 1 Age Bryan
Baushausen, Henry Vincent, 1 EE .Marlin Bayless, Fredrick Black, 1 EE Houston Bean, Joha Thomas, 2 Agr. Fort Hancock Beand, Calvin Warns, 2 MF	Bolton, Frank Cleveland, Jr., 2 EE
Bayless, Fredrick Black, 1 EE Houston	Fort Worth
Bean, John Thomas, 2 Agr Fort Hancock	Boswell, James Nelson, 1 Agr Plainview Bower, Joe Harry, 1 ME Bowman, Donald Stanley, 1 EE Longview Boyle, Richard Bernard, 1 ChE Fort Worth
Board Pufus Arch 2 Age Thorndale	Bowman Donald Stanley 1 EE Longview
Beard, Calvin Wayne, 3 MEKurten Beard, Rufus Arch, 2 AgrThorndale Beard, William Harper, 4 ArchGalveston Bearden, Harold James, 2 TEHouston Beattle, Frederick Charles, Jr., 1 EE	Boyle, Richard Bernard, 1 ChE
Bearden, Harold James, 2 TE Houston	Fort Worth
Beattie, Frederick Charles, Jr., 1 EE	Bradberry, Emmett Maurice, 1 AA
Rednamels Frank 2 Acr Schulerhaus	Brady, George Myron, 3 EETexas City Brailsford, George Whitfield, 1 ChE
Rell. Henry Francis 4 PPE Port Arthur	Brailsford, George Whitfield, 1 ChE
Bell, Robert Allen, 2 EEHereford	Braswell, L. T., 2 AgrJasper
Bell, Roger Fullerton, 1 SciHouston	Braswell, L. T., 2 AgrJasper
Bellinger Bat O'Prion 1 FF	Breazeale, William Griffin, 2 MECrockett
Bedwie, Frederick Charles, Jr., 1 EE Dallas Bednarek, Frank, 2 Agr Schulenburg Bell, Henry Francis, 4 PPE Port Arthur Bell, Robert Allen, 2 EE Hereford Bell, Roger Fullerton, 1 Sci Houston Bedlamy, Walter Dwight, 3 CE Mission Bellinger, Pat O'Brien, 1 EE San Antonio Beloate, Charles Felix, 3 PPE San Antonio	Breedlove Homer Morrison 2 1.4
Beloate, Charles Felix, 3 PPE	Smithville
San Antonio	
	Breithaupt, Erle Wilson, 1 AAKilgore
Bender, John Jacob, 1 AA	Breithaupt, Erle Wilson, 1 AAKilgore Brendle, Frank William, 3 Arch
San Antonio Bender, John Jacob, 1 AA	Brennan, Larry Lawrence, 2 ME
Bender, John Jacob, 1 AAHouston Benke, Russell Louis, 2 EESan Antonio Bennestt, George Palmer, 4 MEMemphis Bennett, Horace H., 1 AADecatur	Breithaupt, Erle Wilson, 1 AA

Brewster, Charles Henry, 2 CE San Antonio Bridges, Charles Woodrow, 2 Agr Glen Rose Briggs, Arthur Allen, 1 CE Childress Bright, Marion Lewis, 3 PPE Houston Brin, Alfred Ross, 1 Sci Terrell Brindley, Robert Mace, 2 AA Harlingen Brinsmade, Harold Steenback, 3 ME Steenback, 3 ME Steenback, Mexico	Busch, He
Bridges, Charles Woodrow, 2 Agr	Bush, Joe
Glen Rose	Buttrill, H
Briggs, Arthur Allen, 1 CEChildress	Bynum, L
Bright, Marion Lewis, 3 PPEHouston	
Brin, Alfred Ross, 1 SciTerrell	Cacchio, A
Brindley, Robert Mace, 2 AAHarlingen	a · aı ı
Brinsmade, Haroid Steenback, & ME	Cain, Shel Cain, Ver
Prisece Poy Allen 2 Ageng Doving	Caldwell,
Bricon John H 1 A A Pittshurg	Calfee, Ma
Bristol George L. Sn LA McKinney	Callahan,
Broad, Gardner Sayler, 2 AA Brady	Calloway,
Brock, Choyce Glen, 4 Ag EdEastland	,
Brockett, Ernest Delwin, Jr., 3 PPE	Calvert, M
Fort Worth	
Brockman, George William, 2 Agr	Canuteson
San Angelo	Caraway, Cardona,
Brinsmade, Harold Steenback, 3 ME	Cardona,
Brooks Morris Hart 2 CE Weimar	Carleton,
Brooks, Oden Reed, 2 EE Fort Worth	Carreton,
Brown, Clarence Karl, 1 EE Houston	Carleton.
Brown, John Hall, 4 ArchHouston	Carleton, Carlisle, H
Brown, Leonard Doctor, Jr., 3 PPE	
Brown, Robert Jarvis, Jr., 1 PPE	Carlisle, T
	Carmichae
Henrietta	Carmichae
Brown, Tom Markham, 1 LA	Connor C
Rorwick Louisiana	Carney, C
Brown William Robert 2 TE Dallas	Carpenter,
Browning, Thomas Calvin, 1 EEBryan	Carpenter,
Brown, Incodore Inorguson, 2 ME	
Brummerhop, George Hammond, 1 EE	Carroll, J. Carroll, M.
Brundrett, George Cooke, 4 PPE Dallas Bruns, Stockton Donald, 2 PPE Louise Bruton, William Thomas, Jr., 4 AA Lovelady	Carroll, M
Brundrett, George Cooke, 4 PPEDallas	
Bruns, Stockton Donaid, 2 PPELouise	Carroll, S
Bruton, William Thomas, Jr., 4 AA	Convoll T
Bryan, Cecil Sherrill, 2 ME Dublin	Carroll, T.
Bryan, Frank Louis, 4 ChEDublin	Carter, D
Bryant, Allen Estes, 4 AgrCorsicana	Carter, Oc
Pryant, Elmer Maurice, 2 PPE	Cartwrigh
Bryan, Cecil Sherrill, 2 ME — Lovelady Bryan, Cecil Sherrill, 2 ME — Dublin Bryan, Frank Louis, 4 ChE — Dublin Bryant, Allen Estes, 4 Agr — Corsicana Pryant, Elmer Maurice, 2 PPE — Port Arthur Bryant, Maurice Leroy, 1 Land — Dixon, Missouri Buchanan, Kenneth St. Clair, 2 Land — —	
Bryant, Maurice Leroy, 1 Land	Cartwrigh
Dushaman Vannath Ct Claim 2 Land	Caruthers,
Reven	Caruthers,
Buchl, Floyd McRae, 1 Arch Cuero Buchtien, Ernst William, 3 AgEng Bellville	Cash, Har
Buchtien, Ernst William, 3 AgEng	Cassell Jo
Bellville	Cely, Will
Bueno, Placido Oscar, 2 Arch	Cassell, Jo Cely, Will Cely, Tom
Monterrey, Mexico	Chamberla
Buford, William Ragsdale, 1 EE Terrell	
Buie, Eugene Cloy, 4 AgEngGrandview	Chamberli
Bumpas Pohert Tossia Ir 2 I A Wasa	Chambless
Runting James Allen 1 RE Revon	Chambless
Bunton, Sam Emmett, Jr., 4 VM	Chaney, I
Valentine	Chapman.
Burchers, Louis, 3 MEYoakum	Charske,
Burton, Sam Emmett, Jr., 4 VM Valentine Burchers, Louis, 3 ME Burda, Edward John, 1 EE San Antonio Burgin, Ervin David, 1 Agr Hondo Burke, William Zebulon, 3 VM Temple Burks, Roland Harrison, 2 ME San Antonio	Chapman, Charske, Chase, Ed
Burgin, Ervin David, 1 Agr	Chazanow
Burke, William Zebulon, 8 VMTemple	Chenault,
Burks, Roland Harrison, 2 ME	Children
Burleson Richard Earl 2 Agr Mart	Childress, Childress,
Burns, Edward Hughes, 4 PPE Houston	Christense
Burns, Emmett Rudolph, 1 AgrTerrell	
Burns, Josua Ambrose, 3 ChE	Christian,
Fort Worth	
Burns, William Cundiff, 1 AA	Clark, Geo
Burton Folix Johnsthan 2 Agr	Clark, The
Burks, Roland Harrison, 2 ME San Antonio Burieson, Richard Earl, 2 Agr Mart Burns, Edward Hughes, 4 PPE Houston Burns, Emmett Rudolph, 1 Agr Terrell Burns, Josua Ambrose, 3 ChE Burns, William Cundiff, 1 AA Centerville Burton, Felix Johnathan, 2 Agr Kirbyville Burton, Morrison Sheppard, 4 EE Tyler	Clennin,
Burton, Morrison Shennard, 4 EE Tyler	Clennin, : Cleveland,
, propperu, jici	o.c.ciuilu,

enry Will, 4 EESulphur Mines, Louisiana Kerr, 2 Arch Dallas
Iarlon Crawford, 1 TEDecatur
awrence Ralston, 1 PPE Albert John, 1 EE

Boughkeepsie, New York

Boughteepsie, New York

Boughteepsi Kaufman
Thomas Gustav, 4 TEBlackwell
el, Monte Evant, 1 Agr ..Lamkin
el, Malcolm Jerome, 1 Agr Lamkin Charles Russell, Jr., 1 ChE
Cuero
Pendleton
Cuero
Cuer Houston
Goldthwaite
Chelston Burton, 1 Agr
Bryan
Henjamin Frederick, 3 PPE
Shreveport, Louisiana
dis, 2 CE
Holdston, 1 LA
George Anderson, 1 LA
GalvestonHouston Galveston, Herbert, 1 LAGalvestøn Carlton Beauford, 1 EESomerset Ralph Edwin, 1 LAWichita Falls Gideon Lawrence, 4 CE Abilene

Abilene
orge Jenner, 1 LA Breckenridge
tomas Ashton, 1 AA

Texarkana, Ark.
Ralph William, 3 EE. Hereford
, Tom Kelley, 1 PPEDallas

Clinkinbeard, Allen Lynn, Jr., 3 EE	Craig, Norman William, 3 Land
Closner, John James, 2 ME Edinburg Cobb, Curtis Lee, 2 Agr Bryan Cochran, William Benjamin, 2 ME	Craig, Norman William, 3 Land San Antonio Cramer, Alan Campbell, 2 ChE Pharr Crase, Harold James, Jr., 2 Arch Grass Valley, Calif. Craven, James David, 1 CE Laredo Cravens, James Wade, 4 CE Anna Crawford, John Carroll, 1 ME Trinidad Crews, Jack Macmaster, 1 ME Trinidad Crews, Sim Hariton, 1 LA Kilgore Crisler, James Seymour, 3 CE San Antonio
Closner, John James, 2 MEEdinburg	Cramer, Alan Campbell, 2 ChEPharr
Cochron William Reniemin 2 ME	Crase, Harold James, Jr., 2 Arch
	Craven, James David, 1 CE Laredo
Cohn, Albert Arthur, 4 ChEDallas Colburn, George Samuel, Jr., 1 AgEng	Cravens, James Wade, 4 CEAnna
Colburn, George Samuel, Jr., 1 AgEng	Crawford, John Carroll, 1 MEHouston
Coleman, Charles Leonard, 1 VMAlpine	Crows Sim Harlton 1 LA Vilgor
Coleman, Glenn Winfred, 4 Agr	Crisler, James Seymour, 3 CE
Coleman, Glenn Winfred, 4 Agr McKinney Coleman, Myram Arlyn, 2 ChE Catarina Coleman, Spruiell Hunter, 4 EE	San Antonio
Coleman, Myram Arlyn, 2 ChECatarina	Crockett, Curtis Chelcie, 4 MEDenton
Coleman, Spruiell Hunter, 4 EE	Cross Robert Calvin 1 Agr Snur
Colglazier, Elmer William, 4 PPE	Crouch, Elton Keith, 2 AgrLometa
Coleman, Spruiell Hunter, 4 EE	Crockett. Curtis Chelcie, 4 ME Denton Crook, Richard Curtis, 4 CE Granbury Cross, Robert Calvin, 1 Agr Spur Crouch, Elton Keith, 2 Agr Lometa Crow, Barney Melvin, 4 EE Beeville Crow, Glen Madray, 1 AA Beeville Crow, John William, 2 IAE Milford Crow, Marion Odean, 1 PPE Milford Crowe, John Harrison, 1 ME San Benite Crow, Odean, 1 AgEd Nocona
Collier, Jesse Wilton, 1 AgrKilleen	Crow, Glen Madray, 1 AABeeville
Collins, Howard Taft, 1 ME Port Arthur	Crow, Marion Odean, 1 PPE Milford
Collins, William Denny, Jr., 1 LA	Crowe, John Harrison, 1 ME San Benito
Huntsville	Crownover, Austin, A., 1 AgEd Nocona
Collins, Warren Linton, 2 CM	Cullinan Harray James 1 MF
Collins, Warren Linton, 2 CM	Cumming, Gordon Fred, 1 Agr Sherman
Winters	Crowe, John Harrison, I MESan Benite Crownover, Austin, A., I AgEdNocona Cullen, Ben Wilson, I EESan Antonic Cullinan, Harray James, I MEHouston Cumming, Gordon Fred, I AgrSherman Cummings, Charlie Mabry, 3 LABryan Cunningham, Claude Leon, Jr., 2 ChE
Colson, William Nolan, 1 AA	Cunningham, Claude Leon, Jr., 2 ChE
C-14-i- D-1 D Office Station	Cunningham Henry Elvidge 4 FF
Galveston	Cunningham, Henry Elvidge, 4 EE Fort Worth Cunningham, John Dave, 3 AgEd
Commons, Glenn Curncy, 3 ME Mercedes	Cunningham, John Dave, 3 AgEd
Conly, Robert Sawyer, 1 ChEAsherton	Cunningham, Jordan Lowry, 4 PPE
Connelley, Robert Edwin 2 AcEd	Nome
Commons, Glenn Curncy, 3 ME Mercedes Conly, Robert Sawyer, 1 ChE Asherton Connally, Wilson Albert, 2 CM McGregor Connelley, Robert Edwin, 2 AgEd Fort Worth Connor, Earl Mathew, 3 Land Houston Connor, Royce 1 Agr	Cunningham, Joan Preston, 2 Agr Bryan Cupp, Louis Rosers, 1 ChE Tyler
Connor, Earl Mathew, 3 LandHouston	Cupp, Louis Rosers, 1 ChETyler
Conner, Royce, I Agr	Cutting, Richard Henry, 3 AA
Connor, Earl Mathew, 3 Land Houston Connor, Royce, 1 Agr Hubbard Conoley, Odell Maurice, 2 CM Amarillo Cook, Everett Earl, 1 CE Bushland Cook, Foy Oscar, 4 AA Lampasas Cook, George Perry, Jr., 4 CE Houston Cook, Marion, 3 EE Josephine Cook, Roy F., 4 Agr Lampasas Cook, Robert Geron, 2 CE Paris Cook, Milton M., 1 PPE Dallas Coop, Moray Claude, 1 VM San Antonio	Dagner, Charles Wiliam, 2 Che Dahlman, Terrell Ludwig, 3 Che Daiches, Leonard Benjamin, 1 LALaredo Dalton, Cecil Odus, 3 AA Blazon Wyoming
Cook, Foy Oscar, 4 AALampasas	Matagorda
Cook, George Perry, Jr., 4 CEHouston	Dailman, Terrell Ludwig, 3 ChECuere
Cook, Roy F., 4 Agr Lampasas	Dalton, Cecil Odus. 3 AA
Cook, Robert Geron, 2 CEParis	Dalton, Lloyd Amos, 2 IAEBryan
Cooke, Milton M., 1 PPEDallas	Dalton, Lloyd Amos, 2 IAE Bryan
Coop, Moray Claude, 1 VM	Danforth, Joe Jeff 3 LA
Cooper, Patrick Henry, 2 AgrSonora	Dansby, Durant Martelle, 2 LABryan
Cooper, Sam Thomas, 2 Ag EngDallas	Dameron, Zech Clifton, 4 AgrDel Ric Danforth, Joe Jeff, 3 LABryan Dansby, Durant Martelle, 2 LABryan Davidson, Harrold Willis, 2 LA
Cooper, Patrick Henry, 2 AgrSon Antonio Cooper, Patrick Henry, 2 AgrSonora Cooper, Sam Thomas, 2 Ag EngDallas Corbett, Deniss John M., 2 ChE	Davidson, John King, 1 CE Eagle Lake Davidson, Sam Norris, 2 CE Eagle Lake Davidson, Sam Norris, 2 CE Eagle Lake Davies, Alfred Ingram, 3 AA Bowie Davis, Curnie Meredith, 3 LA Mertens Davis, Charles Whatley, 4 EE Kaufman Davis, Floyd Basal, 3 Agr Santa Rosa Davis, Jack, 1 Agr Waxabachie
Candall Dantan William Daniel 1 CF	Davidson, Sam Norris, 2 CE Eagle Lake
El Reno, Oklahoma	Davies, Alfred Ingram, 3 AABowie
Cornett John Posyment 4 FF Wass	Davis, Curnie Meredith, 3 LAMertens
Cornell, Barton William Daniel, I CE	Davis, Floyd Basal, 3 Agr Santa Rose
Couch, Weldon Morris, 3 VMGrandview	Davis, Jack, 1 AgrWaxahachie
	Davis, John Barnes, 1 AgrFort Worth
Coulter, Wiliam Wallace, 1 SciHouston Coultroup, James George, Jr., 3 PPE	Davis, James Francis, I Che
Coultroup, James George, Jr., 3 PPE	Davis, John Howard, 1 ME Houston
Houston	Davis, Johnnie Mathew, 2 EEAmarillo
Council, Wilbur Allen, 2 AgrMercedes	Davis, Lyn Earl, 3 CE Dallas
Cowan Melvin Lawrence, 1 CE Pecos	Davis, Vernon Glynn, 4 AA Dallas
Cowart, Orville Pete, 1 MESilverton	Davis, Wiliam Gordon, 2 ChE Sweetwater
Coultroup, James George, Jr., 3 PPE Houston Council, Wilbur Allen, 2 Agr	Davis, Floyd Basal, 3 Agr Santa Rosa Davis, Jack, 1 Agr Waxahachie Davis, John Barnes, 1 Agr Fort Worth Davis, James Francis, 1 ChE Waco Davis, James G., 1 ME Huntsville Davis, John Howard, 1 ME Houston Davis, Johnnie Mathew, 2 EE Amarillo Davis, Lyn Earl, 3 CE Dallas Davis, Vann Bradley, 1 LA Brackettville Davis, Vernon Glynn, 4 AA Dallas Davis, William Gordon, 2 ChE Sweetwater Davis, William Hith, 1 CE Davison, F. A., 4 AgEd Almeda Davison, F. A., 4 AgEd Almeda
Cox Cranfill Hall Jr 1 Agr Gilmor	Davison, F. A., 4 AgEd Almode
Cox, Carroll Wayland, 3 AgrBuda	Day, Dorman Denver, 2 EE Dallas
Cox, Floyd W., 1 EEAmarillo	Dean, william valentine. I Chr.
Cox, George Walter, 2 CESan Antonio	Dearing, R. M., 2 PPE Dallas December, Franklin Otto, 1 EE
Cox. Roy Edward, 2 Sci Temple	December, Franklin Otto. 1 EE
Crabtree, Martin Perdue, 1 TEDecatur	Dedman, George Rucker, 1 ME Houston
Craddock, Truman Dubois, 3 AgrBurnet	Dedman, George Rucker, 1 ME Houston
Uraig, Mac H., I LAEdna	Dees, Allen Dewitt, 4 EEKaufman

Dehner, Loris A., 1 VM	Dunton, Ralph Lovett, 4 EESand Springs, Okla
Delamater, Benjamin Franklin, 1 CE	Durst, Horatio, III, 4 PPECrocket
Delleney, Burton Lingo, 4 EEFort Worth Dempwolf, Charles Martin, 2 ChE	Durst, Horatio, III, 4 PPE Crocket Durst, Roy Thorne, 1 ME Wac Dworkin, Max Marvin, 4 ChE Fort Wort Eads, Edwin Mouzon, 1 Arch Fort Wort
Denison, Raleigh Edmond, 4 CETemple Dent, George Marshall, 4 ArchGalveston	Eads, Edwin Mouzon, 1 Arch Fort Wort
Denison, Raieigh Edmond, 4 CETemple Dent George Marshall 4 Arch Colvector	Eakin, Larkin Cloves, 1 AgrMood
	Easley, Edwin Dean, 2 Agr Detroi
McKinney	Echols, Woodrow, 1 AgEngDalla
Devine, Charles Robert, 1 CEDaisetta DeWare, Jesse Marmduke, 1 Sci	Eakin, Larkin Cloves, 1 Agr
Dial, David Jesse, I EE	Eddins, Curtis Ramsey, 2 IAEMarlin
Dickey Calvin Arthur 4 FF Clabuma	Edelman, Joe, 3 PPETyle
Dickey, Joe Hubert, 1 EE Fort Worth	Edge Paul William Jr 3 LA Jewet
Dickie, Joe Alex, 1 AgrWoodson	Edmonds, Frank Rogers, 4 ChE Dublin
Dickson, Fielding Breeden, 3 ChE	Edmonds, W. S., 1 PPECollege Station
Dieles San Antonio	Eeds, Robert Anson, 4 PPE Prairie Le
Dikemen Metthew Menner 1 A A The	Eeds, Walter Leary, 2 CELockhar
Dillingham Mike Callahan 2 DDF	Effenderger, Ewald Joseph, 1 CEShine
Fort Worth	Egger, Samuel Levi, 1 EE Wichita Fall
Dillon, Joe Earl, 4 LA	Ehlert, Edward, Jr., 4 SciGalveston
Norfolk, Virginia	Eichblatt, Owen Hugh, 1 AgrHouston
Dinwiddle, Rondeau Border, 1 AATulia	Eichelberger, David Mc Fadden, 4 LA
Dikeman, Matthew Monroe, 1 AA. Temple Dilkeman, Matthew Monroe, 1 AA. Temple Dillingham, Mike Callahan, 2 PPE Fort Worth Dillon, Joe Earl, 4 LA Norfolk, Virginia Dinwiddie, Rondeau Border, 1 AA Tulia Dismukes, Charles Monroe, Jr., 1 AA	Fighholtz Charles Wedward 1 Sai
Dixon, Jess Garnet 1 Arch	College Statio
Dixon, Robert Gibbs, 1 ME Beaumont Doane, Jack Stephen, 1 LA Bryan Dobbs, Emmett Watkin, 4 Agr Grandview Dodd, Ivan Francis, 4 EE	Egger, Samuel Levi, I EE Wichita Fail Ehlert, Edward, Jr., 4 SciGalvestoi Eichblatt, Owen Hugh, 1 Agr Houstoi Eichelberger, David Mc Fadden, 4 LA
Dixon, Robert Gibbs, 1 MEBeaumont	New Braunfel
Dohne, Jack Stephen, 1 LABryan	Eitt, George Dan, 2 Agr San Antoni
Dodd. Ivan Francis 4 EE	Ellington Bornard Ochorn 4 PPE
Forester, Arkansas	Shelbyvill
Dodson, Ralph Jordan, 2 ChE Decatur	Eitt, George Dan, 2 AgrSan Antoni Elkins, Rollin Lafayette, 4 LAPalestin Ellington, Bernard Osborn, 4 PPE
Dollahite, James Walton, 4 VM	Pilot Poin
Dodson, Ralph Jordan, 2 ChEDecatur Dollahite, James Walton, 4 VM	Pilot Poin Elliott, Donald, 4 CECollege Statio Ellisor, Wilson, 1 AgrWilli Elrod, John Thompson, 1 MEHousto
Domingue, George Clifford, 2 LA Port Arthur	Elrod, John Thompson, 1 MEHouston
Domingue, George Clifford, 2 LA	Emery, Arthur Mac, Jr., 4 LADalla
Donaldson Thomas Kyle 4 Agr Austin	Emery, Arthur Mac, Jr., 4 LADalla Emery, Charles Culberson, 2 PPEDalla Emery, Duncan Macnab, 1 EE
Dooley, Thomas, 2 MEMcKinney	College Station
Donaldson, Thomas Kyle, 4 AgrAustin Dooley, Thomas, 2 MEMcKinney Doria, Juan C., 2 CEMonterrey, Mexico	Engelbrecht, Andrew Otto, 3 ME
Dorman, Harvey Smith, 4 Agr	Froth Grand Filmin 1 And Georgetown
Dorman, Harvey Smith, 4 Agr	Erath, George Edwin, 1 Agr
Douglas, William Jackson, Jr., 2 LA Trinity Downard, Richard Walter, Sp IE Bryan Downs, Thomas Hampton, 2 LA	Fort Worth
Douglas, William Jackson, Jr., 2 LA	Erskine, James Christian, 3 ME Seguir
Downard Richard Walton Sp. IF Bernard	Erwin, Marvin Edward, 8 ChE
Downs, Thomas Hampton, 2 LA	Eschenburg, Elwood Henry, 1 AA Shine
San Augustine	Estes, Harvey, Jr., 4 TEGranbur
Doyle, William Vincent, 1 EESidell	Estrada, Ramon Conrado, 1 MELared
Draper, George Henry, 3 AgrLoraine	Eubank, Hill Carter, Jr., 1 MEWac
Drees Charles Francis 2 FF Houston	Ludanks, Claude Reavis, 2 Agr
Doyle, William Vincent, 1 EESidell Draper, George Henry, 3 AgrLoraine Draper, Robert Fischer, 1 ACommerce Drees, Charles Francis, 3 EEHouston Druckhammer, Alvin Adolph, 1 AA	Eschenburg, Elwood Henry, 1 AA Shine Estes, Harvey, Jr., 4 TE Granbur Estrada, Ramon Conrado, 1 ME Lared Eubank, Hill Carter, Jr., 1 ME Wac Eubanks, Claude Reavis, 2 Agr New Orleans, La Evans, Joseph Earl, 2 AA Plainviev Evans, Lynn Augustus, 1 Arch Houston
	Evans, Lynn Augustus, 1 Arch Houston
Drushel, William Haley, 3 PPEEdna Dryden, Edward Marseille, 2 ME	Evans, Raymond Scott, 1 PPE
Dryden, Edward Marsellie, Z ME	Evens William Thurman 4 FF
Dryden, Joseph William, 3 AA Robstown	Corsican
DuBois, Charles Neal, 1 AAHarlingen	Ewing, Sankie Leslie, 1 ArchLared
DuBois, Samuel Max, 1 CESanta Anna	Faber, Damon Charles, 2 ChE
Dryden, Joseph William, 3 AARobstown DuBois, Charles Neal, 1 AAHarlingen DuBois, Samuel Max, 1 CESanta Anna DuBois, Wilburn, Jr., 2 CESanta Anna DuBois, Wilburn, Jr., 2 Ag Ed	Evans, Joseph Earl, 2 AA — Plainviev Evans, Lynn Augustus, 1 Arch — Houston Evans, Raymond Scott, 1 PPE — San Antoni Evans, William Thurman, 4 EE — Corsican Ewing, Sankie Leslie, 1 Arch — Lared Faber, Damon Charles, 2 ChE — West Columbi Fahring, Thomas Lloyd, 1 Sci — Anahua Fairbanks, George Hofford, 3 EE Dalla Falk, Milton, 4 ChE — Tyle
Hehran	Fairbanks, George Hofford. 3 EE Dalla
Dugan, Haynes Webster, 2 LA	
Shreveport, Louisiana	Fambrough, Truman Elmer, 1 Agr
	Breckenridg
Dunks, Robert Alton, 1 AgrCrosby	Farber, Leonard, 2 CM Denver, Colorad
Dunks, Robert Alton, 1 AgrCrosby Dunn, George Wandelohon, 3 AA	Farquhar, Bannister Wells, Sp ME
Charman	College Statio

