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60

### COLLEGE STATION, TEXAS

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## Calendar

Calendar				
1936	19	1937		
JULY	JANUARY	JULY	JANUARY	
S M T W T F S	S M T W T F S	S M T W T F S	SMTWTFS	
1         2         3         4           5         6         7         8         9         10         11           12         13         14         15         16         17         18           19         20         21         22         23         24         25           26         27         28         29         30         31	3         4         5         6         7         8         9           10         11         12         13         14         15         16           17         18         19         20         21         22         23           24         25         26         27         28         29         30           31	4         5         6         7         8         9         10           11         12         13         14         15         16         17           18         19         20         21         22         23         24           25         26         27         28         29         30         31	1         1         1           2         3         4         5         6         7         8           9         10         11         12         13         14         15           16         17         18         19         20         21         22           23         24         25         26         27         28         29           30         31	
AUGUST	FEBRUARY	AUGUST	FEBRUARY	
S M T W T F S	<u>S M T W T F S</u>	S M T W T F S	S M T W T F S	
-         -         -         -         1           2         3         4         5         6         7         8           9         10         11         12         13         14         15           16         17         18         19         20         21         22           23         24         25         26         27         28         25           30         31         -         -         -         -         -	1       2       3       4       5       6         7       8       9       10       11       12       1         14       15       16       17       18       19       2C         ?1       22       23       24       25       26       27         28	1       2       3       4       5       6       7         8       9       10       11       12       13       14         15       16       17       18       19       20       21         22       23       24       25       26       27       28         29       30       31       -       -       -       -	1     2     3     4     5       6     7     8     9     10     11     12       13     14     15     16     17     18     19       20     21     22     23     24     25     26       27     28	
SEPTEMBER	MARCH	SEPTEMBER	MARCH	
S         M         T         W         T         F         S	S         M         T         W         T         F         S           1         2         3         4         5         6           7         8         9         10         11         12         1           14         15         16         17         18         19         2           11         22         23         24         25         26         2           28         29         30         31	s         M         T         W         T         F         s           -         -         1         2         3         4           5         6         7         8         9         10         11           12         13         14         15         16         17         18           19         20         21         22         23         24         25           26         27         28         29         30	s         M         T         W         T         F         s           1         2         3         4         5         6         7         8         91011112           13         14         15         16         17         18         19           20         21         22         23         24         25         26           27         28         29         30         31	
OCTOBER	APRIL	OCTOBER	APRIL	
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NOVEMBER	MAY	NOVEMBER	MAY	
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1       2       3       4       5       6       7         8       9       10       11       12       13       14         15       16       17       18       19       20       21         22       23       24       25       26       27       28         29       30	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	14 15 16 17 18 19 20 21 22 23 24 25 26 27	1         2         3         4         5         6         7           8         9         10         11         12         13         14           15         16         17         18         19         20         21           22         23         24         25         26         27         28           29         30         31	
DECEMBER '	JUNE	DECEMBER	JUNE	
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S	
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## THE COLLEGE CALENDAR

## Summer Session of 1936

JUNE 2, TUESDAY, 8 a. m. - 12 m., Registration for the first term.

- JUNE 2, TUESDAY, 1 p. m. 5 p. m., Classes begin.
- JUNE 5, FRIDAY, Last day for registration in the College division for credit during the first term.
- JULY 4, SATURDAY, Independence Day, a holiday.
- JULY 10-11, FRIDAY, SATURDAY, First term examinations.
- JULY 13, MONDAY, 8 a. m. 12 m., Registration for the second term.
- JULY 13, MONDAY, 1 p. m. 5 p. m., Classes begin.
- JULY 16 THURSDAY, Last day for registration in the College division for credit during the second term.

AUGUST 21-22, FRIDAY, SATURDAY, Second term examinations.

### **Regular Session of 1936-37**

#### 1936

SEPTEMBER 18, FRIDAY, Entrance Examinations.

- SEPTEMBER 21, MONDAY, Opening of the First Semester, Registration of new students.
- SEPTEMBER 21, MONDAY, 8 a. m. 5 p. m., Reexaminations.
- SEPTEMBER 22, TUESDAY, Registration of old students. SEPTEMBER 22, TUESDAY, Freshman Program.
- SEPTEMBER 23, WEDNESDAY, First Semester classes begin at 8 a.m.
- SEPTEMBER 30, WEDNESDAY, 8 10 a. m., Cooperative General Mathematics Test.
- October 7. WEDNESDAY, 10 a. m. - 12m., Psychological Test.
- October 14, WEDNESDAY, 1 - 3 p. m., Cooperative English Test.
- NOVEMBER 11, WEDNESDAY, Observance of Armistice Day, 11 a.m.
- NOVEMBER 26-28, INCLUSIVE, THURSDAY, FRIDAY, SATURDAY, Thanksgiving recess.

DECEMBER 19, SATURDAY, Christmas recess begins at noon.

#### 1937

JANUARY 3, SUNDAY, 6 p. m., Christmas recess ends.

JANUARY 30-FEBRUARY 5, INCLUSIVE, Semester examinations.

FEBRUARY 6 and 8, SATURDAY, MONDAY, Registration for the Second Semester.

FEBRUARY 9, TUESDAY, Second Semester Classes begin at 8 a.m.

FEBRUARY 21-27, Campus Church Week.

APRIL 22-24, INCLUSIVE, THURSDAY, FRIDAY, SATURDAY, Spring recess.

- MAY 29-JUNE 4, INCLUSIVE, Semester examinations.
- JUNE 4, FRIDAY, Commencement Sermon.
- JUNE 4-5, Commencement.

## Part I

## OFFICERS OF ADMINISTRATION AND INSTRUCTION

\_\_\_\_\_

## BOARD OF DIRECTORS

### Members

## **TERMS EXPIRE 1937**

HENRY C. SCHUHM	ACHER, President,	Schuhmacher	CoHouston
ЈОЅЕРН КОРЕСКҮ,	Publisher		Hallettsville
G. R. WHITE, Banker	and Ranchman		Brady

## **TERMS EXPIRE 1939**

EDWARD J. KI	EST, Owner and Publisher, Dallas	Times-HeraldDallas
ROY B. DAVIS,	Manager of Plains Cooperative	Plainview
J. T. LAWSON,	Physician	Bowie

#### TERMS EXPIRE 1941

F. MA	ARION I	AW, President, Fi	rst Natio	nal Bank	Houston
WAL	TER G.	LACY, President,	Citizens	National	BankWaco
JOE	UTAY,	Attorney-at-Law			Dallas

## Officers

\_\_\_\_

F. M. LAW, President WALTER G. LACY, Vice-President S. G. BAILEY, 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.

- THOMAS DUDLEY BROOKS, Ph.D., Dean of the Graduate School and of the School of Arts and Sciences.
- Ross PERRY MARSTELLER, D.V.M., Vice-Dean of the School of Veterinary Medicine.

CHARLES H. WINKLER, Ph.D., Director of the Summer Session.

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.

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

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

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

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

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

MILDRED HORTON, Vice-Director of the Agricultural Extension Service.

JACK SHELTON, B.S., Vice-Director of the Agricultural Extension Service.

#### Office of the Registrar

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

#### Office of the Comptroller

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

#### Office of the Commandant

FRANK G. ANDERSON, M.A., Colonel, Field Artillery Reserve, Commandant. JOE E. DAVIS, B.S. Second Lieutenant, Infantry Reserve, Assistant Commandant.

#### The Library

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

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

MRS. W. H. THOMAS, Assistant Librarian.

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

MRS. AUDREY ADICKES BARNARD, B.S., Periodical Librarian.

MARGUERITE BOWLES, B.A., B S., Assistant Reference Librarian.

RUTH BROWN HUTCHINSON, B.A., B.S., Documents Librarian.

#### Office of the College Architect

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

#### The Hospital

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

#### The Young Men's Christian Association

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

#### The Publicity Office

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

#### **Other Officers**

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

<sup>&</sup>lt;sup>s</sup> Deceased, March 22, 1936.

(Figures in	Parenthesis indicate date of first appointment on the College Staff a date of appointment to present position, respectively.)
Тномаѕ С	DTTO WALTON, LL.D., President of the College. (1912, 1925)
Charles F M.A., F	PURYEAR, Dean Emeritus of the College. (1889, 1932) Richmond College, 1881; C.E., Virginia, 1885; LL.D., Daniel Baker, 1914. NNCIS, Dean of the School of Veterinary Medicine, Professor of Ve
	NCIS, Dean of the School of Veterinary Medicine, Professor of Ve y Anatomy. (1888, 1916)
d.v.m Edwin Ja	., Ohio State, 1887; LL.D., Miami, 1929. CKSON KYLE, Dean of the School of Agriculture, Professor of Ho ure. (1902, 1911)
	Agricultural and Mechanical College of Texas, 1899; B.S.A., Cornell, 190, , 1902.
Oscar Me	Virginia, 1898; M.A., Ph.D., Leipsig, 1903.
John Bre	wer Bagley, Professor of Textile Engineering. (1905, 1908)
FRANK CL	Wake Forest College, 1900. EVELAND BOLTON, Dean of the College, Dean of the School of En- ug, Professor of Electrical Engineering. (1909, 1932)
	Mississippi State College, 1905; M.S., Ohio State, 1928; LL.D., Austin Colle
ALVA MIT	CHELL, Professor of Engineering Drawing. (1902, 1912)
CHARLES (	., Agricultural and Mechanical College of Texas, 1894. CLEVELAND HEDGES, Professor of Chemistry and Chemical Engined 1912, 1913)
B.S., 1	Kentucky, 1906; A.B., Cornell, 1908; Ph.D., 1912. BOYLE CAMPBELL, Professor of Modern Languages. (1903, 1914;
Ross Per	DePauw, 1909; Ph.D., Chicago, 1912. RY MARSTELLER, Professor of Veterinary Medicine and Surger Dean of the School of Veterinary Medicine. (1905, 1916)
D.V.M	LLIAM SILVEY, Professor of Physics. (1916)
a.b., Floyd Br	Indiana, 1907; A.M., 1910; Ph.D., Chicago, 1915. AZILIA CLARK, Professor of Economics. (1916)
<b>a.b.,</b> Sherman	Richmond College, 1907; M.A., 1908; Ph.D., Johns Hopkins, 1914. WEAVER BILSING, Professor of Entomology. (1913, 1918)
<sup>1</sup> DANIEL S	Ohio State, 1912; M.A., 1913; Ph.D., 1924. COATES, Professor of Agricultural Engineering. (1919)
JOHN JEFF	Iowa State College, 1910; A.E. 1915. FERSON RICHEY, <i>Professor of Civil Engineering</i> . (1912, 1922) Illinois, 1903; C.E., 1910.
GEORGE SU	JMMEY, JR., Professor of English. (1922)
DAVID WI	Southwestern Presbyterian, 1897; M.A., 1898; Ph.D., Columbia, 1919. LLARD WILLIAMS, Professor of Animal Husbandry. (1919, 1923)
EUGENE P	Ohio State, 1915; M.S., Illinois, 1916. ETER HUMBERT, <i>Professor of Genetics</i> . (1916, 1923)
	, Iowa State College, 1906; M.S., Cornell, 1908; Ph.D., 1910. HERMAN WINKLER, Professor of Psychology; Director of the Summ n. (1923, 1935)
B.S., 7	n. (1923, 1933) Texas, 1904; M.A., 1914; Ph.D., Missouri, 1916. JENRY REID, Professor of Poultry Husbandry. (1923)
<b>b.s.,</b> ) William 1	Wisconsin, 1919; M.S., 1922. LYCURGUS HUGHES, Professor of Education. (1920, 1924) Howard Payne College, 1920; B.S., Agricultural and Mechanical College

SAMUEL RHEA GAMMON, Professor of History. (1925)

A.B., Washington and Lee, 1911; A.M., 1913; Ph.D., Johns Hopkins, 1921. ERNEST WILLIAM STEEL, Professor of Municipal and Sanitary Engineering. (1925)

C.E., Cornell, 1920.

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

- FREDERICK WILLIAM HENSEL, JR., Professor of Landscape Art. (1913, 1925)
- B.S., Agricultural and Mechanical College of Texas, 1907; M.S., Cornell, 1914. THOMAS WILLIAM LELAND, Professor of Accounting and Statistics. (1922, 1926)

B.A., Wisconsin, 1921; M.A., 1922; C.P.A., 1929. DANIEL RUSSELL, Professor of Rural Sociology. (1926, 1927)

A.B., Baylor, 1922; A.M., Chicago, 1931.

FREDERICK ERNEST GIESECKE, Professor of Engineering Research; Director Texas Engineering Experiment Station; College Architect. (1886, 1927) M.E., Agricultural and Mechanical College of Texas, 1890; S.B., in Architecture, Massachusetts Institute of Technology, 1904; Ph.D., Illinois, 1924.

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

B.S., Colorado State College, 1917; M.S., Iowa State College, 1924. ERNEST LANGFORD, Professor of Architecture. (1915, 1929)

B.S., Agricultural and Mechanical College of Texas, 1913; M.S., Illinois, 1924. CHARLES WILLIAM CRAWFORD, Professor of Mechanical Engineering. (1919, 1929)

B.S., Agricultural and Mechanical College of Texas, 1919; M.S., 1929.

MARTIN COLLINS HUGHES, Professor of Electrical Engineering. (1923, 1932)

B.S., Illinois, 1917; E.E., 1926.

WALTER LEE PORTER, Professor of Mathematics, (1918, 1932) A.B., Howard College, 1911; M.S., Agricultural and Mechanical College of Texas, 1926.

AMBROSE ROBERT EMERY, Colonel, Infantry, Professor of Military Science and Tactics. (1932)

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

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

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

EUGENE JCDY HOWELL, Registrar and Secretary of the Faculty. (1930, 1932)

B.S., Agricultural and Mechanical College of Texas, 1922; M.S., 1932. HOMER HILL NORTON, Professor of Physical Education. (1934)

HAROLD VANCE, Professor of Petroleum Engineering. (1934)

B.S., California, 1923. JUSTUS WHEELER BARGER, Professor of Agricultural Economics. (1929, 1935) B.S., Kansas State College, 1922; M.S., 1923; M.A., Leland Stanford, 1929.

FRANK GIST ANDERSON, Colonel, Field Artillery Reserve, Commandant. (1920, 1935)

B.S., Mississippi College, 1916; M.A., 1917.

ELMER Ross ALEXANDER, Professor of Agricultural Education. (1919, 1935)

A.B., Baylor, 1919; B.S., Agricultural and Mechanical College of Texas, 1923; M.S., 1926. CHARLES LAURENCE BAKER, Professor of Geology. (1935)

S.B., Chicago, 1908; M.A., California, 1916.

GUY WEBB ADRIANCE, Professor of Horticulture. (1920, 1935)

B.S., Agricultural and Mechanical College of Texas, 1915; M.S., California, 1917; Ph.D., Michigan State College, 1929.

PATTON WRIGHT BURNS, Professor of Veterinary Physiology and Pharmacology. (1926, 1935)

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

FRED RUFUS JONES, Professor of Agricultural Engineering; Acting Head of the Department. (1921, 1935)

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

#### Professors

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 Colege, 1925.

<sup>2</sup>THURMOND ARMOUR MUNSON, Professor of Hydraulic Engineering. (1920, 1926) B.S., Agricultural and Mechanical College of Texas, 1910; C.E., Iowa State College, 1924; M.S., 1925. LUTHER GOODRICH JONES, Professor of Agronomy. (1919, 1926)

B.S., Princeton, 1917; M.S., Agricultural and Mechanical College of Texas, 1921; Ph.D., Cornell, 1927. DAVID CLUIE JONES, Professor of Mathematics. (1909, 1927)

B.A., Emory, 1908. GEORGE BARTON WILCOX, Professor of Education. (1920, 1927)

B.S., Agricultural and Mechanical College of Texas, 1923; A.M., Columbia, 1926. VANGEL KONSTANTINE SUGAREFF, Professor of History. (1923, 1927)

A.B., Syracuse, 1917; A.M., Harvard, 1918. CHARLES ORVINE SPRIGGS, Professor of Public Speaking. (1926, 1927)

- A.B., Indiana, 1924; M.A., Northwestern, 1930. ARTHUR KAPP MACKEY, Professor of Animal Husbandry. (1925, 1928)

B.S., Purdue, 1921; M.S., Illinois, 1923. ROBERT GATLIN REEVES, Professor of Biology. (1928)

B.S., Mississippi State College, 1922; M.S., 1923; Ph.D., Iowa State College, 1928. LINTON ELIAS GRINTER, Professor of Civil Engineering. (1928, 1929)

B.S., Kansas, 1923; C.E., 1930; M.S., Illinois, 1924; Ph.D., 1926. ELIAS WARD MARKLE, Professor of Electrical Engineering. (1921, 1930)

B.S., Pennyslvania 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.

<sup>3</sup>WALTER RAWLINS HORLACHER, Professor of Genetics. (1923, 1930)

B.S., Kansas State College, 1920; M.S., 1922; Ph.D., Wisconsin, 1929. ALEXANDER VAN BREWER, Professor of Mechanical Engineering. (1922, 1930) B.S., Purdue, 1913; M.E., 1925.

FREDERICK WILLIAM JENSEN, Professor of Chemistry. (1925, 1930)

B.S., Nebraska, 1920; M.S., 1923; Ph.D., 1925. NORMAN FREDERICK RODE, Professor of Electrical Engineering. (1922, 1930) B.S., Clemson College, 1919; M.S., Agricultural and Mechanical College of Texas, 1929.