Faust, Jerome Clark, 1 LA
Faust, Jerome Clark, 1 LA Faust, Wiliam Robert, 4 CE Comfort Feagin, Frank Joe, 3 EE Kaufman Ferguson, Charles Winston, 2 Sci Bryan Ferguson, Henry Bismarck, 3 EE Linares, Mexico Ferguson, Jack Newton, 2 EE El Paso Ferguson, Samuel Ben, 1 AA Leonard Fernandez, Ramon Manuel, 1 VM Fetzer, Edwin Lewis, 4 Sci Fichtner, Russel Wedeking, 3 LA San Antonio Filizola, Harold Joseph, 1 LA Filizola, Renato David, 1 LA La Cruz, Mexico Filizola, Umberto Daniel, 4 LA College Station Filley, David C., 1 CE San Antonio Finkenberger, Fred Bernard, 1 Sci Houston Finn, Alfred Charles, 2 Arch Houston
Ferguson, Jack Newton, 2 EE
Fetzer, Edwin Lewis, 4 Sci
Filizola, Harold Joseph, 1 LA
Filizola, Renato David, 1 LA
Filizola, Umberto Daniel, 4 LA
Filley, David C., 1 CE San Antonio Fincke, Melvin Fred, 2 ChE San Antonio Finkenberger, Fred Bernard, 1 Sci Houston
Finenberger, Fred Bernard, I Sci Houston Finn, Alfred Charles, 2 Arch Houston Fischer, Arthur Charles, 2 Agr Cuero Fischer, Harry Louis, 4 CE Houston Fischer, Harry Louis, 4 CE Houston Fischer, Henry, 2 VM Big Spring Fitzgerald, William Edward, 2 ME Shreveport, La. Fitzhugh, Henry Allen, 4 Agr Tolar Fitzhugh, William Neale, 1 LA Galveston Flannery, William Waring, 4 LA San Antonio Fleischmann, Carlos Semlinger, 4 Sci Charlotte
Fitzhugh, Henry Allen, 4 AgrTolar Fitzhugh, Wiliam Neale, 1 LAGalveston Flannery, William Waring, 4 LA
Fleischmann, Carlos Semlinger, 4 Sci
Fletcher, Robert Kemble, Sp. LA
Flood, Stephen John, 4 PPEWaco Flores, Luis Fernando, 3 Arch
Florsheim, Henry Edgar, 1 LA
Fleischmann, Carlos Semlinger, 4 Sci
Foote, Vincent Alan, 2 EESan Antonio Ford, Joseph Arvil, Jr., 1 EEFort Worth Ford, Oliver Edwin, 4 MECrockett Ford, Roy Russell, 2 EEFort Worth Forsgard, Shirley Clay, Jr., 1 ChE
Fortenberry, James Claude, 2 ChE
Flynn, James Paul, 3 PPE Port Arthur Foerster, Charles Otto, Jr., 2 Agr Thompsons Foote, Vincent Alan, 2 EE San Antonio Ford, Joseph Arvil, Jr., 1 EE Fort Worth Ford, Oliver Edwin, 4 ME Crockett Ford, Roy Russell, 2 EE Fort Worth Forsgard, Shirley Clay, Jr., 1 ChE Galveston Fortenberry, James Claude, 2 ChE Zavalla Fortune, John Caldwell, 1 Agr Dallas Foster, Donald Sam, 1 Sci Bryan Foster, Donald Sam, 1 Sci Bryan Foster, John Edward, 2 CE Laredo Foster, John Edward, 2 CE Laredo Foster, Joseph William, 1 LA Calvert Fowler, Edgar Reese, 3 EE Fort Worth Frachiseur, Edgar Reese, 3 EE Dallas Fraser, Tom Harlan, 3 ME Fort Worth Frazier, Clyde Cecil, 4 EE San Antonio Frazier, Joseph Cullen, Sp LA College Station Freeman, Harry Heath, 1 Agr Luling
Fransen, David Clark, 2 Sci Baytown Franz, Julius August, 2 ME Dallas Fraser, Tom Harlan, 3 ME Fort Worth Frazier, Clyde Cecil, 4 EE San Antonio Frazier, Joseph Cullen, Sp LA
Frazier, Joseph Cullen, Sp. LA College Station Freeman, Harry Heath, 1 AgrLuling Freeman, Lloyd Aemer, 1 ChETrinity Frels, John Fræd, 1 Sci Yoakum Frick, John Hertel, 2 ChEBay City Fridkin, Frank Edwin, 2 AA Tyler Frobese, Joe Cade, 2 Agr Cuero Froebel, Gus H., 2 TE Sæn Antonio Fuentes, Francisco Cruz, 2 Agr Tampico, Mexico

Fuentes, Hector Garza, 3 Agr Fullbright, Voyce Daniel, 4 CE Fuller, Robert Wiliam, 3 CE

San Antonio

Fuller, Theodore Albert, 4 PPE

College Station

Fuller, William Calvin, 1 EE Paint Rock

Gaines, J. C., Jr., Sp LA Bryan

Gainey, Elmer Carl, 1 Arch Abilene

Gaither, George Harrison, 2 AA Brenham

Gaitz, Jake, 1 LA Victoria

Gale, Mark Earnest, 1 VM

Concordia, Kansas

Gallman, Donald Poole, 1 Agr

Cotulla

Galloway, Wiliam Caldwell, 2 ME

Corsicana

Corsicana Gamble, Gus Newton, 1 Arch Dallas Gandy, Woodrow Wheeler, 1 EE Bryan Gantt, Richard Rayburn, 3 Sci Garza, Michael Henry, 1 ChE

Gaskey, John Randolph, 1 EE Batson
Gaston, John Emory, 4 Land Henderson
Gates, John Joseph, 4 LA Houston
Gearreald, Tull Neal, 3 AA Stephenville
Gebhart, Julius C., 4 ChE Dallas
Gensberg, Aaron, 4 ME Big Spring
Gent, Darrell Taylor, 1 Agr Moody
Gerlach, Charles Jacob, Jr., 1 AA Livingston Gerlach, Louis Frederic, 1 AA
Livingston
Livingston
Germany, William Neely, 2 ArchSan Antonio Gershovitz, Joe Benjamin, 2 ChE ...Hillsboro Gershovitz, Walter Lewis, 4 AA

Gibson, James William, 2 AA

Gibson, William Eugene, 1 TE

Navasota
Giesecke, Leonard Frederick, 1 TE Houston Giesen, Carl August, 2 Agr

New Braunfels

Gililland, Newton Beynard, 3 ME

Hareford

Gill, James R., 2 ChE

Gill, Shelby Price, 1 CE

Gillespie, Robert Williamson, 2 Ag Eng

Houston

Hareford

Large of the Company o Gilliland, Jack Allison, 2 CEGainesville Glass, Donald Campbell, 4 ME Glass, Emmett Vivian, Jr., 1 Arch Glassford, David Morris, 1 MF
Sweetwater
Glassford, David Morris, 1 MF
S. Hadley Falls, Mass.
Glenney, Julius George, 3 PPE Glenney, Walter Samuel, 2 IAE Godfrey, J. W., 1 EE Sweetwater Godwin, Grady William, 2 AgEd Lometa Goforth, Allen Preston, 4 AgrTolar Golasinski, Joe Alex 3 CE Houston Goldberg, Jacob Gilbert, 4 PPE San Antonio

Comez Reinh Carcia 1 VM Rryan	Harben Earle Blewett 4 ME Richardton
Cood William Edison 1 AA Dallas	Harban Ray Chan 2 ChE Richardson
Coode Jack Reagan 2 LA Regument	Harbin Andrew Lee 2 CE Warranchie
Gomez, Ralph Garcia, 1 VMBryan Good, William Edison, 1 AADallas Goode, Jack Reagan, 2 LABeaumont Goodman, Lionel Moise, 1 SciLaredo	Hardie, LeBron, 2 AgrEl Paso
	Hardin, Hughe Jackson, 1 LA Brya.
Quanah	Hardin, James Sidney, 2 TETerrell
Quanah Goodnight, Richard Homer, 4 AgEd Holland	Harben, Earle Blewett, 4 ME R'c'nardron Harben, Ray Chap. 2 ChE R'chardson Harbin, Andrew Lee. 2 CE Wardrone Hardie, LeBron, 2 Agr El Paso Hardin, Hughe Jackson, 1 LA Bryat Hardin, James Sidney, 2 TE Terrell Hardin, Ross Harris, 1 Agr Terrell Hardin, 7ack. 3 EE Dallas
Holland	Harding Jack, 3 EE Dallas Hardy, J. Richard, 1 CE San Antonio Hardy James Theodore, 1 LA Calvert
Goodrich, Thomas Battle, 4 LA Marlin	Hardy, J. Richard, 1 CE San Antonio
Goodwin, John Milton, 4 LECorsicana	Hardy James Theodore, 1 LACalvert
Gorin, Edwin, 2 EEPort Artnur	Hargett, Marshall Mortimor, 1 Agr
Comman, Base, 1 FFE Willisburd	Horlan James Frank 4 IAF Temple
Cocch Longet Charles 4 AgEd Flatonia	Herlan John Harold 1 PPF Resument
Goss. William Truett. 1 SciBelmont	Harlan, Josiah Smith, 2 Sci Temple
Gottlieb. Benjamin Manuel. 4 ChE	Harper, Irwin W., 1 Agr
Goodnight, Richard Homer, 4 AgEd Holland Goodrich, Thomas Battle, 4 LAMarlin Goodwin, John Milton, 4 EECorsicana Gorin, Edwin, 2 EE	Hargett, Marshall Mortimor, 1 Agr
Goule, Earnest, 3 AgrMenard	Harper, Roy Ernest. 1 AgEngAtlanta
Grady, James Thomas, Jr., 4 EE Denison	Harrell, Howard Henry, 1 VMLufkin
Graham, John Robert, Jr., 4 SciDalla:	Harrington, John Enr.ght, 1r., 1 EE
Grassman, Joseph Meyer, 1 AA Chenango	Shreveport, La.
Graves, Francis Marion, 2 Chr	Harris, Doyle, 1 LAMcKinney
Crows Honey I on In A IF Corsigens	Harris, Eugene Truett, 2 LAHouston
Graves, Henry Lee, Jr., 4 InCorsicana Grav Edwin Carlan 1 Agr Cleburne	Harris Coorge Erwin 1 ME Resports
Graves, Henry Lee, Jr., 4 IE Corsicana Gray, Edwin Garlan, 1 Agr Cleburne Gray, James Earle, 2 PPE Olney	Harris, Franklin Augustus, 2 ME Orange Harris, George Erwin, 1 ME Brazoria Harris, Glynn Lovett, 1 Arch Palacios Harris, John Lois, 3 AgEd Bryan
Greak, Wiliam Gerald, 2 Agr Liberty	Harris, John Lois, 3 AgEd Bryan
Green, Roscoe Herbert, 1 LandBryan	Harris, John Richard, 3 CEBryan
Gray, James Earle, 2 FPE Unley Greak, Wiliam Gerald, 2 Agr Liberty Green, Roscoe Herbert, 1 Land Bryan Greener, Rupert Welch, 4 ChE Pallas Greenberg, Zelick, 3 EE Tyler Greenwood, Hulen Mills, 1 EE Galveston Greer, Sydney Robert, 2 CE Tyler Gregory, John Clifford, 2 RE Tyler Gregory, Thomas McFarlan, 4 CE Dallas Growned Fred A Agr	Harris, Stone Datus, 4 MEDallas
Greenberg, Zelick, 3 EETyler	Harris, Thomas Briton, 4 PPE Odessa
Greenwood, Hulen Mills, 1 EEGalveston	Harris, Venoia McFarlan, 4 AgEd Tuleta
Greer, Sydney Robert, 2 CETyler	Harris, Wayne Meredith, 2 AA
Gregory, John Clifford, 2 RETyler	Homis William Namber 1 CE Toller
Gregory, Inomas McFarian, 4 CEDanas	Harrison Angus Albert 2 AA Luffein
G 'cc' T-1 Al 1 DT	Harrison, Hilton Piner 1 ME Longview
Griffith. Willie Brown, 1 AgrAbilene	Harrison, Lawrence Carter, 1 Agr
Griggs, Weldon, 1 AgrDecatur	Dallas
Griffith, Willie Brown, 1 Agr Abilene Grifgts, Weldon, 1 Agr Decatur Gross, Lewis, 4 ChE Waco Guerdrum, Thervald Jorgen, 1 CE Guinn, Jesse Pierce, 1 Agr Normangee Gunter Cecil Edward 2 ME Buna	Harris, John Lois, 3 AgEd Bryan Harris, John Richard, 3 CE Bryan Harris, Stone Datus, 4 ME Dallas Harris, Thomas Briton, 4 PPE Odessa Harris, Venoia McFarlan, 4 AgEd Tuleta Harris, Wayne Meredith, 2 AA Wills Point Harrison, Angus Albert, 3 AA Lufkin Harrison, Hilton Piper, 1 ME Longview Harrison, Lawrence Carter, 1 Agr Dallas Hartman, Richard F., 3 Agr Cuero Cuero
Guerdrum, Thervald Jorgen, 1 CE	Harvey, Alexander Thomas, 4 ME
San Antonio	Hass, Herbert William, 4 CEMission Hatch, Graham McFie, 4 CE
Guinn, Jesse Pierce, 1 AgrNormangee	Hass, Herbert William, 4 CEMission
Gunter, Cecil Edward, 2 MEBuna	Oklahoma City, Okla.
Gwin Robert Jewel 4 Agr Gensville	Hatch Richard David 4 TE Big Spring
Guy, George Henry, 1 ChECorpus Christi Gwin, Robert Jewel, 4 AgrOenaville Haber, Homer Philip, 4 EE	Hatcher Archie Ray 2 Agr Reguille
Jennings, La. Haegelin, Albert Alexander, 1 LA Hondo	Hatton, Joseph Milton, 2 Agr Abilene
Haegelin, Albert Alexander, 1 LAHondo	Haug, James Fink, 3 LandMarlin
Hagan, Walter H., 1 MEWaco	Hauger, Roy Leo, 4 CESan Antonio
Hagan, Walter H., 1 ME	Hatch, Richard David, 4 TEBig Spring Hatcher, Archie Ray, 2 AgrBeeville Hatton, Joseph Milton, 2 AgrAbilene Haug, James Fink, 3 LandMarlin Hauger, Roy Leo, 4 CESan Antonio Hawkins, De Leon, 3 CEGeorgetown Hay, James Morgan, 2 CMWaco Hayes Martin Edwin, 4 EEBryan Haynes. Clifford Graves, 2 CEFlavan: a Hays, Oscar Homer, 4 Ag EdMt. Pleasant
Hann, Clarence William, I LADallas	Hay, James Morgan, 2 CMWaco
naimowitz, nyman Marcel, 2 PPE	Haynes Clifford Crows 2 CF Element
Hall Albert C 2 EE Tules Oklahoma	Have Ocean Homen 4 Ag Ed
Hall. Earl Oxford. 3 EE	Mt Pleasant
Hall, Harry Dewaine, 1 Arch Bryan	Hebert, Jerrome Harvy, 4 EE Beaumont
Hall, Henry Taylor, 3 LAHouston	Heffler, Silas William, 2 EETyler
Halsell, Kay II, 2 EEBryan	Heidrich, Everett Roy. 4 ME Houston
Halmowitz, Hyman Marcel, 2 PPE San Antonio Hall, Albert C., 2 EE Tulsa, Oklahoma Hall, Earl Oxford, 3 EE McGregor Hall, Harry Dewaine, 1 Arch Bryan Hall, Henry Taylor, 3 LA Houston Halsell, Kay II, 2 EE Bryan Halfer, Richard Carlisle, 1 CE San Antonio	Hebert, Jerrome Harvy, 4 EE Beaumont Heffler, Silas William, 2 EE Thousand Heidrich, Everett Roy, 4 ME Houston Heil, Boyce F., 3 CE San Antonic Heinen, Clarence Hillyer, 1 LA Dallas
Halter, Richard Carlise, I CE. San Antonio Haltom, Forrest Edward, 4 EE. North Tarrytown, N. Y. Hamilton, Edwin William, 3 EE. Abilene Hamner, John Gilbert, 1 ME. Waco Hampton, Ireland, Jr., 4 ChE. Bryan Handler, Isadore Albert, 4 AA. Galveston Handler, Dock Hirton, Ir.	Heil, Boyce F., 3 CE San Antonic Heinen, Clarence Hillyer, 1 LA Dallas Heinen, Julius Bernard, Jr., 3 LA Dallas Heinrich, Kermit Herman, 3 Land Corpus Christi Helbing, Hugh Van Ettan, Jr., 1 Sci Fort Worth Heldenfels, Frederick William, Jr., 4 CE Beeville
North Torrest North Torrest N V	Heinen, Julius Bernard, Jr., 3 LADallas
Hamilton Edwin William 3 FE Abilana	Compa Christi
Hamner, John Gilbert, 1 ME Waco	Helbing, Hugh Van Etten Jr. 1 Sci
Hampton, Ireland, Jr., 4 ChE Bryan	Fort Worth
Handler, Isadore Albert, 4 AAGalveston	Heldenfels, Frederick William, Jr., 4 CE
Handler, Dock Hinton, Jr., 4 CE Teague	Beeville
Handy, Robert Weldon, 1 LAAbilene	Heldenfels, Hugh Cullen, 1 AA Beeville
Handler, Dock Hinton, Jr., 4 CE Teague Handy, Robert Weldon, 1 LA Abilene Hankla, Randolph Allen, 1 LA	Heldenfels, James Riley, 1 AA Beeville
Hanks, Henry R., Jr., 1 EE Wighits Follow	деіm, Floyd Hamilton, Jr., 2 AA
Hanks, Henry R., Jr., 1 EEWichita Falls	Heldenfels, Hugh Cullen, 1 AA Beeville Heldenfels, James Riley, 1 AA Beeville Helm, Floyd Hamilton, Jr., 2 AA Bridgeport Henderson, Coleman Worth, 1 CE
	Cranding Coleman Worth, 1 CE
Hanrahan, John Joseph, 1 EEOkmulgee, Oklahoma	Henderson, Herman Olen, 2 RE Kuntan
Hansard, William Mark, I ME	Henderson, James Connor, 1 Sci Avinger
Fort Worth	Henderson, Herman Olen, 2 RE Kurten Henderson, James Connor, 1 Sci Avingen Henderson, Joseph Martin, 4 PPE
Transport Transp	

Henderson, J. Y., 2 VMCollege Station Henderson, Samuel Whilden, Jr., 1 EE	Howard, Matt Edd, 1 AgrSpanish Fort
Henderson, William Thomas, 1 PPE	Howard, Matt Edd, 1 AgrSpanish Fort Howard, S. J., Jr., 1 AASan Saba Howder, James Douglas, 4 LAFt. Crockett
Henley Charles Preston Jr. 2 ChE	Howdeshell, Harmon Martin, 4 ME Sherman Howe, Parker William, 1 ME Dallas Hoyle, Orville K., 3 AgEd Poolville Hubbard, Fred Avery, 2 ME Temple Hubbard, William Bogel, 3 PPE Marfa Hubby, Laurence Meade, 2 EE Waco Huckabee, John Winter, 3 Agr Holland Huckabee, Roy Lee, 2 Agr Holland Hudgins, Edgar Hinkle, 4 Agr Hungerford
Fort Worth	Howe, Parker William, 1 MEDallas
Henley, Charles Preston, Jr., 2 ChE	Hoyle, Orville K., 3 AgEdPoolville
Hering, William Albert, 3 ChkTaylor	Hubbard, Fred Avery, 2 METemple
Hermann, Robert Charles, 3 Sci Yoakum	Hubbard, William Bogel, 3 PPEMaria
Herring John William 3 AA Cuera	Huckshee John Winter 2 Age Holland
Herzik, Gus Ralph, Jr., 3 CE Engle	Huckabee, Roy Lee, 2 Agr Holland
Herrinn, Robert Charles, 3 Sci	Hudgins, Edgar Hinkle, 4 Agr
Hewitt, Wilmer Walter, 4 REGroesbeck	Hungerford
Hickey, Wiliam Henry, 3 EE	Hudson, James Ford, 1 ArchWharton
San Antonio	Hudson, James Ford, 1 Arch
Hickman, William Martin, 1 LA	Huff, David Harmon, 4 PPE Fort Worth
Hieatt, Robert, 4 LA Bryan	Huffhings Flmor Forls In 2 ChF
Hielscher, Charles Newton, 3 IAE	Richardson
Higgins, William Thomas, Jr., 2 AA	Hughes, E. J., 2 Agr Dublin
Higgins, William Thomas, Jr., 2 AA	Hughes, Glen Davis, 4 PPETaft
Bastrop	Hughes, Richard L., 1 LA College Station
Hildebrandt, Alexander Babber, 3 EE	Huguelet, Ned Hugh, 1 EEForreston
Hildebrandt, Edward Frank, 2 Arch	Huftaker, Koy, I ME. San Antonio Hufthines, Elmer Earle, Jr., 3 ChE
midebrandt, Edward Frank, Z Arch	Hull, John William, 2 EE Sonora Hull, Noble Lee, 3 Sci Pittsburg Hunnicut, Joseph Weldon, 3 Arch Fort Worth
Hill Arthor Leon 2 CE Corrigana	Hull Noble Lee 3 Sci Pittsburg
Hill, Carl Arvie, 1 CE Seagraves	Hunnicut, Joseph Weldon, 3 Arch
Hill, Arthor Leon, 2 CE	Fort Worth
Hill, Melvin Bernard, 2 AgrBryan	Hunt, L. B., Jr., 2 REKosse
Hill, Ralph Kelly, 2 ChETelferner	Hunt, Oliver Joel, 4 RETeague
Hill, William Newton, 1 EETyler	Hunter, Felix Albert, 3 ChEDallas
Hiner, Thomas Lynn, 3 EEShamrock	Hunter, Thomas Frank, 2 PPE
Hill, Edwin Henry, 3 IAE	Hunnicut, Joseph Weldon, 3 Arch ————————————————————————————————————
Hodge, Robert Jefferson, 2 AgrPledger Hodgson, Raymond Burr, Jr., 3 CE	Hutcheson, Guy Carlton, 4 EE Denton Hutchison, Raymond Lee, 1 AA Graham Huth, Alvin Lorain, 1 ME San Antonio Hutson, Ficherd Woodword, 2 I A.
Hodgson, Raymond Burr, Jr., 3 CE	Hutcheson, Guy Carlton, 4 EE Denton
Houston	Hutchison, Raymond Lee, 1 AAGraham
Hoeffert, George John, 2 ChEWaco	Huth, Alvin Lorain, 1 ME San Antonio
Hoeffert, George John, 2 ChEWaco Hoffmeister, Carroll King, Jr., 2 ChEWarth	Hutson, Richard Woodward, 2 LA
Holonson Home Com 2 AA To City	Hutson, Richard Woodward, 2 LA East Orange, N. J. Hutto, Thomas Louis, 1 AgrCoshoma Hyde, Wiliam Strickland, 4 MEPampa Ingram, George Lee, 3 ArchNederland Irvine, Houston Noell, 2 AgEng Fort. Worth
Holcomb. Ernest James. 4 LA	Hyde. Wiliam Strickland 4 ME Pampa
College Station	Ingram, George Lee, 3 Arch Nederland
Holke, William Emory, 4 CEHouston	Irvine, Houston Noell, 2 AgEng
Holland, Herman Trustin, 2 IAE	Fort Worth
College Station	Irwin, Boyce Maurice, 4 AgrKosse
Holley, Robert James, 2 PPE	Irwin, Boyce Maurice, 4 Agr
Hoffmeister, Carroll King, Jr., 2 ChE	Jackson, Chester Warren, 4 AgEdCenter Jackson, James Leroy, 4 ChEFort Worth Jackson, James Roy, 1 LAMontgomery Jackson, Robert Francis, 4 EETerrell Jackson, Thomas Rex, 2 IECollege Station
Fort Worth	Jackson, Chester Warren, 4 AgEd Center
Holloway, Ernest Robert, 1 ME	Jackson, James Leroy, 4 ChE Fort Worth
Galveston Galveston	Jackson, James Roy, 1 LAMontgomery
Holmes, George Vernon, 3 AgrGonzales Holmes, James Russell, 1 ME	Jackson, Robert Francis, 4 EETerrell
San Antonio	College Station
Holmes, Wiliam Worth, 3 CE Shamrock	Jackson, Wilbur Mortrude, 4 FF
Homeyer, Paul Gustav, 3 Agr Fort Worth	San Antonio
Hooper, Ralph William, 1 LA Wellington	Jahn, Fred A., 2 CEGonzales
Hooser, Donald Bedney, 3 MEMilford	Jahns, John Charles, 4 ME Fort Worth
Hooser, William Bonis, 2 AgrSeymour	Jackson, Wilbur Mortrude, 4 EE San Antonio Jahn, Fred A., 2 CE Jahns, John Charles, 4 ME Jalufka, Lawrence Alfonse, 1 AgEng Hellettrille
Horn Forl Scherer 4 ChE Dollac	Jamail George Dobr 1 ChE Houston
Horn, Gifford Ainsley, 1 ChE	James, Lee Evnon, 1 Agr Pendleton
Sugar Land	Jamail, George Dohr, 1 ChE
Horn, Huley B., 4 AASpur	
Horn, L. C., 1 AASpur	Floydada
Horner, Paul Welton, 1 ChESpur	January, Bruce Wright, 2 ME Delia January, James Robert, 2 ME Electra Japhet, Gustav Daniel, 1 LA Houston Jarboe, Earl Annis, 1 EE San Antonio
Nacozari Marica	Janhet Gustav Daniel 1 TA United
Horton, Ulric Guy, 2 IAE Sahinal	Jarboe, Earl Annis, 1 EE San Antonio
Houk, Joe Taylor, 1 SciSanford	Jarman, Thomas Edward, 3 ChEWaco
Howard, Charles Henry, 2 ChE	
Holmes, James Russell, 1 ME San Antonio Holmes, Wiliam Worth, 3 CE Shamrock Homeyer, Paul Gustav, 3 Agr Fort Worth Hooper, Ralph William, 1 LA Wellington Hooser, Donald Bedney, 3 ME Milford Hooser, William Bonis, 2 Agr Seymour Hopkins, Philip Roland, 2 ChE Lone Oak Horn, Earl Scherer, 4 ChE Dallas Horn, Gifford Ainsley, 1 ChE Sugar Land Horn, Huley B., 4 AA Spur Horner, Paul Welton, 1 ChE Spur Horner, Paul Welton, 1 ChE Spur Horton, Robert William, 2 Agr Horton, Ulric Guy, 2 IAE Sabinal Houk, Joe Taylor, 1 Sci Sanford Howard, Charles Henry, 2 ChE Sanford Howard, Lewis Benton, 3 PPE	Jeffries, James Andrew, 3 ArchFort Worth
noward, Lewis Benton, 3 PPE	
Shreveport, La.	Jenkins, Ross Benton, 4 Ag EdDeLeor