WALTER LAWREN PENBERTHY, Professor of Physical Education. (1926, 1930) B.S., Ohio State, 1926.

<sup>2</sup> On leave, 1935-36.

<sup>3</sup> Resigned, Jan. 31, 1936.

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, Lieutenant Colonel, Field Artillery, Professor of Military Science and Tactics. (1931)

A.B., St. John's College, 1905. WILLIAM CLAUDE WASHINGTON, Lieutenant Colonel, Coast Artillery Corps, Professor of Military Science and Tactics. (1931)

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

AUGUST ALBERT LENERT, Professor of Veterinary Medicine. (1919, 1934) B.S., Agricultural and Mechanical College of Texas, 1914; D.V.M., Kansas City

Veterinary College, 1917. THOMAS FRANKLIN MAYO, Professor of English; Librarian of the College

(1916, 1934)

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

CLARENCE JACK FINNEY, Professor of Architecture. (1926, 1934) B.S., Agricultural and Mechanical College of Texas, 1922; Ecole des Beaux-Arts,

Fontainbleau, 1923. WILLIAM ROSS IRVIN, Major, Cavalry, Professor of Military Science and Tactics. (1934)

GIRARD BLAKESLEY TROLAND, Captain, Corps of Engineers, Professor of Military Science and Tactics. (1934)

Graduate, United States Military Academy, 1917; B.S., Massachusetts Institute of Technology, 1921.

IRA GILLESPIE ADAMS, Professor of Economics. (1927, 1935)

A.B., Evansville College, 1923; A.M., Minnesota, 1927. ROBERT LEE HUNT, Professor of Agricultural Economics. (1927, 1935)

B.S., Agricultural and Mechanical College of Texas, 1924; M.S., North Carolina State College, 1927; Ph.D., Wisconsin, 1934. STEWART SAMUEL MORGAN, Professor of English. (1921, 1935)

B.A., Cincinnati, 1926; M.A., Ohio State, 1927; Ph.D., 1983. GEORGE CHILDS BAUER, Professor of Analytical Chemistry. (1922, 1935)

B. S., Kentucky, 1920; M.S., Iowa State College, 1927.

DALLAS ROYCE ALFONTE, Major, Infantry, Professor of Military Science and Tactics. (1932, 1935)

HENRY Ross, Professor of Agricultural Education. (1935)

B.S., Agricultural and Mechanical College of Texas, 1923; M.S., 1935.

JOHN WESLEY ROLLINS, Professor of Physical Education. (1935)

B.S., Agricultural and Mechanical College of Texas, 1917.

LOUIS SIMMONS STICKNEY, Major, Signal Corps, Professor of Military Science and Tactics. (1935)

JAMES WILSON RICE, Major, Chemical Warfare Service, Professor of Military Science and Tactics. (1935)

B.S., Nevada, 1927; M.S., Massachusetts Institute of Technology, 1930.

<sup>4</sup>CHAUNCEY BARGER GODBEY, Professor of Genetics. (1926, 1936)

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

<sup>&</sup>lt;sup>4</sup> Associate Professor, First Semester, 1935-36.

FREDERICK ARTHUR BURT, Associate Professor of Geology. (1921) B.S., Colgate, 1908; M.S., Chicago, 1929. PERCY GLYDON GUNTER, Associate Professor of English. (1911, 1922) A.B., Elon College, 1909; M.A., North Carolina, 1910. JOSEPH SAYERS MOGFORD, Associate Professor of Agronomy. (1925) B.S., Agricultural and Mechanical College of Texas, 1916; M.S., 1920. ALBERT DOW MARTIN, Associate Professor of Mathematics. (1921, 1925) B.S., Gunter College, 1908; B.A., Texas Christian, 1920. RALPH THOMAS STEWART, Associate Professor of Agronomy. (1926) B.S., Iowa State College, 1924; M.S., 1925; Ph.D., 1928. ARTHUR EDWARD WHARTON, Associate Professor of Veterinary Pathology. (1926)D.V.M., Colorado State College, 1925. EDWARD EARL VEZEY, Associate Professor of Physics. (1920, 1927) B.S., Oklahoma Agricultural and Mechanical College, 1910; M.S., Agricultural and Mechanical College of Texas, 1927. LEROY LEVY FOURAKER, Associate Professor of Electrical Engineering. (1920, 1927) B.S., Agricultural and Mechanical College of Texas, 1914; M.S., 1927. 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. <sup>6</sup>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. OSCAR ARNOLD WEINKE, Associate Professor of Accounting and Statistics. (1924, 1928)B.A., Wisconsin, 1921; M.S., Agricultural and Mechanical College of Texas, 1928. JOSEPH JOHN WOOLKET, Associate Professor of Modern Language. (1925, 1929)

A.B., Oberlin College, 1924; M.A., 1925. <sup>e</sup>John Harvey Knox, Associate Professor of Animal Husbandry. (1927, 1929)

B.S., Ohio State, 1921; M.S., Illinois, 1924.

ELVER WILLIAM RENNER, Associate Professor of Dairy Husbandry. (1930) B.S., Iowa State College, 1918; M.S., 1929. 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.

<sup>68</sup>LELAND SHUMWAY PAINE, Associate Professor of Agricultural Economics. (1927, 1930)

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

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

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

<sup>&</sup>lt;sup>5</sup> Acting Professor, 1935-36. <sup>6</sup> Resigned, Sept. 30, 1935.

<sup>&</sup>lt;sup>6</sup><sup>8</sup>On leave, Feb. 19 to Sept. 1, 1936.

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NAT EDMUNDSON, JR., Associate Professor of Mathematics. (1931, 1933) B.A., Austin College, 1924; M.A., 1925; Ph.D., Rice, 1929. CLIFTON CHILDRESS DOAK, Associate Professor of Biology. (1926, 1934)

B.S., North Texas State Teachers College, 1922; M.S., Agricultural and Mechani-cal College of Texas, 1928; Ph.D., Illinois, 1933. JOHN HENRY BINNEY, Associate Professor of Mathematics. (1925, 1934)

B.S., Sam Houston State Teachers College, 1924; M.A., Texas, 1925; Ph.D., Rice, 1933.

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

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

ROBERT PAGE WARD, Associate Professor of Electrical Engineering. (1925, 1934)

B.S., Agricultural and Mechanical College of Texas, 1924; M.S., 1934. WAYNE EGGLESTON LONG, Associate Professor of Mechanical Engineering. (1930, 1934)

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

ALBERT B. STEVENS, Associate Professor of Petroleum Engineering. (1934) B.S., California, 1927; M.S., Southern California, 1932. GEORGE WILHELM SCHLESSELMAN, Associate Professor of Agricultural Eco-

nomics. (1934, 1935)

B.A., Iowa State Teachers College, 1927; M.A., Clark, 1928; Ph.D., Nebraska, 1935. ERNEST KENNETH SPAHR, Associate Professor of English. (1921, 1935)

B.A., Milligan College, 1919; M.A., Virginia, 1921. WILLARD HOMER MCCORKLE, Associate Professor of Physics. (1924, 1935)

B.A., Iowa, 1924; M.S., 1928; Ph.D., 1935. JOSEPH ANDERSON ORR, Associate Professor of Civil Engineering. (1928, 1935) B.S., Agricultural and Mechanical College of Texas, 1922; M.S., 1933. FRANCIS FREDERICK BISHOP, Associate Professor of Industrial Chemistry.

(1923, 1935)

B.S., Clarkson College of Technology, 1922; M.S., 1928.

PARKS ADAIR NUTTER, Associate Professor of Economics. (1933, 1935)

A.B., Michigan, 1920; A.M., Iowa, 1930. HERBERT RAYMOND MCQUILLAN, Associate Professor of Physical Education. (1935)

B.S., North Dakota State College, 1916.

NORMAN GEORGE SCHUESSLER, Associate Professor of Animal Husbandry. (1935) B.S., Agricultural and Mechanical College of Texas, 1931.

<sup>7</sup> JOHN HENRY QUISENBERRY, Associate Professor of Genetics. (1936)

B.S., Agricultural and Mechanical College of Texas, 1931; M.S., Illinois, 1933. DONALD CHRISTY, Acting Associate Professor of Agricultural Engineering. (1933, 1935)

B.S., Kansas State College, 1933.

<sup>78</sup>LESTER HANKS, Acting Associate Professor of Agricultural Economics, (1936) B.S., Agricultural and Mechanical College of Texas, 1930.

#### Assistant Professors

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

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.

<sup>78</sup>Appointed Feb. 20, 1936.

<sup>&</sup>lt;sup>7</sup> Appointed Feb. 1, 1936.

EDWARD LIN HARTER, Assistant Professor of Chemistry. (1921, 1926) A.B., Missouri Weslevan, 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. 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. ELMER GILLAM SMITH, Assistant Professor of Physics. (1924, 1929) A.B., Amherst College, 1919; M.S., Agricultural and Mechanical College of Texas, 1925; B.S., 1934. JOHN PAUL ABBOTT, Assistant Professor of English. (1926, 1929) B.A., Vanderbilt, 1925. JOHN ELMER REIERSON, Captain, Coast Artillery Corps, Assistant Professor of Military Science and Tactics. (1931) Graduate, United States Military Academy, 1920. CHARLES LAMOTTE, Assistant Professor of Biology. (1930, 1932) B.A., Texas, 1929; M.A., 1929. RAYMOND ORR, Major, Infantry, Assistant Professor of Military Science and Tactics. (1932) A.B., Chattanooga, 1916. JOHN JOSEPH BINNS, Captain, Field Artillery, Assistant Professor of Military Science and Tactics. (1932) Graduate, United States Military Academy, 1923. MORRIS HASLETT MARCUS, Captain, Cavalry, Assistant Professor of Military Science and Tactics. (1932) Graduate, United States Military Academy, 1921. MARION THOMAS HARRINGTON, Assistant Professor of Chemistry. (1924, 1934) , Agricultural and Mechanical College of Texas, 1922; M.S., 1927. B.S. JAMES WENDELL Ross, Assistant Professor of Mathematics. (1926, 1934) B.A., Texas, 1923; M.A., 1931. JOSEPH BAKER DENT, Assistant Professor of Engineering Drawing. (1928, 1934) B.S., Virginia Polytechnic Institute, 1926; M.S., Agricultural and Mechanical College of Texas, 1931. HENRY CECIL SPENCER, Assistant Professor of Engineering Drawing, (1929, 1934)

A.B., Baylor, 1929; M.S., Agricultural and Mechanical College of Texas, 1931. WILLARD IRVING TRUETTNER, Assistant Professor of Mechanical Engineering.

- (1930, 1934)
  - B.S., Michigan, 1928; M.S.E., 1930.
- CHARLES MATTOON BROOKS, JR., Assistant Professor of Architecture. (1934) B.F.A., Yale, 1931; M.F.A., 1934.
- DAVID TERRILL JOHNSON, Captain, Corps of Engineers, Assistant Professor of Military Science and Tactics. (1934)

Graduate, United States Military Academy, 1918.

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

Graduate, United States Military Academy, 1926.

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

Graduate, United States Military Academy, 1927. FRANCIS EARL TURNER, Assistant Professor of Geology. (1934, 1935)

B.S., California Institute of Technology, 1927; M.S., 1928; Ph.D., California, 1934. WILLIAM MCDANIEL POTTS, Assistant Professor of Chemistry. (1926, 1935)

• • • • •

Roy MATTHEW WINGREN, Assistant Professor of Mechanical Engineering. (1928, 1935)

B.S., Agricultural and Mechanical College of Texas, 1927; M.S., 1934. JOHN QUE HAYS, Assistant Professor of English. (1929, 1935)

A.B., Missouri, 1929; M.A., 1932.

JAMES ARTHUR TRAIL, Assistant Professor of Mechanical Engineering. (1929, 1935)

B.S., Agricultural and Mechanical College of Texas, 1929; M.S., Purdue, 1934. CYRIL SAMUEL ADAMS, Assistant Professor of Civil Engineering. (1930, 1935)

B.S., Agricultural and Mechanical College of Texas, 1930; M.S., 1933.

LEWIS MCDOWELL HAUPT, JR., Assistant Professor of Electrical Engineering. (1930, 1935)

B.S., Agricultural and Mechanical College of Texas, 1927; M.S., 1935.

RAYMOND O. BERRY, Assistant Professor of Biology. (1931, 1935)

B.S., North Texas State Teachers College, 1928; M.S., Agricultural and Mechanical College of Texas, 1932.

PAUL JUDSON TALLEY, Assistant Professor of Biology. (1934, 1935)

A.B., Baylor, 1928; M.S., Iowa, 1930; Ph.D., Wisconsin, 1932. ALEXANDER OSCAR GORDER, Major, Infantry, Assistant Professor of Military Science and Tactics. (1935)

PHILIP HARRISON ENSLOW, Captain, Field Artillery, Assistant Professor of Military Science and Tactics. (1935)

Graduate, United States Military Academy, 1923. JULES VERNE SIKES, Assistant Professor of Physical Education. (1935)

B.S., East Texas State Teachers College, 1931. RALPH WRIGHT STEEN, Assistant Professor of History. (1935)

A.B., McMurry College, 1927; M.A., Texas, 1929; Ph.D., 1934.

MAURICE J. SULLIVAN, Critic in Architectural Design. (1935)

1

#### Instructors

RICHARD WALTER DOWNARD, Instructor in Mechanical Engineering. (1913, 1920) WILLIAM WARREN MCCARTER, Instructor in Mechanical Engineering. (1922) ALBERT ASA BLUMBERG, Instructor in Mathematics. (1924)

B.A., Texas, 1929.

· · ·

ROLAND EDWARD SNUGGS, Instructor in Chemistry. (1924)

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

ERROL BATHURST MIDDLETON, Instructor in Chemistry, (1922, 1926)

B.A., Illinois, 1919; M.S., 1921. DAVID WINSTON FLEMING, Instructor in Mechanical Engineering. (1927) B.S., Agricultural and Mechanical College of Texas. 1930.

ROGER VALENTINE MCGEE, Instructor in Mathematics. (1928)

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

WILLIAM REEDER SHERRILL, Instructor in Agricultural Education. (1928) B.S., Agricultural and Mechanical College of Texas, 1928.

JESSE GERALD CHANEY, Instructor in Mathematics. (1928)

A.B., Southwestern, 1924; M.A., Texas, 1930.

DAN HALL, Instructor in Mathematics. (1928)

A.B., North Carolina, 1927; A.M., 1928.

ALBERT EDWARD FINLAY, Instructor in Mathematics. (1929)

B.S., Peabody College, 1929; M.A., 1929.

JAMES EDWARD BRELAND, Instructor in Engineering Drawing. (1930) B.S., Mississippi State College, 1928.

HUGH BARBER THAXTON, Instructor in Veterinary Anatomy. (1933, 1934) D.V.M., Agricultural and Mechanical College of Texas, 1934.

17

WILLIAM OLIVER RAY, Instructor in Electrical Engineering. (1933, 1934)

B.S., Agricultural and Mechanical College of Texas, 1930; M.S., 1934. WILLIAM MAURICE SIMPSON, Instructor in Accounting and Statistics. (1933, 1935)

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

JOHN GILBERT MCGUIRE, Instructor in Engineering Drawing. (1933, 1935) B.S., Agricultural and Mechanical College of Texas, 1982. GILBERT JUSTUS SAMUELSON, Instructor in Chemistry. (1935)

B.S., Chadron State Normal College, 1929; M.S., Nebraska, 1932; Ph.D., 1934. DANIEL ROWLAND DAVIS, Instructor in Rural Sociology. (1933, 1935)

B.S., Agricultural and Mechanical College of Texas, 1932; M.S., 1935. CHARLES WELDON STONE, Instructor in English. (1927, 1935)

A.B., Baylor, 1926; M.A., Southern Methodist, 1927.

JOHN SAMUEL HOPPER, Instructor in Mechanical Engineering. (1933, 1935) B.S., Agricultural and Mechanical College of Texas, 1933.

WILLIAM MALCOLM BEESON, Instructor in Animal Husbandry. (1935)

B.S., Oklahoma Agricultural and Mechanical College, 1931; M.S., Wisconsin, 1932; Ph.D., 1935. WILLIAM HUETER BETTGER, Instructor in Modern Languages. (1935)

A.B., Colorado, 1934; A.M., 1935. LEWIS MANNING CLINE, Instructor in Geology. (1935)

B.S., Tulsa, 1931; M.S., Iowa, 1934; Ph.D., 1935. LILBURN JOHN DIMMITT, Instructor in Physical Education. (1935)

KARL ERIK ELMQUIST, Instructor in English. (1935)

B.A., Southern Methodist, 1932.

WILLIAM DONALD HARRIS, Instructor in Chemistry. (1935)

B.S., Iowa State College, 1929; M.S., 1931; Ph.D., 1934.

SEWELL HEPBURN HOPKINS, Instructor in Biology. (1935)

B.S., College of William and Mary, 1927; M.A., Illinois, 1929; Ph.D., 1933. EDMUND CHESTER KLIPPLE, Instructor in Mathematics. (1935)

B.A., Texas, 1926; Ph.D., 1932. ROBERT P. LUDLUM, Instructor in History. (1935)

A.B., Cornell, 1930; M.A., 1932; Ph.D., 1935.

GEORGE KERN SCHOEPFLE, Instructor in Physics. (1935)

A.B., Oberlin\_College, 1927; Ph.D., Cornell, 1933.

MILLARD SEALS TAGGART, Instructor in Chemistry. (1935)

B.A., Rice, 1931; M.A., 1932; Ph.D., 1935. CLYDE WINFIELD WILKINSON, Instructor in English. (1935) B.S., Texas, 1932; M.A., 1934.

SAMUEL BERNHARD ZISMAN, Instructor in Architecture. (1935)

B.S., Massachusetts Institute of Technology, 1930.

SPENCER BUTLER APPLE, JR., Acting Instructor in Agronomy. (1933, 1935) B.S., Agricultural and Mechanical College of Texas, 1933.

<sup>9</sup>FRANK IVER DAHLBERG, Instructor in Animal Husbandry. (1936)

- B.S., Agricultural and Mechanical College of Texas, 1925; M.S., Wisconsin, 1930. ROLLIN LAFAYETTE ELKINS, Acting Instructor in Economics. (1933, 1935)
- B.A., Agricultural and Mechanical College of Texas, 1933; M.S., 1935.

FRED GREMMEL, Acting Instructor in Animal Husbandry. (1933, 1935)

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

GUS RALPH HERZIK, JR., Acting Instructor in Civil Engineering. (1934, 1935) B.S., Agricultural and Mechanical College of Texas, 1934; M.S., 1936.

WILBUR MORTRUDE JACKSON, Acting Instructor in Mathematics. (1933, 1935)

B.S., Agricultural and Mechanical College of Texas, 1933; M.S., 1935.

<sup>8</sup>ROBERT LEE MELCHER, Acting Instructor in Agricultural Economics, (1933, 1935)

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

<sup>8</sup> Resigned, Jan. 31, 1936.

<sup>9</sup> Appointed, Feb. 1, 1936.

<sup>9</sup>TYRUS RAYMON TIMM; Acting Instructor in Agricultural Economics. (1934, 1936)

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

<sup>98</sup>WILLIAM EDMOND SCARBOROUGH, Acting Instructor in Mechanical Engineering. (1936)

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

<sup>9t</sup>ELMER W. HENRY, Acting Instructor in Agricultural Engineering. (1936) B.S., Ohio, 1933.

#### Graduate Assistants and Fellows

- ROBERT SOLOMON ADAMS, Assistant in Chemistry and Chemical Engineering. B.S., Mississippi State College, 1934. LEONARD QUENTIN ALLEN, Assistant in Rural Sociology. B.S., East Texas State Teachers College, 1926. <sup>10</sup>GERALD K. ASHBY. Fellow in Chemistry. B.S., Agricultural and Mechanical College of Texas, 1934. LUTHER JAY ATKINSON, Assistant in Agricultural Economics. B.S., Arkansas, 1934. MARSHALL UNDERWOOD BAGWELL, Assistant in Petroleum Engineering. B.S., Texas Technological College, 1934. <sup>11</sup>GEORGE ROBERTSON BELLVILLE, JR., Fellow in Chemistry and Chemical Engineering. B.S., Southern Methodist, 1934. FRED JACOB BENSON, Assistant in Civil Engineering. B.S., Kansas State College, 1935. MERRILL HOHANSHELT BROWN, Assistant in Electrical Engineering. B.A., Simpson College, 1934. ALFRED FRANKLIN CHALK, Assistant in Modern Languages. B.A., Baylor, 1934. GEORGE WALTER Cox, Assistant in Civil Engineering. B.S., Agricultural and Mechanical College of Texas, 1935. BARON RICHARD DANA, Assistant in Animal Husbandry. B.S., Iowa State College, 1935. MALCOLM STEWART DOUGHERTY, JR., Assistant in Dairy Husbandry. B.S., Louisiana State, 1935. <sup>12</sup>MITT DOWLEN, Assistant in Electrical Engineering. B.S., Oklahoma Agricultural and Mechanical College, 1935. FRANK AUGUSTUS DRISKILL, Assistant in Economics. B.A., Southwestern, 1932. <sup>13</sup>GEORGE TYSON EDDS, Assistant in Veterinary Physiology and Pharmacology, B.S., Agricultural and Mechanical College of Texas, 1936. MORRIS ALLEN ELMS, Assistant in Geology. B.A., Baylor, 1935. 9 Appointed Feb. 1, 1936.
- 98 Appointed Feb. 11, 1936.

<sup>&</sup>lt;sup>9t</sup> Appointed Feb. 14, 1936.

 <sup>&</sup>lt;sup>10</sup> Fellowship provided by the Texas Cottonseed Crushers Association.
 <sup>11</sup> Fellowship provided by the Texas Cottonseed Crushers Association.
 <sup>12</sup> Resigned, January 31, 1936.

<sup>18</sup> Appointed February 1, 1936.

CHARLES FOOTE, Assistant in Biology.

B.S., North Texas State Teachers College, 1934.

- WALLACE JERROY FRANK, Assistant in Chemistry. B.S., Arkansas, 1934.
- ANAN GOLUB, Assistant in Accounting and Statistics.

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

PEDRO GARCIA GOMEZ, Assistant in English.

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

RUSSELL BURLEIGH HAGEN, Assistant in Mechanical Engineering. B.S., North Dakota State College, 1934.

<sup>14</sup>GEORGE DAWSON HARRIS, Assistant in Geology.

B.A., Baylor, 1934.

<sup>15</sup>PAUL GUSTAV HOMEYER, Assistant in Poultry Husbandry.

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

MAURICE HOUSTON, Assistant in Chemistry.

B.S., North Texas State Teachers College, 1934.

JOSEPH DYCHE KELLY, Assistant in Mechanical Engineering. B.S., Texas Technological College, 1935.

LEONARD AVERA LANKFORD, Assistant in Municipal and Sanitary Engineering. B.S., Southern Methodist, 1934.

<sup>16</sup>HARRY LEONHARDT, Assistant in Agricultural Engineering. B.S., South Dakota State College, 1933.

WILLIAM STRAIGHT MCCULLEY, Assistant in Mathematics.

B.A., Iowa, 1932.

<sup>17</sup>WELDON GRAY MCLARRY, Assistant in Mechanical Engineering. B.S., Agricultural and Mechanical College of Texas, 1934; M.S., 1936.

JERRY W. MAREK, Fellow in the College Library.

B.S., Agricultural and Mechanical College of Texas, 1935. WALTER CHARLES MATTHYS, Assistant in Education.

B.B.A., Baylor, 1935.

<sup>18</sup>EARL RICHARD MERTZ, Assistant in Mechanical Engineering. B.S., Missouri School of Mines, 1933.

<sup>19</sup> JAMES EADS MILLER, Assistant in Rural Sociology. B.S., Agricultural and Mechanical College of Texas, 1934.

JOHN H. MILLIFF, Assistant in Veterinary Pathology.

B.S., Agricultural and Mechanical College of Texas, 1931; M.S. 1934. ROBERT HENRY NAU, Assistant in Physics.

B.S., Iowa State College, 1935. JOHN CHARLES HINTCHEY NELSON, Assistant in Civil Engineering. B.S., Agricultural and Mechanical College of Texas, 1935.

HERBERT HENRY NORDSIECK, Assistant in Chemistry.

B.S., Butler, 1934.

<sup>20</sup> JOHN EOFF OLIVER, Assistant in Accounting and Statistics. B.B.A., Texas, 1929.

JOHN PERCY OLIVER, Assistant in Engineering Drawing.

B.S., Agricultural and Mechanical College of Texas, 1926. JOHN MALCOLM ORCHARD, Assistant in Agricultural Education. B.S., Texas College of Arts and Industries, 1934.

<sup>14</sup> Resigned, December 31, 1935.

<sup>&</sup>lt;sup>15</sup> Resigned, January 31, 1936.

<sup>&</sup>lt;sup>16</sup> Resigned, October 31, 1935.

<sup>17</sup> Resigned, January 31, 1936.

<sup>&</sup>lt;sup>18</sup> Appointed, February 1, 1936.

<sup>19</sup> Appointed, February 1, 1936.

<sup>&</sup>lt;sup>20</sup> Acting Instructor, First Semester 1935-36.

<sup>21</sup>ALVIN LANDUS PARRACK, Fellow in the College Library.

B.S., Agricultural and Mechanical College of Texas, 1935.

- RALEIGH ELWOOD PATTERSON, Assistant in Agronomy and Genetics. B.S., Louisiana, 1934.
- OSCAR M. PHILLIPS, Assistant in Horticulture.

B.S., East Texas State Teachers College, 1935.

- JOHN LEHMAN POST, Assistant in Chemistry.
- B.S., Michigan, 1926.
- <sup>22</sup>RICHARD C. POTTS, Assistant in Agronomy and Genetics.
- B.S., Oklahoma Agricultural and Mechanical College, 1935.
- <sup>27</sup>EARL KENSINGTON RAMBO, Assistant in Agricultural Engineering. B.S., Clemson College, 1926.

U. A. RANDOLPH, Fellow in Office of Dean of School of Agriculture. B.S., Agricultural and Mechanical College of Texas, 1933.

ABBEY ANDREW RASMUSSEN, Assistant in Mechanical Engineering.

B.S., Agricultural and Mechanical College of Texas, 1920.

CLARIS BOYD RAY, Assistant in the College Library.

- B.S., Agricultural and Mechanical College of Texas, 1931.
- JOHN K. RIGGS, Assistant in Animal Husbandry.
- B.S., Iowa State College, 1935.

<sup>24</sup>CLYDE LEE ROUGEAU, Assistant in the College Library.

B.S., Southwestern Louisiana Institute, 1936.

<sup>25</sup>EDWARD SELLNER, Assistant in Mechanical Engineering. B.S., Case School of Applied Science, 1935.

IVAN MAURICE SHANNON, Fellow in Office of Dean of the College.

- B.A., Agricultural and Mechanical College of Texas, 1933. <sup>28</sup>GROOM SHIRLEY SHEPARD, Fellow in Chemistry and Chemical Engineering. B.A., Hardin and Simmons, 1934. CAMERON SIDDALL, Assistant in Entomology.

- B.S., Agricultural and Mechanical College of Texas, 1931. EVERETT MCKNIGHT SLOAN, Assistant in Industrial Education.
- B.S., North Texas State Teachers College, 1933. MANNING FARR SMITH, Fellow in Physical Education.
- B.S., Centenary College, 1934. RUSSELL WILLIAM STRANDTMANN, Assistant in Biology.
  - B.S., Southwest Texas State Teachers College, 1935.
- CHARLES EDWARD STRUWE, Assistant in Accounting and Statistics. B.S., Agricultural and Mechanical College of Texas, 1935.
- <sup>27</sup>EDWIN TROUT TEAL, Assistant in Mechanical Engineering.
- B.S., Agricultural and Mechanical College of Texas, 1935.
- <sup>28</sup>TYRUS RAMON TIMM, Assistant in Agricultural Economics. B.S., Agricultural and Mechanical College of Texas, 1934.
- <sup>29</sup>Millard T. TURNER, Assistant in Agronomy and Genetics. B.S., North Texas State Teachers College, 1934.

<sup>25</sup> Appointed February 1, 1936.
 <sup>26</sup> Fellowship provided by Cottonseed Crushers Association.
 <sup>27</sup> Resigned December 31, 1935.
 <sup>28</sup> Resigned January 31, 1936, to become acting instructor.
 <sup>29</sup> Appointed February 1, 1936.

- <sup>29</sup> Appointed, Febraury 1, 1936. <sup>30</sup> Appointed February 1, 1936.

<sup>&</sup>lt;sup>30</sup>MELVIN LOUIS UPCHURCH, Assistant in Agricultural Economics. B.S., Agricultural and Mechanical College of Texas, 1936.

<sup>&</sup>lt;sup>21</sup> Resigned, January 31, 1936. <sup>22</sup> Resigned, January 15, 1936.

<sup>&</sup>lt;sup>23</sup> Appointed February 1, 1936.
<sup>24</sup> Appointed February 1, 1936.

<sup>31</sup>WILLIAM CAMPBELL VERTRESS, Assistant in Horticulture. B.S., Agricultural and Mechanical College of Texas, 1931.

FLOYD MACK WILKES, Assistant in Animal Husbandry. B.S., Texas Technological College, 1935.

B.S., Texas Technological College, 1935. <sup>25</sup>WILLIAM HENRY WILEY, Assistant in Poultry Husbandry. B.S., Agricultural and Mechanical College of Texas, 1936.

B.S., Agricultural and Mechanical College of Texas, 1936. THOMAS COFFMAN YOUNG, Assistant in Electrical Engineering. B.S., Texas Technological College, 1935.

B.S., Texas Technological College, 1935. FRED DODGE ZALMANZIG, Fellow in Registrar's Office. B.S., St. Mary's University, 1934.

<sup>21</sup> Appointed February 1, 1936. <sup>22</sup> Appointed February 1, 1936.

#### SUMMARY OF THE TEACHING STAFF AS OF APRIL 1, 1936

Other Full Professors	43
Associate Professors	
Assistant Professors	33
Instructors	41
Teaching Assistants and Fellows	45
<sup>83</sup> TOTAL	250

<sup>23</sup> Including 3 on leave, Session 1935-36.

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#### THE AGRICULTURAL EXPERIMENT STATION

STAFF (As of January 1, 1936)

#### Administration:

A. B. CONNOR, M.S., Director.
R. E. KARPER, M.S., Vice-Director.
CLARICE MIXSON, B.A., Secretary.
M. P. HOLLEMAN, Chief Clerk.
REED McDONALD, Assistant Chief Clerk.
CHESTER HIGGS, Executive Assistant.
HOWARD BERRY, B.S., Technical Assistant.

### Chemistry:

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

#### **Horticulture:**

S. H. YARNELL, Sc.D., Chief.
<sup>84</sup>L. R. HAWTHORN, M.S., Horticulturist.
H. M. REED, M.S., Horticulturist.
J. F. WOOD, B.S., Horticulturist.
L. E. BROOKS, B.S., Horticulturist.
J. C. RATSEK, Ph.D., Horticulturist.

#### **Range Animal Industry:**

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

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

J. H. JONES, B.S., Animal Husbandman.

S. P. DAVIS, Wool Grader.

<sup>&</sup>lt;sup>34</sup> In co-operation with U. S. Department of Agriculture.

#### 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.
- <sup>35</sup>J. C. GAINES, JR., M.S., Entomologist.
- S. E. JONES, M.S., Entomologist.
- F. F. BIBBY, B.S., Entomologist.
- S. W. CLARK, B.S., Entomologist.
- <sup>36</sup>R. W. MORELAND, B.S., Assistant Entomologist.
- M. J. JANES, M.S., Entomologist.
- CECIL E. HEARD, B.S., Chief Foulbrood Inspector.
- C. J. BURGIN, B.S., Foulbrood Inspector.

#### Agronomy:

- E. B. REYNOLDS, Ph.D., Chief.
- R. E. KARPER, M.S., Agronomist; Grain Sorghum Research.
- P. C. MANGELSDORF, Sc.D., Agronomist; Corn and Small Grain Investigations.
- D. T. KILLOUGH, M.S., Agronomist; Cotton Breeding.
- H. E. REA, B.S., Agronomist; Cotton Root Rot Investigations.
- <sup>36</sup>E. S. McFadden, B.S., Associate Agronomist.
- B. C. LANGLEY, M.S., Agronomist.
- E. K. CROUCH, B.S., Assistant Agronomist.
- J. O. BEASLEY, M.S., Assistant Agronomist.

#### **Publications:**

A. D. JACKSON, Chief.

#### **Veterinary Science:**

- M. FRANCIS, D.V.M., Chief; Dean School of Veterinary Medicine.
- H. SCHMIDT, D.V.M., Veterinarian; Acting Chief.
- I. B. BOUGHTON, D.V.M., Veterinarian.
- W. T. HARDY, D.V.M., Veterinarian.
- <sup>35</sup>F. P. MATTHEWS, M.S., D.V.M., Veterinarian.
- <sup>36</sup>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.
- G. M. WATKINS, Ph.D., Plant Pathologist.
- P. A. YOUNG, Ph.D., Plant Pathologist.
- G. E. ALTSTATT, M.S., Plant Pathologist.
- G. T. BOYD, B.S., Plant Pathologist

<sup>&</sup>lt;sup>35</sup> On leave, 1935-36.

<sup>&</sup>lt;sup>36</sup> In co-operation with U. S. Department of Agriculture.

### Farm and Ranch Economics:

L. P. GABBARD, M.S., Chief. W. E. PAULSON, Ph.D., Marketing Research Specialist. C. A. BONNEN, M.S., Farm Management Research Specialist. A. C. MAGEE, M.S., Farm Management. <sup>87</sup>W, R. NISBET, B.S., Ranch Management.

#### **Rural Home Research:**

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

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#### Soil Survey:

<sup>88</sup>W. T. CARTER, B.S., Chief. <sup>88</sup>E. H. TEMPLIN, B.S., Soil Surveyor. J. S. HUCKABEE, B.S., Soil Surveyor. I. C. MOWERY, B.S., Soil Surveyor.

#### Botany:

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

#### Swine Husbandry:

FRED HALE, M.S., Chief.

#### Dairy Husbandry:

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

#### **Poultry Husbandry:**

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

#### **Agricultural Engineering:**

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

#### <sup>39</sup>Wild Life Research:

<sup>88</sup>W. P. TAYLOR, Ph.D., Chief. <sup>38</sup>VALGENE LEHMAN, B.S., Field Biologist.