Jennings, Audrey John, 4 CE	Kimball, Bok, Jr., 1 SciParis Kimbrell, George William, 1 ME
Sanatorium	Kimbrell, George William, 1 ME
Jennings, Carl Hillard, 4 PPEDenison	
Johnson, Alfred Peter, 4 LAAlvin	Kimbrough, William Richard, 2 Agr
Johnson, Arnold Richard, 4 AA	King Richard, 2 CE San Antonio
Inhaen Charles Augustus 1 I A	Kirk, Ribelin Garey, 1 CE
	King, Richard, 2 CE San Antonio Kirk, Ribelin Garey, 1 CE Carrizo Springs Withhead Head Extra
Johnson, Charles Irving, 1 ME Corsicana	Kittleband, Harold Patton, 1 AAMidway Kleber, John Preston, 2 ChEDallas Klein, Richard Austin, 2 CE
Johnson, Curtis Elmer, 4 ChEGordon	Kleber, John Preston, 2 ChEDallas
Johnson, Glover Douglas, 1 EECorsicana	Klein, Richard Austin, 2 CE
Johnson, J. B., 2 ArchDallas	College Station Klein, Theodore Whitham, 2 CE College Station
Johnson, John Henry, 3 EE Fort Worth	College Station
Johnson Laud 2 ME. Corrigans	Klink, Robert John, 1 LAEdinburg
Johnson, Lynn Page, 1 ChE McKinney	Klossner, Robert Henry, 2 CEEdinburg
Johnson, Maynard W., 3 ME Amarillo	Knapp, Frank Gilson, 1 LACalvert
Johnson, Walter Frederick, 3 Agr	Knapp, George Farker, 1 LACalvert
Yoakum Yoakum	Knigge Julius Amberg, 1 EE LaGrange
Johnson, Charles Irving, 1 ME Corsicana Johnson, Curtis Elmer, 4 ChE Gordon Johnson, Glover Douglas, 1 EE Corsicana Johnson, J. B., 2 Arch Dallas Johnson, John Henry, 3 EE Fort Worth Johnson, John Peyton, 1 ME Dallas Johnson, Laud, 2 ME Corsicana Johnson, Lvnn Page, 1 ChE McKinney Johnson, Maynard W., 3 ME Amarillo Johnson, Walter Frederick, 3 Agr Yoakum Johnson, William Samuel, Jr., 2 ME Bryan	Klink, Robert John, 1 LA
Johnston, Carl Cameron 4 FE Victoria	Texarkana, Ark.
Johnston, Harry Wilton, 2 Sci Laredo	
Johnston, Ted, 1 AABryan	Shreveport, La.
Jones, Albert Gallatin, 1 AgrBryan	Kongery Leon Thomas 2 EE Rryan
Johnston, Carl Cameron, 4 EE Victoria Johnston, Harry Wilton, 2 Sci Laredo Johnston, Ted, 1 AA Bryan Jones, Albert Gallatin, 1 Agr Bryan Jones, Andrew Pat, 3 EE Hereford Jones, Arthur Schuyler, 2 CM	Kohler, Gustave John, 3 Sci "Palestine Konecny, Leon Thomas, 2 EE "Bryan Kothmann, Henry Fritz, 4 Agr "Mason Krenek, Stanley John, 2 Arch "Caldweil Krumholz, Aaron, 2 ChE "Tyler Kuehne, Oscar August, 1 ME "San Antonio
Son Antonio	Krenek, Stanley John, 2 Arch Caldwell
Jones, Everett Eldon, 2 AgEd Clyde	Krumholz, Aaron, 2 ChETyler
Jones, Everett Eldon, 2 AgEdClyde Jones, Heiman Franklin, 1 Arch	Kuehne, Oscar August, 1 ME
Jones, Hershel Voit, 1 CE	Kuenne, Oscar August, 1 ME San Antonio Kunitz, Richard Theodore, 1 ChE Sinton Kunkel, Turner Lee, 4 ME Megargel Kyle, Albert Burleson, 2 Agr Whitney Kyle, Wood Barlee, 1 Agr Whitney Laas, Moylan Ernest, 1 Arch Sealy Lagow, Charles Marshall, 4 CE Dallas Lals Gilbert Otto, 1 Agr Placedo
Jones, Hersnel Voit, I CE	Kunkel, Turner Lee, 4 MEMegargel
Jones, John Kirby 4 EE Resument	Kyle, Albert Burleson, 2 AgrWhitney
Jones, James Theodore, 1 Agr Belton	Kyle, Wood Barlee, 1 AgrWhitney
Jones, Jordon Vance, 1 AgEngBryan	Laas, Moylan Ernest, 1 ArchSealy
Jones, Leonard Bonham, Sp SciTaft	Lala Gilbert Otto, 1 Agr Placedo
Jones, John Kirby, 4 EE Beaumont Jones, James Theodore, 1 Agr Belton Jones, Jordon Vance, 1 AgEng Bryan Jones, Leonard Bonham, Sp Sci Taft Jones, Lewis Henry, Jr., 4 CE	Lala, Gilbert Otto, 1 AgrPlacedo Lambert, Gordon Huston, 2 Land
Jones, Stephen Anson, 3 LAFort Worth Jordan, Wharton Thomas, 2 RE	Shreveport, La. Lamkin, Clarence Mark, 1 AgrPonder Lancaster, Darrell Boyd, 2 ME
Jordan, Wharton Thomas, 2 RE	Lamkin, Clarence Mark, 1 AgrPonder
Jorgensen, Roy Clifford, 4 EE San Antonio Joseph, Joseph Leonard, 1 LA Galveston Joseph, Sam Francis, 1 LA Austin Joyce, Claude Patrick, Jr., 4 EE Dallas Kaltwasser, Ervin Theodore, 3 ME	Dancaster, Darrell Boyd, 2 ME
Jorgensen, Roy Unitord, 4 EE	Land, Lenoir Martin, 2 AAVivian, La.
Joseph, Joseph Leonard, 1 LA Galveston	Landrum, John Marcus, 4 AgrTaylor
Joseph, Sam Francis, 1 LAAustin	Landry, Milton John, 1 AgrLuling
Joyce, Claude Patrick, Jr., 4 EEDallas	Landrum, John Marcus, 4 AgrTaylor Landry, Milton John, 1 AgrLuling Lanford, Lawrence Earl, 1 Agr Longview
Kaitwasser, Ervin Theodore, 3 ME	Lang, John Edward, 1 PPE Dallas Langford, Henry Lee, 2 PPE Bryan Langham, Noel, Thomas, 3 SciMission Langley, Marshall Arlon, 1 Sci Fentress Langley, Samuel Firth, 2 LA Austin Carrier, Springs
Kana, Fred John, 4 RE La Grange Karnes, Tom Ezelle, 2 CE Dallas Keath, Grady Forbes, 2 AgEd	Langford, Henry Lee, 2 PPEBryan
Karnes, Tom Ezelle, 2 CE Dallas	Langham, Noel, Thomas, 3 SciMission
Keath, Grady Forbes, 2 AgEd	Langley, Marshall Arion, 1 Sci Fentress
Keeling Willard Loo 2 AA	Langley, Samuel Firth, 2 LAAustin
Keith, Perry Jack, 4 ME Dallag	Langston, Gordon George, 2 IAE
Keith, Paul Lattimore, 4 ChE	Langston, Gordon George, 2 IAE
Keeling, Willard Lee, 3 AA Marlin Keith, Perry Jack, 4 ME Dallas Keith, Paul Lattimore, 4 ChE Fort Worth Keller, John Gaston, 1 CE Terrell Kelly, Myles Adrian, 3 ME Monore, La. Kenderdine, John Marshall, 3 PFE	Langston, Wallace Randolph, 2 AA
Kelly Myles Adrian 2 MF	Langston, Wanace Randolph, 2 III
Monore La	Lanning, James Maurice, 2 SciClane
	Larner, Don Curtis, 4 AgEd
Fort Worth	TaBaa Dan Millon 2 DDE Palestine
Kendrick, Homer William, 1 ChE Dallas Kendrick, Meredith Bailey, 2 TE	Larner, Don Curtis, 4 Aged Morgan Mill LaRoe, Dan Miller, 3 PPE Palestine Latham, A. P., 1 Agr Spur Latham, Clyde Cecil, 1 Agr LaTurno, Edgar Haden, 1 AgEng
Amarilla	Latham, Clyde Cecil, 1 AgrSpur
Kennerly, Tom Provence, 3 Sci Houston	LaTurno, Edgar Haden, 1 AgEng
Kennerly, Tom Provence, 3 SciHouston Kenney, Timothy Charles, 4 CE	Harlingen
Konny James Andrew 1 FF	LaTurno, Edgar Haden, 1 Ageng ——————————————————————————————————
Kenny, James Andrew, 1 EE	Lawless, Lindsey Lee, 1 REKurten
Kerber, Jack H., 1 ME Houston	Lawrence, Ralph Edwin, 1 EEDallas
Kerley, Odus Clyde, 4 IAESherman	*Lawrence, William Freeman, 2 ME
Kerr, Ernest Lee, 1 PPESan Antonio	•••••
Kerler, Jack H., 1 ME Houston Kerley, Odus Clyde, 4 IAE Sherman Kerler, Ernest Lee, 1 PPE San Antonio Kerr, Raymond Lawrence, 3 Arch	Lay, Daniel Wayne, 1 AgrBeaumont
	Lea, Norman Jared, 4 EEMarshall
Khazzam, Naim Eliahou, 4 Ag Eng Bagdad, Iraq	
Killough, Paul Haran, 1 AgrHubbard	*Deceased
	5

Leach, Herbert Weldon, 3 EEStephenville
Lee, Martin Homer, Jr., 3 AA
Lee, William Edward, 1 AATankersley Lehde, Henry Frederick, 1 AA
Leibs, Jerome Stanley, 1 EE Tyler Leighton, Charles K., 4 CE Corsicana Leshikar, J. D. Covington, 1 LA Taylor Leslie, Arthur Charles, 1 ME
Leach, Herbert Weldon, 3 EE Stephenville Lee, Martin Homer, Jr., 3 AA Wichita Falls Lehde, William Edward, 1 AA Tankersley Lehde, Henry Frederick, 1 AA Washington Leibs, Jerome Stanley, 1 EE Leighton, Charles K., 4 CE Lesile, Arthur Charles, 1 ME San Antonio Leslie, Arthur Charles, 1 ME Lessig, Paul Herbert, 1 ChE Lewis, Dudley Joe, 1 CE Lewis, Dudley Joe, 1 CE Lewis, Dudley Joe, 1 CE Lewis, Robert E. Jr., 4 CE Lightfoot, James Herbert, 4 ChE Lilienstern, Charles Holman, 3 LA Lilley, Frank Shannon, 2 Agr Lillie, Fred Vance, 4 CE Lillie, Fred Vance, 4 CE Lindustry Lindinger, Joe Lloyd, 1 EE Lindustry Lindinger, Joe Lloyd, 1 EE Leaumont Littlejohn, Jack Heflin, 1 LA Tulia Tulia
Lightfoot, James Herbert, 4 ChE
Lilienstern, Charles Holman, 3 LA
Lilley, Frank Shannon, 2 AgrConroe Lillie, Fred Vance, 4 CESan Antonio Lilly, Artice Albert, 1 AgrFort Worth Lindemann, Marvin Edward, 4 RE
Lindinger, Joe Lloyd, 1 EE Yoakum Litchfield, William Howard, 4 ChE
Lloyd, Irvin Henry, 1 SciBryan Lluy, Jose Jorge, 1 EEGuines, Cuba
Logan, Sam Thomas, 3 Agr
Lock, Howard Harley, 1 Agr. Bastrop Loewenstein, Ike Moritz, 2 LA El Paso Logan, George Albert, 2 Agr. Georgetown Logan, Sam Thomas, 3 Agr. Sonora Logan, Willard Bentley, 3 EE Dallas Loggie, John Reid, 1 CE Wichita Falls Long, Clarence Denman, 3 ME Roscoe Long, Earl Yell, 2 ME Cleburne Long, Henry Marks, 1 ME Marshall Long, Robert Bird, 4 AA Dallas Long, Raymond Wells, 3 EE Marshall Loper, Frank Alton, 2 Sci. College Station Loper, James Frederick, 3 EE Teague Lord, George Plez, 4 Agr. Jourdanton Lord, Harry Robert, Jr., 2 TE Hebron Lott, Edward Eugene, 1 Sci. Galveston Loupet, Judson Emil, 3 AA Dallas Love, Doe Neel, 4 ME Sherman Love, Paul Eugene, 1 ME Brownsville Love, Ralph Webb, 1 LA Dallas Love, Tot Milburn, 1 Agr. Mountain Home Lovett, George Dare, 1 PPE Trinity Lovett, Max Dowell, 3 Arch Roby Loving, Robert Olin, 1 EE Meuman, Martin Francis, 4 ChE Ludeman, Martin Francis, 4 ChE Ludeman, Martin Francis, 4 ChE Ludeman, Walter A., 4 EE Gainesville Luker, J. B., 2 Agr. College Station Luse, Willard Oscar, 3 EE Ludeman, Walter A., 4 EE Gainesville Luker, J. B., 2 Agr. Rowlett Lurie, Hirsch Meyer, 1 Agr. Houston Luse, Willard Oscar, 3 EE Scotia, N. Y. Lyle, Henry Norwood, 3 PPE Shamrock Lyon, James Alvlor, 1 EE Buffalo McAlister, Ernest Elmo, 4 AgEd Stephenville
Lovett, George Dare, 1 PPE
Lovoi, Frank Joseph, 3 EE Beaumont Lucas, Delton Lebus, 1 Agr Rockdale Luckett, Paul Herbert, 3 ChE El Pajo Ludeman, Martin Francis, 4 ChE
Ludeman, Walter A., 4 EE
Lusk, Donald Thomas, 3 Sci
Lyle, Henry Norwood, 3 PPEShamrock Lyon, James Alvlor, 1 EEBuffalo McAlister, Ernest Elmo, 4 AgEd Stephenville

McClellan, Chandler Younge, 3 EE San Antonio McClendon, Ernest Andrew, 3 ChE McClerken Harold Edward 1 Andrew, 3 Che Cleburne
McClurkin, Fred George, 2 EE Mineral Wells McCracken, Harold Edmund, 1 Agr
Kingsville
McCubbin, Warren George, 2 Agr
Valley View McCurdy, Clifford Offer, 2 Arch McCutcheon, Alfred Holt, 1 AA McDonald, James Collie, 1 Agr Miles
McDonald, James Collie, 1 Agr Miles
McDonald, James W., 1 CE
McDonald, William Thomas, 2 LA Bryan
McEver, C. D., 2 Agr Hillsboro
McFatridge, James Morris, 2 Agr Roxton
McGee, Virgil Jones, 2 CE Canyon
McGee, Otho Abnec, 2 PPE Dallas
McGrath, John Joseph, 4 Agr Galveston McGregor, Theodore, 3 Agr Bryan
McHaney, Joe Cornelius, 2 LA
McIntosh, William Proctor, 1 EE ...Calvert
McKay, Edwin Oliver, 3 ME ...Tyler
McKenzie, Andrew Jackson, Jr., 3 CE McKenzie, Andrew Jackson, Jr. 3 CE

McKenzie, Homer Wilson, 3 ME Denton
McKenzie, William Henry, 4 LA

Clarendon, Va.

McKnight, James Oliver, 3 Land
McKnight, Reginald Seman, 3 AA

Jacksonville
McLarry, Weldon Gray, 3 EE

Sulphur Springs
McLemore, Robert Henry, 4 PPE
McLemore, Robert Henry, 4 PPE
McLeroy, Ervin Balfour, 3 Ag

McLeod, William Angus, 3 LA

Cuero
McLeroy, Ervin Balfour, 3 Ag

McMahon, Thomas Joseph, 1 LA

Houston
McMillan, Joseph Crup, 2 LA

Humble
McMillan, Jesse Marcus, 4 CE

San Antonio McMillan, Woodrow Buchanan, 2 AA McNiel, Norbert Arthur, 2 AgrMoody McPheeters, William Hunter, 1 AgEngStillwater, Okla. McReynolds, James Harry, Jr., 4 PPESherman McVey, George Walter, Jr., 4 IAE Parsons, Kansas

Mabry, Benjamin Bradley, 4 ME	Melden, Theodore Manley, Jr., 4 CE
Machemehl, William Paul, 4 AA	Melton, Garrett_Fonville, 1 LAHouston
Mackey, Lorin Wesley, 1 ChE	
Madeley Belond Combin 2 American, Okla.	Merrell, Cecil William, 1 LAWhite Deer
Madeley, Roland Curtis, 2 AgrConroe Magers, Hugh Thomas, 1 Agr Bretten, Okla. Magers, Hugh Thomas, 1 Agr Breckenridge	Merka, Jeremiah Huss, 2 Agr Bryan Merkal, Jeremiah Huss, 2 Agr Bryan Merrell, Cecil William, 1 LA White Deer Metz, Thomas Walley, 1 EE Center Metzger, Jacob, 2 AA Dallas Newbourne, Curtis Alvin, 2 CE
Magrill, Otis Byrom, 4 Agr Marshall Mahaley, Orval Burns, 1 Agr Frost Mainer, Clyde Williams, 4 Agr Waco Malavansos, Gus Chris, 1 LA Brenham Mallepell, Jack, 4 ME San Antonio Malone, Charles C., 2 LA Dallas Malone, Thomas Henry, Jr., 4 ME Manahan, Wilburn, 1 LA Abilene Mangum, Wilson Page, 1 LA Bryan Manley, Jesse Wayne, 3 AA Fort Worth Manzanera, Lorenzo, 4 CE San Antonio Marcum, Clarence Edwin, 4 LA	Newbourne, Curtis Alvin, 2 CE Shreveport, La. Meyer, Charles Henry, 2 AA
Mainer, Clyde Williams, 4 AgrWaco	Meyerson, David Wolford, 2 ChEHouston
Malina Frank Joseph 2 MF' Propher	Michael, Raiph, 1 AgrWinter Haven
Mallepell, Jack, 4 ME	Middlekauf, Charles Baker, 1 Arch
Malone, Charles C., 2 LA	Mika Fred Pete 3 Agr Rallinger
El Paso	Milburn, Philip M., 2 Sci San Antonio
Manahan, Wilburn, 1 LAAbilene	Miller, Arthur A., 2 AgrNewton
Mangum, Wilson Page, I LABryan	Miller, Alvin Julius, 4 ChECorsicana
Manzanera, Lorenzo 4 CE. San Antonio	Miller Guy Allen 1 ME Hewitt
Marcum, Clarence Edwin, 4 LA	Miller, James Ead, 3 AgrSinton
Estelline	Miller, Jasper William, 1 CMHouston
Marek, Jerry William, 2 ChE Brenham	Miller, Louis, 4 LandCorsicana
Marquette, Louis Leddon, 1 CE Teague	Miller, Larane Kennie, 1 AgrEdna
Marquez, Robert Felipe, 4 LA Yorktown Marquez, Salvador, 4 LA Vorktown	Miller, Artnur A., 2 Agr
Marek, Jerry William, 2 ChEBrenham Marquette, Louis Leddon, 1 CETeague Marquez, Robert Felipe, 4 LAYorktown Marquez, Salvador, 4 LAYorktown Marshall, Robert Pleasant, 4 Agr	Miller, Stanley Jackson, 2 ME
Marghell Thamas Heidenheimer	Miller, William Henry, 1 ChE Temple
Marshall, Thomas Arch, 2 AA	Miller, William Henry, I Che Temple Millsaps, Reuben Maxwell, 1 AA
	Edgewood
Martin, Clarence Herbert, 1 LA Taylor	Milner, James Wilbourne, 1 EEWaco
Martin, Earl Francis, 2 AAShamrock	Mimms, Otho Leroy, 4 AARalls
Martin, Harold Minner, 4 ME Harlingen	Mims, Percy James, 4 Agr Fort Worth
Martin, Hewlett, Browning, 1 LA Denton	Milner, James Wilbourne, 1 EE Waco Mimms, Otho Leroy, 4 AA Ralls Mims, Joe Bryan, 4 VM Cleburne Mims, Percy James, 4 Agr Fort Worth Miner, Nelson Armstrong, Jr., 4 ME San Antonio
Martin, H. Fred, 3 CEFort Worth	San Antonio
Martin, Clarence Herbert. 1 LATaylor Martin, Earl Francis, 2 AA	Minkert, James Gary, 2 LA Bryan Minton, Carl Boedeker, 2 TE Houston Mitchell, John Michael, 3 ChE Galveston Mitchell, Robert Francis, 4 Agr Frost Mitchell, Russ Lilburn, 1 IAE Houston Mitchell, Willis Wilson, 4 Agr Longview Meeblman Henry William Jr 1 Agr
Martin, Milton Foy, 2 Arch Bryan	Mitchell, John Michael, 3 ChEGalveston
Martin, Sidney Taylor, 2 PPEGilmer	Mitchell, Robert Francis, 4 AgrFrost
Marting Homes Theres, 2 AgrDallas	Mitchell, Russ Lilburn, 1 IAEHouston
Hebbranvilla	Meehlman, Henry William, Jr., 1 Agr
Martinez, Manuel Ernesto, 2 CE	
Martinez, Manuel Ernesto, 2 CE Martyn, Valentine, 2 VM Matanzas, Cuba Mast, Charles Millard, 3 LA Dallas Mastin, Harold Minner, 3 ME Harlingen Mathews, Robert Lee, 4 AgEd Alvarado Mattingly, Edward, 2 Arch LaGrange Mattiza, Odes Otto, 4 EE Silsbee Maxwell, Robert William, Jr., 1 LA	Moeller, Jens Edwin, 4 ME Norfolk, Va. Monier, Kart A. J., 2 ME San Antonio Monk, John C., 2 PPE Dallas Montague, Walter Russell, 4 PPE Resument
Mast, Charles Millard, 3 LA Dellas	Monier Kart A. J. 2 ME San Antonio
Mastin, Harold Minner, 3 MEHarlingen	Monk, John C., 2 PPEDallas
Mathews, Robert Lee, 4 AgEdAlvarado	Montague, Walter Russell, 4 PPE
Mattingly, Edward, 2 ArchLaGrange	Montfort, Robert Earl, 2 AARice
Maxwell, Robert William, Jr., 1 LA	Montgomery, Charles Arthur, 2 Unit
Maywell Stone NoleAbilene	Montgomery, James Robert, 4 CE
Maxwell, Stapp Nolan, 2 AgEd Leonard May, Jonathan Thomas, 2 ChE Omaha Mayberry, Paul Ostis, 1 Sci Wills Point Mayfield, George Daniel, 1 AgEd	Montgomery, James Robert, 4 CE
Mayberry, Paul Ostis, 1 SciWills Point	Moody, Joseph Calvin, 4 LA
Mayfield, George Daniel, 1 AgEd	Cornus Christi
Mayfield, Harve, Jr., 1 PPE Odeson	Moon, Alfred Nathaiel, 1 AA
Mayfield, Henry Davis, 2 Arch	Moon, Wilson Thomas, 2 AgrHolland
Mayfield, Harve, Jr., 1 PPEOdessa Mayfield, Henry Davis, 2 Arch	Mooney, John Butler, 2 AA
Mayo, Ernest Vernon 1 LA	Moore, Allen Brantley, 2 SciHenderson
Mayse, Howe Franklin, 2 Agr Mertzon	Moore, Charles Everett, 2 MERosebud
*Mayton, Jimmy N., 3 ME Fort Worth	Moore, Edwin Hewitt, 1 PPEDallas
Mayfield, Silas A., 1 EE Hughes Springs Mayo, Ernest Vernon, 1 LA Saratoga Mayse, Howe Franklin, 2 Agr Mertzon *Mayton, Jimmy N., 3 ME Fort Worth Meador, Aubrey Peter, 2 LA Waco Mears, Edward Lamar, Jr., 2 Agr	Moon, Alfred Nathaiel, 1 AA Moon, Wilson Thomas, 2 Agr
Menard	Moore, Frank Varney, Jr., 4 ChE Pelly
Medley, John Merion, 1 AABridgeport	Moore, Joe Hearne, 1 AgrElDorado
Meinko Wilmon Will	Moore, John Midd, 1 AgrWellington
Meisell, Harry Ernet 1 CE Columbia	Moore, Kenneth M., 1 SciGonzales
Medley, John Merion, I As Bridgeport Meek, Leonard Lloyd, I Agr Mt. Vernon Meinke, Wilmon William, I ChE Yoakum Meisell, Harry Ernst, I CE Columbus Melden, Charles Larun, 4 CE Mission	Moore, Martin Andrew. 3 Agr
	College Station
*Deceased	Moore, Milton Murray, 2 MEHouston

Moore, Raymond Atkinson, 2 ChEBryan Moore, Thomas Guy, 4 CEOakwood	Nicholson, Hewitt Marcus, 1 EETyler Nickerson, George, 1 EESan Antonio Nix, William Dale, 1 AACanadian Nixon, Angus Gray, 4 CECanton Nixon, Sam Ab, Sp. CECollege Station Noelke, Heabert Clayton, 1 AA
Moore, Thomas Guy, 4 CEOakwood	Nickerson, George, 1 EESan Antonio
Moore, Thomas Guy, 4 CE	Nix, William Dale, I AACanadian Nixon. Angus Grav. 4 CECanton
Moore, Walter Heard, 1 ME Waco Moore, Wilbur Merwin, 3 IAE Houston Mooty, J. T., 2 LA Fort Worth Morehead, Arthur Owen, 4 RE	Nixon, Sam Ab, Sp. CE College Station
Moore, Walter Heard, 1 MEWaco	Noelke, Heabert Clayton, 1 AA
Mooty, J. T., 2 LAFort Worth	
Morehead, Arthur Owen, 4 RE	Nolan, Kneyourn Emmit, 3 Agr Santa Rosa Nolan, Willis, 4 Agr Santa Rosa Noone, Edward James, 2 PPE Alexander, Louisiana Norman, Carl A., 1 EE Lexington Norman, Clyde Thomas, 1 CE Dallas Norton, Douglas Nelson, 1 PPE Edinburg Norwood Robert Thomas, 1 AA Mart
Morgan, Lucian Minor, 2 AA	Noone, Edward James, 2 PPE
	Alexander, Louisiana
Morkovosky, Alphons Philip, 1 Agr	Norman, Carl A., 1 EELexington
Morris, A. K., 2 Sci Hallettsville Morris, Paul Edward, 4 ChE .San Antonio Morris, Tom Clint, 4 Agr Forreston Morris Wayne Henry 1 Agriculture	Norton, Douglas Nelson, 1 PPEEdinburg
Morris, Paul Edward, 4 ChE San Antonio	Not wood, 1000ctv Thomas, 1 1111
Morris, Wayne Henry, 1 AgEng	Bay City
Morris, Wayne Henry, 1 AgEng	Nott, Lloyd Wilson, 3 EEAlvin
Morrison, Richard Robert, Jr., 1 AgEng	Noster, Maniord Freeman, 3 EE Bay City Nott, Lloyd Wilson, 3 EE Nutt, James Doyle, 4 EE O'Connell, Robert Emitt, 4 Arch Waco O'Connor, Fatrick James, 2 LA Dallas Olsovsky, Edward Alponse, 3 ME Hallettsville
Morrow, David Riekbiel, 2 ChE	O'Connor, Patrick James, 2 LADallas
Morrow, David Riekbiel, 2 ChE	Olsovsky, Edward Alponse, 3 ME
Brownsville	Onstad, Rollin I, 1 CEChicago, Ill. Oppenheim, James Randolph, 2 CE
Moseley, Matt Martin, 2 EEDallas	Oppenheim, James Randolph, 2 CE
Moseley, William A., Jr., 2 AgrQuanah	O'Diandan John Eldnidge 4 ME Houston
Moser, Christopher Otto, Jr., 4 AgrDallas	Orms, James Young, 2 MEBryan
Moses, Terry Wayne, 4 EE Rockdale Mosesman, Max Abe, 1 ChE Greenville Moss, Joseph Taylor, 2 Sci Sinton Mosty, Raymond Francis, 2 Land Control Rocket	Orns, James Young, 2 ME Bryan Orrison, William Wallace, 3 CE San Antonio Orth, Wiliam Alva, 1 ME College Station Osburn, Robert Rankin, 3 EE From Houston
Moss Joseph Taylor 2 Sci Sinton	Orth. Wiliam Alva. 1 ME College Station
Mosty, Raymond Francis, 2 Land	Osburn, Robert Rankin, 3 EE
Mosty, Robert Lee, 3 Land Center Point Mueller, Harold Adolph, 2 Sci	
Center Point	Otto, Alfred Herman, 3 EETaylor
Mueller, Harold Adolph, 2 SciBryan	Oshman, Ancil, 4 LA Richmond Otto, Alfred Herman, 3 EE Taylor Otts, John Graves, 3 ME Cuero Overton, Merritt Eugene, 4 Agr Stamford
Muller, James Anderson, 2 ChEDallas	Overton, Merritt Eugene, 4 Agr Stamford
Murray, Grady Odell, 2 AgrQuitman	Owen, Ernest Jesse, 1 CELaredo Owens, Frank Eugene, 2 PPEEdna
Murray, Ray Leroy, 2 LAMercedes	Owens, Thomas Dodson, 4 PPEBonham Pace, Bailey William, 1 AgrValley View
Muzquiz, Juan Raul 2 Arch Eagle Pass	Pace, Bailey William, I AgrValley View
Myers, LaRue Davenport, 2 CE	Pair, Robert Glenn, 4 LAHillsboro
Muller, James Anderson, 2 ChE Dallas Muller, John G., 2 ME Commerce Murray, Grady Odell, 2 Agr Quitman Murray, Ray Leroy, 2 LA Mercedes Mustain, Hollis Ulrich, 1 Agr El Paso Muzquiz, Jana Raul, 2 Arch Eagle Pass Myers, LaRue Davenport, 2 CE	Pair, Robert Glenn, 4 LA
Nachlinger, Elmo Emmett, 1 CE Taylor Nagai, George, 2 ME Almeda Nagy, Frank, 4 Agr Bryan Nagy, John, 4 Agr Bryan Napier, George Lawrence, 1 ME	Paim, Inomas Jefferson, Jr., 2 Arch
Nagy, Frank, 4 AgrBryan	Palmer, Phillip Leonard, 1 Sci
Napier, George Lawrence 1 ME	
Napier, George Lawrence, 1 ME Wichita Falls Nash, James Carrol, 4 AA Nash, William Elton, 1 CE Bryan Naylor, William Adelbert, 2 Arch Wichita Falls Neal, Edward Moore, 2 Agr Neal, Jack, 1 CE San Antonio	Palmer, Willie K., 4 AA
Nash, James Carrol, 4 AALeona	Port Lavaca
Naylor, William Adelbert, 2 Arch	Parish, Houston Forrest, 2 FPETyler Park, Yong hak, 2 AASongdo, Korea Parker, Jesse Granville, 2 EELaredo
Neel Filmend Manual Wichita Falls	Parker, Jesse Granville, 2 EELaredo
Neal, Jack. 1 CE San Antonio	Parkhill, Jack B., 1 LACollege Station Parks, James Edward, 1 EEDallas Parr, George Washington, 1 EESabinal
Neal, Seth Ward, 2 MEOverton	Parks, James Edward, 1 EEDallas Parks, George Washington, 1 EE
Neal, Jack, 1 CE San Antonio Neal, Seth Ward, 2 ME Overton Neilson, John Warren, 4 Agr Spearman Nelson, Robert Thomas, 8 ME	Parr, Irvin Glen, Jr., 4 SciSabinal
Fort Worth	Parr, Irvin Glen, Jr., 4 SciSabinal Farr, William Robert, 3 CERobstown Parrack, Alvin Landus, 2 EEChillicothe
Nemec, Raymond Joe, 1 MEKaufman	Parsons, Chester Nimitz, 4 CEKerrville
Nevills, Edward Odelle, 1 AA Abilene	Parsons, Chester Nimitz, 4 CEKerrville Pate, Brantly Miller, Jr., 1 MEGalveston
New, Jesse Lee, Jr., 2 SciLockhart	Patrick, Hubert Staunton, 1 EESan Antonio
Nemec, Raymond Joe, 1 ME	Patton, Nat., Jr., 1 LACrockett
Newport, Wald William, 4 Agr	Patton, Robert Lyle, 4 MELockhart
Newton, John Martyn, Jr., 1 AA	Patton, Nat., Jr., 1 LA
Newton, John Martyn, Jr., I AA	San Antonio
Nicholl, Elded Cavol, 2 VM Amarillo Nicholl, Worth Howard, 4 ME Amarillo Nichols, James Alfred, 3 Ageng	Payne, Dan Author, 1 AgrBuffalo
Nichols, Worth Howard, 4 MEAmarillo	Payne, Paul Edison, 1 ME El Campo
College Station	Payne, Dan Author, 1 Agr
Nichols, James B., 1 ME Corsicana Nichols, Orville Bernard, 1 LA	Peacock, Virgil, 3 EEMineola
Nichols, Urville Bernard, I LA	I cake, Willston Darrow, I Sci