#### **Main Station Farm:**

G. T. McNess, Superintendent.

#### Apiculture (San Antonio):

H. B. PARKS, B.S., Chief. A. H. ALEX, B.S., Queen Breeder.

 <sup>&</sup>lt;sup>37</sup> In co-operation with Texas Extension Service.
 <sup>38</sup> In co-operation with U. S. Department of Agriculture.
 <sup>30</sup> In co-operation with Bureau Biol. Survey, U. S. D. A.; Texas Game Fish and Oyster Commission; School of Agriculture, and School of Arts and Sciences, A. and M. College of Texas.

#### Feed Control Service:

F. D. FULLER, M.S., Chief.
JAMES SULLIVAN, Assistant Chief.
S. D. PEARCE, Secretary.
J. H. ROGERS, Feed Inspector.
K. L. KIRKLAND, B.S., Feed Inspector.
H. G. WICKES, D.V.M., Feed Inspector.
SIDNEY D. REYNOLDS, JR., Feed Inspector.
P. A. MOORE, Feed Inspector.
E. J. WILSON, B.S., Feed Inspector.

J. K. FRANCKLOW, Feed Inspector.

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

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

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

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

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

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

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

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.

#### 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.

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

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

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

C. L. BAKER, M.A., 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 February 1, 1936)

#### Administration:

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

#### **Farm Demonstration Work:**

GEORGE W. BARNES. Animal Hnsbandman.

M. R. BENTLEY, Agricultural Engineer. C. E. Bowles, District Agent. R. H. BUSH, Agricultural Economist in Organization. J. W. CHAPMAN, Secretary State Conservation Board. GEO. P. MCCARTHY, Assistant Poultry Husbandman. JOHN R. EDMONDS, Special Agent. E. R. EUDALY, Dairy Husbandman. G. G. GIBSON, Assistant Dairyman. W. I. GLASS, District Agent. PARKER D. HANNA, District Agent. R. B. HICKERSON, District Field Assistant Rodent Control. E. N. HOLMGREEN, Poultry Husbandman. GEORGE W. JOHNSON, District Agent. L. L. JOHNSON, State Boys' Club Agent. R. R. LANCASTER, Pasture Specialist. S. A. McMillan, Agricultural Economist in Farm Management. E. C. MARTIN, District Agent. E. A. MILLER, Agronomist. R. S. MILLER, District Agent. W. R. NISBET, Animal Husbandman. G. W. ORMS, District Agent. M. T. PAYNE, District Agent. R. W. PERSONS, District Agent. E. M. REGENBRECHT, Swine Husbandman. R. R. REPPERT, Entomologist. J. F. ROSBOROUGH, Horticulturist. CHAS. W. SIMMONS. Forester. A. L. SMITH, Animal Husbandman.

ROY W. SNYDER, Meat Specialist.

J. L. THOMAS, Dairyman. M. K. THORNTON, JR., Leather Specialist. O. G. TUMLINSON, District Agent. B. F. VANCE, District Agent. L. C. WHITEHEAD, Leader Rodent Control, San Antonio. T. B. WOOD, District Agent. LESTER YOUNG, Assistant Swine Husbandman.

#### **Home Demonstration Work:**

MRS. DORA R. BARNES, Specialist in Clothing. MRS. MAGGIE W. BARRY, Sociologist Rural Women's Organization. LOLA BLAIR, Nutritionist. JENNIE CAMP, District Agent. BENNIE CAMPBELL, District Agent. MRS. ISLA MAE CHAPMAN, Home Industries Specialist. MRS. BERNICE CLAYTOR, Specialist in Home Improvement. LIDA COOPER, District Agent. LULA M. DILWORTH, Assistant Nutritionist. MINNIE MAE GRUBBS, District Agent. MAURINE HEARN, District Agent. KATE ADELE HILL, District Agent. ONAH JACKS, Specialist in Landscape Gardening. ZETHA MCINNIS, District Agent. RUBY MASHBURN, District Agent. MYRTLE MURRY, District Agent. GRACE I. NEELY, Assistant Nutritionist. BESSIE LEE SIKES, District Agent. MAE BELL SMITH, District Agent. HELEN H. SWIFT, District Agent.

#### **Negro Extension Work:**

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

#### THE TEXAS FOREST SERVICE

#### Administration:

E. O. SIECKE, B.A., B.S.F., Director. B. KOONTZ, B.S.F., Assistant Forester. S. L. FROST, M.F., Assistant Forester. WM. A. NORMAN, Chief Clerk.

#### **Forest Protection:**

W. E. WHITE, B.S., Lufkin, Chief.
B. L. SMITH, Lufkin, Assistant Chief.
M. E. BRASHEARS, B.S.F., Lufkin, Assistant Forester.
B. D. HAWKINS, Woodville, Inspector.
W. O. DURHAM, Lufkin, Inspector.
J. M. TURNER, Kirbyville, Inspector.
E. B. LONG, Conroe, Inspector.
J. R. THIGPEN, Huntsville, Educational Assistant.
R. E. MORRIS, B.S., Lufkin, Draftsman.
M. S. LAWRENCE, Hortense, Maintenance Engineer.

#### **Forest Management:**

I. H. JONES, B.S.F., Chief.

E. J. DOWNEY, B.S.F., Assistant Forester.

#### State Forests and Nurseries:

R. F. BALTHIS, B.S.F., M.S., Kirbyville, Regional Forester.

- V. V. BEAN, Kirbyville, Foreman.
- H. A. BUDDE, Conroe, Foreman.
- U. A. RANDOLPH, M.S., Lubbock, Assistant Forester.

#### ADMINISTRATION OF STATE LAWS

#### Fertilizer Law:

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

#### Foulbrood Law:

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

C. E. HEARD, B.S., Chief Foulbrood Inspector.

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

#### Feristry Law:

Administered by the Director of the Texas Forest Service.

#### Pure Feed 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 communications with the principal cities and towns.

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

#### HISTORICAL SKETCH

The Agricultural and Mechanical College of Texas, like the land grant institutions in other states of the Union, owes its origin to the Morrill Act which was approved by Congress, July 2, 1862. This act provided for the donation of a specified amount of public lands to the several states and territories. Proceeds from the sale of these lands were to constitute a perpetual fund, the principal of which should remain forever undiminished. The interest from this fund must be used for the support of at least one technological college whose objective must be, without excluding other scientific and classical studies and including military tactics, to teach branches of learning pertaining to agriculture and the mechanic arts in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life. The Legislature of Texas accepted the provisions of the congressional legislation in 1866, and \$174,000 was realized from the sale of lands set aside under the act. Before the College opened, this fund had grown to \$209,000 through the addition of accrued interest.

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

The College was formally opened and instruction begun on October 4, 1876. Its educational activities have been enlarged through the last half

century when the need for such expansion became evident. At the present time, undergraduate instruction is offered in practically every field of cngineering and agriculture.

The value of the physical plant has grown to approximately \$10,000,000 and a good foundation has been laid at the College for instruction, for investigation, and for extension by means of financial aid secured from both the Congress and the State Legislature. The most extensive program of expansion of College facilities in the history of the institution was completed during the year 1934. This program included, at a cost of nearly two million dollars, the erection of eight new buildings and the improvement of many existing structures on the campus.

#### GOVERNMENT AND ADMINISTRATION

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

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

#### ORGANIZATION

The work of the College is carried on in the following divisions:

(1) Resident Teaching.

The School of Agriculture. The School of Arts and Sciences. The School of Engineering. The School of Veterinary Medicine. The Graduate School. The Summer Session.

(2) Research.

The Agricultural Experiment Station. The Engineering Experiment Station.

(3) Extension.

The Extension Service.

(4) Forestry.

The Forest Service

#### DEPARTMENTS

There are thirty-nine departments of instruction, listed in Part IV under the heading "Courses of Instruction by Departments." For administrative purposes the departments of instruction are assigned to the several schools as follows:

School of Agriculture.—Accounting and Statistics, Agricultural Economics, Agricultural Education, Agricultural Engineering, Agronomy and Genetics, Animal Husbandry, Dairy Husbandry, Entomology, Horticulture, Landscape Art, Poultry Husbandry, Rural Sociology.

School of Arts and Sciences.—Biology, Chemistry and Chemical Engineering, Economics, Education, 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, Industrial Education, 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.

#### ACADEMIC REGULATIONS

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

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

#### DEGREES OFFERED

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

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

In addition, the following professional degrees in engineering are offered

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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 reexamination within the succeeding semester; if not so removed it automatically becomes an F.

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

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

#### HONORS

At the end of each semester, students who have no grade below C, who have completed during the semester at least 16 semester hours, and who have a grade point average of not less than 2.25 grade points per credit hour for the semester, shall be 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 Report: A preliminary report of the student's progress is sent out soon after December 1.

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

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

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

#### THE CUSHING MEMORIAL LIBRARY

The Library, erected in 1930 at a cost of \$250,000, contains approximately 45,000 volumes exclusive of the files of the Federal and State agricultural 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 four hundred standard magazines, reviews, and technical journals are received besides the leading newspapers of the State and of the nation. Files are kept of the most important of these periodicals.

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

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

#### GENERAL INFORMATION

#### PUBLICATIONS

### The following publications are issued by the College:

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

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

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

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

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

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

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

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

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

#### COLLEGE ASSEMBLIES

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

#### RELIGIOUS ACTIVITIES

*Religious Services*: Religious services are held each Sunday morning and evening by the student pastors assigned by their respective denominations to work with students of the College. These include Sunday School, young people's organizations and sermons and afford additional help in the way of ethical training. Every effort is made through lectures, conferences and personal example to develop and protect good morals in the young men attending the institution.

Young Men's Christian Association: The Young Men's Christian Association occupies a modern well-equipped building in which ample provision is made for the meetings and other activities of the Association, for Bible Study, for social gatherings and for entertainments. The Association carries on a varied and vigorous program of religious group meetings, discussion groups in the dormitories, and similar activities tending to build up the moral and spiritual life of the students. Particular emphasis is placed upon work with Freshmen.

Courses in Religious Education: The Synod of Texas, Presbyterian Church, U.S., and the Huntsville District, Methodist 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 bis studies; and to have due regard for the preservation of College property.

### HAZING

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

### RESERVE OFFICERS TRAINING CORPS

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

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

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

Military Organization.-The Cadet Corps includes units of Infantry, Cavalry, Field Artillery, Coast Artillery (Anti-aircraft), Engineer Corps,

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

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

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

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

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

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

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

The student in the advanced course receives the following benefits:

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

(b) Commutation of subsistence at 25 cents per day from the beginning of his junior year to the end of his senior year, except during the camp period when he is given rations in kind. This commutation will not be paid for more than two years.

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

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

#### ELIGIBILITY FOR DIFFERENT BRANCHES OF THE SERVICE

1. Signal Corps.—Only students enrolled in the four-year course in Electrical Engineering are eligible. Students taking Electrical Engineering are especially urged to enroll in the Signal Corps Unit. The instruction given in this Unit is very closely allied to the course given by the College in Communication Engineering.

2. Engineer Corps.—Only students enrolling in Architecture, Agricultural Engineering, Chemical Engineering, (except those electing Chemical Warfare Service), Civil Engineering, Electrical Engineering, (except those electing Signal Corps), Mechanical Engineering and Petroleum Production Engineering may enroll in the Engineer Corps Unit.

Civil Engineering students are urged to select the Engineer Corps, as the instruction given in that Unit is very closely allied to the instruction given in the Department of Civil Engineering. 3. Chemical Warfare Service.—Only students taking a four year course in Chemical Engineering and Science students majoring in Chemistry are eligible. Such students are urged to enroll in the Chemical Warfare Service Unit, as certain subjects peculiar to this military science course will be of material assistance to them.

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

(b) No student weighing more than 170 pounds will be eligible for enrollment in the Cavalry.

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

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

New students will be given their preference in the assignment to units in so far as the quotas 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 daily and are kept neat and clean throughout. The rooms are well lighted and comfortable.

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

#### 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 basketball 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.

A nine-hole golf course, adjacent to the College, is available to students.

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

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

### MUSICAL ORGANIZATIONS

Band.-The cadet band of approximately 150 pieces is the official band of the A. and M. College of Texas. It has its own officers and all members live in one dormitory. It furnishes the music for military reviews, parades, open air concerts, yell practice, and retreat formations. The band also leads the corps of cadets in marching to the mess hall. It plays at all intercollegiate athletic contests held at the College and accompanies the football team on trips to other schools. In the spring, concert tours are made to surrounding cities and colleges. In short, the "Aggie" Band is truly the pulse of the "Spirit of Aggieland." Candidates for the band should, upon arrival on the campus, take all belongings to Bizzell Hall, make themselves acquainted with Senior Cadet Officer and the First Sergeant of the band whereupon they will be given temporary location. As early as possible, make contact with the bandmaster, Richard J. Dunn, 1st. Lieut., U. S. Army, Ret. It is advised that those owning musical instruments bring same with them as the college is only partially equipped with instruments. No remuneration is offered for being a member of the band and no credits are given in music. Applications for student labor

should be made to Mr. S. G. Bailey, Chairman of the Student Labor Committee.

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

### THE EXCHANGE STORE

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

### BUILDINGS

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

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

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

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

The Agricultural Building, erected in 1922, provides offices, class rooms and laboratories for several departments in the School of Agriculture. The Agricultural Engineering Building, erected in 1933, contains offices, class rooms and laboratories for the study of gas engines, tractors and farm machinery.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

*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 accomodations for the needs of the college, including modern equipment and conveniences.

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

The Memorial Gymnasium, erected in 1924, is primarily designed to house basketball courts as well as offices for the athletic staff and coaches. It contains lockers, shower baths, and other facilities for all field sports, lecture rooms, retiring rooms, examination rooms and heating plant. The basketball section has a seating capacity of about 3,500.

The P. L. Downs, Jr. Natatorium, erected in 1933, contains lockers, shower baths, and other facilities for swimming. It is named in honor of P. L. Downs, Jr.

Bernard Sbisa Hall, the College dining hall, erected in 1912, is provided with modern facilities, and has a seating capacity of 2,750. It is named in honor of Bernard Sbisa, formerly Supervisor of Subsistence.

#### GENERAL INFORMATION

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

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

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

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

#### DORMITORIES

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

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

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

Ross Hall, erected in 1891, named in honor of L. S. Ross, a former President of the College. Contains 33 rooms.

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

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

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

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

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

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

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

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

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

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

## EQUIPMENT

### ACCOUNTING AND STATISTICS

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

### AGRICULTURAL ENGINEERING

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

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

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

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

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

The farm shop laboratory is equipped with all tools and equipment necessary for teaching this subject.

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

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

### AGRONOMY AND GENETICS

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

The main soils laboratory is equipped with a centrifuge, shaking machine, Briggs filter, electric air pumps, torsion balances, chemical balances, drying ovens, hot plates, compound microscopes, evaporators, soil capillary tubes, soil samplers and all the smaller equipment and chemicals for a modern soils laboratory.

The soil fertility laboratory is equipped for specialized instruction in soils for the benefit of advanced students. It also has complete equipment for determining the reaction of the soil in the field, including quinhydrone electrode, Wheatstone bridge and soil dispersing apparatus.

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

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

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

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

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

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

### ANIMAL HUSBANDRY

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

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

The department is assigned about 1200 acres of land with barns and equipment for the various classes of livestock. 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 lands suitable for fitting show animals, and 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. 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 700 hogs are used for this purpose continuously.

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

In addition to the animals and equipment in the Animal Husbandry department, students specializing in this work have available for use by arrangement the swine herd of the Texas Agricultural Experiment Station, and the wool and mohair equipment, including the scouring plant used for shrinkage determinations. Horses provided by the United States Government for the use of the Cavalry and Artillery Units are also available at times for class instruction.

### 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 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 separates, bulletins and special papers. Leading journals of botany, zoology, bacteriology and mycology are available to the student.

### CHEMISTRY AND CHEMICAL ENGINEERING

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

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

### 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 rams, current meters, and other instruments for hydraulic tests and measurements.

The laboratory for testing engineering material such as steel, wood and cement contains one universal testing machine of 100,000 pounds capacity, one 50,000 pounds and one 60,000 pounds. There is also one torsion machine having a capacity of 50,000 inch pounds. For testing cement and sand there are the usual briquette molds, tension machines, and other apparatus for making tests of fineness, soundness, and other properties of cement.

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

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

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

### DAIRY HUSBANDRY

The department controls a complete dairy farm containing 500 acres of land, the operations of which are devoted to the growing of feed crops and the preparation and maintenance of permanent pastures for the dairy herd. One hundred and fifty acres are under cultivation, the remainder being devoted to pasturage. All farm operations are carried on with modern machinery.

The herd consists of approximately 200 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 95 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 pasteurizers, 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 con-

sists of a 2300-volt, 50-horse power induction motor direct connected to a 35 kw., 125-volt, compound wound direct current generator. The larger set consists of a 2300-volt, 100-horse power synchronous motor direct connected to two 35 kw., 250-volt Dobrowolsky, three-wire direct current generators, so arranged that they may be operated independently or connected in series for obtaining 500 volts. A three panel switchboard controls the above equipment and the feeders to the 6-panel switchboard used for the distribution of power within the machinery laboratories and to the switchboard located in the other laboratories. Throughout all laboratories the distribution of power is controlled by a plug-and-socket system thus securing absolute flexibility.