Pearce, Homer Lewis, Jr., 2 EE
Pegues, Curtis Scott, 2 AA Crystal City Pendery, Arthur Ludlaw, 2 Agr Fort Worth
Pennington, Harry, Jr., 4 PPE
Pennycuick, James McKay, 4 Agr
Pennington, Harry, Jr., 4 PPE San Antonio Pennycuick, James McKay, 4 Agr Percy, William Dikeman, 2 AA Perkins, Holloway Wardlow, 4 Che Dallas Dallas
Perrin, Weldon George, 3 ME
Persons, Robert John, 2 AABryan Peterson, George W., Jr., 1 LABryan
Peterson, Malcolm Laurence, 3 PPE Temple
Percy, William Dikeman, 2 AA Jonah Ferkins, Holloway Wardlow, 4 ChE Perrin, Weldon George, 3 ME San Antonio Persons, Robert John, 2 AA Bryan Peterson, George W., Jr., 1 LA Hollywood, Calif. Peterson, Malcolm Laurence, 3 PPE Termst Lee, 3 PPE Sour Lake Pettit, Darwin Kirk, 2 Agr Comanche Pettit, Darwin Kirk, 2 Agr Comanche Peyton, Chester Alan, 4 Sci Corpus Christi Pharo, Walter Lafayette, 4 EE Weatherford Phillips, Preston D., Jr., 3 ME Denton Phipps, David Bartlett, 1 IAE Denton Phythian, Walter Robert, 1 LA Taylor Pierce, Charles Ray, 2 ME Bowie Pierre, Winfield Jacques, 1 ChE Pietzsch, Louis Robert, Jr., 2 AA Nederland Pike, Thomas Oliver, 4 CE Winters Pittenger, James Earl, 3 ChE Bellflower, Missouri Pittman, John Whitney, 3 EE McKinney Pizzitola, Anthony Vincent, 1 PPE Kemah
Pharo, Walter Lafayette, 4 EE
Phillips, Preston D., Jr., 3 MEDenton Phipps, David Bartlett, 1 IAE
Phythian, Walter Robert, 1 LA Taylor Pierce, Charles Ray, 2 ME Bowie Pierre, Winfield Jacques, 1 ChE Test Worth
Pietzsch, Louis Robert, Jr., 2 AA
Pike, Thomas Oliver, 4 CE
Pittman, John Whitney, 3 EEMcKinney Pizzitola, Anthony Vincent, 1 PPE Houston
Platzer, Harmon Eugene, 3 EEKemah Pletcher, George Henry, Jr., 2 Land Harlingen
Pletcher, William Phelps, 1 AA
Pizzitola, Anthony Vincent, 1 PPE
Poole, John Preston, 1 ChEWaxahachie Pope, Fletcher Buddy, 1 ChEDallas Pope, James Willis, 2 SciWoodville
Porter, Aubrey Lynn, 1 AABelton Porter, Cover Curran, 1 CEDallas
Porter, Curt Culwell, 1 ChE
Porter, Harold Andrew, 1 CEDe Kalb Porter, Robert Euclid, Jr., 3 ChEDe
Porter Tom Phil. 3 AgrTerrell Porter, Thomas Warner, 1 LA
Post, Perkins Gardner, 2 EE San Antonio Post, Thomas Gressam, 1 PPE
Poole, Rodney Winston, 1 Agr Lindale Poole, James Everette, 3 ChE Port Arthur Poole, John Preston, 1 ChE Waxahachie Pope, Fletcher Buddy, 1 ChE Dallas Pope, James Willis, 2 Sci Woodville Porter, Cover Curran, 1 CE Dallas Porter, Cover Curran, 1 CE Dallas Porter, Curt Culwell, 1 ChE Porter, Harold Andrew, 1 CE De Kalb Porter, Robert Euclid, Jr., 3 ChE San Antonio Porter Tom Phil. 3 Agr Terrell Porter, Thomas Warner, 1 LA Post, Perkins Gardner, 2 EE San Antonio Post, Perkins Gardner, 2 EE San Antonio Post, Thomas Gressam, 1 PPE Montgomery Powell, Thomas Hardy, 4 ME Terrell Powers, John Graham, Sp AA Bryan Praeger, Charles Eustace, 4 Arch Paris Prassel, Frank Gustave, 4 Arch Paris Prassel, Frank Gustave, 4 Arch Paris Pratt, Wallace Marvin, 4 ChE San Antonio Pratt, Wallace Marvin, 4 ChE Pribble, Oscar Maurice, 2 Agr Price, Lee Harrison, 1 Agr College Station
Pratt, Wallace Marvin, 4 ChE
Pribble, Oscar Maurice, 2 Agr Fort Worth
Price, Lee Harrison, 1 Agr

Quigles, Murray Basile, Jr., 2 PPE Quortrup, Earl Richard, 1 VMRonde, Denmark McAllen
Ralls, George Alva, 2 AgEng Houston
Rambo, Wilkie Adsit, 3 ME Gonzales
Ramsey, Ben Bryant, 2 IAE Marshall
Ramsey, Edward William, 2 VM Garland
Ramsey, Horace Edgar, 1 Agr Timpson
Randolph, Leslie Hollis, 2 AA Bryan
Randolph, Neal Malcolm, 3 AgrCherokee Randolph, Tom Ball, 1 AgrCherokee Randolph, Uriel Addison, 4 Agr Randow, Wilbert Henry, 1 Agr Rankin, Harry Duke, 4 Agr. San Antonio Ratcliff, John H., 3 IAE. Glen Rose Rawls, Jesse Byron, 3 EE Read, Woodrow Wilson, 2 PPE Houston Reagin, Leonard Chandler, Jr., 2 AA Forney Rechenthin, Clarence Anthony, 1 Arch Waring Redding, Egbert Forbs, 2 AgEng Reed, Ben Bartlette, 1 EE Sort Worth
Reed, Charles Earl, 1 AA Mart
Reed, Ernest Jesse, Jr., 3 Arch
San Antonio
Reed Paul Buston 4 Che Reed, Paul Burton. 4 ChE Bowie Reese, Hershel James, 1 LA San Antonio Reeves, Francis Lee, 1 VM Fort Worth Reeves, William Byron, 4 EE Ranger Reichardt, Charles Edward, 3 AA San Antonio Reid, Irvin Ambler, 2 LA College Station Reid, Percy Raeburn, 1 PPE Reid, Rosson Nat, 3 EEFort Worth Remschel, Robert Henry, 1 AgrKerrville Renfro, James Massey, 1 ChE Trinity Reynolds, Clyde Martin, 2 Agr Bastrop Reynolds, Morris Shepard, 4 EE Rhine, Geogre Ruffini, Jr., 4 EE Rinie, Geogre Ruffini, Jr., 4 EE San Antonio Rich, Absalom Berry, 2 VM El Campo Richards, Joe Webster, Jr., 4 Agr Neichards, Thomas John, 2 LA Paducah Richardson, Frank 1 ChE Beaumont Richardson, Glenn Merl, 2 Agr Moody Richardson, John Robert, 3 CE Sherman

Richardson, Tom Wayne, 1 AASherman Richers, Louis William, 1 EEBay City	Ruebeck, Christian Henry, Jr., 1 CE
Richers, Louis William, 1 EEBay City	D 16 Carl Harm A RE Con Augustine
	Rulfs, Carl Henry, 4 EESan Augustine Runyon, John William, Jr., 3 EEDallas Rusconi, Eugene George, 1 EESan Antonio
Richmond Jason Logan 2 Agr Kyle	Rusconi, Eugene George, 1 EE
Richter, Albert Earl, 1 AAEnnis	San Antonio
Richmond, Jason Logan, 2 AgrKyle Richter, Albert Earl, 1 AAEnnis Richter, Francis Joseph, 1 LALaredo Riherd, Hermann Benson, 4 Arch Stephenville	Russell, Walter Kyle, 4 AgrGranbury
Riherd, Hermann Benson, 4 Arch	Russi, Robert Wilson, 2 CEHouston
Dihard Daul Truman 2 Agr	Russell, Walter Kyle, 4 AgrGranbury Russi, Robert Wilson, 2 CEHouston Rutledge, Robert Morton, Jr., 2 PPE Dallas
Riley, Emmett Thomas, 2 VM Hughes Springs Carbin LTDE	Rutledge, Thomas Hearon, 1 CM Howland Rvan John Harold 3 ME. San Antonio
Riley, Emmett Thomas, 2 VM	Howland
Hughes Springs	Ryan, John Harold, 3 MESan Antonio Salahattin, Mehmet, Sp Agr
Rinks, William Curtis, 1 PPEGraham Rinn, Ralph Elliott, 4 AA	Salahattin, Mehmet, Sp Agr
Rinn, Raiph Elliott, 4 AA	Salas, Manuel, 2 LA Yorktown
Roach, James Bunyan, 2 AgrDecatur	
Roppins, Jack, I CrSan Antonio	Samuels, George Henry, Jr.,
Roberson, Douglas Buckner, 2 Arcs	Samuels, George Henry, Jr., Sam Antonio Samuels, Melville, 3 Sci Corsicana Sanchez, Federico Sanchez, Sp Agr
Cornis Christi	Samuels, Melville, 3 Sci
Roberson, Jorden Jack, 2 AADenton Roberts, Clarence Francis, 1 EE	
Sugarland	Sanders, Joe Sidney, 1 ME Beaumont Sanders, Robert James, 1 ME Voth Sanders, William Olin, Jr., 4 Arch Bryan Sandlin, John L., 1 EE San Angelo Sapp, William Leroy, 2 Land
Roberts, Edgar Carroll, 3 MEDallas	Sanders, Robert James, 1 MEVoth
Roberts, Garland Elmer, 4 CESweetwater Roberts, James Elton, 4 AgEdTerrell	Sanders, William Olin, Jr., 4 Arch Bryan
Debants Tomas Elter A AgEd Tornell	Sandin, John L., 1 EESan Angelo
Roberts J Frank 2 ME Lubbock	College Station
Roberts, J. Frank, 2 ME Lubbock Roberts, John Webster, 2 Sci Irving Roberts, Lewis M. 1 Agr Terrell Roberts, Watson Merle, 1 ME Fort Worth	Sartain, Raymond Robey, 3 CE
Roberts, Lewis M., 1 AgrTerrell	Sass, Herbert Max, 1 ME
Roberts, Watson Merle, 1 ME Fort Worth	Sass, Herbert Max, 1 MEGalveston
Robertson, John Edwin, 2 CEAustin Robertson, Pat Dyer, 1 MEAustin Robinson, Francis Leroy, 2 PPE	Sasse, Bruce Eckhardt, 4 CE
Robinson Francis Leroy 2 PPE	Satterfield, Walter Edwards, 4 CE
Wellborn	Dallas
Dobinson Kid Erenk 1 Arch Meyis	Saunders, Fayette Fentress, 3 EEDallas Sawyer, Edwin Eugene, 2 EESonora
Robinson, Lee Edgar, Jr., 3 ChE	Sawyer, Edwin Eugene, 2 EESonora
Pohishaw Farl Issanh 4 PDE Saratora	Scarborough, William Edmond, 3 ME
Roderick, Richard, 2 EE	Scarpinato, Lee, 2 AA Bryan
Rodgers, Paul Austin, 4 Sci	Schaefer, George, 3 ChESan Antonio
Rodgers, Robert James, 2 LAFranklin Rodgers William Cawthon, 2 ME	Schick, Charles, 1 SciTerrell .
Rodgers, Robert James, 2 LAFranklin	Schier, Oscar Edward, 2 ChESealy
Rodgers, William Cawthon, 2 ME	Schlather James Garfield 3 Arch Cibolo
Rodman, Roy Samuel, 3 LandVernon Rodriquez, Alfonso Francisco, 2 EE	Schleicher, Frank Crain, 2 CE Victoria
Rodriquez, Alfonso Francisco, 2 EE	Schneeman, Herman, Jr., 2 ChE
Monterrey, Mexico	San Angele
Rogers Brooks William 2 Arch	Schoenfeld, Charles Gilbert, 4 CE
San Antonio	Schoenfeld, Wilbur Barr, 1 EE
Rogers, Gerald Raymond, 2 Arch Hearne	San Antonio
Rogers, James Paul, 1 PPEGordon	Schott, Herbert Archie, 1 ChE Houston
Rodriquez, Alfonso Francisco, 2 EE	Schott, Herbert Archie, 1 ChE Houston Schoverling, W. J., 1 Sci Houston Schreiber, Harry Julius, 2 ME
College Station	
Rogers, Warren Brown, 3 VM	Schriever, Gerhard John, 1 LA
College Station	Schroeter, Herbert William, 2 CE
Rollins, Charles Clinton, Jr., 4 EE	Schroeter, Herbert William, 2 CE
Rollins, Charles Hutson, 2 ME	Schucany, Oscar William, 3 EE Lockhart Schultis Emanuel Herman 1 ME
Gulfport. Miss.	Schultis, Emanuel Herman, 1 ME
Rollins, James Frank, 2 CEChina	Harlingen
Roosth, Isadore, 4 ChETyler	Schultz, George Edward, 2 EEHarlingen
Rollins, James Frank, 2 CE China Roosth, Isadore, 4 ChE Tyler Roots, Logan Chester, Jr., 4 ChE	Schultz, John Fred, 1 ChEAnahuae Schumpert, Melvin Curtis, 2 AgEng
	Portales N Mar
Ross, George Wilmon, Jr., 2 EEBryan	Portales, N. Mex. Scoates, William Dan, 2 AgEng
Roots, Tom Smith, 2 ArchMarshall Ross, George Wilmon, Jr., 2 EEBryan Ross, Winfred Graham, 4 EEGainesville	College Station
Rothe, Lamerce August, 2 AgrdHanis	Scott, Crawford Wells, 1 LAGatesville
Rowe, Henry Hilliard, 2 MEMcCamey	Scott, Crawford Wells, 1 LA Gatesville Scott, Estell William, 3 AgEd Lometa Scott, Robert James, 1 Sci Whitesbore Scotter, Charles Voicht 4 PEF Hearton
Rothe, Lamerce August, 2 AgrdHanis Rowe, Henry Hilliard, 2 MEMcCamey Rubenstein, Abraham Mortimer, 1 ME 	Seaman Charles Knight 4 PPE Houston
Rubenstein, Mathews Samuel, 1 ChE	Seaman, Charles Knight, 4 PPEHouston Seaman, William Henry, 1 ArchHouston Searcy, Cecil Ray, 3 AAJacksonville Sears, Homer Lee, 1 AgrWhitewright
	Searcy, Cecil Ray, 3 AAJacksonville
Rudder, Marshall Clark, 1 LAEden	Sears, Homer Lee, 1 AgrWhitewright

Cohestian Townla Proven A Age Houston	Smith James Dichard 1 AA Monard
Secastian, Temple Brown, 4 Agr Houston	C. it I Weight 1 DDE Destroy
Secesta, Bennie Frank, I KELyons	Smith, James Wright, 1 PPE Dastrop
Sebastian, Temple Brown, 4 AgrHouston Sebesta, Bennie Frank, 1 RELyons Seeligson, Harry G. II, 3 AADallas	Smith, John Walter, I AgrHouston
Seidel, Kurt, I CESan Antonio	Smith, James Richard, 1 AAMenard Smith, James Wright, 1 PPEBastrop Smith, John Walter, 1 AgrHouston Smith, Lawrence Drummand, 2 Agr
Sellars, Sam C., 1 IAEKeltys	
Sellers, James Bass, 4 TAEMexia	Smith, Newton R., 4 IEBryan
Sells, James Chat, 1 AgEng Ector	Smith, Omar, 1 AA San Antonio
Seward Oscar A III 1 CE Amarillo	Smith Oliver Harold 4 Arch
Chanda Daray Clinton 2 Agr Forney	San Antonio
Channon Dogov Doy 2 I A Mormange	Smith, Newton R., 4 IE Bryan Smith, Omar, 1 AA San Antonio Smith, Oliver Harold, 4 Arch San Antonio Smith, Robert Fouglas, Jr., 3 EE Uvalde
Chan Doney Amold In 4 A A	Cmith Dehaut Fragian 4 Age
Sharp, Fercy Arnold, Jr., 4 AA	Smith, Robert Frazier, 4 Agr
Mooringsport, La.	Clarksvine
Shaw, Don Francis, 4 CESumerset	Smith, Robert Long, I EEDallas
Shaw, Freddie Marshall, 4 AgrEnnis	Smith, Russell Percy, 4 Arch Corsicana
Shaw, Guy Graham, 1 SciKaufman	Smith, Wiliam Hamilton, Jr., 3 ChE
Sellars, Sam C., 1 IAE Keltys Sellers, James Bass, 4 IAE Mexia Sells, James Chat, 1 AgEng Ector Seward, Oscar A. III, 1 CE Amarillo Shands, Percy Clinton, 2 Agr Forney Shannon, Roger Roy, 3 LA Normangee Sharp, Percy Arnold, Jr., 4 AA Mooringsport, La. Shaw, Don Francis, 4 CE Sumerset Shaw, Freddie Marshall, 4 Agr Ennis Shaw, Guy Graham, 1 Sci Kaufman Shaw, Jim William, 1 PPE Houston Shaw, Millard, 3 CE Weatherford Shaw, Thad Graves, 1 Sci Meather Shappherd, Earl Thomas, 4 CE	Smith, Robert Buggas, 31, 34 Cvalues Smith, Robert Frazier, 4 Agr Clarksville Smith, Russell Percy, 4 Arch Corsicana Smith, Wiliam Hamilton, Jr., 3 ChE Bryan Smith, William Hamilton, 2 ME College
Shaw, Millard, 3 CEWeatherford	Smithwick, Thomas Knox, 3 ME Garland
Shaw, Thad Graves, 1 SciMarlin	Smyre, Guy Jacob, 2 EEFlint
Shepherd, Earl Thomas, 4 CE	Smyth, Joe Grigsby, 1 Arch Uvalde
Port Arthur	Spuggs R E Sp Agr College Station
Shepherd, Guilford Cunningham, 3 EE	Snuder Elmer Arthur 1 LA Dellas
Dacphera, Guntora Cunningham, 5 EE	Sadd William 2 I A Fort Worth
Chamband Canna Walter O.T.A. Daniel	Calaman Hamma Tomas A Asm. Plasson
Shepherd, George Walter, 2 LA Beaumont	Soloman, narry James, 4 AgrDiosson
Shepherd, Jack Monroe, 1 PPEHouston	Solovey, Isadore Lee, 4 Unitwaco
Shepherd, George Walter, 2 LA Beaumont Shepherd, Jack Monroe, 1 PPE Houston Shepherd, William Lawrence, 1 ME	Sommers, Lawrence Edwin, & Ageng
Sherrill, Word Bell, 1 AARock Springs Sherwood, Robert Spencer, 1 ME College Station Shockley, Henler Fisher, 1 Agr. Delles	Smithwick, Thomas Knox, 3 ME Garland Smyre, Guy Jacob, 2 EE Flint Smyth, Joe Grigsby, 1 Arch — Uvalde Snuggs, R. E., Sp Agr — College Station Snyder, Elmer Arthur, 1 LA Dallas Sodd, William, 2 LA Fort Worth Soloman, Harry James, 4 Agr — Blossom Solovey, Isadore Lee, 4 ChE — Wacc Sommers, Lawrence Edwin, 3 AgEng — Dallas Sommers, Lee Marion, 2 EESan Antonic Sorenson, Jerome Walace, 2 AgEng
Sherrill, Word Bell, 1 AARock Springs	Sommers, Lee Marion, 2 EE San Antonio
Sherwood, Robert Spencer, 1 ME	Sorenson, Jerome Walace, 2 AgEng
College Station	Corpus Christi
Shockley, Hepler Fisher, 1 Agr Dallas	Sorrells, Warren Douglas, 3 PPETyler
Shone, Louis Albert, Jr. 3 Agr. Houston	Souder, Hildreth Francis, 1 Agr. Pitman
Shone, Louis Albert, Jr., 3 AgrHouston Short, George Washington, 2 Arch	South Joe Aubrey 4 ChE Houston
Amarila	Snahr Fraget Kanneth Sn I.A
Shull, Edwin Matthews, 2 Sci Dallas Shumate, Bruce Emmet, 3 LA Houston Siecke, Paul, Sp ChE College Station Sigler, Wayne Leslie, 4 AA LaFeria Simmons, Robert Hale, 1 Agr Haskell Simpson, Newby Clinton, 4 LA Crane Simpson, Ormond Ralph, 1 ME Cornus Christi	Corpus Christ Sorrells, Warren Douglas, 3 PPETyler Souder, Hildreth Francis. 1 AgrPitmar South, Joe Aubrey, 4 ChEHouston Spahr, Ernest Kenneth, Sp LA
Shumeta Dance France 9 TA II	Caria Daril Franklin 9 CW Desetus
Sindhate, Bruce Emmet, 5 LAHouston	Spain, Basil Franklin, 2 CMDecatul
Siecke, Paul, Sp ChECollege Station	Sparkman, J. Jarrell, 1. EE
Sigier, Wayne Leslie, 4 AALaFeria	Colorado Springs, Col
Simmons, Robert Hale, 1 Agr Haskell	Sparling, John Clark, 1 EEGordor
Simpson, Newby Clinton, 4 LACrane	Sparra, Charis Rogers, 1 ChE Cameror
Simpson, Ormond Ralph, 1 ME	Speed, Carter C., 1 AgEngCorsicans
Corpus Christi	Speed, Thomas Lee, 1 Arch Midland
Simpson, Richard Rains, 2 Agr El Paso	Spencer Marston Clyde 4 EE Amarillo
Simpson, Wiliam Maurice 4 AA	Spencer Ted I. 3 Agr Gilmer
Harlingen	Spencer, Ted D., U rigit
Simpson Warran Waldon 1 MF	Chiler Dalah Edwin 1 Am Conton Ohio
Simpson, Richard Rains, 2 Agr El Pato Simpson, Wiliam Maurice, 4 AA Simpson, Warren Weldon, 1 ME Bridgenout	Speed, Thomas Lee, 1 Arch Midland Spencer, Marston Clyde, 4 EE Amarillo Spencer, Ted L., 3 Agr
Sims, Ellis M., 1 ME Bridgeport Sims, Marvin Jackson, 1 RE Celina Sinclair, William Stanley, 2 ME	Spill, Clarence Barnard, 3 AA Winters
Cime Manuin Indiana 1 DE Cli	Spiller, Jamie Madison, I EE Canadiar
Sims, Marvin Jackson, 1 RECelina	Spoonts, James Monroe, 1 ME
Sinciair, William Stanley, 2 ME	Wichita Falls
	Stach, Stanfield August, 2 AA Cameror
Sinex, Charles Helm, 2 EEFort Worth	Stallings, M. Montie, 1 AA Bowie
Skainik. Victor Eugene 2 EE	Stanchos, Alvin Arthur Emil, 4 ME
Skinner, Robert Hill, 2 LA Ennis Skripka, Walter Martin, 2 LA Rosenberg Sloan, Jack Thomas, 3 AA San Benito Sloan, William Henderson, 1 ME	Stanchos, Alvin Arthur Emil, 4 ME
Skinner, Robert Hill, 2 LAEnnis	Stansel, Ellis Frederick, 2 Agr
Skripka, Walter Martin, 2 LA Rosenberg	Gueydan, La
Sloan, Jack Thomas, 3 AA San Benito	Stanles George Archer 3 Sci Edns
Sloan, William Henderson 1 ME	Ctagges, George Archer, b Oct
Con Donita	Steeger, Charles Joseph, 1 VMDana
Slovak, Charles Joe, 2 ChECaldwell Smith, Benjamin, M. E., Jr., 1 PPE	Steele, William Frnest, 4 EEAlvii
Smith Benjamin M E In 1 DDE	Steen, Elwyn Winget, I CELot
binion, benjamin, M. E., Jr., 1 PPE	Stefani, Harry Costantine, 2 AA
	Galvestor
Smith, Cary Neblett, 3 PPEHouston	Stein, Robert Martin, 1 Arch
Smith, Charles Royal, 3 EE El Paso	San Antonio
Smith, Don Godfrey, 1 Sci	Steiner, Leo Norman, 2 EEPort Isabe
Smith, Cary Neblett, 3 PPE	Staples, George Archer, 3 Sci Edmi Steeger, Charles Joseph, 1 VM Dalla Steele, William Ernest, 4 EE Alvis Steele, Elwyn Winget, 1 CE Lot Stefani, Harry Costantine, 2 AA Galvestor Stein, Robert Martin, 1 Arch San Antonic Steiner, Leo Norman, 2 EE Port Isabe Steinmann, Weldon Aubrey, 4 AA La Grang Stengel, George Jordan, 1 AA Menar Stenzel, Arthur Henry, 1 ME Houstor Stephens, James Oliver, 1 ME Templ Stephens, Lonnie C., 4 ChE Gordo Stephens, Richard Sinclair, 2 PPE
College Station	La Grang
Smith, Edward James, Jr., 4 Sci	Stengel George Jordan, 1 AA Menarc
Port Arthur	Stanzel Arthur Henry 1 ME Houston
Smith, Emmit Theodore, 1 Agr	Stonborg James Oliver 1 ME Town!
Model- J	Stephens, James Oliver, I MElempin
Smith Harry Clinton 9 I A Fort W.	Ctanhana Dishard Cincleia 9 DDE
Smith Hammand Van C. And	Stephens, Richard Sinciair, Z PPE
Smith, harwood Knox, 2 Arch	Stephens, Thomas Franklin, 1 ChEWac
San Benito	Stephens, Thomas Franklin, I Uhr Wac
Smith, Harry Massie, 1 ChEMcKinney	Stephenson, Clayton, 4 ChEFloresville
Smith, Harry Massie, 1 ChEMcKinney Smith, John August, 1AgrCameron Smith, John Forrest, 3 AAHouston	Stephenson, Clayton, 4 ChEFloresville Stevens, Billy J., 1 AA
Smith, John Forrest, 3 AA Houston	Stevenson, John McAllister, 1 EE Abilen

Steves, Edward, 2 LA	Thomasson, Edward Dennis, 4 ChE Louisville, Ky Thomasson, William Landrum, 1 ME Louisville, Ky Thompson, Albert William, 1 CE Thompson, James Paul, 1 ChE Thompson, Louis Milton, 2 Agr.
Lewisville	Thomasson, William Landrum, 1 ME
Stewart, Lonzo Floyd, 4 AgrTemple Stiles, Marshall Francis, Jr., 2 PPE	Thompson, Albert William, 1 CEKat
Stine, Joe Carl, 1 ME Beaumont Stinson, Milton Adrian, 4 Agr Itasca	
Stinson, Milton Adrian, 4 AgrItasca Stirton, John Kirk, 1 AgEngHouston	Thompson, Nash Ody, 1 AgrFort Worth
Stinson, Milton Adrian, 4 Agr	Thompson, Nash Ody, 1 Agr Fort Wortl Thompson, Reuben Ralph, 4 Agr Hubbar Thompson, William Moses, 2 VM Winnsbor Thomson, Louis K., 1 LA Gatesvill Thurman, Floyd, 3 Agr Cisc Tibbits, James Archie, 3 Arch Sour Lak
Stone, John Fletcher, 2 ME Dallas	Winnsbor
Stone, James William, 3 MEDallas Stone, Stephen Philip, 2 PPEHouston	Thomson, Louis K., I LAGatesville Thurman, Floyd, 3 AgrCisco
Storms, Edward C., 1 EEDallas Storms, Louie Wilson, Jr., 4 PPE	
Storms, Raymond Edwin, 1 AA	Tilley, Clarence Story, 3 CEFort Worth Timm, Tyrus Ramon, 3 AAHallettsville
	Timm, Tyrus Ramon, 3 AAHallettsville
Stradinger, John, 1 ChE	Tinkle, William Joseph, 1 ME Garrisol Tinterow, Sam, 1 ChE
Stringfellow, Jack Clinton, 2 ME Terrell	Tipton, Zeke, 3 LAFort Worth
Stringfellow, Jack Clinton, 2 METerrell Stubbs, Carrol Claud, 1 Agr Hearne Stubbs, Stoney Milton, 3 AA Hearne Sturkie, Paul David, 4 AgEd Proctor Stuter, Emil, 3 CE Shiner Stuteville, Mahlon Venus, 2 AgEd Cisco Sudheimer, Robert Leslie, 1 VM Marissa, Illinois Sulak, Bernard Frank, 4 PPE West Summers, Strother Steuben, Jr. 4 Arch	Tipton, Zeke, 3 LA Trisdale, Charles Afton, 1 Sci Edet Tisdale, William Roy, 3 Agr Colema Tisinger, David Loving, 2 ChE Garlan Tobin, Jet Harold, 3 ME Pilot Poin Tobin, Robert Bates, 3 ME Pilot Poin Tobline, Max Bowers, 1 ME Fort Wort Tolbirt, Ruthven Champion, 1 LA Columbia
Sturkie, Paul David, 4 AgEdProctor	Tisinger, David Loving, 2 ChE Garland
Stuter, Emil, 3 CEShiner	Tobin, Jet Harold, 3 MEPilot Poin
Stuteville, Mahlon Venus, 2 AgEd Cisco	Tobin, Robert Bates, 3 MEPilot Poin
Mariana Illinois	Tolline, Max Bowers, I MEFort Worts
Sulak, Bernard Frank, 4 PPEWest	Columbu
	Tom, John Calvin, 1 SciHarlinger Tomberlain, Marvin Pearl, 3 AgEd
Fort Worth	Tomberlain, Marvin Pearl, 3 AgEd
Sumner, Charles Vernn, 1 Agr. Hillsboro Swank, Archie B. 2 Arch. Wills Point	Toole, James Douglas, 1 LAHemphil
Swank, Archie B., 2 ArchWills Point Swanson, Charles Kenneth, 3 EE	Tocle James Oswell, Jr., 1 EE Hemphil
San Antonio	Torrans, Claude Ward, 3 METyle Tosch, Charles Adolph, 3 AgrMesquit Tottenham, Woodson Miller, 2 PPE
Swarthout, Carl Alvis, 1 EEWoodsboro	Tosch, Charles Adolph, 3 AgrMesquit
Talbott Rose West 1 Agr Miles	Tottenham, Woodson Miller, 2 PPE
Tankersley, Max. 1 Agr Mertzon	Townsend Wiliam Barton 4 LA Bastron
Swanson, Charles Kenneth, 3 EE	Townsend, Wiliam Barton, 4 LABastron Tracy, Vernon Talbert, 2 CE
Tardy, Percy Alexander, 2 ChEBryan	Corpus Christ
Tartakov Solomon 1 LA Houston	Trainer, Wyatte Gristie, 1 CE
Tarver, Jack McLane, 4 AARosebud	Tramonte, Sam Jasper, 1 LAGalveston
Tarver, Jack McLane, 4 AARosebud Taylor, Carl Goodwin, 2 ChEYsleta Taylor, David Frank, 4 EEMt. Pleasant	Tramonte, Sam Jasper, 1 LAGalvestor Trembly, W. Agib, 2 ME
Taylor, David Frank, 4 EEMt. Pleasant	Trifon Morris H. 2 Sci Pelly
Taylor, Ell, I AAIyler	m 11 m 1 1 m 1
Taylor, John Jacob, 2 PPE	Trifon, Morris H., 2 Sci Pelly Trotter, John Turner, 4 ME Trotter, John Turner, 4 ME Phar
Taylor, Eli, 1 AA	Tsutsui, Roy Tomonoty, I CEPhar
Taylor, John Jacob, 2 PPEShreveport, La. Taylor, John Robert, Jr., 2 CEDallas	Tsutsui, Roy Tomonoty, I CEPhar
Taylor, John Jacob, 2 PPE Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE	Tsutsui, Roy Tomonoty, I CEPhar
Taylor, John Jacob, 2 PPE Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James 1 PPE Taylor,	Tsutsui, Roy Tomonoty, I CEPhar
Taylor, John Robert, Jr., 2 CE	Tsutsui, Roy Tomonoty, I CEPhar
Taylor, John Robert, Jr., 2 CE	Tsutsui, Roy Tomonoty, I CEPhar
Taylor, John Robert, Jr., 2 CE	Tsutsui, Roy Tomonoty, I CEPhar
Taylor, John Robert, Jr., 2 CE	Tsutsui, Roy Tomonoty, I CEPhar
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Hulen, 1 AgEd Bryan Taylor, William Oscar, 3 LA Groesbeck Teal Edwin Trout 2 ME	Tsutsui, Roy Tomonoty, I CEPhar
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Hulen, 1 AgEd Bryan Taylor, William Oscar, 3 LA Groesbeck Teal Edwin Trout 2 ME	Tsutsui, Roy Tomonovy, T.C
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Hulen, 1 AgEd Bryan Taylor, William Oscar, 3 LA Groesbeck Teal, Edwin Trout, 2 ME Dallas Teetes, Leeman Wesley, 2 Agr Pine Land Teissler, Louis William, 1 Agr Denison Termini, James Thomas, 1 ChE	Tsutsui, Roy Tomonovy, T.C.E
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Hulen, 1 AgEd Bryan Taylor, William Oscar, 3 LA Groesbeck Teal, Edwin Trout, 2 ME Dallas Teetes, Leeman Wesley, 2 Agr Pine Land Teissler, Louis William, 1 Agr Denison Termini, James Thomas, 1 ChE	Tucker, Elton Elliott, 2 PPE Somervill Tucker, Kenneth, 1 Agr Burkburnet Tucker, Royce Edwin, 4 EE Pittsbur Turner, Cullen Yeates, 2 ChE Fort Wortl Turner, Harry Stewart, 1 ME Longviev Turner, Levi Seymour, 1 AA Daingerfiel Turner, Wesley Hunter, 3 AA Longviev Udashen, Abe Allen, 1 CM Wac Uhr, Robert Jones, 4 EE San Antoni Uhr, Tom Lloyd, 3 EE San Antoni Ullrich, Elwyn Charles, 2 Arch Hallettsvill Underwood, George Woods, 1 LA
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Hulen, 1 AgEd Bryan Taylor, William Oscar, 3 LA Groesbeck Teal, Edwin Trout, 2 ME Dallas Teetes, Leeman Wesley, 2 Agr Pine Land Teissler, Louis William, 1 Agr Denison Termini, James Thomas, 1 ChE	Tucker, Elton Elliott, 2 PPE Somervill Tucker, Kenneth, 1 Agr Burkburnet Tucker, Royce Edwin, 4 EE Pittsbur Turner, Cullen Yeates, 2 ChE Fort Wortl Turner, Harry Stewart, 1 ME Longviev Turner, Levi Seymour, 1 AA Daingerfiel Turner, Wesley Hunter, 3 AA Longviev Udashen, Abe Allen, 1 CM Wac Uhr, Robert Jones, 4 EE San Antoni Uhr, Tom Lloyd, 3 EE San Antoni Ullrich, Elwyn Charles, 2 Arch Hallettsvill Underwood, George Woods, 1 LA
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Hulen, 1 AgEd Bryan Taylor, William Hulen, 1 AgEd Bryan Taylor, William Oscar, 3 LA Groesbeck Teal, Edwin Trout, 2 ME Dallas Teetes, Leeman Wesley, 2 Agr Pine Land Teissler, Louis Wiliam, 1 Agr Denison Termini, James Thomas, 1 ChE Dickinson Terrell, Colvin Ansley, 1 LA Bryan Terrell, Thomas Henry, 3 CE El Paso Terrell, William Randolph, 2 EE	Tucker, Elton Elliott, 2 PPE Somervill Tucker, Kenneth, 1 Agr Burkburnet Tucker, Royce Edwin, 4 EE Pittsbur Turner, Cullen Yeates, 2 ChE Fort Wortl Turner, Harry Stewart, 1 ME Longviev Turner, Levi Seymour, 1 AA Daingerfiel Turner, Wesley Hunter, 3 AA Longviev Udashen, Abe Allen, 1 CM Wac Uhr, Robert Jones, 4 EE San Antoni Uhr, Tom Lloyd, 3 EE San Antoni Ullrich, Elwyn Charles, 2 Arch Hallettsvill Underwood, George Woods, 1 LA
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Hulen, 1 AgEd Bryan Taylor, William Oscar, 3 LA Groesbeck Teal, Edwin Trout, 2 ME Dallas Teetes, Leeman Wesley, 2 Agr Pine Land Teissler, Louis Wilam, 1 Agr Denison Termini, James Thomas, 1 ChE Dickinson Terrell, Colvin Ansley, 1 LA Bryan Terrell, Thomas Henry, 3 CE El Paso Terrell, William Randolph, 2 EE	Tucker, Elton Elliott, 2 PPE Somervill Tucker, Kenneth, 1 Agr Burkburnet Tucker, Royce Edwin, 4 EE Pittsbur Turner, Cullen Yeates, 2 ChE Fort Wortl Turner, Harry Stewart, 1 ME Longviev Turner, Levi Seymour, 1 AA Daingerfiel Turner, Wesley Hunter, 3 AA Longviev Udashen, Abe Allen, 1 CM Wac Uhr, Robert Jones, 4 EE San Antoni Uhr, Tom Lloyd, 3 EE San Antoni Ullrich, Elwyn Charles, 2 Arch Hallettsvill Underwood, George Woods, 1 LA
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Hulen, 1 AgEd Bryan Taylor, William Oscar, 3 LA Groesbeck Teal, Edwin Trout, 2 ME Dallas Teetes, Leeman Wesley, 2 Agr Pine Land Teissler, Louis William, 1 Agr Denison Termini, James Thomas, 1 ChE Dickinson Terrell, Colvin Ansley, 1 LA Bryan Terrell, Thomas Henry, 3 CE El Paso Terrell, William Randolph, 2 EE Beaumont	Tucker, Elton Elliott, 2 PPE Somervill Tucker, Kenneth, 1 Agr Burkburnet Tucker, Royce Edwin, 4 EE Pittsbur Turner, Cullen Yeates, 2 ChE Fort Wort Turner, Harry Stewart, 1 ME Longviev Turner, Harry Stewart, 1 ME Longviev Udashen, Abe Allen, 1 CM Wage Uhr, Robert Jones, 4 EE San Antoni Uhr, Tom Lloyd, 3 EE San Antoni Ulr, Tom Lloyd, 3 EE San Antoni Ulrich, Elwyn Charles, 2 Arch Hallettsvill Underwood, George Woods, 1 LA San Antoni Underwood, Harris, Jr., 1 PPE Housto Underwood, Sam John, 1 Agr Denton Upchurch, John Wright, 3 VM Mar Urbanovsky, Elo Joe, Sp Land, Wes Vahrenkamp, Robert Henry, 4 Agreng
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Hulen, 1 AgEd Bryan Taylor, William Oscar, 3 LA Groesbeck Teal, Edwin Trout, 2 ME Dallas Teetes, Leeman Wesley, 2 Agr Pine Land Teissler, Louis William, 1 Agr Denison Termini, James Thomas, 1 ChE Dickinson Terrell, Colvin Ansley, 1 LA Bryan Terrell, Thomas Henry, 3 CE El Paso Terrell, William Randolph, 2 EE Beaumont	Tucker, Elton Elliott, 2 PPE Somervill Tucker, Kenneth, 1 Agr Burkburnet Tucker, Royce Edwin, 4 EE Pittsbur Turner, Cullen Yeates, 2 ChE Fort Wort Turner, Harry Stewart, 1 ME Longviev Turner, Harry Stewart, 1 ME Longviev Udashen, Abe Allen, 1 CM Wage Uhr, Robert Jones, 4 EE San Antoni Uhr, Tom Lloyd, 3 EE San Antoni Ulr, Tom Lloyd, 3 EE San Antoni Ulrich, Elwyn Charles, 2 Arch Hallettsvill Underwood, George Woods, 1 LA San Antoni Underwood, Harris, Jr., 1 PPE Housto Underwood, Sam John, 1 Agr Denton Upchurch, John Wright, 3 VM Mar Urbanovsky, Elo Joe, Sp Land, Wes Vahrenkamp, Robert Henry, 4 Agreng
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Hulen, 1 AgEd Bryan Taylor, William Tootar, 3 Lagen Ponison Terel, Edwin Trout, 2 ME Dallas Teetes, Leeman Wesley, 2 Agr Pine Land Teissler, Louis Wiliam, 1 Agr Denison Termini, James Thomas, 1 ChE Dickinson Terrell, Colvin Ansley, 1 LA Bryan Terrell, Thomas Henry, 3 CE El Paso Terrell, William Randolph, 2 EE Beaumont Terry, Homer Lee, 1 AA Tyler Terry, Jim Tom, 1 Agr Cameron Terry, Richard Seth, 1 PPE Jefferson Thaxton, Hugh Barber, 4 VM Cherokee	Tucker, Elton Elliott, 2 PPE
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Hulen, 1 AgEd Bryan Taylor, William Oscar, 3 LA Groesbeck Teal, Edwin Trout, 2 ME Dallas Teetes, Leeman Wesley, 2 Agr. Pine Land Teissler, Louis William, 1 Agr Denison Termini, James Thomas, 1 Che Dickinson Terrell, Colvin Ansley, 1 LA Bryan Terrell, Thomas Henry, 3 CE El Paso Terrell, William Randolph, 2 EE Beaumont Terry, Homer Lee, 1 AA Tyler Terry, Jim Tom, 1 Agr Cameron Terry, Richard Seth, 1 PPE Jefferson Thaxton, Hugh Barber, 4 VM Cherokee Thiele, Erick Fred, 1 Agr C. Clifton	Tucker, Elton Elliott, 2 PPE Sumervill Tucker, Kenneth, 1 Agr Burkburnet Tucker, Royce Edwin, 4 EE Pittsbur Turner, Cullen Yeates, 2 ChE Fort Worth Turner, Levi Seymour, 1 AA Daingerfiel Turner, Harry Stewart, 1 ME Longviev Udashen, Abe Allen, 1 CM Wac Uhr, Robert Jones, 4 EE San Antoni Uhr, Tom Lloyd, 3 EE San Antoni Ullrich, Elwyn Charles, 2 Arch Hallettsvill Underwood, George Woods, 1 LA San Antoni Underwood, Harris, Jr., 1 PPE Housto Underwood, Sam John, 1 Agr Dentol Underwood, Sam John, 1 Agr Dentol Upchurch, John Wright, 3 VM Mar Urbanovsky, Elo Joe, Sp Land, Wes Vahrenkamp, Robert Henry, 4 AgEng Valek, George Charles, 3 ME Enni Valek, Leonard, 1 EE Shine
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Oscar, 3 LA Groesbeck Teal, Edwin Trout, 2 ME Dallas Teetes, Leeman Wesley, 2 Agr Pine Land Teissler, Louis Wiliam, 1 Agr Denison Termini, James Thomas, 1 ChE Dickinson Terrell, Colvin Ansley, 1 LA Bryan Terrell, Thomas Henry, 3 CE El Paso Terrell, William Randolph, 2 EE Terry, Homer Lee, 1 AA Tyler Terry, Jim Tom, 1 Agr Cameron Terry, Richard Seth, 1 PPE Jefferson Thaxton, Hugh Barber, 4 VM Cherokee Thiepin, Robert Lern, 4 A Ageng Austin	Tucker, Elton Elliott, 2 PPE
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Oscar, 3 LA Groesbeck Teal, Edwin Trout, 2 ME Dallas Teetes, Leeman Wesley, 2 Agr Pine Land Teissler, Louis Wiliam, 1 Agr Denison Termini, James Thomas, 1 ChE Dickinson Terrell, Colvin Ansley, 1 LA Bryan Terrell, Thomas Henry, 3 CE El Paso Terrell, William Randolph, 2 EE Terry, Homer Lee, 1 AA Tyler Terry, Jim Tom, 1 Agr Cameron Terry, Richard Seth, 1 PPE Jefferson Thaxton, Hugh Barber, 4 VM Cherokee Thiepin, Robert Lern, 4 A Ageng Austin	Tucker, Elton Elliott, 2 PPE Sumervill Tucker, Kenneth, 1 Agr Burkburnet Tucker, Royce Edwin, 4 EE Pittsbur Turner, Cullen Yeates, 2 ChE Fort Worth Turner, Harry Stewart, 1 ME Longviev Under Harry Stewart, 1 ME Longviev Udashen, Abe Allen, 1 CM Wac Uhr, Robert Jones, 4 EE San Antoni Uhr, Tom Lloyd, 3 EE San Antoni Ullrich, Elwyn Charles, 2 Arch Hallettsvill Underwood, George Woods, 1 LA San Antoni Underwood, Harris, Jr., 1 PPE Housto Underwood, Sam John, 1 Agr Denton Underwood, Sam John, 1 Agr Denton Underwood, Sam John, 1 Agr Denton Underwood, Sam John, 1 Agr Mar Urbanovsky, Elo Joe, Sp Land, Wac Vahrenkamp, Robert Henry, 4 Ageng San Killee Valek, George Charles, 3 ME Enni Valek, Leonard, 1 EE Shine Valle, Raul Diego, 2 ChE Rodolfo Rene, 1 LA
Taylor, John Robert, Jr., 2 CE Dallas Taylor, Luther Erwin, 4 CE Hawley Taylor, Mearl Glen, 1 Agr Bryan Taylor, Noble James, 1 PPE Tahoka Taylor, Robert Suttle, 2 EE Corsicana Taylor, S. Ardis, 2 EE Tyler Taylor, William Hulen, 1 AgEd Bryan Taylor, William Oscar, 3 LA Groesbeck Teal, Edwin Trout, 2 ME Dallas Teetes, Leeman Wesley, 2 Agr. Pine Land Teissler, Louis William, 1 Agr Denison Termini, James Thomas, 1 Che Dickinson Terrell, Colvin Ansley, 1 LA Bryan Terrell, Thomas Henry, 3 CE El Paso Terrell, William Randolph, 2 EE Beaumont Terry, Homer Lee, 1 AA Tyler Terry, Jim Tom, 1 Agr Cameron Terry, Richard Seth, 1 PPE Jefferson Thaxton, Hugh Barber, 4 VM Cherokee Thiele, Erick Fred, 1 Agr C. Clifton	Tucker, Elton Elliott, 2 PPE Sumervill Tucker, Kenneth, 1 Agr Burkburnet Tucker, Kenneth, 1 Agr Burkburnet Tucker, Royce Edwin, 4 EE Pittsbur Turner, Cullen Yeates, 2 ChE Fort Wortl Turner, Harry Stewart, 1 ME Longviev Turner, Harry Stewart, 1 ME Longviev Udashen, Abe Allen, 1 CM Wac Uhr, Robert Jones, 4 EE San Antoni Uhr, Tom Lloyd, 3 EE San Antoni Ullrich, Elwyn Charles, 2 Arch Hallettsvill Underwood, George Woods, 1 LA San Antoni Underwood, Harris, Jr., 1 PPE Houston Underwood, Sam John, 1 Agr Denton Underwood, Sam John, 1 Agr Mar Urbanovsky, Elo Joe, Sp Land, Wes Vahrenkamp, Robert Henry, 4 AgEng Walek, George Charles, 3 ME Enni Valek, Leonard, 1 EE Shine Valle, Raul Diego, 2 ChE

Van de Putte, Charles, 3 TE	Wehner, Frederick, W. H., Jr., 2 EE
Van de Putte, Charles, 3 TESan Antonio Van Eaton, Raymond Andrew, 4 PPE	Wehrman, Jack Knighton, 2 EE Brenham Weiler, John Francis, 1 CE St. Louis, Missouri
Vanek ,Frank Joseph, 2 CE	Weiler, John Francis, 1 CESt. Louis, Missouri Welch, Tom Jesse, 1 TEPort Neches
Van Zandt Lawell 3 FF Zenbyr	Welch Tom Jesse 1 TE Port Neches
van Zanut, Lowen, o EEZepnyr	Wells Took Worden 4 ChE Son Antonio
Varnell, Donald Dexter, 2 PPE barry	Wells, Jack Worden, 4 ChrSan Antonio
Vaughan, Thomas Worth, 4 ME	Wells, Jack Worden, 4 ChESan Antonio Wells, Rexford, 4 AARosebud
Jonesville	Wendler, Henry Clarence, 3 AABoerne Wesbrooks, Allen Morris, 1 Agr Port Arthur
Vela, William Oscar, 3 LALaredo	Wesbrooks, Allen Morris, 1 Agr
Vencil, Sherman Lee, Sp REPlainview	Port Arthur
Veros Charles Edward 1 LA	West, James Tinkle, 1 AgEngCorsicana Westerman, Harry Koger, 3 AgrLlano Westley, Oscar Edward, 1 MEClifton Westmoreland, William Peck, 1 EE
Wichita Falls	Westerman Harry Koger 3 Agr Llano
William Tanas O CE Wiles	Westley Ocean Edward 1 ME Clifton
Vesmirovsky, William James, 2 CEWiles	Westley, Oscar Edward, I MisOfficer
Vick, Roy McManan, 2 MEBryan	westmoreland, william Peck, I EE
Vela, William Oscar, 3 LA	Lockhart
	Whaley, Bert Kirkman, 4 ME Dallas Whatley, Jim Arnold, 1 Agr Hearne Whitaker, Robert Leslie, 1 PPE Marlin White, Albert Irving, 1 Agr Amarillo White, Carlton Gaily, 2 EE Amarillo White, Howard Sigman, 1 ME Sen Antonio
Voelkel, Travis Traugott, 2 Agr	Whatley, Jim Arnold, I AgrHearne
Vogt, Harry, 1 AA La Grange Volz, Arthur Charles, 4 EE Mission Voss, Thomas Edwin, 1 Agr Post	Whitaker, Robert Leslie, 1 PPE Marlin
Vogt. Harry, 1 AALa Grange	White, Albert Irving, 1 AgrAmarillo
Volz Arthur Charles, 4 EE Mission	White, Carlton Gaily, 2 EE Amarillo
Vocs Thomas Edwin 1 Agr Post	White Howard Sigman 1 ME
Wagener Clara Herbert 1 AA Shiner	San Antonio
Wagener, Grenn Herbert, I AAShiner	White Tim Lewis 1 TA McVinner
waite, Elbert, I AAWckinney	White, Jim Lewis, 1 LA
Wagener, Glenn Herbert, 1 AAShiner Waide, Elbert, 1 AAMcKinney Waldman, Herman Morris, 1 ChE	White, Karl Karey, 2 MEEastland White, Robert Earl, 3 EEHenderson
Liberty	wnite, Robert Earl, 3 EEHenderson
Walker, Alfred H., 1 AgrComstock	White, William Howell, 4 ME
Walker, John Francis, 1 ChElowa Park	Corpus Christi
Walker, Jack Kenneth, 1 ME Fort Worth	Whitehead, Jack Owen, 2 VM
Walker, John Francis, 1 ChE Iowa Park Walker, Jack Kenneth, 1 ME Fort Worth Walker, Oliver Paxton, 3 EE Fort Worth Walker, Thomas Wiley, 4 PPE	Smith Point
Walker, Thomas Wiley, 4 PPE	Whitfield, Hervey Hayden, 3 PPE
Fort Worth	Houston
Walker, Weldon Ferdinand, 2 CE Stamford	White, William Howell, 4 ME Corpus Christi Whitehead, Jack Owen, 2 VM Whitfield, Hervey Hayden, 3 PPE Houston Whitfield, John Thomas, 1 Agr Whitman, Worsham Carroll, 3 CE Whitman, Harwell Callaway, 4 Agr Midland Midland
Stamford	Whitman, Worsham Carroll, 3 CEBowie
Walker, Walter Hugh, 1 AgEdDallas	Whitmire, Harwell Callaway, 4 Agr
Wallace, C. R., Sp Sci College Station	Midland
Wallace Cal T. 1 Agr Lone Oak	Whitmire Milas Witzel 4 Agr Midland
Wallace James Lucius 3 Sci	Whitsitt Charles Doitton 4 RE Shannon
Madisonville	Whitmire, Milas Witzel, 4 AgrMidland Whitsitt, Charles Doitton, 4 REShannon Wicker, Edward Henry, 1 CM
Waller Howard Morgan 1 ME	Cornus Christi
Walker, Walter Hugh, 1 AgEd	Wicker, Edward Heirly, I Compus Christi Wiedermann, Bernard, 4 ME Wiggins, J. W., Jr., 1 PPE San Antonio Wilcox Leon Allen Sp. ME Reven
Walton, James Ivan, 3 EEE Yoakum Wamble, A. Cecil, 3 ChE Bryan Wanja, Lawrence Frank, 4 EE Weimar Ward, J. Rex, 1 EE San Antonio Warden, Henry Edward, 1 Arch Chicago, Illinois Warden, John Ashley, Jr., 2 EE Chicago, Illinois Wardlaw Herbert Rocers, 2 AA	New Brainfeld
Wamble A Cacil & ChE Bryan	Wigging I W In 1 DDF
Wania Lawrence Frank A FF. Weimar	Viggins, J. W., Jr., I FFE
Ward I Day 1 FF San Antonio	Wilson I con Allen Co ME Description
Warden Henry Edward 1 Arch	Wilden Hanne Charles 1 ME
Chiaggo Illinois	Wilcox, Leon Allen, Sp MEBryan Wilder, Harry Stanley, 1 ME
TV1 T-b A-bl T 0 EE	Wiles Description Corpus Christi
warden, John Ashley, Jr., Z EE	wiley, Bruce Foster, I EEEl Campo
Tr. 11 T. 1 T. 1 T. 1 T. 1 T. 1 T. 1 T.	wiley, vernon Cramer, 1 ArchHouston
Wardlaw, Herbert Rogers, 2 AA	Wilkins, William Taylor, 1 LAFranklin
San Angelo	Wilkinson, James H., Jr., 3 EEOmaha
Warren, Charles Wiliam, 2 ME	Willard, John Henry, 3 AAGiddings
Warren, Hoyt Read, Jr., 1 EE San Antonio	Wiley, Bruce Foster, 1 EE El Campo Wiley, Vernon Cramer, 1 Arch Houston Wilkins, William Taylor, 1 LA Franklin Wilkinson, James H., Jr., 3 EE Omaha Willard, John Henry, 3 AA Giddings Willard, Phillip Gordon, 2 Arch
Warren, Hoyt Read, Jr., 1 EE	San Antonio
Warren, William Bynum, 3 IAELometa Warrick, Clifton Eual, 1 AAWellington	Carrizo Springs
Warrick, Clifton Eual, 1 AAWellington	Williams Coorgo Harrow 1 Coi
Washington, Courtenay Carven, 2 Arch	San Antonio
Galveston	Williams, Stuart Sidney, 2 EEWinters
Watanabe, Taro James, 1 Agr	
	Williams, Walter Belford, 4 CE
San Francisco, California	Williams, Stuart Sidney, 2 EEWinters Williams, Walter Belford, 4 CE Greenville
Watanabe, Taro James, 1 Agr ————————————————————————————————————	Williamson, Howard Morris, 1 Agr Bryan
Watkins, D. L., Jr., 1 IAEMcKinney Watson, Wade Morris, 3 MELongview	Williamson, Howard Morris, 1 Agr Bryan
Watkins, D. L., Jr., 1 IAEMcKinney Watson, Wade Morris, 3 MELongview Watts, Albert Byron, 4 LASan Antonio	Williamson, Howard Morris, 1 AgrBryan Willis, Nicholos William, 1 LA
Watson, Wade Morris, 3 MELongview Watts, Albert Byron, 4 LASan Antonio Watts, Eli Mores, Ir. 1 LA Tevarkana	Williamson, Howard Morris, 1 AgrBryan Willis, Nicholos William, 1 LA
Watson, Wade Morris, 3 MELongview Watts, Albert Byron, 4 LASan Antonio Watts, Eli Mores, Ir. 1 LA Tevarkana	Williamson, Howard Morris, 1 AgrBryan Willis, Nicholos William, 1 LA
Watson, Wade Morris, 3 MELongview Watts, Albert Byron, 4 LASan Antonio Watts, Eli Mores, Ir. 1 LA Tevarkana	Williamson, Howard Morris, 1 AgrBryan Willis, Nicholos William, 1 LA
Watson, Wade Morris, 3 MELongview Watts, Albert Byron, 4 LASan Antonio Watts, Eli Mores, Ir. 1 LA Tevarkana	Williamson, Howard Morris, 1 AgrBryan Willis, Nicholos William, 1 LA
Watson, Wade Morris, 3 MELongview Watts, Albert Byron, 4 LASan Antonio Watts, Eli Mores, Jr., 1 LA Texarkana Weatherby, Edward Pace, 3 MEDallas Weatherby, James Lee, 2 LADallas Weatherford. Roy Alexander, 2 LA	Williamson, Howard Morris, 1 AgrBryan Willis, Nicholos William, 1 LA
Watson, Wade Morris, 3 MELongview Watts, Albert Byron, 4 LASan Antonio Watts, Eli Mores, Jr., 1 LA Texarkana Weatherby, Edward Pace, 3 MEDallas Weatherby, James Lee, 2 LADallas Weatherford. Roy Alexander, 2 LA	Williamson, Howard Morris, 1 AgrBryan Willis, Nicholos William, 1 LA
Watson, Wade Morris, 3 MELongview Watts, Albert Byron, 4 LASan Antonio Watts, Eli Mores, Jr., 1 LA Texarkana Weatherby, Edward Pace, 3 MEDallas Weatherby, James Lee, 2 LA Dallas Weatherford, Roy Alexander, 2 LA	Williamson, Howard Morris, 1 AgrBryan Willis, Nicholos William, 1 LA
Watson, Wade Morris, 3 MELongview Watts, Albert Byron, 4 LASan Antonio Watts, Eli Mores, Jr., 1 LA Texarkana Weatherby, Edward Pace, 3 MEDallas Weatherby, James Lee, 2 LA Dallas Weatherford, Roy Alexander, 2 LA San Antonio Weaver, John Edward, 3 EE Refugio Weaver, Thomas McKenna, 3 Agr. Dallas	Williamson, Howard Morris, 1 AgrBryan Willis, Nicholos William, 1 LA
Watson, Wade Morris, 3 MELongview Watts, Albert Byron, 4 LASan Antonio Watts, Eli Mores, Jr., 1 LA Texarkana Weatherby, Edward Pace, 3 MEDallas Weatherby, James Lee, 2 LA Dallas Weatherford, Roy Alexander, 2 LA San Antonio Weaver, John Edward, 3 EE Refugio Weaver, Thomas McKenna, 3 Agr. Dallas	Williamson, Howard Morris, 1 AgrBryan Willis, Nicholos William, 1 LA
Watson, Wade Morris, 3 MELongview Watts, Albert Byron, 4 LASan Antonio Watts, Eli Mores, Jr., 1 LA Texarkana Weatherby, Edward Pace, 3 MEDallas Weatherby, James Lee, 2 LA Dallas Weatherford, Roy Alexander, 2 LA San Antonio Weaver, John Edward, 3 EE Refugio Weaver, Thomas McKenna, 3 Agr Dallas Webb, Lester Ira, 4 RE Flatonia Webb, Lester Ira, 4 RE Flatonia	Williamson, Howard Morris, 1 AgrBryan Willis, Nicholos William, 1 LA
Watson, Wade Morris, 3 MELongview Watts, Albert Byron, 4 LASan Antonio Watts, Eli Mores, Jr., 1 LA Texarkana Weatherby, Edward Pace, 3 MEDallas Weatherby, James Lee, 2 LA Dallas Weatherford, Roy Alexander, 2 LA San Antonio Weaver, John Edward, 3 EE Refugio Weaver, Thomas McKenna, 3 Agr Dallas Webb, Lester Ira, 4 RE Flatonia Webb, Lester Ira, 4 RE Flatonia	Williamson, Howard Morris, 1 AgrBryan Willis, Nicholos William, 1 LA
Watson, Wade Morris, 3 MELongview Watts, Albert Byron, 4 LASan Antonio Watts, Eli Mores, Jr., 1 LA Texarkana Weatherby, Edward Pace, 3 MEDallas Weatherby, James Lee, 2 LA Dallas Weatherford, Roy Alexander, 2 LA San Antonio Weaver, John Edward, 3 EE Refugio Weaver, Thomas McKenna, 3 Agr. Dallas	Williamson, Howard Morris, 1 AgrBryan Willis, Nicholos William, 1 LA