The equipment of the machine laboratories is as follows: two street car with both a hand controlled and a master controller operating an electropneumatic system, twenty-eight direct-current machines ranging in size from  $1\frac{1}{2}$  horse-power to 20 kilowatts and provided with various means of speed and voltage control; twelve alternators ranging from  $2\frac{1}{2}$  K. V. A. to 30 K. V. A.; three converters including one of the split pole type; a number of induction motors including practically all standard types; a number of constant voltage transformers; a constant current transformer; induction regulators; and several types of automatic motor starters.

The high tension laboratory equipment consists of a 100 K. V. A., 200,000 volts testing transformer with regulators for varying the voltage, 125 cm. spark gap, a crest voltmeter, and other auxiliary devices for use with this transformer. A complete high voltage cathode ray oscillograph. Marx circuit surge generator capable of generating lighting surges up to 300,000 volts.

The electrical measurements laboratory has a full equipment of the apparatus needed for the study of the fundamentals of electrical measurements. The equipment includes the following: various types of Wheatstone bridges; a Kelvin double bridge; a Carry-Foster bridge; magnetometers, dynamometers; portable, semi-portable and wall galvanometers; astatic galvanometers; universal tangent galvanometer; carolimeters; sechometer; influence machine; electostatic apparatus; spark coils; apparatus for testing magnetic qualities of iron and steel; standard resistances; standard cells, physical balances; universal shunts; resistance boxes; variable inductances and capacities; portable storage batteries, and various minor equipment.

The standardizing room is equipped with a Leeds and Northrup potentiometer and its accessories; Weston standard laboratory voltmeter, and millivoltmeter with shunts; a Kelvin balance; Westinghouse precision ammeter; voltmeter and wattmeter, and standard resistances and standard cells. In this room there are also a three-vibrator oscillograph and a six element oscilligraph, both equipped with photographic attachments, 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 harmonics, 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 LummerBrodhum 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 and light meters, 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 addition 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 amplifiers, loud speakers, and various types and sizes of vacuum tubes. The College operates a 500-watt broadcasting station from which regular programs are sent out. This station is available for use of instruction also. One complete low voltage cathode ray oscillograph for use in measurements of radio and audio frequency circuits.

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

The latest books on electrical engineering and a selected list of the best technical magazines are kept in the department library and are available for necessary reading and reference work. The Electrical Engineering Department sponsors a student branch of the American Institute of Electrical Engineers and the Amateur Radio Club on the campus which operates a 40 meter and a 10 meter radiophone.

#### ENGINEERING DRAWING

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

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

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

#### ENTOMOLOGY

The class rooms and laboratories of the department of entomology are located in the Science Hall. The department is equipped with charts for demonstrating the anatomy and life histories of insects. In addition to this, the department has several hundred riker mounts showing life histories of insects. For advanced students an insect collection is available for comparison purposes. A reading table and library is maintained where students have access to a considerable number of entomological magazines.

In addition to the class rooms and laboratories in Science Hall, the department has a field laboratory, an insectary, and a bee house which are located on the south side of the campus. In this field laboratory there are facilities for studying the life histories of insects. An insecticide room, which contains a supply of different kinds of insecticides, is maintained in one of these laboratories.

The equipment for the study of apiculture consists of an apiary of 50 colonies of bees located near the Brazos River and a bee house in connection with the field laboratory. The bee house is equipped with honey extractors, wiring devices, wax presses, and other beekeeping equipment which will enable the student to acquaint himself with the fundamentals of beekeeping.

### 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 pamphletes, the Bose Library of 300 bound volumes and 700 pamphlets and approximately 1500 additional volumes in the college library.

#### HORTICULTURE

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

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

In addition to the commercial gardens, a plot of ground has been set aside on which a great variety of vegetables is grown under the direct supervision of the student.

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

A collection of more than 1200 lantern slides owned by the department is used for illustrating different subjects, including those in vegetable gardening and nut culture.

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

### AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

### LANDSCAPE ART

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

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

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

#### MECHANICAL ENGINEERING

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

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

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

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

The machine shop is equipped with seven direct motor driven engine lathes, eleven step-cone back geared engine lathes, one turret lathe, one direct motor drive and three step-cone milling machines, one three-foot radial drill (motor on arm), one speed drill, one fourteen-inch upright drill, one twentyfour-inch by six-foot planer, one sixteen-inch and one tweny-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.

The mechanical laboratory is one of the most modern and complete in the country. In both the steam and diesel power fields there are up-to-date

#### GENERAL INFORMATION

power generating equipment in the form of a turbo-generator and a diesel generating unit, both of which can be loaded on to the college power line. A compound steam driven air compressor, a triple expansion steam engine, two cut-away automobile chassis and engines, three automotive type engines, two semi-diesel engines, two electric dynamometers, one tractor type engine, a corliss, two smaller steam engines, condensers, circulating pumps, a Bacharach Flow Set and two York Refrigerating Machines. Instruments for testing are available.

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, Coast Artillery Corps and Chemical Warfare Service 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, Field Artillery Trainer and terrain board.

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

Chemical Warfare Service: Gas masks, chemical mortars, Livens projectors, chemical cylinders, field meteorological equipment.

#### PETROLEUM ENGINEERING

The Petroleum Engineering Department is housed in the new Petroleum Engineering, Geology and Engineering Experiment Station Building. Besides the usual class rooms the department has a large drafting room, in which well logs, cross sections and oil field maps are prepared by the students; a library which contains bound volumes of the oil journals and copies of all books pertaining to the subject of petroleum engineering; two development and production laboratories; an oil testing laboratory; a gas testing and measurement laboratory; motion picture camera and projector for instructional purposes and a truck for field trips to nearby oil fields

Manufacturers of oil field equipment have donated both full size and models of the equipment which they manufacture. Donations include a 122 foot steel rotary drilling derrick, pumping units, rotary drilling tools, casing appliance, cementing equipment, sub-surface pumping equipment, oil and gas separators, formation testers, tools, etc. This equipment, in connection with equipment purchased by the department, has been arranged to give practical demonstrations of pumping wells, gas lift wells, well surveying methods, counterbalancing, treatment of emulsions, etc.

In the development and production laboratories are three shallow wells. One is equipped with a regular electrically driven Lufkin pumping unit, another to produce by the air-gas lift method, and the third is used for instruction in well surveying methods. The two producing wells are connected to an oil and gas separator and to lease tanks used for gauging and storage purposes. Other equipment includes, a Martin-Decker weight indicator, a Martin-Decker pump dynamometer, Watt-hour meter, Stormer Viscosimeter, Halliburton measuring line, compressors and vacuum pumps, working model of standard cable tool rig and equipment for making screen, porosity and permeability tests on oil and gas sands.

The oil testing laboratory is equipped for all kinds of oil testing and contains, viscosimeters, distillation equipment, flash test equipment, cold test equipment, carbon residue equipment, equipment for determining the water content of petroleum and a bomb calorimeter for determining sulphur and heat content of petroleum products. All testing is conducted by the standards set up by the U. S. Bureau of Standards, the American Petroleum Institute and the American Society for Testing Materials.

The gas testing and measurement laboratory is equipped with gas calorimeters for measuring the heat content of gas, gas analysis equipment, gaso-

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line content testing equipment, vapor pressure equipment, different types of flow controllers, orifice meters, displacement meters, and equipment for making open flow tests on gas wells.

#### 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 40 x 20 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 room 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 White Plymouth Rock; two breeds of ducks; two of geese; approximately 100 turkeys; a small flock of pigeons; a small rabbitry; five varieties of pheasants; and two varieties of quail. The department also owns and operates two mammoth incubators and four makes of battery brooders. Every phase of poultry raising is actually carried out by the students. RURAL SOCIOLOGY

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

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

### TEXTILE ENGINEERING

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

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

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

### VETERINARY ANATOMY

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

### VETERINARY MEDICINE AND SURGERY

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

Facilities for laboratory diagnosis of clinic cases assigned to students are provided on the second floor. These include necropsy room for small animals, wash and sterilizer room, incubator and refrigerator rooms, and laboratory

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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, unreometers, indicanometers, hydrometers, electric centrifuge, electric water bath (for digestion experiments), respiratory and circulatory schemes, microscopes, spectroscope, drug mill, suppository machine and mold, tablet machine, triturate tablet molds and all other necessary equipment.

# Part III

# ADMISSION—EXPENSES

### ADMISSION

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

#### GENERAL REQUIREMENTS

The candidate for admission to the College must be of good moral character and at least sixteen years of age. He must be free from contagious or infectious diseases and must present a satisfactory certificate of recent vaccination against smallpox and typhoid-paratyphoid fever.

### SCHOLARSHIP REQUIREMENTS

1. Admission by Certificate.—Graduation from an accredited secondary school, with a minimum of fifteen approved units, is required for admission by certificate. From seven to eight and one-half 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

S	$\mathbf{CH}$	0	$\mathbf{OL}$	0	$\mathbf{F}$

### Number of Units Required in-

Agriculture: All curricula except	English	Algebra (See Not Below)	Plane Geom. e 1	Social Science	Natural Science	Elective Subjects	Total
Agricultural Engi- neering Agricultural Engi-	3	1	1	1,	1	8	15
neering Arts and Sciences:	3 3	$1\frac{1}{2}$ 1	1 1	1 2	1 1	71 <u>/2</u> 7	$15 \\ 15$
Engineering: All curricula except Cotton Marketing and Industrial Edu	I-						
cation Cotton Marketing and	3	11/2	1	2	1	6½	15
Industrial Educatio Veterinary Medicine:		1	1	2	1	7	15
(Pre-Veterinary)	3	1	1	1	1	8	15

#### ADMISSION

List B—Elective	Units
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F	Nisternal Calmana
English (4th unit) 1 unit	Natural Sciences:
Mathematics:	Biology l unit
Advanced Algebra	Botany1 unit
Solid Geometry1/2 unit	Chemistry l unit
Trigonometry1/2 unit	General Science1 unit
Advanced Arithmetic1/2 unit	Physics 1 unit
Social Sciences:	Physiography ½ unit
Ancient History l unit	Physiology1/2 or 1 unit
Modern History 1 unit	Zoology 1 unit
English History	Vocational Subjects:
Amer. History	Agriculture1 to 4 units
World History 1 unit	Bookkeeping1 unit
Civics1/2 or 1 unit	Drawing1 to 4 units
Economics1/2 unit	Com. Arithmetic
Foreign Languages:	Commercial Law1/2 unit
Latin2 to 4 units	Com. Geography1/2 unit
French2 to 4 units	Shop Work1 to 4 units
German2 to 4 units	Stenography and
Spanish2 to 4 units	Typwriting1 unit
	Public Speaking1/2 or 1 unit

NOTES.—1. At least  $1\frac{1}{2}$  units of Algebra are required as preparation for the first semester of Mathematics regularly scheduled in the freshman year of Engineering. Students will be admitted to these curricula with 1 unit of Algebra, but they must take Mathematics 101 in the first semester instead of Mathematics 102. The degree requirement for such students will be increased by 3 credit hours and they should plan to attend summer school to complete their freshman Mathematics and to be prepared for the work of the sophomore year.

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

3. 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, and the School of Veterinary Medicine 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 18, 1936 under the supervision of the College authorities, and will cover all the subjects required or accepted for admission as outlined above. Candidates desiring to take examinations at the College should notify the Registrar not later than September 10. 3. Admission by Individual Approval.—An applicant over twenty-one years of age, who has not recently attended school and who cannot satisfy the entrance requirements in full, may be admitted without examination, subject to the following requirements:

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

(b) He must furnish evidence that his preparation is substantially equivalent to that required of other applicants, and that he possesses the ability and seriousness of purpose necessary to pursue his studies with profit to himelf 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

#### ADMISSION

pursue; and (3) the purpose or end expected to be accomplished by his study.

(c) In order to be admitted to the work of any department a special student must secure the consent of the head of the department; and his course of study as a whole, must be approved by the Dean concerned.

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

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

### ADMISSION AT THE BEGINNING OF THE SECOND SEMESTER

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

#### REGISTRATION

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

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

Monday, September 21, 1936, will be devoted to the registration of new students; old students will register on Tuesday, September 22. Formal classwork begins Wednesday, September 23.

### EXPENSES

The necessary expenditures for the regular session of nine months range from \$360 to \$375 for new students and from \$335 to \$350 for old students,					
distributed as follows:					
First Semester					
Paayable on entrance:		Dormi-			
Fees payable to the Fiscal Department:	Day Student	tory Student			
Matriculation Fee (See note 1, below.) (required)	\$ 25.00	\$ 25.00			
Medical Service Fee (required)	5.50	5.00			
<sup>1</sup> Room Rent		15.00			
<sup>1</sup> Maintenance (board and laundry) to Nov. 1		36.00			
Room Key Deposit, returnable		1.00			
Student Activities Fee(voluntary)	11.00	11.00			
Post Office Box Rent(voluntary)		.50			
Y. M. C. A. Privilege Card(voluntary)	2.50	2.50			
Total payable on entrance to the Fiscal Dept.	\$ 44.00	\$ 96.00			
Other Expenses (for items that may be pur-	φ 11.00	φ 20.00			
chased from the College Exchange Store):					
Text Books and Supplies, about	20.00	20.00			
		\$116.00			
Total payable on entrance for old students, about	<b>а 04.00</b>	φ110.00			
Extra Expenses for new students:	22.75	22.75			
Uniform (See note 2, below.), about	22.75	22.15			
Freshman Physical Education Uniform	150	1 50			
(See note 5, below.), about	1.50	1.50			
Total payable on entrance for new students, about	\$ 88.25	\$140.25			
(Add Drawing Instruments for Freshmen in					
Engineering, about \$15.00.)					
Payable after entrance:					
November 2, <sup>1</sup> Maintenance to December 1		26.00			
December 1, <sup>1</sup> Maintenance to Christmas Holidays		16.50			
January 4, <sup>1</sup> Maintenance to end of First Semester		29.50			
Total Expenses for First Semester:					
For new students, about		\$212.25			
For old students, about	\$ 64.00	\$190.00			
Second Semester					
Payable on entrance:					
Fees payable to the Fiscal Department:					
Matriculation Fee (See note 1, below.) (required)	-	\$ 25.00			
Medical Service Fee(required)	5.50	5.00			
<sup>1</sup> Room Rent		15.00			
<sup>1</sup> Maintenance (board and laundry) to March 1		20.00			
Post Office Box Rent(voluntary)		.50			
Y. M. C. A. Privilege Card(voluntary)	2.50	2.50			
Total payable to the Fiscal Department	\$ 33.00	\$ 68.00			

<sup>1</sup> The Maintenance and Room Rent are based on present conditions and may be changed if economic conditions make it necessary.

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#### EXPENSES

Other Expenses (for items that may be pur- chased from the College Exchange Store): Text Books and Supples, about	<b>\$</b> 10.00	<b>\$</b> 10.00
Total payable on entrance for old students and for		
New students who were enrolled for the first		
semester	<b>\$</b> 43.00	\$ 78.09
For Extra Expenses for new students who enter for the Second Semester, only, add:       \$ 1.00         Room Key Deposit, returnable		
Subtotal		
Total\$57.75		
Payable after entrance:		
March 1, <sup>2</sup> Maintenance to April 1		\$ 27.00
April 1, <sup>2</sup> Maintenance to May 1		26.00
May 1, <sup>2</sup> Maintenance to end of Second Semester		31.00
Total Expenses for Second Semester for all students		
who were enrolled for the First Semester, about	\$ 43.00	\$162.00
Total Expenses for the entire Long Session:		
For new students, about	\$131.25	\$374.25
	·	
For old students, about	\$107.00	\$350.00

The expenses for day students do not include room rent, board, or laundry.

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

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

NOTES.—1. For matriculation fee of non-resident students see page 64. Old students who in either semester do not register on the days set apart for that purpose pay an additional matriculation fee of \$2.00.

<sup>&</sup>lt;sup>2</sup> The Maintenance and Room Rent are based on present conditions and may be changed if economic conditions make it necessary.

Members of the basic R. O. T. C., (first and second year, see page 36) will be furnished the following equipment: one uniform coat, one pair of uniform trousers, two woolen O. D. shirts, and one black tie. It will be necessary for basic students to purchase the following articles with approximate cost at the College Exchange Store sa listed : one extra pair trousers (Government issue), \$4.75; uniform cap, \$3.75; hat, \$4.25 to \$7.25; Sam Browne belt, \$3.00: web belt, \$0.50; collar ornaments, \$1.00 to \$1.50; hat cord, \$0.25; two cotton O. D. shirts (optional) \$3.00 to \$4.00; about five cloth (branch) designations, \$0.75; and to pay a handling charge covering cost of issuing, receiving, and record keeping of the Government uniform during the school year. The esti-mated total cost is \$22.75. This amount should equip a student with sufficient uniform to last him through the first two years provided he takes proper care. This estimate does not in-clude russet shoes (oxfords) and white shirts as most students will have these items that can be worn with the uniform. Since only approved articles of uniform may be worn, new students should purchase uniforms after arrival at the college.

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

Students entering for the second semester only will pay the charges indicated for 4.

5. Students entering for the second senester only will be the charges inducted for the first semester, except that the Student Activities Fee will be \$7.50.
5. All students taking required Freshman physical education will be required to have a sleeveless gym. shirt, \$0.60 and gym. pants, \$0.90. Athletic shoes (about \$1.50) and a sweat shirt (about \$1.00) are needed, but most students will have this equipment.