Winder, John Ernest, 1 CEDallas	Wright, Joseph Rudolf, 2 PPEEdna
Winder, Norman Gebbardt, 1 CEDallas	Wright, Roger Erwin, 1 EEAlice
Windrow, Don Albert, 2 AgrHondo	
	Wright, Richard, 4 AgrAlice
Winkler, Charles Herman, Jr., 2 Sci	Wupperman, Walter Ernest, 4 VM
College Station	Austin
Winston, Joseph Blake, 4 CEDallas	Wurzbach, Ellis Otto, 4 Agr
Winters, Adam Davis, 3 EE Nederland	Wykes, Murray Lee, 1 AA College Station
Witkowski, Leo Victor, 1 AgEng	San Antonio
Plainview	Wyse, George Elmer, 2 SciPalestine
Wolf, Kevie, 1 MEEastland	Yarbrough, Henry Bowen, 4 EE
Wolf, Mark E., 1 PPEWaco	Lampasas
Wolff, Arthur James, 1 SciFort Worth	York, Oliver Shouble, Jr., 3 ChE
Wolston, Clint Murley, III, 1 PPE	York, Oliver Shouble, Jr., 3 ChE
Galveston	Young, Archie Pat, 1 AAGrand Prairie
Woodall, Benjamin Franklin, 1 AA Edna	Young, Colquitt Fleet, 1 VM
Woodall, Harry Lee, Jr., 4 PPE	Shrevenort I.s.
Port Arthur	Young, James Hayes, 1 PPEMidway
Woodfin, George Smiley, 1 SciParis	Young, John Walace, 1 MEKyle
Woodham, Lurie Lee, 1 SciOdessa	Voung Voung Cucham 9 A A
	Young, Vernon Graham, 3 AAHenderson
Woodland, Clarence Russell, 1 AgEd	Young, Wesley Barber, 3 AA
Woodland College Colle	loung, wesley Barber, & AA
Woodland, Sully Swinnea, 4 REEdna	Young, William Conley, 2 AgrKyle
Woods, Sam E., 4 CEAmarillo	Young, William Conley, 2 AgrKyle
Woodul, Parker, 3 AgEdLamesa	Young, William Louis, 2 SciSan Antonio
Woodward, Fred W., 1 AgrLexington	San Antonio
Word, Mendel Booth, 2 ChE	Young, Walter Morris, 2 Agr
Port Arthur	Sulphur Springs
Worden, Robert Francis, 4 ChE	Youngs, Paul Austin, 1 EEBooth
Hillsborso, N. Mexico	Zachry, Guy Rowan, 4 PPEKerrville
Worley, John Aaron, 3 ArchDallas	Zapp, Lloyd Otto, 3 CEHouston
Worley, James D., 1 Agr College Station	Zeller, James Lynn, 2 ChE
Wortham, Wifiam Nels, 4 CEWaco	Ft. Riley, Kansas
Wotipka, Eli Oscar, 4 AASmithville	Zellers, James Thomas, 2 EE
Woyke, Einar Eric, 1 ME	Charleston, W. Virginia
Brooklyn, N. Y.	Zercher, Kemper Alspaugh, 2 ChE
Wright, Alfred Philip, 1 LAAlfred	Mt. Vernon
Wright, Allan Russell, 3 Arch	Zimmerman, Alfred Harvey, 2 CEWaco
San Antonio	Zimmerman, Kenneth Elbert, 3 Arch
Wright, Charles D., 1 AgEngMoody	Coleman
Wright, Harold Edward, 3 AgrMoody	Zorns, Benton Ardyce, 2 AgrDecatur
Waisht January Coshocton, Ohio	Zumwalt, Robert William, 2 Arch
Wright, Jerome, 2 AAParis	Shreveport, La.

SUMMARY OF ENROLLMENT, REGULAR SESSION 1932-33

(Excluding short courses and extension courses)

By States and Foreign Countries

-,			
Texas1	957	Ohio	3
Arkansas	6	Tennessee	1
California	4	South Carolina	1
Colorado	3	Virginia	3
Illinois	6	West Virginia	1
Indiana	2	Wyoming	1
Kansas	4	Cuba	2
Kentucky	2	Denmark	1
Louisiana	28	India	I
Oklahoma	9	Iraq.	2
Massachusetts	1	Korea	2
Mississippi	4	Mexico	16
Missouri	4	Puerto Rico	2
New Jersey	1	Turkey	1
New Mexico	2	Total2	2977
New York	7		

SUMMER SESSION 1932

c-College cc-Cotton Classing
Abraham, Geo., c Addams, E. V., c Bryan Addison, J. M., c Adwany, R. K., c Alexander, J. R., c Alexander, J. R., Jr., c Bridgeport Allen, J. G., Jr., c Bridgeport Allen, W. G., c Allen, W. J., c Allen, W. J., c Anderson, C. H. C., Jr., c Bryan Anderson, C. J., c Anderson, C. J., c Anderson, E. L., c Bryan Andrews, C. L., c Bryan Andrews, C. L., c Bryan Andrews, V. C., c Bryan Andrews, W. W., c Bryan Aston, J. A., c Armoth, J. M., c Aston, J. A., c Armoth, M. L., c Aston, J. A., c Armoth, M. L., c Bryan Barfield, R. E., c Port Arthur Barres, W. D., c Bryan Barfield, R. E., c Port Arthur Barnes, W. D., c Bryan Barfield, R. E., c Port Arthur Barnes, W. D., c Bryan Bargenan, M. H., c Bargenan,
Addison, J. M., c
Adwany, R. K., C
Aldredge, H. W., c
Alexander, J. R., Jr., cBridgeport Allen, J. G., Jr., cMart
Allen, W. G., c
Anderson, C. H. C., Jr., cDallas Anderson, C. J., cLawn
Anderson, E. L., cSan Antonio Anderson, M. M., cLawn
Andrews, C. L., c
Andrews, W. C., cBryan Andrews, W. W., cMadisonville
Appelt, W. F., c
Archibald, S. B., cCollege Station Armour, B. W., cLa Feria
Arnott, J. M., c
Arnold, R. W., c
Aston, J. A., c Farmersville Austin, T. S., c Houston
Baar, Leo John, c
Baggett, A. L., cBallinger Bagley, T. B., ccCollege Station
Bailey, Christobel, cCollege Station Baldassari, C., cGalveston
Ball, U. H., cYoakum Balthis, R. F., Jr., cCollege Station
Banks, Ada Rose, c
Bargmann, Geo., c
Bason, J. H., cc Port Arthur
Basore, Mrs. Lilla, cTexon Basore, W. L., cTexon
Batts, J. W., c Bryan Baughn, M. H., c Hearne
Beard, C. B., c
Bearden, H. J., c San Antonio Bell, H. F., c Port Arthur
Bellamy, W. D., c
Bergendahl, J. L. R., cSan Antonio
Berry, R. O., c
Betts, J. D., c
Billimek, O. L., cPoth
Black, H. P., c Bryan
Blackard, Fred, c Talco
Blank, H. C., c Fort Worth
Blevins, W. L., c Bryan Blodgett W. S.
Blount, T. B., c

Bobban, Dale, c
Rohnenkemp H G c Moulton
D. C.
Boles, C. G., cGordon
Bolton, E. D., cMarshall
Bolton, F. C., Jr., c College Station
Ronano Lana M c Bryan
Donald, Liena M., C
Boriskie, I. F., CBryan
Bortle, F. E., cLongview
Bouton, J. W., cWebster
Boyd G R c Boerne
Poyor H I a College Station
Doyer, II. II., C
Brady, G. M., C Texas City
Brailsford, G. W., cHouston
Brautigam, G. F., c Pinehurst
Brayenec E E c College Station
Duentual H D a Huntarilla
Brentzei, H. R., CHuntsville
Bright, M. L., CHouston
Brindley, R. M., cHarlingen
Brinsmade, H. S., cMexico City, Mex.
Bristol G L c McKinney
Drooks Duby I a Tylon
Brooks, Ruby L., C
Broughton, M. N., CPinewood, S. C.
Brown, J. H., cHouston
Brown, O. V., cSan Benito
Brundrett G C c Dellas
Drunow 7 W . Doormont
Brunow, J. W., CBeaumont
Bruns, S. D., cLouise
Bryant, E. M., cPort Arthur
Buchanan, Mrs. J. S., cBryan
Ruchtien E W c Rellville
Buellov A T a Colvert
Duckley, A. J., CCalvert
Bunting, W. D., cBryan
Bunton, S. E., Jr., cValentine
Burks, G. E., cGranger
Burks, S. V., c Poteet
Rurns E H a Houston
Duraton To T
Burton, F. J., CKirbyville
Busher, J. Opal, cKerens
Byrom, M. M., cKaty
Cain. V. V., cForest Hill
Cahill Evelyn c Rryan
Callower C F a College Station
Canoway, G. E., CConlege Station
Canavespi, L. J., cBryan
Card, R. L., cHouston
Carmichael, W. R., cBryan
Carroll, J. M., c Denton
Carson Rostelle c Hourne
Carton B F a Chromonet Ta
Carter, B. F., cShreveport, La.
Carter, B. F., c
Carter, B. F., c
Carter, B. F., c Shreveport, La. Carmical, C. R., cc Monticello, Ark. Chanowsky, Joe, c Bryan Cheatham, J. C., c Bryan
Carter, B. F., c Shreveport, La. Carmical, C. R., cc Monticello, Ark. Chanowsky, Joe, c Bryan Cheatham, J. C., c Bryan Christian, A. H. c Malakoff
Carter, B. F., c Shreveport, La. Carmical, C. R., cc Monticello, Ark. Chanowsky, Joe, c Bryan Cheatham, J. C., c Bryan Christian, A. H., c Malakoff Christian, C. L. C. Malakoff
Carter, B. F., c Shreveport, La. Carmical, C. R., cc Monticello, Ark. Chanowsky, Joe, c Bryan Cheatham, J. C., c Bryan Christian, A. H., c Malakoff Christian, G. L., c Abilene
Carter, B. F., c Shreveport, La. Carmical, C. R., cc Monticello, Ark. Chanowsky, Joe, c Bryan Cheatham, J. C., c Bryan Christian, A. H., c Malakoff Christian, G. L., c Abilene Clampitt, Doris, c Caldwell
Carter, B. F., c Shreveport, La. Carmical, C. R., cc Monticello, Ark. Chanowsky, Joe, c Bryan Cheatham, J. C., c Bryan Christian, A. H., c Malakoff Christian, G. L., c Abilene Clampitt, Doris, c Caldwell Cloud, R. R., c Murchison
Carter, B. F., c Shreveport, La. Carmical, C. R., cc Monticello, Ark. Chanowsky, Joe, c Bryan Cheatham, J. C., c Bryan Christian, A. H., c Malakoff Christian, G. L., c Abilene Clampitt, Doris, c Caldwell Cloud, R. R., c Murchison Cochran, W. B., c Houston
Carter, B. F., c Shreveport, La. Carmical, C. R., cc Monticello, Ark. Chanowsky, Joe, c Bryan Cheatham, J. C., c Bryan Christian, A. H., c Malakoff Christian, G. L., c Abilene Clampitt, Doris, c Caldwell Cloud, R. R., c Murchison Cochran, W. B., c Houston Coleman, M. A., c Catarina
Carter, B. F., c Shreveport, La. Carmical, C. R., cc Monticello, Ark. Chanowsky, Joe, c Bryan Cheatham, J. C., c Bryan Christian, A. H., c Malakoff Christian, G. L., c Abilene Clampitt, Doris, c Caldwell Cloud, R. R., c Murchison Cochran, W. B., c Houston Colleman, M. A., c Catarina Colley, R. S. c
Carter, B. F., c Shreveport, La. Carmical, C. R., ce Monticello, Ark. Chanowsky, Joe, c Bryan Cheatham, J. C., c Bryan Christian, A. H., c Malakoff Christian, G. L., c Abilene Clampitt, Doris, c Caldwell Cloud, R. R., c Murchison Cochran, W. B., c Houston Colley, R. S., c Yoakum Colley, R. S., c Yoakum
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Crensnaw, Mrs. Willie, C	
Crisler, J. S., cCollege Station	
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Hearne, Evie G., c
Hebert, J. H., CBeaumont
Hedges, H. P., CCollege Station
Heidrich, E. R., c
Heil, B. F., cSan Antonio
Heizer, W. R., cBreckenridge
Henderson, Mrs. Blanche, cBryan
Henderson, B. L., cBryan
Henderson, H. O., c Bryan
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Hochmuth, B. A., cHouston
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Holley, R. J., cSan Antonio
Holmes, W. W., cShamrock
Holzmann, Mrs. C. B., c Bryan
Homever, P. G., c Fort Worth
Hooser, C. L. c Milford
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Harkey, M. L., c Temple Harlan, J. F., c Temple Harper, R., Mrs., c Cameron Harris, E. D., cc Bay City Harris, E. D., cc Bay City Harris, E. T., c Houston Harris, E. T., c Houston Harris, J. R., c Bryan Harris, J. R., c Big Spring Hatch, R. D., c Big Spring Hatch, R. D., c Big Spring Hatch, R. D., c Big Spring Hatcher, D. L., c Jefferson Hatton, J. M., c Abilene Hattox, J. Z., c Stephenville Hawkins, DeLeon, c Georgetown Hayes, M. R., c Houston Hayes, M. R., c Houston Hayes, M. R., c Bryan Hebert, J. H., c Beaumont Hedges, H. P., c College Station Heid, E. R., c Houston Heid, E. R., c Houston Heid, E. R., c Bryan Henderson, Mrs. Blanche, c Bryan Henderson, B. L., c Bryan Henderson, B. L., c Bryan Henderson, J. Y., c Ingram Henderson, J. Y., c Ingram Hendriz, J. B., c Houston Herzik, G. R., Jr., c Engle Hill, E. H., c Bronson Hell, G. T., c Newsome Hilling, J. F., c Rosebud Hiner, T. L., c Granbury Hipp, T. D., c Bedias Hochmuth, B. A., c Houston Holland, E. A., c College Station Hollew, R. J., c San Antonio Hollew, R. J., c Bedias Hochmuth, B. A., c Houston Hollew, R. J., c San Antonio Hollew, R. J., c San Antonio Hollew, R. J., c San Antonio Hollews, W. W., c San Antonio Howerl, P. G., c Fort Worth Hooser, C. L. c Milford Hooser, D. B., c Holland Howell, E. J., c College Station Howell, E. J., c College Station Hughes, W. L., Jr., c College Station Hughes, W. L., Jr., c College Station Huston, R. D., c Respond Houston, R. D., c Respond Houston, R. D., c Respond Huston, R
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Jones, W. P., c Dallas Kadel, G. W., drs., c Dallas Kadel, G. W., mrs., c Cardwell Kelly, M. A., c Monroe, La. Kennedy, H. C., c Breckenridge Kennerly, T. P., c Houston Kerley, O. C., c Sherman Kerns, A. H., c Amarillo Kerley, O. C., c Sherman Kerns, A. H., c Amarillo Khazzam, N. E., c Bagdad, Iraq Killebrew, Serena, c Lone Wolf, Okla. King, C. G., c Fort Worth King, Naomi E., c Timpson King, O. B., c Bogata Kinser, Mrs. Kathrine, c Thrall Klein, T. W., c College Station Knesek, J. E., cc Lyons Koenig, Evelyn L., c Bryan Koerth, R. L., c Yoakum Konecny, L. T., c Bryan Koym, H. H., cc Wallis Krueger, A. T., c San Antonio Kyle, A. B., c Whitney Lagow, C. M., c Dallas Lala, G. O., c Placedo Lancaster, D. B., c Oenaville Land, L. M., c Vivian, La. Lane, L. M., c Vivian, La. Lane, L. M., c Vivian, La. Lane, C. D. M., c Palestine LaRue, G. G., c Lovelady Larver, Mrs. Ruby O., c Tyler Lawver, E. A., c Tyler Lawvernee, J. C., c Craig, Colo. Lea, N. J., c Socut, La. Lebo, M. B., c Tear, Colo. Lea, N. J., c Socut, La. Lebo, M. B., c Tear, Colo. Lea, N. J., c Socut, La. Lebo, M. B., c Tear, Colo. Lea, N. J., c Tear, C
Kadel, G. W., c Dallas Kadel, G. W., Mrs., c Dallas Kadel, G. W., Mrs., c Dallas Kaltwasser, E. T., c Caldwell Kelly, M. A., c Monroe, La. Kennedy, H. C., c Breckenridge Kennerly, T. P., c Houston Kerley, O. C., c Sherman Kerns, A. H., c Bryan Kerr, R. L., c Amarillo Khazzam, N. E., c Bagdad, Iraq Killebrew, Serena, c Lone Wolf, Okla. King, C. G., c Fort Worth King, Naomi E., c Timpson King, O. B., c Bogata Kinser, Mrs. Kathrine, c Thrall Klein, T. W., c College Station Knesek, J. E., cc Lyons Koenig, Evelyn L., c Bryan Koerth, R. L., c Yoakum Konecny, L. T., c Bryan Koym, H. H., cc Wallis Krueger, A. T., c San Antonio Kyle, A. B., c Whitney Lagow, C. M., c Dallas Lala, G. O., c Placedo Lancaster, D. B., c Oenaville Land, L. M., c Vivian, La. Lane, L. M., c Valley Mills Larner, Curtis, c Morgan Mill Laroe, D. M., c Palestine LaRue, W. T., c Slocum Lawer, E. A., c Tyler Lawrence, J. C., c Craig, Colo. Lae, N. J., c Scott, La. Bebo, M. B., c Arlington Lednicky, B. J., c West Lednicky, J. J., cc Hillsboro Levey, Elihugh, c West Leverett, P. J., cc Hillsboro Levey, Elihugh, c West Leverett, P. J., cc Hillsboro Levey, Elihugh, c Wasse
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Kelly, M. A., c Monroe, La. Kennedy, H. C., c Breckenridge Kennerly, T. P., c Houston Kerley, O. C., c Sherman Kerns, A. H., c Bryan Kerr, R. L., c Amarillo Khazzam, N. E., c Bagdad, Iraq Killebrew, Serena, c Lone Wolf, Okla. King, Naomi E., c Timpson King, O. B., c Bogata Kinser, Mrs. Kathrine, c Thrall Klein, T. W., c College Station Koenig, Evelyn L., c Bryan Koerth, R. L., c Yoakum Konecny, L. T., c Bryan Koym, H. H., cc Wallis Krueger, A. T., c San Antonio Kyle, A. B., c Whitney Lagow, C. M., c Dallas Lala, G. O., c Placedo Lancaster, D. B., c Oenaville Land, L. M., c Vivian, La. Lane, L. M., c Vivian, La. Lane, L. M., c Valley Mills Larner, Curtis, c Morgan Mill Laroe, D. M., c Palestine Lawer, Mrs. Ruby O., c Tyler Lawerne, E. A., c Tyler Lawerne, E. A., c Carig, Colo. Lea, N. J., c Scott, La. Lebo, M. B., c Texarkana Leverett, P. J., cc Hillsboro Levy, Elihugh, c West Lewer, J. A., c Texarkana Leverett, P. J., cc Hillsboro Levy, Elihugh, c Wasse
Kennedy, H. C., c Breckenridge Kennerly, T. P., c Houston Kerley, O. C., c Sherman Kerns, A. H., c Bryan Kerr, R. L., c Bagdad, Iraq Kerr, R. L., c Bagdad, Iraq Killebrew, Serena, c Lone Wolf, Okla. King, C. G., c Fort Worth King, Naomi E., c Timpson King, O. B., c Bogata Kinser, Mrs. Kathrine, c Thrall Klein, T. W., c College Station Knesek, J. E., cc College Station Knesek, J. E., cc Lyons Koenig, Evelyn L., c Bryan Koerth, R. L., c Yoakum Konecny, L. T., c Bryan Kown, H. H., cc Wallis Krueger, A. T., c San Antonio Kyle, A. B., c Wallis Krueger, A. T., c San Antonio Kyle, A. B., c Placedo Lancaster, D. B., c Oenaville Land, L. M., c Vivian, La. Lane, L. M., c Vivian, La. Lane, L. M., c Vivian, La. Lane, C. T., c Slocum Lawer, Curtis, c Morgan Mill Laroe, D. M., c Palestine LaRue, G. G., c Lovelady LaRue, W. T., c Soctt, La. Lebo, M. B., c Marshall LeBlanc, S. J., c Scott, La. Lebo, M. B., c Arlington Lednicky, B. J., c West Lednicky, J. J., cc Texarkana Leverett, P. J., cc Hillsboro Lewis, A. B., c Wales Lewis, A. B., c Kosse
Kennerly, T. P., c Houston Kerley, O. C., c Sherman Kerns, A. H., c Bryan Kerr, R. L., c Amarillo Khazzam, N. E., c Bagdad, Iraq Killebrew, Serena, c Lone Wolf, Okla. King, C. G., c Fort Worth King, Naomi E., c Timpson King, O. B., c Bogata Kinser, Mrs. Kathrine, c Thrall Klein, T. W., c College Station Knesek, J. E., cc Lyons Koenig, Evelyn L., c Bryan Koerth, R. L., c Yoakum Konecny, L. T., c Bryan Koym, H. H., cc Wallis Krueger, A. T., c San Antonio Kyle, A. B., c Whitney Lagow, C. M., c Dallas Lala, G. O., c Placedo Lancaster, D. B., c Oenaville Land, L. M., c Vivian, La. Lane, L. M., c Valley Mills Larner, Curtis, c Morgan Mill Laroe, D. M., c Palestine LaRue, G. G., c Craig, Colo. Lea, N. J., c Scott, La. Lebo, M. B., c Arlington Lednicky, B. J., c West Lednicky, J. J., cc West Lednicky, J. J., cc West Leverett, P. J., cc Hillsboro Levy, Elliugh, C. Waley M.
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Klein, T. W., c. College Station Knesek, J. E., cc. Lyons Koenig, Evelyn L., c. Bryan Koerth, R. L., c. Yoakum Konecny, L. T., c. Bryan Koym, H. H., cc. Wallis Krueger, A. T., c. San Antonio Kyle, A. B., c. Whitney Lagow, C. M., c. Dallas Lala, G. O., c. Placedo Lancaster, D. B., c. Oenaville Land, L. M., c. Vivian, La. Lane, L. M., c. Valley Mills Larner, Curtis, c. Morgan Mill Laroe, D. M., c. Palestine LaRue, G. G., c. Lovelady LaRue, W. T., c. Slocum Lawer, E. A., c. Tyler Lawrence, J. C., c. Craig, Colo. Lea, N. J., c. Craig, Colo. Lea, N. J., c. Scott, La. Bebo, M. B., c. Arlington Lednicky, B. J., c. West Lednicky, J. J., cc. West Leveet, J. A., c. Texarkana Leverett, P. J., cc. Hillsboro Levy, Elihugh, c. Waco
Knesek, J. E., cc Lyons Koenig, Evelyn L., c Bryan Koerth, R. L., c Yoakum Konecny, L. T., c Bryan Koym, H. H., cc Wallis Krueger, A. T., c San Antonio Kyle, A. B., c Whitney Lagow, C. M., c Dallas Lala, G. O., c Placedo Lancaster, D. B., c Oenaville Land, L. M., c Vivian, La. Lane, L. M., c Vivian, La. Lane, L. M., c Valley Mills Larner, Curtis, c Morgan Mill Laroe, D. M., c Palestine LaRue, W. T., c Slocum Lawer, E. A., c Tyler Lawver, Mrs. Ruby O., c Tyler Lawver, Mrs. Ruby O., c Tyler Lawern, Mrs. Ruby O., c Marshall LeBlanc, S. J., c Scott, La. Lebo, M. B., c Arlington Lednicky, B. J., c West Lednicky, J. J., cc West Leverett, P. J., cc Hillsboro Levy, Elliugh, c Wasse Leverett, P. J., cc Hillsboro Levy, Elliugh, c Wasse
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Krueger, A. T., c San Antonio Kyle, A. B., c Whitney Lagow, C. M., c Dallas Lala, G. O., c Placedo Lancaster, D. B., c Oenaville Land, L. M., c Vivian, La. Lane, L. M., c Vivian, La. Lane, L. M., c Morgan Mill Laroer, Curtis, c Morgan Mill Laroer, D. M., c Palestine LaRue, G. G., c Lovelady LaRue, W. T., c Slocum Lawver, E. A., c Tyler Lawrence, J. C., c Craig, Colo. Lea, N. J., c Marshall LeBlanc, S. J., c Scott, La. Lebo, M. B., c Arlington Lednicky, B. J., c West Lednicky, J. J., cc West Levee, J. A., c Texarkana Leverett, P. J., cc Hillsboro Levy, Elihugh, c Waco
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Leverett, P. J., cc Hillsboro Levy, Elihugh, c Waco Lewis, A. B., c Kosse
Levy, Elliugh, c
Lewis M D a
Lichte, Christine, J., c Bryan
Lindsey, Martha Ellen, cLlano
Livingston, E. W., cBangs
Lloyd, I. H., cBryan
Locke, Frances L., cBryan
Lockey, D. O., cForney
Logwood, E. G., cAtlanta
Lomax, J. H., ccFranklin
Long I T Houston
Long R W c Marchell
Loner F A c College Station
Lord, G. P., c Bryan
Love J N c Sharman
Lovett, G. D., cTrinity
Lovett, G. D., c
Lovett, G. D., c Trinity Luker, J. B., c Schulenburg Luker, Cyril, c Bryan
Lovett, G. D., c
Lovett, G. D., c Trinity Luker, J. B., c Schulenburg Luker, Cyril, c Bryan McAdams, Kelly, c Huntsville; McBride, J. C., e Waco
Lovett, G. D., c Trinity Luker, J. B., c Schulenburg Luker, Cyril, c Bryan McAdams, Kelly, c Huntsville McBride, J. C., e Waco McCann, E. H., c Fort Worth
Lovett, G. D., c Trinity Luker, J. B., c Schulenburg Luker, Cyril, c Bryan McAdams, Kelly, c Huntsville McBride, J. C., e Waco McCann, E. H., c Fort Worth McClendon, Jack, c Harrold McClendon, P. T. c Debts Ale
Lovett, G. D., c Trinity Luker, J. B., c Schulenburg Luker, Cyril, c Bryan McAdams, Kelly, c Huntsville- McBride, J. C., e Waco McCann, E. H., c Fort Worth McClendon, Jack, c Harrold McClendon, P. T., c Dothan, Ala. McCracken, H. E. C Visconille
Lovett, G. D., c Trinity Luker, J. B., c Schulenburg Luker, Cyril, c Bryan McAdams, Kelly, c Huntsviller McBride, J. C., e Waco McCann, E. H., c Fort Worth McClendon, Jack, c Harrold McClendon, P. T., c Dothan, Ala. McCracken, H. E., c Kingsville McCubbin, W. G., c valley Viaw
Lovett, G. D., c
Lovett, G. D., c Trinity Luker, J. B., c Schulenburg Luker, Cyril, c Bryan McAdams, Kelly, c Huntsville McBride, J. C., e Waco McCann, E. H., c Fort Worth McClendon, Jack, c Harrold McClendon, P. T., c Dothan, Ala. McCracken, H. E., c Kingsville McCubbin, W. G., c Valley View McCurdy, C. O., c San Antonio McDonald, J. C., c Miles
Lovett, G. D., c
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Lovett, G. D., c Trinity Luker, J. B., c Schulenburg Luker, Cyril, c Bryan McAdams, Kelly, c Huntsville McBride, J. C., e Waco McCann, E. H., c Fort Worth McClendon, Jack, c Harrold McClendon, P. T., c Dothan, Ala. McCracken, H. E., c Kingsville McCubbin, W. G., c Valley View McCurdy, C. O., c San Antonio McDonald, J. C., c Miles McDonald, W. T., c Bryan McDowell, Dorothy J., c Bryan McEver, C. D., e Hillsboro
Lovett, G. D., c

McGrath, J. J., cGalveston	Morris, P. E.
McGuire, J. G., cPottsboro	Moses, J. L., Moses, J. L., Moses, J. T., Moulden, C. I Musgraves, B Myers, O. W. Nagy, John, Nall, Mary Ji Nelson, J. E Nelson, J. L., Newhall, R. Newport, W. Newton, W. Norris, E. H Norris, F. B Norris, H. O Nowotny, B. Oliver, Edis, Orme, W. P. Orn, Lucile I Orrison, W. Orson, O. W Owen, T. W. Owen, T. D. Owens, T. E. Palm, R. W., Palmer, Willi Park, Y. K., Parker, Marg Parnell, E. D Parsons, F. C
McGuire, N. C., cPottsboro	Moses, T. W.
McKenzie Mildred V. c Bryan	Moulden, C. I
McKnight, J. O., cRaymondville	Musgraves, B
McLennan, D. C., cFort Worth	Myers, O. W.
McMillen, J. M., cSan Antonio	Nagy, Frank
McNiel H R c Crystal City	Nagy, John,
McPeters. M. A., cTalco	Nelson, J. E
McVey, G. W., cParsons, Kan.	Nelson, J. U.
Machalek, J. W., cTemple	Neumann, E.
Mackey, L. W., cBritton, Okla.	Neuner, A. A
Malina F. J. c Rrenham	Newhall R
Manly, Anna Lois, cBryan	Newport, W.
Mantle, D. L., cDallas	Newton, W.
Marburger, Bennie Rea, c	Norris, B. H.
Marcum C E c Estelline	Norris, F. B
Marek, J. M., cc Placedo	Nowotny, B.
Marion, G. T., cDallas	Oliver, Edis,
Martin, E. S., c	Orme, W. P.
Martin, Mrs. E. W., c	Orms, J. Y.,
Martin Vernon c Rryan	Orr, Lucile I
Martinez, M. E., cC. Victoria, Mex.	Orson, O. W
Martyn, Valentine, cMatanzas, Cuba	Owen, T. W.
Mast, C. M., cDallas	Owens, T. D.
Mastin, H. M., C	Owens, F. E.
Matthews, R. L., c Alvarado	Palmer. Willi
Meek, Lloyd, c	Park, Y. K.,
Melden, C. L., cMission	Parker, Marg
Mendi, J. J. F., cBryan	Parnell, E. D
Merka, Joe. c Rryan	Payne Mrs
Meyer, C. H., c Ellinger	Parsons, F. C Payne, Mrs. Payne, J. B. Payne, W. L Pennington, I Pegues, C. S. Persons, R. J Pettree, E. L. Pierce, J. F. Pinson, Robe Pipkin, Louis Pitts, Mrs. C.
Meyers, W. H., cVelasco	Payne, W. L
Middleton, C. B., c	Pennington, I
Milhollin R M c College Station	Persons R J
Miller, C. B., c	Petree, E. L.
Miller, J. A., cGroesbeck	Pettit, D. K.,
Miller, L. N., cStephenville	Pierce, J. F.
Mims. P. J. c College Station	Pinson, Kobe
Minkert, Pattie, c	Pitts, Mrs. Ca
Minton, C. B., c	Pool, F. L.,
Mitchell, Caroline M., cCollege Station	Pool, J. L., c
Mitchell, M. W. c. Commerce	Pope, J. B.,
Mitchell, R. F., c Frost	Powell, T. H.
Modrall, A. W., c	Presnell, Leo
Moeller, Edwin, cNorfolk, Va.	Pool, F. L., Pool, J. L., Pool, J. L., Pool, J. B., Pos, Cora El Powell, T. H. Presnell, Leo, Price, J. M., Price, Lola M.
Monroe, J. B. c. New Wayork	Price, Loia N
Monroe, R. E., c Dallas	Qualls. T. R.
Montague, W. R., cBeaumont	Rabb, C. R.,
Montfort, R. E., cRice	Ragsdale, W.
Montgomery, J. R. c. Wees	Pritchett, Ru Qualls, T. R. Rabb, C. R., Ragsdale, W. Rambo, Adsit Rambo, C. C.
Moody, V. B., cTehuacana	Rambo, E. S
Moody, Mrs. V. B., cTehuacana	Ramsey, A.
Moon, Wilson, cHolland	Rambo, E. S Ramsey, A. Ramsey, B. B Ramsey, H. E Ramsey, J. N Randolph, L. Randolph, N.
Moore, C. E. c. Beachud	Ramsey, H. E
Moore, Evelyn, cRosebud	Randolph. L.
Moore, J. I., c	Randolph, N.
Moore, M. M., cHouston	Raney, Clyde
Moore, T. C. co. Rosebud	Raney, O. T
Moore, W. M., cKingsville	Reed, C. F.
Morehead, A. O., cCollege Station	Reed, E. J
McGure, J. G., c McGuire, J. G., c McKenzie, N. C., c McKenzie, Mildred V., c McKenzie, M. C., c McKenzie, M. C., c McKenzie, M. C., c McMurray, C. E., c McMurray, C. E., c McMurray, C. E., c McMurray, C. E., c McPeters, M. A., c McPeters, M. A., c McPeters, M. A., c McPeters, M. A., c McRediers, M. C., c McNey, G. W., c McRediers, M. C., c Markeever, S. J., c Britton, Okla. Makeever, S. J., c Brenham Manly, Anna Lois, c Bryan Mantle, D. L., c Dallas Marburger, Bennie Rea, c Marcum, C. E., c Estelline Marek, J. M., cc Placedo Maron, G. T., c Dallas Martin, E. S., c Goliad Martin, Mrs. E. W., c Bryan Martin, H. F., c Fort Worth Martin, Vernon, c Mastin, Vernon, c Mastin, W. C Martinez, M. E., c C. Victoria, Mcx. Martyn, Valentine, c Matanzas, Cuba Mast, C. M., c Dallas Mastin, H. M., c Marlingem Mathis, Mrs. Homer, c Bryan Mathews, R. L., c Alvarado Meek, Lloyd, c Mrt. c Mission Merka, Mrs. Ella F., c Bryan Mer	Randolph, L. Randolph, N. Raney, Clyde Raney, O. T Redman, C. C Reed, C. E., Reed, E. J., Rehder, Fred, Reichardt, C.
Morgan, L. M., cCollege Station	Reichardt, C.

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		Newport, W. W., COonege Sc	ation
as	٠.	Newton, W. C., CSey	mour
on		Norris, B. H., c	allas
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		Norris, n. U., c	aiias
do		Nowotny, B. E., cCollege St	ation
as		Oliver, Edis, ccCal	dwell
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as		Owens, T. D., cBox	nham
en		Owens, F. E., c	Edna
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		Palli, M. W., C	iville
do		Palmer, Willie, CCors	icana
on		Park, Y. K., cSongdo, I	Corea
on		Parker Margaret N. c.	3rvan
an		Downell E D a	unga
		rarnen, E. D., c	unge
an		Parsons, F. O. C., cPerkinston,	Miss.
an		Payne, Mrs. Alpha Jo, cBloomin	ngton
er		Payne J. B. c.	Brvan
		Downs W I a Planni	norton
co		rayne, w. L., c	iguon
ur		Pennington, H., Jr., cSan An	tonio
er		Pegues. C. S., cCrystal	City
on		Persons R. J. c	Brvan
		Detroe F T a Sour	Loko
so		retree, E. L., C	Lake
ck		Pettit, D. K., cCom	inche
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		ripkin, Liouise A., C	2rvan
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		Pitts, Mrs. Cathrine, cCollege St	Bryan ation
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		Pitts, Mrs. Cathrine, cCollege St Pool, F. L., c	Bryan ation .Troy arcos
on		Pitts, Mrs. Cathrine, cCollege St Pool, F. L., c	Bryan ation Troy arcos
on est		Pitts, Mrs. Cathrine, cCollege St Pool, F. L., c	Bryan ation Troy arcos Miss.
on est ce		Pitts, Mrs. Cathrine, c College St Pool, F. L., c San M Pool, J. L., c Conway, Pope, J. B., c Conway, Pos, Cora Ellen, c I	Bryan ation Troy arcos Miss. Bryan
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on ost ce ost as		Pitts, Mrs. Cathrine, c College St Pool, F. L., c San M Pool, J. L., c San M Pope, J. B., c Conway, Pos, Cora Ellen, c T Powell, T. H., c T Presnell, Leo, c T	Bryan ation .Troy arcos Miss. Bryan errell Sealy
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Sanders, Sanders, Sanders, Sanders, Sanders, Sanders, Sanders, Sanders, Sanders, Sardern, Sasse, B. Sasser, J. Sasser, J. Schenger Schader, Schader, Schader, Scheneter Schulz, Schoenfe Schoenfe Schulz, Schunior Scott, B. Scruggs, Sears, H Scott, B. Scruggs, Sears, H Schastiar Seely, T Senter, (Sergeant Sestoenfe	H. H., Dora W. O. F. B., t. Jear L., c R. R. F., c L.,	c Farmersville E., c Tyler ., c Bryan . c Dekalb . F., c College Station . Oklahoma City, Okla c Greenville . San Antonio . Sour Lake E., c Dallas . c Sonora . c Sonora . c Sonora . c Bryan . c Bellville . C Marshall G., c San Antonio W., c Bellville . C Schulenburg . C Mittelenburg . Whitesboro . Whitewright . Jr., c Millican . Mt. Vernon . Mt. Vernon . C Wells D., c Athens . C Wells D., c Athens . C Abress . C Wells D., c Athens . C Abress . Sex Athens . C Wells D., c Athens . Athens
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Sanders, Sanders, Sanders, Sanders, Sanders, Sanders, Sanders, Sanders, Sarders, Sartain, Sasser, J. Satterfie Sawyer, Scarpina Schader, Scheller, Scheer, Schoenfe Schunior Schuller, Scheer, Scheer, J. Seury, Sears, H. Sebastiar Seely, T. Senter, (Sergeant Sessions, Shackelf Shannon Shannon Shaw, J.	H. H., Dora W. O. F. B., t. Jear L., c R. R. C. J., c ld, W. Lee E., to, Lee Freder Dorott R. H., d, C. J. H., d, C. J. H., d, C. J. H., d, C. L., C L	c Farmersville E., c Tyler ., c Bryan . c Dekalb . F., c College Station . Oklahoma City, Okla c Greenville . San Antonio . Sour Lake E., c Dallas . c Sonora . c Sonora . c Sonora . c Bryan . icka, c Little Rock, Ark ivy E., c Caldwell . c Marshall . G., c San Antonio . W., c Bellville . C Schulenburg . Whitesboro . C Durant, Okla Whitewright . Jr., c Houston . C Millican . C Wester . C Wester . C Wester . C Wester . C Houston . C Breckenridge . C Normangee . C Normangee . C Normangee . C Houston . C Westerford . Houston . C Westerford
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Sanders, Sardain, Sasse, B. Sasser, J. Satterfie Sawyer, Scheer, Scheer, Schiller, Schier, Scheer, Schoerfe Schulz, V. Schunior, Shaw, D. Shaw, J. Shaw	H. H., Dora W. Oo, F. B., t. Jean E. L., c E., c I. J., c	e Farmersville E., c Tyler , c Bryan , c Dekalb
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Siecke, Paul. cCollege Station
Silvey Caroline I a College Station
Cimera M. C Cross
Simpson, N. C., CCrane
Singleton, A. R., cDallas
Slovik, Frank, cc. Cameron
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Slovacek, J. A., CC
Smith, C. R., c El Paso
Smith. D. G., c Houston
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Smithwick, T. K., cGarland
Smyth, L. L., cMart
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Stephens, J. O., c Temple
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Stephenson, N. P., cDecatur
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Stockton, W. L., c Terrell Stovall, J. T., c Winters Stokes, I. E., c Houma, La. Sturkie, P. D., c Proctor Stuter, Emil, c Shiner Stuteville, M. V., c Cisco Sulak, B. F., c West Summers, E. J., c Palestine Summers, E. J., c Fort Worth Summer, C. V., c Hillsboro Sumner, V. D., c Hillsboro Swearengen, Alma, c Fayetteville, Ark. Taliaferro, Anne, c Calvert Tardy, W. E., c Bryan Tarver, J. M., c Rosebud Taplor, N. J., c Taboka
Stockton, W. L., c Terrell Stovall, J. T., c Winters Stokes, I. E., c Houma, La. Sturkie, P. D., c Proctor Stuter, Emil, c Shiner Stuteville, M. V., c Cisco Sulak, B. F., c West Summers, E. J., c Palestine Summers, S. S., c Fort Worth Summer, C. V., c Hillsboro Sumner, V. D., c Hillsboro Swearengen, Alma, c Fayetteville, Ark. Taliaferro, Anne, c Calvert Tardy, W. E., c Bryan Tarver, J. M., c Rosebud Taylor, N. J., c Tahoka
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Stockton, W. L., c
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Stockton, W. L., c Terrell Stovall, J. T., c
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Stockton, W. L., c Terrell Stovall, J. T., c Winters Stokes, I. E., c Houma, La. Sturkie, P. D., c Proctor Stuter, Emil, c Shiner Stuteville, M. V., c Cisco Sulak, B. F., c West Summers, E. J., c Palestine Summer, C. V., c Hillsboro Sumner, C. V., c Hillsboro Swearengen, Alma, c Fayetteville, Ark. Taliaferro, Anne, c Calvert Tardy, W. E., c Bryan Tarver, J. M., c Rosebud Taylor, N. J., c Tahoka Teague, O. E., c Mena, Ark. Teetes, L. W., c Pineland Templeton, M. B., c Cherokee Thiele, E. F., c Clifton Thomas, Frances L., c San Augustine Thompson, A. W., c Katy Thompson, R. R., c Hubbard Tibpits, J. A., c Sour Lake Tippit, R. R., c Roseksprings
Stockton, W. L., c Terrell Stovall, J. T., c Winters Stokes, I. E., c Houma, La. Sturkie, P. D., c Proctor Stuter, Emil, c Shiner Stuteville, M. V., c Cisco Sulak, B. F., c West Summers, E. J., c Palestine Summers, S. S., c Fort Worth Summer, C. V., c Hillsboro Sumner, V. D., c Hillsboro Swearengen, Alma, c Fayetteville, Ark. Taliaferro, Anne, c Calvert Tardy, W. E., c Bryan Tarver, J. M., c Rosebud Taylor, N. J., c Rosebud Taylor, N. J., c Tahoka Teague, O. E., c Mena, Ark. Teetes, L. W., c Pineland Templeton, M. B., c Dublin Thaxton, H. B., c Cherokee Thiele, E. F., c Clifton Thomas, Frances L., c Bryan Thomas, J. C., c San Augustine Thompson, A. W., c Katy Thompson, R. R., c Hubbard Tibbits, J. A., c Sour Lake Tippit, R. R., c Rocksprings
Stockton, W. L., c Terrell Stovall, J. T., c Winters Stokes, I. E., c Houma, La. Sturkie, P. D., c Proctor Stuter, Emil, c Shiner Stuteville, M. V., c Cisco Sulak, B. F., c West Summers, E. J., c Falestine Summer, C. V., c Hillsboro Sumner, C. V., c Hillsboro Swarengen, Alma, c Fayetteville, Ark. Taliaferro, Anne, c Sayetteville, Ark. Tardy, W. E., c Bryan Tarver, J. M., c Rosebud Taylor, N. J., c Tahoka Teague, O. E., c Mena, Ark. Teetes, L. W., c Pineland Templeton, M. B., c Cherokee Thiele, E. F., c Clifton Thomas, Frances L., c Bryan Thomas, J. C., c San Augustine Thompson, A. W., c Katy Thompson, R. R., c Hubbard Tibbits, J. A., c Sour Lake Tippit, R. R., c Rocksprings Tisdale, W. R., c Coleman
Stockton, W. L., c Terrell Stovall, J. T., c Winters Stokes, I. E., c Houma, La. Sturkie, P. D., c Proctor Stuter, Emil, c Shiner Stuteville, M. V., c Cisco Sulak, B. F., c West Summers, E. J., c Palestine Summers, E. J., c Fort Worth Summer, C. V., c Hillsboro Sumner, V. D., c Hillsboro Swearengen, Alma, c Fayetteville, Ark. Taliaferro, Anne, c Calvert Tardy, W. E., c Bryan Tarver, J. M., c Rosebud Taylor, N. J., c Tahoka Teague, O. E., c Mena, Ark. Teetes, L. W., c Pineland Templeton, M. B., c Dublin Thaxton, H. B., c Cherokee Thiele, E. F., c Clifton Thomas, Frances L., c Bryan Thomas, J. C., c San Augustine Thompson, A. W., c Katy Thompson, R. R., c Hubbard Tibbits, J. A., c Sour Lake Tippit, R. R., c Rocksprings Tisdale, W. R., c Coleman Tobias, Emma Ruth, c Bryan
Stockton, W. L., c Terrell Stovall, J. T., c Winters Stokes, I. E., c Houma, La. Sturkie, P. D., c Proctor Stuter, Emil, c Shiner Stuteville, M. V., c Cisco Sulak, B. F., c West Summers, E. J., c Falestine Summers, S. S., c Fort Worth Summer, C. V., c Hillsboro Swarengen, Alma, c Fayetteville, Ark. Taliaferro, Anne, c Sulay, C Arady, W. E., c Bryan Tarver, J. M., c Rosebud Taylor, N. J., c Tahoka Teague, O. E., c Mena, Ark. Teetes, L. W., c Pineland Templeton, M. B., c Dublin Thaxton, H. B., c Cherokee Thiele, E. F., c Clifton Thomas, Frances L., c Bryan Thomas, J. C., c San Augustine Thompson, A. W., c Katy Thompson, R. R., c Hubbard Tibbits, J. A., c Sour Lake Tippit, R. R., c Rocksprings Tisdale, W. R., c Coleman Tomberlain, M. P., c Hughes Springs
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Stockton, W. L., c Terrell Stovall, J. T., c Winters Stokes, I. E., c Houma, La. Sturkie, P. D., c Proctor Stuter, Emil, c Shiner Stuteville, M. V., c Cisco Sulak, B. F., c West Summers, E. J., c Palestine Summers, S. S., c Fort Worth Summer, C. V., c Hillsboro Swarengen, Alma, c Fayetteville, Ark. Taliaferro, Anne, c Calvert Tardy, W. E., c Bryan Tarver, J. M., c Rosebud Taylor, N. J., c Tahoka Teague, O. E., c Mena, Ark. Teetes, L. W., c Pineland Templeton, M. B., c Dublin Thaxton, H. B., c Cherokee Thiele, E. F., c Clifton Thomas, Frances L., c Bryan Thomas, J. C., c San Augustine Thompson, A. W., c Katy Thompson, R. R., c Hubbard Tibpit, R. R., c Sour Lake Tippit, R. R., c Rocksprings Tisdale, W. R., c Coleman Tomberlain, M. P., c Hughes Springs Troop, Harry, c Mexico
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Stockton, W. L., c Terrell Stovall, J. T., c
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Stockton, W. L., c Terrell Stovall, J. T., c
Stockton, W. L., c Terrell Stovall, J. T., c Winters Stokes, I. E., c Houma, La. Sturkie, P. D., c Proctor Stuter, Emil, c Shiner Stuteville, M. V., c Cisco Sulak, B. F., c West Summers, E. J., c Falestine Summers, S. S., c Fort Worth Summer, C. V., c Hillsboro Swearengen, Alma, c Fayetteville, Ark. Taliaferro, Anne, c Calvert Tardy, W. E., c Bryan Tarver, J. M., c Rosebud Taylor, N. J., c Tahoka Teague, O. E., c Mena, Ark. Teetes, L. W., c Pineland Templeton, M. B., c Dublin Thaxton, H. B., c Cherokee Thiele, E. F., c Clifton Thomas, Frances L., c Bryan Thomas, J. C., c San Augustine Thompson, A. W., c Katy Thompson, A. W., c Sour Lake Tippit, R. R., c Sour Lake Tippit, R. R., c Rocksprings Tisdale, W. R., c Coleman Tobias, Emma Ruth, c Bryan Tobias, Emma Ruth, c Bryan Tobobas, Emma Ruth, c Bryan Tobobas, Emma Ruth, c Goleman Tomberlain, M. P., c Hughes Springs Troop, Harry, c Mexico Turrentine, C. D., c McKinney Tyson, H. J., c Mt. Pleasant Uhr, T. L., c San Antonio Ulbrich, E. C., c Halletsville Upchurch, J. W., c Mart Valek, G. C., c
Siecke, Paul, c College Station Silvey, Caroline I., c College Station Simpson, N. C., c Crane Singleton, A. R., c Dallas Slovik, Frank, cc Buckholts Smith, C. R., c Buckholts Smith, D. G., c Houston Smith, D. G., c Houston Smith, Frances, c Franklin Smith, James, cc Austin Smith, James, cc Austin Smith, James, cc Austin Smith, J. O., cc Austin Smith, Mary E., c College Station Smith, Mary E., c College Station Smith, O. H., Jr., c Wetmore Smith, O. H., Jr., c Wetmore Smith, O. H., Jr., c Wetmore Smith, Ruth, c Bryan Smith, W. B., cc Kyle Smithwick, T. K., c Garland Smyth, L. L., c Mart Snuggs, R. E., c Bryan Sovy, E. M., c Bryan Sovy, E. M., c Bryan Sovyell, J. L., c Gilmer Sowers, J. C., c Austonio Speed, T. L., c Midland Stallings, M. M., c Bowie Standley, B. H., c Houston Starr, J. M., c Cisco Starr, J. M., c Coleactur Stephenson, Mrs. Gladys, c Decatur Stephenson, Mrs. Gladys, c Decatur Stephenson, Mrs. Gladys, c Decatur Stephenson, N. P., c Decatur Stephenson, N. P., c Decatur Stephenson, N. P., c Decatur Stockton, B. A., c Waxahachie Stockton, F. F., c Waxahachie Stockton, F. F., c Waxahachie Stockton, J. T., c Houston Storkter, Emil, c Shiner Stokes, I. E., c Fort Worth Summers, S. S., c Fort Worth Summers, S. S., c Fort Worth Summers, S. S., c Fort Worth Summers, E. J., c Rosebud Tarylor, N. J., c San Augustine Thompson, A. W., c San Augustine

Vance, Gladys, cBryan
Vance, Gladys, c Bryan Vandervort, C. W., c Edcouch
Van Eaton, R. A., cHouston
Vanting T T College Station
Vantine, J. T., cCollege Station
varnell, D. D., cBarry
Varnell, D. D., c Barry Varnell, E. H., c Cisco Vaughn, R. M., c Charleston
Vaughn, R. M., cCharleston
Vawter, Neal, cc
Vela, W. O., cLaredo
Vesmirousky, W. J., cMiles
Vela, W. O., c Laredo Vesmirousky, W. J., c Miles Vick, Bulah Lucile, c Bryan
Vickery, C. P., c Mt. Pleasant
Vines. W. C., c Comanche
Vinzant. W. G. c Newark
Volz A C. c Mission
Vickery, C. P., c Mt. Pleasant Vines, W. C., c Comanche Vinzant, W. G., c Newark Volz, A. C., c Mission Wadley, Mrs. Blanche, c Ennis
Wadley, F. H., c Ennis Waggoner, A. F., c Belton Walker, B. J., c Austwell Walker, Ray, c College Station
Waggoner, A. F. c Belton
Walker, B. J. c Austwell
Walker Ray c College Station
Walker Shirlireed M. c Bryan
Wallin Mattie c Bryan
Wallin, Mattie, c
Want, V. D., c San Antonio
Ward, F. T., cMt. Pleasant
Ward W. L. c. Alvin
Ward, W. L., c
Washington C C c ' Galveston
Watkins, Ruth D., cCollege Station
Watson, J. E., ccGroesbeck
Wehh Marie c Bryan
Webb, Marie, c Bryan Wedegartner, V. D., c San Benito Weir, A. M., c McAllen
Weir A M c McAllen
Welch T J c Port Naches
Westerman, H. K. c. Llano
Whatley J. A. c. Hearne
Welch, T. J., c Port Neches Westerman, H. K., c Llano Whatley, J. A., c Hearne Whitacre, Mrs. Earl, c Hearne
Whitaker, Ethel, c
White, F. M., cLittlefield
White, G. N., c
Transc, G. 11., CAffillerst