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

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

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

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

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

Accredited School Scholarship.—A scholarship is offered annually to the valedictorian or honor graduate, if a boy, who is a graduate of an accredited secondary school of Texas that holds at least fifteen units accredited by the State Department of Education. The successful applicant must make the highest record among all the students, boys and girls, graduating that calendar year, including winter, spring, and summer graduating classes and must be certified through the State Department of Education. The scholarship is EXPENSES

valid during the first long session after the holder's graduation from high school, and no other, and in no Summer Session. The financial benefit is the exemption from the matriculation fee of \$50.00 for that session.

#### PAYMENTS

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

*Refunds.*—Any student withdrawing officially (a) during the first week of class work in a long session will receive a refund of four-fifths of the Matriculation Fee; (b) during the second week of class work three-fifths; (c) during the third week of class work two fifths; (d) during the fourth week of class work one-fifth, (e) after the fourth week of class work nothing; (f) during the first week of class work in a summer term one-half; (g) after the first week of class work in a summer term nothing.

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

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

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

Duplicate Receipts.—Duplicate receipts, covering fees paid by students, will be issued on payment of twenty-five 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 It is paid at registration, but is not compulsory. A student entering after the 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. The medical fee of day students includes the meals while they are confined to 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.

Christmas holidays will pay only \$7.50. On payment of this fee a student is entitled to admission to all intercollegiate and inter-scholastic contests held at College Station, to receive a copy of the Longhorn, the College Annual, and one subscription to the Battalion, the student college publication, throughout the scholastic year.

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

### HOUSING

The College has dormitory facilities on the Campus adequate to accommodate the major part of the students, and believes that it is to the best interest of those students who do not live at home to reside in the dormitories and eat in the College Mess Hall. The Mess Hall furnishes the students at cost, adequate well-balanced meals prepared under the direction of an experienced supervisor. The dormitory rooms are designed especially to meet the student's needs for living and study. Cost of room rent and maintenance are kept as low as is consistent with the quality of food and service furnished. Students residing in the dormitories are required to take their meals in the Mess Hall.

Room Reservations.—While the dormitory facilities will not house all students, during the past session all those desiring rooms in the dormitories were accommodated. Dormitory space is allotted to the several classes on an equitable basis. Regularly classified upper classmen are given preference in assignment to the space allotted to their classes. New students may reserve space in the dormitory as soon as they have been accepted for enrollment. New students transferring from other colleges with one year or more of college credit may, if they wish, reserve room space in a dormitory set aside for transfer students. Reservations will be filed in the order in which they are received, and will be held only until regular registration day. Reservations made by students who do not complete their registration on registration day will be cancelled and the room assigned to another applicant.

Students who obtain employment which prevents their living on the campus, or those who prefer not to live in the dormitories are permitted to live off the campus in approved rooming and boarding houses, or in the cooperative project groups.

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

- (a) Each project must be approved in advance, both as to its plan of operation and the building to be occupied.
- (b) All members of the group must be bona fide residents of a territory usually not larger than one county.
- (c) Since experience has indicated that the overhead cost for a small group is excessive, no group of less than ten students will be approved.

#### EXPENSES

- (d) The house must be in charge of a matron, who must be a resident of the home community of the students, and who will be responsible for the maintenance of a proper moral atmosphere, will enforce the College rules and regulations applying to day students, will see that suitable conditions for study prevail, and will enforce quiet hours after 7:30 p. m. every night except Saturday nights. The matron will also see that the rooms and premmises surrounding the house are kept in a neat and sanitary condidition.
- (e) No non-students other than members of the matron's immediate family are to be permitted to reside or to board at a cooperative house.
- (f) The group must show evidence that it has the backing of the local community, at least to the extent of aid in canning and preserving food and getting this food transported to College Station.
- (g) The house must be open to inspection by authorized officials of the College at any reasonable time.

#### STUDENT EMPLOYMENT

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, a 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 amount of time he can spare from his studies.

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

#### LOAN FUNDS

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

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

# Part IV

# **COURSES OF STUDY**

There are fifteen courses of study extending through four years; of these the course in Liberal Arts leads to the degree of Bachelor of Arts; the others lead to the degree of Bachelor of Science. The course in Architecture covers a period of five years and leads to the degree of Bachelor of Architecture. The five-year course in Petroleum Engineering leads to the degree of Bachelor of Petroleum Engineering. The course in Veterinary Medicine, including the pre-veterinary year, covers a period of five years and leads to the degree of Doctor of Veterinary Medicine. Graduate courses and a short course are also offered as shown below.

#### FOUR-YEAR COURSES

Agriculture Agricultural Administration Agricultural Education Agricultural Engineering <sup>1</sup>Liberal Arts <sup>1</sup>Science Architectural Engineering Chemical Engineering Civil Engineering Electrical Engineering Industrial Education Mechanical Engineering Petroleum Engineering Textile Engineering

### FIVE-YEAR COURSES

Architecture Petroleum Engineering Veterinary Medicine (Including Pre-Veterinary year)

### GRADUATE COURSES

Courses of study are offered leading to the degree of Master of Science with majors in most of the departments of the Schools of Agriculture, Engineering, and Arts and Sciences.

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

### TWO-YEAR COURSE

Cotton Marketing and Classing.

<sup>&</sup>lt;sup>1</sup> Including preparation for teaching other than agricultural education and industrial education.

# THE SCHOOL OF AGRICULTURE

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

Agricultural Education 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, dairy 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 four year course in Agricultural Administration is designed to give students a broad training in business, a thorough understanding of economic problems, and a scientific attitude toward the technical aspects of agriculture. The curriculum is based upon the important concept that industry, commerce and agriculture—particularly in a predominantly agricultural state like Texas -are interdependent; and upon the belief that the business leader in one field needs a grasp of the problems in the related field.

There is a strong and growing demand for the services of graduates who have the combined type of training afforded by this course. Students are prepared especially for positions of leadership in various types of commercial concerns that operate in agricultural regions; with private or cooperative businesses that deal in farm products and supplies; and as teachers, writers, advisors, research workers or executives with state, federal, and other institutions requiring combined training in business and agriculture.

At the beginning of his course, the student is given foundation courses in English, mathematics, science, economics, government, economic geography. economic history (stressing the agricultural aspects), and survey courses in farm crops and livestock. During the latter part of his training the student takes courses looking toward definite fields such as accounting, statistics, marketing, finance, agricultural economics and farm management.

At the beginning of the sophomore year the student elects one of two groups, (1) accounting and statistics, (2) marketing and finance (including agricultural economics and farm management). The required courses in these groups will be found on pages 88 to 90. In both groups ample freedom is given the student to choose from other departments, electives that will contribute to the type of professional training he wishes to receive.

#### 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.

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) The curriculum for majors in Agricultural Education; and (2) at least one year's residence.

### AGRICULTURAL ENGINEERING

The course in agricultural engineering is planned to give the student an engineering training with an agricultural viewpoint. A thorough grounding in fundamental engineering principles is given, as much time is devoted to purely agricultural subjects as is possible, and the applications of engineering to agriculture receive their share of attention.

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

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

# THE SCHOOL OF ARTS AND SCIENCES

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

#### COURSES OF STUDY

#### <sup>2</sup>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 Modern Languages (French, German, Spanish)

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

#### <sup>2</sup>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.

#### EDUCATION AND PHYSICAL EDUCATION

The credit courses in Education and Physical Education provide the necessary professional training for those who plan to teach in secondary schools. All of these, except those entering on Vocational Agriculture and Industrial Education, should carefully follow one or another of the following programs.

1. Students following any catalogued program of studies leading to a bachelor's degree may secure a general teachers certificate valid for four years by electing the following courses: Education 121, Psychology 301, Education 321, Education 322. Since employment as a teacher will often be contingent on credit for courses in Physical Education, such students should if possible elect Physical Education 207 and 305 or 306.

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<sup>&</sup>lt;sup>2</sup>For a more detailed description of the above course see the "Handbook of the School of Arts and Sciences," a copy of which may be secured by writing to the Registrar of the College.

#### AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

2. Students who major in Education or Physical Education may follow programs leading either to the B.A. or the B.S. degree, the degree awarded depending on the field in which they prepare to teach and on the inclusion or omission of a foreign language in their undegraduate work. Preparation for teaching in some one of the usual high school fields (commercial work, English, history and social studies, mathematics, modern languages, natural sciences) is an essential part of the program for students who major in education or physical education, each of whom will be required to complete as nearly as possible some one of the groups of courses designated for that purpose in the Handbook of the School of Arts and Sciences.

A teachers appointment service, under the direction of the School of Arts and Sciences 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 Professor W. L. Hughes, Head of the Department of Education.

### THE SCHOOL OF ENGINEERING

The following courses are offered in the School of Engineering:

#### FOUR-YEAR COURSES

Architectural Engineering Chemical Engineering Civil Engineering Electrical Engineering Industrial Education Geological Engineering Mechanical Engineering Petroleum Engineering Textile Engineering

#### FIVE-YEAR COURSES

Architecture

Petroleum Engineering

#### TWO-YEAR COURSE

Cotton Marketing and Classing.

#### ARCHITECTURE AND ARCHITECTURAL ENGINEERING

These courses in architecture are planned to give thorough instruction in the subjects which are generally recognized as necessary in preparation for architectural design and building construction. They are arranged to make the practice classes reflect the instruction given in the theoretical subjects and to associate the two in practical application and problems, which are intended to prepare the student for immediate usefulness and earning ability after graduation. While particular emphasis is given throughout the course to the unison of design and construction which exists in all practical architectural work, the courses are arranged: Architectural Design, which develops special ability in composition, planning, and rendering in the later years of the course; Architectural Engineering which devotes particular attention to the structural ele-

#### COURSES OF STUDY

ments of architectural practice during the later years. The same work is done by the freshman class in the two courses, and as the courses develop, the emphasis upon the special work of each one is increased, until in the last year, it becomes distinct and separate. Both courses give a sufficiently broad training in architecture to make the student effective in general architectural work after graduation.

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

#### CHEMICAL ENGINEERING

The course in chemical engineering is planned to prepare students for the . design, construction, and operation of industries in which materials undergo chemical and physical change.

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

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

As chemical engineering treats of the processes whereby materials undergo a chemical and physical change, it is apparent that a large number of diversified industries have use for the chemical enginer, 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, sewage and sewage disposal; railway location, construction and maintenance; the design and construction of dams, reservoirs, canals, foundations, buildings, bridges, and other structures; design construction and maintenance of roads and pavements; planning and execution of sanitary measures for rural and urban communities; administration of city business as city manager; research work in colleges or government bureaus; technical service of various kinds in the industries, leading to executive positions.

#### 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 measurement. It provides training in subjects fundamental to the general practice of the engineering profession, in the theory of electricity, and in the application of the theory to practical problems in many branches of engineering.

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

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

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

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

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

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

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

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

The petroleum industry is requiring increasing numbers of Electrical Engineer graduates. These men are employed in the geophysical department of the major oil companies and are employed in the design, construction, and operation of field radio sets and electrically operated exploration equipment, used in the prospecting for oil and other underground mineral deposits.

Graduates in Electrical Engineering who are members of the Signal Corps unit of the Reserve Officers Training Corps receive thorough instruction in telephone, telegraph, and radio engineering and, upon completion of their courses, may be commissioned as reserve officers in the Signal Corps. All students having a primary interest in communication engineering should arrange to register in the signal corps in their freshman year, since the electrical communication courses are very closely coordinated with the signal corps work.

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

#### GEOLOGICAL ENGINEERING

This course aims to equip the student with some of the fundamentals of civil, electrical, and mechanical engineering and with the elements of geology. It is anticipated that generally the student will find it necessary to devote an additional fifth year to major work in geology and minor work in engineering. The engineering course should train the student in precision and the training in geology is aimed to make him adaptable for professional work in either oil or gas development, mining, quarrying, and stone fabrication, clay-working, or the extraction of natural products used in the chemical industries. The course of study will not produce a specialist in any one of these, but it is hoped that it will develop a foundation upon which one can build as his needs, capabilities, and inclinations require. The demands in the engineering and geologic professions are changing and the changes are apt to be greater and more rapid in future years. There are several very desirable subjects in addition to the requirements which should be taken as electives, with the advice and permission of the head of the department of Geology.

### INDUSTRIAL EDUCATION

#### (Group 1)

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

### (Group 2)

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

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

#### COURSES OF STUDY

#### MECHANICAL ENGINEERING

There are few industries which do not need the services of a mechanical .ngineer 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 and air conditioning 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 student 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, aeronautics, automotive, and air conditioning.

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

#### PETROLEUM ENGINEERING

The Course in Petroleum Engineering is intended to prepare students for the petroleum industry and particularly those branches which have to do with drilling, production, and transportation of petroleum as well as the natural gas industry.

Two courses are available to the student in this department; a regular four year course in Petroleum Engineering, which leads to a degree of Bachelor of Science, and a five year course in Petroleum Engineering which leads to a degree of Bachelor of Petroleum Engineering.

The four year course in Petroleum Engineering includes sufficient training in civil, mechanical, and electrical engineering to prepare the graduate for the application of engineering principles to 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 the thorough grounding in the fundamentals, however, rather than on the application to particular problems.

The five-year course is identical with the four-year course for the first two years and allows the student two years to decide whether he wants to take four or five years of work. All courses given in the four year course are included in the five year course and in addition there is included in the five year course more of the fundamental sciences and other essential courses which lack of time does not permit being included in the four year course.

#### TEXTILE ENGINEERING

The object of this course is to prepare young men for the field of cotton manufacturing. The unprecedented development of the cotton milling industry in the South has created a demand for educated young men in the industry. Texas offers excellent advantages for the manufacture of cotton goods in its vast supply of raw material, intelligent labor, and excellent climatic conditions, and it is believed that cotton manufacturing will develop as rapidly as skilled and capable managers familiar with local conditions are to be had.

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

#### TWO-YEAR COURSE IN COTTON MARKETING AND CLASSING

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

Completion of this course will be accepted for full junior standing in Group 2, Agricultural Administration.

### 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 first and second years are in a large measure devoted to the physical and biological studies that contribute so much to an understanding of problems of health and disease. The third and fourth years are devoted to studies of a technical nature.

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

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

### 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 Committee consisting of twelve members, which reports its recommendations to the general faculty. In cases in which prompt action is desirable, the committee is authorized to act, reporting its action to the faculty for ratification.

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 Graduate Committee, if any matter is involved concerning which a policy has not been definitely established.

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

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

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

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

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

*Residence.*—The Master's degree will not be conferred except after a residence of at least one year at the College, except that this requirement may be satisfied by residence during four summer terms of six weeks each. The candidate who spends no more than four summer terms in residence may fulfill the requirements for the Master's degree, only provided that, in the *ad interim* period between summer sessions, he does the greater part of the work on his thesis.

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

#### NORTH TEXAS CHAPTER A. I. A. HONORS

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

#### THE WITCHELL MEDAL IN 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 course in design and upon competitions approved by Mr. Witchell.

### **CURRICULA**

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

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

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

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

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

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## THE SCHOOL OF AGRICULTURE COURSE IN AGRICULTURE

### FRESHMAN YEAR

FRESHMAN YEAR		
(For Groups 4, Agronomy; 9, Horticulture; and 10, Landscape Art)		
	Credit	
Agricultural Economics 101		
Agricultural Resources Crop Production	-4) =	
Animal Husbandry 107	4) 3	,
General Animal Husbandry Plant Physiology	-, -	
Biology 101	3) 4	
General Botany Inorganic Chemistry		, Q '
Chemistry 101	0) 3	1.4
Inorganic Chemistry English 103(3-0) 3 Rhetoric and Composition (3-0) 3 Mathematics 109	0) 9	10
English 103	U) a	1.0
Military Science	m 10	17
- should substitute Mathematics 10		
19 Mathematics 109.)		25
Military Science	2) 1	20
		19
	18	1 0
FRESHMAN YEAR		10
(For Groups 5, Animal Husbandry; 7, Dairy Husbandry; 8, Entomology; 11, Pe Husbandry; and 12, Rural Sociology)	oultry	. 0
Animal Husbandry 107	0) 4	
Biology 207	2) 4	
Zoology Crop production	-, -	
Chemistry 101	4) 4	
Inorganic Chemistry General Botany		
English 103	3) 4	
Rhetoric and Composition Inorganic Chemistry	a) a	
Mathematics 109	0) 3	
Agricultural Mathematics Rhetoric and Composition Military Science	2) 1	
	·/ ·	19
17	20	
Suggested electives for all Groups in the sophomore year:		12
Accounting and Statistics 201(3-3) 4 Accounting and Statistics 202(3-	3) 4	Ũ
Principles of Accounting Principles of Accounting Principles of Accounting	u) #	18
Agricultural Engineering 203(2-2) 3 Animal Husbandry 202	2) 3	6
Gas Engines Breed Types		18
Animal Husbandry 203	0) 3	
Market Classes and Grades Business Law		36
Poultry Husbandry 201	2) 3	
Poultry Production Vegetable Gardening Rural Sociology 201	0) 9	36
Rural Sociology 201	0/ 3	
	e	ITC.
NOTES-1. Electives must be chosen under the advice and direction of the here the department in which the student is majoring.	IU OI	14.
2. Students in all Groups except Groups 8 and 10 shall take at least	two	. 1
courses in Agricultural Economics or Accounting and Statistics in addition to Ag		
tural Economics 101 required above.		