Whitfield H H c Houston
Whitfield, H. H., c
Whitehouse Ren c Ranger
Wiedermann, Bernard, c New Braunfels
Wiley, T. W., cMcKinney
Willsingon I C
Wilkinson, L. C., c
Williams Frederica Process
Wiliams, Evelyn, c Bryan Wiliams, George Earl, c Bryan
Williams, George Earl, C
Williams, J. D., cGranbury
Williams, O. T., cFloydada
Williams, S. S., Cwinters
Williams, S. S., c Winters Williams, W. B., c Greenville Williams, W. E., c Cotulla
Williams, W. E., cCotulia
Williamson, W. N., cPlantersville
Wiliamson, Zera Mae, cBedias Willingham, K. D., cFranklin
Willingham, K. D., cFranklin
Wilson, Cy., c Longview Wilson, C. L., c Moody
Wilson, C. L., cMoody
Wilson, Curtis L., cDublin
Wilson, F. E., c Dallas Wilson, J. M., c Marlin
Wilson, J. M., cMarlin
Wilson, M. L., cPrinceton
Wilson, Mary Ruth, cDublin
Winkler, C. H., Jr., cCollege Station
Winston, J. B., cDallas
Winston, J. B., c Dallas Winters, A. D., c Nederland Woodward, J. S., c Brownwood
Woodward, J. S., cBrownwood
Word, M. B., cPort Arthur
Word, M. B., c Port Arthur Worley, J. D., c College Station
Wotipka, E. O., cSmithville
Wotipka, E. O., c Smithville Wright, A. R., c San Antonio Wykes, M. L., c Quanah
Wykes, M. L., cQuanah
Wylie, W. E., cEustace
Wyse, G. E., c Palestine
Yates, Ruth, cBryan
Yates, Ruth, c Bryan Young, E. Y., c San Angelo Young, W. M., c Sulphur Springs
Young, W. M., cSulphur Springs
Zapp, L. O., cHouston
Zeig, M. A., ccLott
Zemanek, A. P., cBenchlev

SUMMARY OF ENROLLMENT, SESSION 1932-33

(June 1, 1932 to April 15, 1933)

Regular Session, 1932-33:

	Grad- uate	Sen- ior	Jun- ior	Sopho- more	Fresh- man	Spe- cial	Total
Agriculture	21	56	45	92	98	2	314
Agricultural Administration	_	28	39	43	54	1	165
Agricultural Engineering	. 5	4	6	8	17	_	40
Landscape Art	. –	2	7	7	2	1	19
Liberal Arts	. –	30	28	40	88	7	193
Science	. 11	10	16	20	39	2	98
Architecture	. 9	15	20	26	24	_	94
Chemical Engineering	. 4	41	29	51	45	1	171
Civil Engineering	. 7	53	37	45	44	1	187
Electrical Engineering	. 6	57	62	63	82	1	271
Mechanical Engineering	. 9	41	43	55	80	2	230
Petroleum Production Eng		36	34	26	34	-	130

Textile Engineering	_	3	2	8	8	_	21
Cotton Marketing	_	_	_	9	5	_	14
Veterinary Medicine	_	6	7	10	13	_	36
Agricultural Education	_	16	11	6	5	_	38
Industrial Arts Education	-	6	7	8	7	_	28
Industrial Education	3	1	_	1	_	1	6
Rural Education	2	9	1	4	4	2	22
TOTAL	77	414	394	522	649	21	2077
Extension Courses in Agricultu	ıral	Educat	tion				7
Extension Courses in Industria							189
Total Regular Session, 198							2273
Summer Session, 1932			_				
Total Summer Session, 19		2. Cot				·	845
Grand Total							3118
Less Names Repeated		•••••					399
Net Total, Regular Session, 1932-33 and Summer Session, 1932						2719	
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		•					
Si	hort	t Cours	es				
Summer Session, 1932 and Re	gula	ar Sess	sion, 19	32-33:			
Cotton Seed Oil Mill Opera	ator	rs (Jun	e 13-18	3, 1932)		37
Dairy Manufacturing (Fel	bru	ary 6-9	, 1933)			26
Farmers' Short Course (Ju	ıly	25-29,	1932)				2626
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Horticulture Short Course	(M	arch 30)-April	1, 193	3)		68
Total Short Courses							3594

DEGREES CONFERRED JANUARY 30, 1932

Master of Sciene (3)

Ben Ager Dixon, B. S., A. & M. College of Mississippi, 1917.

Major Study Architecture Rageric Williams.

Thesis: "A Study of Certain Factors Affecting Yields in Fourteen Strains of Barley."

Traber Norman Dobbins, B. S., A. & M. College of Mississippi, 1926.

Major Study-Entomology

Thesis: "The Biology of the Pecan Phylloxera."

Robert Pinson, B. S., A. & M. College of Texas, 1931.

Major Study—Industrial Education
Thesis: "A Study of the Scholastic Achievement Made by the Pupils

in the Language and Industrial Arts Courses in the High

Schools of Texas."

Bachelor of Science

Willford Horace Majors

In Agricultural Administration (2)

Alfred Moore Pendleton In Agriculture (4)

Naim Mohammed Abu-Dabbeh Thomas Wayne Hillin

Allen V. Pearson Ke Tun Shen

Alfred Henry Rawlins

In Mechanical Engineering (1)

Fred McKemie Clement

In Petroleum Production Engineering (1)

DEGREES CONFERRED AT THE

FIFTY-SIXTH ANNUAL COMMENCEMENT

June 4, 1932

Master of Science (24)

Walter Howard Badgett, B. S., A. & M. College of Texas, 1929.

Major Study-Agronomy

Thesis: "The Loss of Head in Cast Iron Tees."

Landis Clyde Baker, B. S., A. & M. College of Texas, 1931.

Major Study-Chemical Engineering Thesis: "A Study of the Chemical Composition of Crude Cottonseed Oil

and Cake as Influenced by Variations in the method of Adding

Moisture."

Milton Hubert Baughn, B. S., A. & M. College of Texas, 1930.

Major Study-Geology

"Echinoids From the Weches Member of the Mount Selman Formation (Middle Eocene) of Texas."

Frank Edward Bortle, B. S., A. & M. College of Texas, 1931.

Major Study—Electrical Engineering
Thesis: "A Survey of the Illumination of Certain Campus Buildings at the Agricultural and Mechanical College of Texas."

Joseph Arlando Boyer, B. S., University of Kansas, 1929.

Major Study—Municipal and Sanitary Engineering
Thesis: "The Treatment of Laundry Waste."

Robert Lee Bullock, Jr., B. S., A. & M. College of Texas, 1931.

Major Study—Electrical Engineering
Thesis: "A Proposed Public Utility Law for Texas."

Owen Dorrough, B. S., Sam Houston State Teachers' College, 1923.

Major Study—Poultry Husbandry
"The Relation of Weight, Size, and Shape of Hens' Eggs to Their Hatchability."

Clyde Virgil Ellis, B. S., A. & M. College of Texas, 1931.

Major Study—Mechanical Engineering

Thesis: "A Study of the Operative Effects of Various Unrefined Petroleum Hydrocarbons on a Variable Speed Standard Diesel Engine."

Emmett Donald Giffen, B. S., A. & M. College of Texas, 1931.

Major Study—Chemical Engineering
"Study of the Properties of Lubricating Oil as Influenced by Certain Chemicals When Used in Connection with Sulphuric Acid."

Harrison Crandall Givens, Jr., B. S., A. & M. College of Texas, 1929.

Major Study-Civil Engineering

Thesis: "The Impact Resistance of the Electric Arc-Weld."

Herman Voss Harlan, Jr., B. S., A. & M. College of Texas, 1931.

Major Study—Civil Engineering
"The Suitability of Certain Materials for Use in Constructing Rock Asphalt Pavements by the Cold-Mixed Method."

George B. Kaiser, B. S., A. & M. College of Texas, 1928.

Major Study-Electrical Engineering Thesis: "Mathematical Calculation of Non-Linear Circuits."

Jack Eugene Laney, B. S., A. & M. College of Texas, 1931.

Major Study-Chemical Engineering

Thesis: "A Study of the Composition of Cottonseed Cake and Oil as Influenced by Chemicals Present During the Cooking of Cottonseed Meats."

James Edwin Latta, B. S., A. & M. College of Texas, 1931.

Major Study-Chemical Engineering Thesis: "A Study of the Anatomical and Chemical Variations Occurring in Cottonseed Grown Under Varying Conditions."

Cecil Douglas Marrs, B. S., A. & M. College of Texas, 1932.

Major Study—Chemical Engineering
Thesis: "A Study of the Rate and Nature of the Decomposition of Cottonseed Meats at Constant Temperatures."

Sam Lawton Martin, B. S., North Texas State Teachers' College, 1926.

Major Study—Industrial Education
Thesis: "Certification of Industrial Arts Teachers in the United States."

C. B. Moehlman, B. S., A. & M. College of Texas, 1931.

Major Study—Electrical Engineering
"A Study of Certain Interesting Phenomena in Auto Transformers.'

Jack Nichols Nahas, B. S., A. & M. College of Texas, 1931.

Major Study—Electrical Engineering

Thesis: "An Analysis of Electrical Conditions in the Breakdown of Oil

Emulsions."

Harvey Steinle North, B. S., A. & M. College of Texas, 1931.

Major Study—Chemical Engineering
 Thesis: "A Study of Soap Stock from Cottonseed Oil as Influenced by Variations in the Cooking Temperature of the Cottonseed Meats."

Berthold Eugene Nowotny, B. S., A. & M. College of Texas, 1931.

Major Study—Industrial Education
Thesis: "High School Industrial Arts Courses as Training for College
Work in Engineering."

Corbin Ranson Owen, B. S., A. & M. College of Texas, 1931.

Thesis: "A Study of Fertility and Vigor of Open and Self-Fertilized
Tye."

Simon Richard Senter, B. S., Texas Technological College, 1930.

Major Study—Agronomy
Thesis: "Physical Properties of the Coton Fiber as Affected by Climate."

Paul Siecke, B. S., A. & M. College of Texas, 1931.

Thesis: "A Study of the Composition of Soap Stock from Cotton Seed
Oil as Influenced by Variation in the Length of Time of
Cooking Cotton Seed Meats."

Charles Henry Staples, B. S., Louisiana State University, 1911.

Major Study—Dairy Husbandry
Thesis: "The Proper Utilization of the College Dairy Herd and Farm."

Bachelor of Arts

In Liberal Arts (19)

William Oran Alexander
Ivey Maurice Baker
Milton Joseph Block
Jack Pegues Christian
Walter Edward Davis
Ralph Jerry Delaney
Wiliam Floyd Franklin
Robert Lafayette Herbert
John Fred Hilliard
E. Burgess Laughlin

Ronald Earl McAdams Ernest Truth McCoun, Jr. Vernon Collett Pampell Richard Burnley Pullen Podge McCauley Reed Alfred Otto Saenger Frank Hobner Shepherd Thomas Masterson Smith, Jr. Lester Henry Veltman

Bachelor of Science

In Agricultural Administration (33)

Elliott Isadore Bordages
William Thomas Brian
James Thomas Connally
Fredrich Walter Conrad
Isaac Cox Corns
Charles Herbert Doerge
Fred Earhart
James Douglas Edgar
Courtney William Fichtner
Robert Corder Focke
'Carl Davis Hall

Clinton William Herring
Edward Sharman Jett
Leonard Bonham Jones
William Ort Lackie
Herman Thornton McWatters
Robert Lee Melcher
August Charles Moser, Jr.
William Jacob Moser
D. B. Porter, Jr.
Charles O'Connor Reed, Jr.
Frank Lee Roark, Jr.

Hampus Emanuel Roos Jerry Julius Rotrekl Robert J. Seehrist Clarence Jackson Simms Ewing Melvin Stroman Harvey F. Tschiedel Alfred Andrew Tuffly John William Watson John R. Wenmohs David S. Wingo James Travis Wright

In Agricultural Education (9)

James Simmons Bridges Lester Curtis Burk Tiller Edward Carter Oran Dawson Thomas Edgar Denman, Jr. Edwin Mound Liem James Marvin Logan Theron Omer Pridgeon Paul H. Suffel

In Agricultural Engineering (2)

Lester Farris Lawhon

Akira Morivama

In Agriculture (61)

Earl Irwin-Bacon
James Otis Beasley
Charles Edward Beeson
George Albert Bond, Jr.
James Thomas Bounds
William Jennings Bryan
William Jennings Bryan
William Broughton Coke
De Witt Christopher Cox
Daniel Rowland Davis
George Winzer Davis
James Trice Davis
John M. Drew
Thomas Jefferson Elder, Jr.
Lewie O. Ellisor
Pedro Celestino Fiol
Duthiel W. Fortenberry
Lonnie Gilbert Garbade
Robert Alvin Harling
Joe Ray Hatter
Roy Clifford Horne
Harold Richard Hornsby
Lawrence Merrill Hovey
Frank Earl Jarratt
Matthew Ranken Kennedy
Jefferson Bennett Kidd
Charles A. King, Jr.
Lewis Taylor
Randolph Alton Tuffly
Rudolph J. von Roeder, Jr.
Alex Weil, Jr.
Franklin Marrion White

Jack Lair
Morris Emberton Lamb
Felix Berkeley Lester
Raymond Plaxoo McElroy
Ernest Kendall Moody
Weldon B. Morris
Irvin Claude Mowery
James M. Munnerlyn
Robert G. Murchison
Oscar Nelson
Harvey Oakes
William Charles O'Dowd
William Arthur Ohls
John Stoney Forcher
Donald R. Ralph
Leon C. Ranson
Clarence A. Rechenthin
John Weldon Roberson
Arthur Benjamin Scharlach
Albert Louis Sebesta
Robert Williams Gentry Scheckles
Walter William Sibson
Jefferson Davis Smith
Earnest Robert Stephenson
Charles A. Taylor
John Miller Winslow
Robert Alexander Wright, Jr.
Walter Ernest Wupperman
Ray Hubert Young

In Architecture (16)

George W. Alexander, Jr. Lawrence Earl Black Lawrence Milton Cook W. Pascal Cornelius William Mark Curtis Louis Daeuble, Jr. Herbert Frederick Hilgers James L. Keith, Jr. Graber Kidwell
Earl Paul Krumbholtz
Isadore Levine
C. F. Roderick, Jr.
Frank Stedman Scott
Robert Orlando Travis
Harry Graham Wharton, Jr.
Balwin Nash Young

In Chemical Engineering (35)

Dean Edward Alexander Thomas Bittle Bagley John Louis Biles Burnham Pembroke Briggs Nathan O. Corman Walter Joseph Faulk Dilmas Vernon Fitz Frank Foster Joseph Golenternek Jack Gross Donald W. Hatch Harold Maxwell Hoffmeister Jack Cassels Jeffrey Philip James John David Victor Krumholz Alvin R. Luedecke Herbert Clyde McConnell Cecil Douglas Marrs George Staffel Meyer Emil Jaroslav Michal John Wright Moore Edward Albert Obergfell

Ralph Whitaker Rowley Robert William Sanders Alvin Issie Schepps George Shear Henry Warren Slaughter Harvey Alvin Smith Samuel Cecil Smith Eugene Otto Staffel, Jr. Wiliam Wilson Taggart Charles Dixon Towery, Jr. Roscoe Lycurgus Van Zandt Abe Wizig Bernhard Gus Zimmerman

In Civil Engineering (30)

Luther Edward Bell
Thomas Robert Buckman
George Davison Burch
Rufus C. Carhart
Wiley E. Carmichael
M. W. Collie, Jr.
Thomas Sherrod Curry
Morris S. Denman
Perry Dannelly
F. P. Ellis, Jr.
Frank M. Fly, Jr.
Eugene Palmer Fortson, Jr.
Walter Francis Frey
William Doyle Gill
Robert Philip Gregory

Elmer Lowell Harris
Louis Williams Herndon
Victor Myers Hoar
George Glenn Huffman
Burton W. Karsteter
Charles Anderson Long
Alan C. Love
Rober Jose Morris, Jr.
John C. Oliver, Jr.
James Melvin Orman
Oscar Daniel Price
Charles William Smith
James Bivins Turner
Delbert Russell Ward
Richard George Watts

In Electrical Engineering (41)

Dee Wyatt Akins, Jr.
Eduardo Olson Akre Montano
Edwin Bartel
May Lee Benke
Alwyn Joseph Blanchette
Albert Reese Bourland
Morton Palmer Brooks
Christian Waldo Bruns
George Handley Byrnes
Jeth W. Dodson
Frank Elder, Jr.
Clifford Wade English
Hugo H. Ernst
Joseph Hugh Flood
Carlos Blair Floyd
Benjamin H. Goode, Jr.
Otis Thornton Halliday
Alexander Thomas Harvey
Charles S. Hays
William B. Hemphill
Otis Beverly Hocker, Jr.

John Edward Hurley
Jack Meri Jordan
Arthur Milton Keppler
Roy R. Krezdorn
Burton D. Lee
Charles James Lester
Virgil Raymond Lightsey
Joseph Rufus McMahan, Jr.
David Boyd McNerney
Odes O. Mattiza
William Elmer Nance
Cleve Crumby Nash
James Doyle Nutt
Wiliam H. Parker, Jr.
Merl Saxon
Eugene Paul Starcke, Jr.
Sim Brooks Stewart
Edward Alexader Stobart
Omar Guinn Stuart
Robert L. Suggs

In Industrial Arts Education (9)

Marius Uhlan Barton Pete F. Crozier Andrew Adolph Golasinski Samuel Robert McCluney Donald C. Sandison, Jr.

John Gilbert McGuire Fred William Martin John Thomas Massingale, Jr. J. U. Parker

In Industrial Education (3)

Milford B. Corey Robert Dalton Hardcastle James Earl Rudder

In Landscape Art (5)

Morris Benz Howard William Locke Francis Kamp McGinnis, Jr. Henry Durward Thompson Joseph Weldon Westbrook

In Mechanical Engineering (39)

Franz Herman Altgelt Duane Barron August F. Bilger Orville Dial Bridges Raymond Kenneth Brown James Harvey Caddess

George Edward Carpenter Harvey Lee Chenault Carl A. Dahlgren Hugo H. Diehl Gilbert Carlos Easley Fred Eeds Walter Ellsworth Emigh George Franklin Fermier George J. Fix Jr. Joseph Weldon Gibbs Oliver Joseph Guseman Carl Jasper Hansen John Allen Hilger Ronald Hiram Illingworth Monroe C. Knudson Richard R. McLeRoy Walter Horace Markle Thomas Marshall Maxwell Oscar Keith Miles Henry Furlow Owsley, Jr.

Daniel Joseph Parmesan
William Nelson Rees
Jack Allen Reynolds
Alfred Arnold Robinson
Max Felix Schlather
Frederic Perry Sewell
George Baskin Slover
Melton Smith
Ralph Alexander Snover, Jr.
Howard L. Squires
W. Pickett Stephenson
William Monroe Wolf
Charles Hamilton Young

In Petroleum Production Engineering (16)

Edward Carl Brumleu Charles Albert Dipuccio Walter S. Fields, Jr. James Walling Foley Earle C. Hellums Charles Irving Holliman Thomas Edison Patrick Thomas Pennington Mark Drake Jackman Dayton V. Kitley Rudolph Hugo Koehler Terrance S. Lighthouse Paul Marion McFadden Paul L. McGee John Andrew Pranglin Louis Hollis Shearer

In Rural Education (2)

Alvan A. Moore

Edwin Robert Neumann

In Science (9)

Walter P. Freytag Virgil Anthony Garcia Fred Genard Hagner Mavis Parrott Kelsey Rudolf W. Kirberg Keith William McFatridge Frederick W. Mueller Sherman Lee Vencil Henry Rollins Wofford, Jr.

In Textile Engineering (4)

Charles Wynne Kendrick Thomas Harry McDowell Charles M. Moor James Howard Perkins

Doctor of Veterinary Medicine (6)

Madero Norman Bader John Maurice Fitte Richard Allen Goodman Samuel Edward Grove Elmer Alvin Maier Fred W. Pease

DEGREES CONFERRED AUGUST 27, 1932

Master of Science (17)

Edward Vargne Adams, B. S., A. & M. College of Texas, 1929.

Major Study-Rural Education

Thesis: "The Place of Creative School Music in Public Education."

Basil Weldon Armour, B. S., Southwest Texas State Teachers' College, 1930.

Major Study--Rural Sociology

Thesis: "Social Problems of the Mexicans in the Rio Grande Valley of Texas."

Raymond Wesley Arnold, B. S., A. & M. College of Texas, 1926.

Major Study-Industrial Education

Thesis: "The Effectiveness of Motion Pictures in Teaching Industrial

Arts in the Junior High School."

Raymond Orvil Berry, B. S., North Texas State Teachers' College, 1928.

Major Study-Genetics

Thesis: "Hybridization of Sheep and Goats."

Samuel Victor Burks, B. S., A. & M. College of Texas, 1927.

Major Study-Rural Education Thesis: "A Plan for Reorganizing the County School System of Atascosa County, Texas."

Alton Bernard Dameron, B. A., A. & M. College of Texas, 1931."

Major Study—Rural Sociology
Thesis: "The Social Theories of Bertrand Russell."

Thomas Doublas Hipp, B. A., Southwestern University, 1927.

Major Study--Rural Sociology Thesis: "A Study of the Influence of Social Conditions on the Education of Boys in a Texas Industrial Community."

Lugene Jody Howell, B. S., A. & M. College of Texas, 1922.

Major Study—Economics
Thesis: "A Study of Certain Factors That May Be Used in Predicting Success of College Freshmen."

William Lycurgus Hughes, Jr., B. S., A. & M. College of Texas, 1930.

Major Study—Rural Education
Thesis: "A Survey of Physical Education in the Smaller City School Systems of Texas."

Mohammed Ali Abdul Jabbar, B. S., A. & M. College of Texas, 1932.

Major Study-Genetics Thesis: "A Biometrical Analysis of Certain Characters of Gossypium Hirsutum."

Richard Harris Jones, B. S., A. & College of Texas, 1927.

Major Study-Rural Education

Thesis: "Pupil Self-Government in the Public School."

Miles Bishoff Lebo, B. S., A. & M. College of Texas, 1920.

Major Study-Horticulture Thesis: "Maturity and Quality in the Watermelon."

Kelly McAdams, B. S., Sam Houston State Teachers' College, 1930.

Major Study—Rural Sociology
Thesis: "A Social Study of the Women's Penitentiary of Texas."

David LeRoy Mantle, B. S., Oklahoma A. & M. College, 1918.

Major Study-Industrial Education
Thesis: "A Guidance Bureau for the Dallas Public Schools."

Bert Wade Musgraves, B. S., East Texas State Teachers' College, 1927.

Major Study—Industrial Education
Thesis: "Methods of Teaching Mechanical Drawing as Practiced in

Fred Oberschmidt Parsons, B. S., Mississippi A. & M. College, 1923.

Major Study—Poultry Husbandry Junior High Schools."

"The Cost of Egg Production in East Texas as Compared With Thesis: Some Other Parts of the United States."

Leo Presnell, B. S., East Texas State Teachers' College, 1924.

Major Study—Rural Education

Thesis: "Faculty Meetings as a Means of Improving Teachers in the Smaller School Systems of Texas."

Bachelor of Arts In Liberal Arts (1)

Henry George Bohnenkamp

Bachelor of Science

In Agricultural Administration (2)

Robert Lee Koerth

Percy James Mims

In Agricultural Education (3)

Wiley Clifton Vines

Herbert Wayland Gist Robert Ellroy Hudspeth

In Agriculture (6)

Arlus Lee Gambrell Mohammed Ali Abdul Jabbar Carl Moulden

Richard Howard Cotton George Madison Dorman Harvey S. Dorman

In Civil Engineering (2)

Fred Henry Reichert

Archie Hunt Christian

Harold C. Blank John Waldo Bouton Clinton William Crass

In Electrical Engineering (6)

Thurston Randolph Qualls George Emmanuel Schunior Virgil Dee Want

In Industrial Arts Education (2)

Charles Donald Turrentine

Urban H. Ball

In Industrial Education (3)

William LeRoy Blevins Augustus William Modrall

Andrew Mercer Rogers

In Landscape Art (1)

Crittenden H. C. Anderson, Jr.

In Petroleum Production Engineering (3)

Tom Sikes Austin Marshall Russel Hayes John Foster Pierce

Barlow Irvin

In Rural Education (2) Elmer March Sory

Doctor of Veterinary Medicine (1)

Oliver Wilton Orson

DEGREES CONFERRED

SUMMARY OF DEGREES CONFERRED

(February 1, 1932 to September 1, 1932)

Advanced:
Master of Science Baccalaureate Degrees: Bacelor of Arts
In Liberal Arts
Bachelor of Science
In Agricultural Administration
In Agricultural Education
In Agricultural Engineering
In Agriculture
In Architecture
In Chemical Engineering
In Civil Engineering
In Electrical Engineering
In Industrial Arts Education
In Industrial Education
In Landscape Art
In Mechanical Engineering
In Petroleum Production Engineering
In Rural Education
In Science
In Textile Engineering
Doctor of Votorinary Medicina

TOTAL.

DISTINGUISHED STUDENTS

Session 1931-32

At the end of each session students who have failed in no subject a have accumulated a total of at least fifty-four grade points during the are designated as "Distinguished Students".

Freshman Class

Adwany, R. K.
Bednarek, F.
Brandenburg, R. F.
Buchanan, K. S.
Coter, R. P.
Cramer, A. C.
Dempwolf, C. M.
Dillingham, M. C.
Dodson, R. J.
Ferguson, J. N.
Fincke, M. F.
Fink, Carl
Hubby, L. M.
Kleber, J. P.

Lawrence, W. F.
Long, E. Y.
McHaney, J. C.
Marek, J. W.
Martin, M. F.
Mattingly, E.
Mayse, H. F.
Meyerson, D. W.
Monier, K. A. J.
Moore, R. A.
Nagai, G.
Oliver, B.
Oppenlander, J. D.
Parencia, C. R.

Parrack, A. L.
Picard, D. S. Jr.
Richards, T. J.
Richmond, J. L.
Rollins, C. H.
Schultis, G. E.
Sinex, C. H.
Steiner, L. N.
Stuteville, M. V.
Teal, E. T.
Terrell, T. H.
Warren, C. W.
Wehner, F. W. H,

Sophomore Class

Alexander, R. T. Apple, S. B. Jr. Brin, P. Burns, J. A. Delleny, B. L. Drushell, W. H. Early, A. M. Gearreald, T. N. Gremmel, F. Harris, J. R.
Hickey, W. H.
Holmes, W. W.
Johnston, J. A.
Little, J. R.
Logan, W. B.
Margraves, R. D.
Martin, H. F.
Martin, R. S.

Nichols, J. A. Rawls, J. B. Ritter, C. D. Shelton, R. F. Shone, L. A., Jr. Sorrels, W. D. Sumner, V. D. Walton, J. I.

Junior Class

Adams, L. M.
Barron, J. C.
Besse, C. P.
Buie, E. C.
Bunton, S. E. Jr.
Chapman, J. L.
Doyle, J. F.

Gaston, J. E.
Gottlieb, B. M.
Harris, T. B.
Jackson, W. M.
Johnston, C. C.
Ludeman, W. A.
Machemahl, W. P.
Miller, A. J.
Miller, Louis

Parr, I. G. Jr. Pawkett, L. S. Perkins, H. W. Sharp, P. A. Steele, W. E. Storms, L. W. Jr. Vahrenkamp, R. H. Vaughn, T. W. Whitmire, H. C.

Precident

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L. B. LOCKE, '19, College Station	
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S. J. TREADAWAY, '07	
H. B. ZACHRY, '22	
L. A. PIERCE, '22	
R. W. BURLESON, '95	San Saba
G. M. MORRIS, '24	
L. D. ROYER, '13	
I. A. UHR, '17	

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A. S. LEGG, '21 Midland
GRAHAM G, HALL, '13 Houston

C. A. THANHEISER, '00 _____ Houston

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