# GROUP 4. AGRONOMY

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SOP	HOMOR.	E YEAR	
Agricultural Engineering 201(2-2)	3	Biology 206	3
Farm Machinery		Bacteriology	
Dairy Husbandry 202(2-2)	3	Chemistry 212	3
Dairying		Agricultural Chemistry	
English 203(2-0)	2	Chemistry 214(1-3)	2
Composition and Literature		Agricultural Analysis	
Entomology 201	3	Economics 403	3
General Entomology		Principles of Economics	
Horticulture 201	3	English 210	2
Plant Propagation		Writing and Discussion	
Military Science(1-2)	1	Military Science(1-2)	1
Elective	3	Elective	4
	18		18

First Semester Cred Agricultural Engineering 305(2-3) Terracing and Drainage		Second Semester Cre English 307(2-0) Technical Writing	
Agronomy 301(3-2) Soils	4	Genetics 304(3-2) Plant Breeding	
Genetics 301(3-2) Genetics	4	History 305	3
<sup>1</sup> Elective	7	<sup>1</sup> Elective	9
	18		18

#### JUNIOR YEAR

#### SENIOR YEAR

Animal Husbandry 409(3-3) Animal Nutrition and Feeding	4	English 401(2-0) Public Speaking	2
<sup>1</sup> Elective	14	<sup>1</sup> Elective	16
	18		18

<sup>1</sup> A minimum of 16 credit hours must be taken as part of the elective work in the junior and senior years from the following:

Agronomy 314(3-2) Field Crops	4	Agronomy 308(2-2) Forage Crops	3
Agronomy 315(2-2) Cotton Production	3	Agronomy 413	3
Agronomy 415(1-0) Soil and Crop Seminar		Agronomy 416(1-0) Soil and Crop Seminar	1
Agronomy 417(2-0) Range and Pasture Improvement		Agronomy 418	3
		Agronomy 420(1-0)	1

# Cotton Research Problems

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### GROUP 5. ANIMAL HUSBANDRY SOPHOMORE YEAR

Biology 206(2-4) Bacteriology	3
Dairy Husbandry 202(2-2)	3
Dairying English 203(2-0) Composition and Literature	2
Entomology 201(2-2)	3
General Entomology Horticulture 201(2-2) Plant Propagation	3
Military Science	1 3

Agricultural Engineering 201(2-2)	3
Farm Machinery	
Chemistry 212(3-0)	3
Agricultural Chemistry	
Chemistry 214(1-3)	2
Agricultural Analysis	
Economics 403	3
Principles of Economics	
English 210	2
Writing and Discussion	
Military Science(1-2) Elective	1
Elective	4
	_
	18

#### JUNIOR YEAR

18

Agronomy 301(3-2) Soils	4	English 307(2-0) Technical Writing	2
Animal Husbandry 303	4	History 305	3
Genetics 301(3-2) Genetics	1	<sup>2</sup> Elective	13
<sup>2</sup> Elective	6		18
	-		
	18		

#### SENIOR YEAR

<sup>2</sup> Elective	8.	Agricultural Terracing	424(1-3)	2	
		English 4		0)	2
		<sup>2</sup> Elective.	 		14
					_
					18

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#### First Semester Credit

Second Semester Credit

<sup>2</sup> A minimum of 16 credit hours must be taken as part of the elective work in the junior and senior years from the following:

Animal Husbandry 307(1-3) Farm Meats	2	Animal Husbandry 403(0-6) Advanced Judging	2
Animal Husbandry 308(1-3)	2	Animal Husbandry 406(2-3)	3
Live Stock Judging		Beef Cattle Production	
Animal Husbandry 413(2-3)	3	Animal Husbandry 410(2-3)	
Horse and Mule Production		Sheep and Angora Goat Production	
Animal Husbandry 421(2-0)	2	Animal Husbandry 412	3
Advanced Studies of Breeds of		Swine Production	
Live Stock		Animal Husbandry 418(2-3)	3
Animal Husbandry 423(2-0)	2	Wool and Mohair	
Seminar		Animal Husbandry 424(3-0)	3
		Range Live Stock Production	

### GROUP 7. DAIRY HUSBANDRY

#### SOPHOMORE YEAR

<sup>28</sup> Agricultural Engineering 201(2-2)	3
Farm Machinery	
Dairy Husbandry 202(2-2)	3
Dairying	
English 203	2
Composition and Literature	
Entomology 201(2-2)	3
General Entomology	
Horticulture 201	3
Plant Propagation	
Military Science(1-2) Elective	1
Elective	3
	10
-	19

<sup>3</sup>Agronomy 301.....(3-2) 4 Soils <sup>3</sup>Genetics 301.....(3-2) 4

\*Elective.....

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Genetics

Biology 206	3
Bacteriology Chemistry 212	3
Agricultural Chemistry	
Chemistry 214(1-3) Agricultural Analysis	2
Economics 403(3-0)	3
Principles of Economics English 210(2-0)	2
Writing and Discussion Military Science(1-2)	1
Elective	4
	18

#### JUNIOR YEAR

English 307(2-0)	2
Technical Writing History 305(3-0)	
American Government	0
<sup>4</sup> Elective	13
	18

#### SENIOR YEAR

 $\frac{10}{18}$ 

Animal Husbandry 303	4	<sup>8</sup> Agricultural Engineering 424(1-3) Terracing	2
*Elective	$\frac{14}{18}$	English 401(2-0) Public Speaking *Elective	2 14
			18

<sup>28</sup> Students majoring in dairy manufacturing will substitute Mechanical Engineering 213 (Dairy Mechanics) for Agricultural Engineering 201.

<sup>8</sup> Elective for dairy manufacturing students. For option consult head of department.

First Semester Cred	i+	Second Semester Cred	i+
junior and senior years from the fol		en as part of the elective work in th	ie
Dairy Husbandry 301(3-2)	4 D	airy Husbandry 306(3-2) 4	
Market Milk		Butter Making and Factory	
Dairy Husbandry 303(0-4) Dairy Cattle Judging Dairy Husbandry 320(3-4)	1	Management	
Dairy Cattle Judging	1	Dairy Husbandry 310(0-2) Advanced Dairy Cattle Judging Dairy Husbandry 311(2-3)	1
Dairy Husbandry 320(3-4)	4	Advanced Dairy Cattle Judging	
Bateriology of Dairy Products Dairy Husbandry 407(3-2)		Dairy Husbandry 311(2-3)	3
Ice Cream Making and Refrigerati	4	Technical Control of Dairy Products	
Dairy Husbandry 417	4	Dairy Husbandry 322(2-3)	3
History and Development of	-	Advanced Dairy Bacteriology	•
Dojwy Cottle		Dairy Husbandry 408(2-3)	3
Dairy Husbandry 421(1-0)	1	Cheese Making and Adv.	
Dairy Husbandry Seminar		Testing	
		Dairy Husbandry 409	3
		Selection and Breeding of Dairy Cattle	
		Dairy Husbandry 415(3-0)	3
		Condensed Milk and Milk	•
		Powder	
		Dairy Husbandry 418(3-2)	4
		Feeding and Management of	
		Dairy Cattle	
		Dairy Husbandry 422(1-0) Dairy Husbandry Seminar	1
CDOUD			
GROUP 8		OMOLOGY	
	HOMORE		
Biology 206	3	Agricultural Engineering 201(2-2)	3
Bacteriology	3	Farm Machinery	3
Dairy Husbandry 202(2-2) Dairying		Chemistry 212(3-0) Agricultural Chemistry	э
English 203	2	Chemistry 214(1-3)	2
Composition and Literature	-	Agricultural Analysis	
Entomology 201(2-2) General Entomology	3	Economics 403	3
General Entomology	_	Principles of Economics	
Horticulture 201(2-2) Plant Propagation	3	English 210(2-0)	2
Military Science(1-2)	1	Writing and Discussion Military Science(1-2)	1
Elective	3	Elective	4
	_		
	18		18
Agronomy 301(3-2)	UNIOR Y	English 307	2
Soils	-	Technical Writing	-
Horticulture 317	3	Horticulture 318(2-3)	3
Fruit Production	-	Fruit Production	
<sup>5</sup> Elective	11	<sup>5</sup> Elective	13
61	18 ENIOR Y		18
History 305	3	English 401	2
American Government	0	Public Speaking	-
<sup>5</sup> Elective	15		16
	18		18
junior and senior years from the fo	t be tak	en as part of the elective work in t	he
Entomology 301	3	Entomology 208	3
Systematic Entomology		Animal Parasites	
Entomology 305(2-3)	3	Entomology 302(2-4)	3
Morphology		Systematic Entomology	
Entomology 307(3-2)	4	Entomology 306(2-3)	3
Apiculture	•	Morphology	
Entomology 401	3	Entomology 308	4
Advanced Economic Entomology Entomology 405(2-2)	3	Apiculture Entomology 402(2-4)	3
Fruit Incosta	v	Advanced Economic Entomology	
Entomology 411	3	Entomology 412	3
Entomology 411		Entomological Literature	
Entomology 417	4	Entomology 416	3
Special Problems		Quarantine Measures	4
		Entomology 418(3-2) Special Problems	4
		operat i tonems	

## GROUP 9. HORTICULTURE

### SOPHOMORE YEAR

#### First Semester Credit

Agricultural Engineering 201(2-2) Farm Machinery	3
Dairy Husbandry 202(2-2) Dairying	3
English 203	2
Entomology 201(2-2) General Entomology	3
Horticulture 201	3
Military Science(1-2) Elective	1 3
	18

Second Semester Cre	dit
Biology 206(2-4)	3
Bacteriology Chemistry 212	3
Agricultural Chemistry Chemistry 214(1-3)	2
Agricultural Analysis Economics 403(3-0)	3
Principles of Economics English 210(2-0)	2
Writing and Discussion Military Science(1-2)	1
Elective	Ĩ.
	18

#### JUNIOR YEAR

Agronomy 301(3-2)	4
Soils Genetics 301(3-2)	4
Genetics <sup>e</sup> Elective	10
	18

English 307(2-0)	2
Technical Writing History 305(3-0)	3
American Government	•
<sup>6</sup> Elective	13
	18

#### SENIOR YEAR

English 401(2-0)	2	
Public Speaking Entomology 405(2-2)	3	
Fruit Insects Landscape Art 301(3-4) Introduction to Landscape Art	4	
<sup>6</sup> Elective	9	
	18	

Agricultural Engineering 424(1-3)	2
Terracing	-
Biology 416(2-4) Plant Diseases	3
<sup>6</sup> Elective	13
	_
	18

<sup>6</sup> A minimum of 16 credit hours must be taken as part of the elective work in the junior and senior years from the following:

Horticulture 311(1-3) Vegetable Products	2	Horticulture 310(2-2) Commercial Vegetable Gardening	3
Horticulture 317	3	Horticulture 318(2-3) Principles of Fruit Production	3
Horticulture 401	4	Horticulture 418	2
Horticulture 404	3	Horticulture 422	4
Horticulture 423(2-0) Geography of Horticultural Industries	2	Horticulture 425(2-0) History and Literature of Horticulture	2
		Horticulture 426(2-3) Commercial Propagation	3

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### GROUP 10. LANDSCAPE ART

### SOPHOMORE YEAR

### First Semester Credit

Agricultural Engineering 201(2-2)	3
Farm Machinery Architecture 101(0-4)	1
Architectural Drawing Architecture 109(0-4) Freehand Drawing	1
Dairy Husbandry 202(2-2)	3
Dairying English 203(2-0)	2
Composition and Literature Entomology 201(2-2)	3
General Entomology Horticulture 201	3
Plant Propagation Military Science(1-2)	1
	17

Second Semester Cre	edit
Architecture 102	2
Architectural Drawing	-
Architecture 110(0-4) Freehand Drawing	T
Biology 206(2-4)	3
Bacteriology Economics 403(3-0)	3
Principles of Economics	0
English 210	2
Writing and Discussion Poultry Husbandry 306(2-3)	3
Game Propagation and	
Management Psychology 207(3-0)	•
Psychology	
Military Science(1-2)	1
	18
	10

#### JUNIOR YEAR

Agricultural Engineering 305(2-3)	3
Terracing and Drainage Agronomy 301(3-2) Soils	4
Architecture 205(0-4) Freehand Drawing	1
<sup>7</sup> Elective	10
	18

	206	1
Freehand English 307	Drawing 	2
	204(2-2)	3
Insecticide Flective		12
		18

#### SENIOR YEAR

Architecture 305	1
Freehand Drawing Architecture 415(2-0)	2
The Fine Arts English 401(2-0)	2
Public Speaking Horticulture 317(2-3)	3
Fruit Production <sup>7</sup> Elective	10
	18

Architecture 306	1
Freehand Drawing	
Architecture 416	2
The Fine Arts	
History 305	3
American Government	
<sup>7</sup> Elective	12
	18

<sup>7</sup> A minimum of 16 credit hours must be taken as part of the elective work in the junior and senior years from the following:

Landscape Art 301	4		Landscape Art 304(0-8) Landscape Construction	3
Landscape Art 303(2-2) Elementary Forestry	3	•	Landscape Art 306(2-2) Ornamentals	3
Landscape Art 401	6		Landscape Art 402	6
Landscape Art 403	3		Landscape Art 404(2-2) Floriculture	3

#### SCHOOL OF AGRICULTURE

### GROUP 11. POULTRY HUSBANDRY

### SOPHÖMORE YEAR

First Semester	Credit	Second Semester Cred	lit
Biology 206	2-4) 3	Agricultural Engineering 201(2-2) Farm Machinery	3
Dairy Husbandry 202	2-2) 3	Chemistry 212(3-0) Agricultural Chemistry	3
English 203	2-0) 2	Chemistry 214(1-3) Agricultural Analysis	
Entomology 201	2-2) 3	Economics 403	3
Horticulture 201	2-2) 3	English 210(2-0) Writing and Discussion	2
Military Science		Military Science(1-2)	1
Elective	3 -	Elective	4
	18		18
	JUNIOR	YEAR	
Agronomy 301 (S	3-2) 4	English 307 (2-0)	2

Agronomy 301	4
Soils	
Animal Husbandry 303(3-3)	4
Animal Nutrition	
Genetics 301	4
Genetics	
<sup>8</sup> Elective	6
	-

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	2
3(3-3) 4 Entomology 208	3
	3
	10
—	
18	18

#### SENIOR YEAR

Agricultural Engineering 413(2-3) Farm Buildings	3	English 401(2-0) Public Speaking	2
<sup>8</sup> Elective	15	<sup>8</sup> Elective	16
			_
	18	•	18

<sup>8</sup> A minimum of 16 credit hours must be taken as part of the elective work in the junior and senior years from the following.

Poultry Husbandry 301(2-2) Market Poultry	3	Poultry Husbandry 302(3-2) Feeding and Brooding	4
Poultry Husbandry 303(2-0) Turkey Production		Poultry Husbandry 306(2-3) Game Propagation and	3
Poultry Husbandry 401(3-2) Culling and Management	4	Management Poultry Husbandry 402	4
Poultry Husbandry 403(2-2)	3	Poultry Farming	
Judging		Poultry Husbandry 408(1-3) Poultry Meats	
		Poultry Husbandry 410(2-3) Advanced Wild Life Studies	3

### GROUP 12. RURAL SOCIOLOGY

#### SOPHOMORE YEAR

Biology 206	3
Bacteriology Dairy Husbandry 202(2-2)	3
Dairying English 203(2-0)	2
Composition and Literature Entomology 201(2-2)	3
General Entomology Horticulture 201(2-2)	3
Plant Propagation Military Science(1-2)	1
Elective	3
	18

Agricultural Engineering 201(2-2)	3
Farm Machinery	
Economics 403	3
Principles of Economics	
English 210	2
Writing and Discussion	-
Psychology 207(3-0)	3
Psychology	-
Rural Sociology 204(3-0)	3
Introductory Rural Sociology	, e
Military Science(1-2)	1
Elective	3
	_
	18

#### JUNIOR YEAR

	First Semester	Cred	it	Second Semester Cree	dit
Second	321 lary School Met	hods	3 15 18	Education 322(3-0) Secondary School Administration <sup>o</sup> Elective	3 15 18
		SI	ENIOR Y	EAR	
History 3	05 can Governmen	( <b>3-0</b> )	3	English 401(2-0) Public Speaking	2
			15	°Elective	16
			19		18
	um of 16 credi nd senior years			ken as part of the elective work in t	the
	iology 311	(3-0)	3	Rural Sociology 306	3
Rural Social	Psychology ciology 407		3	Rural Social Work Rural Sociology 312(3-0)	3
Rural Rural Soc	Sociology iology 415 iltural Journalis	(2-2)		General Sociology Rural Sociology 404(3-0) Rural Organization	
	COURSE II	N AGRICI	JLTUR	AL ADMINISTRATION	
			SHMAN		
	ural Economics mic History of		3	<sup>10</sup> Agricultural Economics 101(4-0) Agricultural Resources	4
Agronomy	105	(3-2)	4	Animal Husbandry 107(2-4) General Animal Husbandry	3
Chemistry	Production 101	(3-3)	4	Chemistry 102(3-3)	4
English 1	anic Chemistry 103 ric and Compos		3	Inorganic Chemistry English 104(3-0) Rhetoric and Composition	3
Mathemat Algeb	cs 101		3	Mathematics 110	3
	Science	(1-2)	1	Military Science	1
			18		18

NOTE.—1. At the beginning of the sophomore year the student will choose one of the following groups: 1. Accounting and Statistics; 2. Marketing and Finance (includ-ing Agricultural Economics and Farm Management).

#### GROUP 1. ACCOUNTING AND STATISTICS SOPHOMORE YEAR

Accounting and Statistics 201(3-3) Principles of Accounting	4	Accounting and Statistics 202(3-3) Principles of Accounting	4
Economics 203	3	Economics 204	3
English 203(2-0) Composition and Literature	2	English 210	2
History 305	3	Mathematical Theory of Investmen	
Military Science(1-2) Elective	1	Military Science	
	-		_
	18		18

NOTES.—Recommended Program for students majoring in Statistics: 1. Elect or substitute in the sophomore and junior years Agricultural Economics 314 (Marketing); Engineering Drawing 111 (Mechanical Drawing); Mathe-matics 103 (Trigonometry); Mathematics 104 (Analytics); Mathematics 203, 204 (Calculus).

2. Elect or substitute in the senior year Accounting and Statistics 503 (Price Analysis) and Accounting and Statistics 504 (Advanced Statistics). 3. Courses in technical agriculture will be approved as substitutions for required courses in Group 1.

<sup>10</sup> One half of the class will take Agricultural Economics 103 the first semester and Agricultural Economics 101 the second semester. The other half will take those subjects in reverse order.

#### SCHOOL OF AGRICULTURE

First	: Semester	Credit	Second Semester Cree	lit
Accounting and			Accounting and Statistics 302(3-3)	
	Practice of A		Theory and Practice of Accounting	ng
Accounting and		(3-3) 1	Accounting and Statistics 401(2-3)	3
Statistical M			Cost Accounting	
Accounting and		(2-3) วิ	Accounting and Statistics 406(3-0)	3
Income Tax			Agricultural and Business Cycles	
Elective		7	Elective	8
				_
		18		18
		SENIOR	YEAR	
Accounting and		(3-0) 3	Accounting and Statistics 408(3-0)	3
Accounting			Advanced Auditing	
Accounting and Auditing	Statistics 407.	(3-3) 4	Accounting and Statistics 410(3-0) Seminar	3
Agricultural Ec	onomias 495	(20) 2	Economics 316	
	nd Retail Merc		Business Law	a
English 401				•
Public Spea		(2-0) 2	Elective	9
Elective		6		18
		·· ··		10
		18		

#### JUNIOR YEAR

### GROUP 2. MARKETING AND FINANCE (Including Agricultural Economics and Farm Management)

#### SOPHOMORE YEAR

Accounting and Statistics 201(3-3)	4	Accounting and Statistics 202(3-3)	4
Princ.ples of Accounting		Principles of Accounting	
Agricultural Economics 312(3-0)	3	Agricultural Economics 314(3-0)	3
Agricultural Economics		Marketing	
Economics 203	3	Economics 204(3-0)	3
Principles of Economics		Principles of Economics	
English 203(2-0)	2	English 210	2
Composition and Literature		Writing and Discussion	
Military Science(1-2)	1	Military Science(1-2)	1
Elective	5	Elective	5
	18		18

NOTES.-1. Electives must be chosen and substitutions petitioned under the advice and direction of the head of the department. 2. Through electives and substitutions, students desiring to prepare for work as marketing specialists should take a number of courses dealing with one farm commodity; those expecting to enter farm management work should take courses in the several fields of technical agriculture.

#### JUNIOR YEAR

Accounting and Statistics 303(3-3)	4
Statistical Method Agricultural Economics 307(3-0)	3
Advertising Agricultural Economics 413(3-0)	3
Co-operative Marketing Economics 311(3-0)	3
Money and Banking Elective	5
	18

Accounting and Statistics 406(3-0)
Agricultural and Business Cycles
Agricultural Economics 310 (3-0)
The Credit System
Agricultural Economics 410 (3-0)
Transportation
Economics 316
Business Law
History 305
American Government
Elective

#### SENIOR YEAR

First Semester Cree	dit	Second Semester Cre	dit
Agricultural Economics 425(3-0)	3	Agricultural Economics 423(3-0)	3
Wholesale and Retail Merchandis Agricultural Economics 427(3-0) Cotton Marketing	ing 3	Land Economics Agricultural Economics 426(3-0) Sales Organization	3
Agricultural Economics 429(2-0)		Agricultural Economics 430(3-0)	3
Economic Policy for Agriculture Economics 315(3-0) Economics of Insurance		Farm Credit English 401(2-0) Public Speaking	2
English 317(2-0)	2	Elective	7
Commercial Correspondence Elective	5		18
	18		

### COURSE IN AGRICULTURAL EDUCATION

#### FRESHMAN YEAR

Agricultural Economics 101(4-0) Agricultural Resources	4	Agronomy 105	4
Animal Husbandry 107(2-4)	3	Biology 101	4
General Animal Husbandry		General Botany	
Biology 207	3 .	Chemistry 102	4
Zoology		Inorganic Chemistry	
Chemistry 101	4	English 104	3
Inorganic Chemistry		Rhetoric and Composition	
English 103(3-0)	3	Mathematics 109	3
Rhetoric and Composition		Agricultural Mathematics	-
Military Science(1-2)	1	Military Science(1-2)	1
	18		19

### SOPHOMORE YEAR

Agricultural Engineering 321(1-3)	2
Farm Shop Chemistry 212	3
Agricultural Chemistry Chemistry 214(1-3)	2
Agricultural Analysis English 203	2
Composition and Literature History 305(3-0)	3
American Government Horticulture 201(2-2)	3
Plant Propagation Military Science(1-2)	
Poultry Husbandry 201(2-2) Poultry Production	3
	19

Agricultural Economics 312(3-0)	3
Agricultural Economics	
Agricultural Engineering 201(2-2) Farm Machinery	3
Agricultural Engineering 322(1-3)	Z
Farm Shop	4
Dairy Husbandry 202(2-2)	3
Dairying	
English 210	2
Writing and Discussion	
Entomology 204(2-2)	3
Insecticides	
Military Science(1-2)	1
	_
	17

### JUNIOR YEAR

Agricultural Engineering 424(1-3) Terracing	2
Agronomy 315(2-2) Cotton Production	3
Animal Husbandry 409(3-3)	4
Animal Nutrition and Feeding Genetics 301(3-2)	4
Genetics Psychology 301	3.
Educational Psychology Elective	3
	19

Agricultural Education 302(3-0) Principles of Agricultural Education	3
Agronomy 301	4
Soils	1-
Animal Husbandry 416(3-2)	4
Livestock Management	
Dairy Husbandry 418(3-2)	4
Dairy Cattle Feeding and Management	
Elective	3
	_
	18

### SCHOOL OF AGRICULTURE

#### SENIOR YEAR

#### First Semester Credit Second Semester Credit Agricultural Economics 421......(3-2) 4 Agricultural Economics 430......(3-0) 3 Farm Meats Elective..... 3 Elective..... 18 3

### COURSE IN AGRICULTURAL ENGINEERING

#### FRESHMAN YEAR ......

r ni	SUMAN	ILAR	
Chemistry 101(3-3) Inorganic Chemistry		Animal Husbandry 107(2-4) General Animal Husbandry	3
Engineering Drawing 111(0-6) Mechanical Drawing		Chemistry 102(3-3) Inorganic Chemistry	4
English 103(3-0) Rhetoric and Composition	3	English 104(3-0) Rhetoric and Composition	3
Mathematics 102(3-0) Algebra	3	Mathematics 104(4-0) Analytics	4
Mathematics 103(3-0) Trigonometry	3	Mechanical Engineering 102(1-2) Engineering Problems	2
Mechanical Engineering 101(1-2) Engineering Problems	2	Military Science(1-2)	1
Military Science(1-2)	1		17
	18		

#### SOPHOMORE YEAR

Agricultural Engineering 203(2-2) Gas Engines	3	Agricultural Engineering 216(3-3) Automotive Machinery	4
Agricultural Engineering 205(2-3) Farm Buildings and Structures	3	Dairy Husbandry 202(2-2) Dairying	3
English 203(2-0) Composition and Literature	2	English 210(2-0) Writing and Discussion	2
Mathematics 203(5-0) Calculus	5	Mathematics 204(5-0) Calculus	5
Military Science(1-2)	1	Military Science(1-2)	1
Physics 203	4	Physics 204(3-3) General Physics	
	18		19

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J.	UNIOR
Agricultural Engineering 201(2-2) Farm Machinery	3
Agronomy 314	4
Civil Engineering 201	4
Mechanical Engineering 212(3-0) Engineering Mechanics	3
Elective	5
	19

thring und Discussion	_
Mathematics 204(5-0)	5
Calculus	
Military Science(1-2) Physics 204(3-3)	- 1
Physica 204 (2.2)	
1 hysics 204(3-3)	*
General Physics	
	19
YEAR	
Agronomy 301(3-2)	
	4
Soils	
Economics 403	3
Principles of Economics	
History 305	3
American Government	
Elective	9

#### SENIOR YEAR

Agricultural Engineering 413(2-3) Farm Buildings	3	Agricultural Engineering 418(3-3) Farm Home Utilities	4
Agricultural Engineering 425(1-0) Seminar	1	Agricultural Engineering 426(1-0) Seminar	
Civil Engineering 311(3-0) Hydraulics	3	Agricultural Engineering 428(3-6) Irrigation and Drainage	
English 401(2-0) Public Speaking	2	Civil Engineering 336(0-2) Hydraulics Laboratory	1
Elective	10	Elective	8.
-	19		19

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### THE SCHOOL OF ARTS AND SCIENCES

### **COURSE IN LIBERAL ARTS**

#### (Leading to the Degree of Bachelor of Arts)

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

#### FRESHMAN YEAR

#### Credit First Semester

Biology 211(2-4)	3
General Biology English 103(3-0)	3
Rhetoric and Composition History 103(3-0)	3
Modern Europe Mathematics 101(3-0)	3
Algebra Military Science(1-2)	1
Modern Language	3

Second Semester Cre	edit
Biology 212(2-4) General Biology	3
English 104	3
History 104	3
Modern Europe Mathematics 103(3-0)	3
Trigonometry Military Science(1-2) Modern Language(3-0)	1
Modern Language	3
	_
	16

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#### SOPHOMORE YEAR

16

Economics 203	3
Principles of Economics	
English 231(3-0)	3
English Literature	
Geology 201	3
General	
Military Science(1-2)	
Modern Language(3-0)	3
French, German or Spanish	
Elective	9

Chemistry 101(3-3) Inorganic Chemistry	1
Economics 204(3-0)	1
Principles of Economics	
Engl'sh 232(3-0)	1
English Literature	
Military Science(1-2)	1
Modern Language	1
French, German or Spanish	
Elective	:
	_
	1

#### JUNIOR YEAR

16

Elective	17	History 305(3-0) American Government Elective	3 15 18
2	SENIOR	L YEAR	
English 401(2-0) Public Speaking	) 2	Elective	18
Elective	18		

18

#### NOTES

1. Transfers who have credit for 6 hours of Botany or Zoology may substitute such credit for Biology 211, 212.

Students who have a good high school record in Mathematics and pass a satisfac-2. tory placement test may enter at once on Mathematics 102 or 103. Mathematics 102 or 104 must be taken instead of Mathematics 103, if Trigonometry was completed in preparatory school.

3. In the sophomore year a full year of Physics or Chemistry may for sufficient reason be substituted for the required science.

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

#### MAJOR AND MINOR STUDIES

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

study, according to the following directions:
1. One of the following departments must be chosen as the field of major study: Economics (including Accounting and Statistics and Agricultural Economics), Education, English, History, Mathematics, Modern Languages, Physical Education. A suggested program for students majoring in Economics is outlined on page 94.
2. Students who major in Education or Physical Education follow modified Liberal Arts programs outlined on page 98. See also page 71.
3. For his minor study, or one of the following: Accounting and Statistics, Biology, Chemistry, Lducation, Entomology, Geology, Physics.
4. The remainder of the elective work may be taken in any of the departments indicated above, or other departments of the College, subject to the approval of the Dean of the School of Arts and Sciences.
5. Before graduation the student must complete in his major study a minimum of

5. 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.

6. For more detailed information regarding major studies, minor studies, and electives, see the "Handbook of the School of Arts and Sciences," a copy of which may be secured by writing to the Registrar of the College.

#### THE FOREIGN LANGUAGE REQUIREMENT

Students who do not present a foreign language for admission must complete a minimum of 18 semester hours in one foreign language; others will complete a minimum of 12 semester hours, except where three units in one language, or two units in each of two languages, are presented for admission, in which case 6 semester hours of advanced work in one of the languages presented will cover the requirement; provided, that the satisfactory completion of four years of a modern foreign language in preparatory school will exempt the student from the language requirement if he can give evidence of an adequate reading knowledge of that language.

### STUDIES PREPARATORY TO LAW

Students planning to enter Law School should matriculate in the course in Liberal Arts, and take the following program in the freshman and sophomore years:

FRESHMAN YEAR English 103-104 Rhetoric and Composition History 215-216 United States History **Biology 211-212** General Biology Mathematics 101-103 Algebra; Trigonometry An Approved Elective Military Science Physical Training

#### SOPHOMORE YEAR

English 231-232 English Literature Economics 203-204 Principles of Economics History 211 Comparative Government History 213-214 History of England History 305 American Government 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

F	irst	Semester	Cred	lit		Second	Semester	Cre	dit
Accounting a Statistics			303(3-3)	4		316 ss Law		(3-0)	3
Economics 3 Money a			(3-0)	3		318 Problem	19	(3-0)	3
Psychology Psycholo	207		(3-0)	3			tory of the U		3
Elective				7	Elective			•	8
				17					17
			CI	C'NT (	D VEAD				

#### SENIOR YEAR

Economics 315(3-0) Insurance	3	Economics 409	3
Economics 413(3-0) Advanced Economic Theory	3	Economics 412(3-0) Public Finance and Taxation	3
English 401(2-0) Public Speaking	2	Economics 414	3
Elective	10	History 305	3
	18	Elective	6
÷			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 regulations on page 93 and with reference to the student's chosen objective in the field of economics.

#### Suggested electives in the junior and senior years:

Accounting and Statistics 301-302 (Theory and Practice of Accounting), Accounting and Statistics 401 (Cost Accounting), Accounting and Statistics 403 (Income Tax), Accounting and Statistics 406 (Agricultural and Business Cycles), Accounting and Statistics 407 (Auditing), Agricultural and Business Cycles), Accounting and Statistics 407 (Auditing), Agricultural Economics 312 (Agricultural Economics), Agricultural Economics 314 (Marketing), Agricultural Economics 425 (Wholesale and Retail Merchandising), Agricultural Economics 426 (Sales Organization), Agricultural Economics 429 (Economic Policy for Agriculture), Agricultural Economics 430 (Farm Credit), Economics 408 (Corporation Finance), Economics 416 (Public Utility Economics), Economics 420 (Principles of Investment), Economics 421 (Government and Industry), Economics 422 (Credit Institutions), Economics 423 (Advertising), Economics 424 Modern Transportation), English 307 (Technical Writing), English 317 (Commercial Correspondence), History 423-424 (American Foreign Relations), Mathematics 202 (Mathematical Theory of Investment), Mechanical Engineering 438 (Marketing Industrial Products), Military Science, Municipal and Sanitary Engineering 408 (Municipal Administration.

### 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.

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 96).

FRESHMAN YEAR

#### Credit First Semester Credit Second Semester Biology 203......(2-4) 3 Zoology Chemistry 104... Zoology Inorganic Chemistry Inorganic Chemistry ..... (3-0) 3 English 103..... Rhetoric and Composition Trigonometry Algebra Military Science.....(1-2) Modern Language.....(3-0) Military Science.....(1-2) 1 1 Modern Language......(3-0) 3 3 French or German French or German 17 17 SOPHOMORE YEAR English 232..... English 231. English Literature Military Science......(1-2) Modern Language......(3-0) 3 3 French or German French or German Physics 201......(3-2) 4 College Physics College Physics 7 Elective..... 7 Elective..... 18 15 JUNIOR YEAR Economics 403..... History 305..... American Government nomics 403..... Principles of Economics Elective..... Elective..... 15 15 19 18 SENIOR YEAR English 401 ..... ......(2-0) 2 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 97. 2. Before graduation he must complete in his major department a minimum of from 24 to 30 semester hours, not including prescribed subjects. Certain studies from other departments, closely allied to his major subject, are to be included in the electives.

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

4. For more detailed information regarding major studies, allied subjects, and electives, see the "Handbook of the School of Arts and Sciences," a copy of which may be secured by writing to the Registrar of the College.

#### THE FOREIGN LANGUAGE REQUIREMENT

French or German is to be taken in satisfaction of the Foreign Language requirement. Students who do not present a foreign language for admission must complete a minimum of 18 semester hours in one of these languages; others will complete a minimum of 12 semester hours, except where at least three units in German or French are presented, in which case 6 semester hour of advanced work in the same language will satisfy the requirement; provided, that the completion of four years of either French or German in preparatory school will exempt the student from the language requirement in the course in Science, if he can give evidence of an adequate reading knowledge of the language.

#### STUDIES PREPARATORY TO MEDICINE

Students planning to enter upon the study of medicine should enroll in the course in Science and take the following program of studies in the freshman and sophomore years:

#### Freshman Year

As outlined for the freshman year of the course in Science, page 95.

#### 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).

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

The above program covers the *minimum* requirements for admission to Medical School. Where possible, the student should complete the course in Science, with Biology and Chemistry as the principal studies, and obtain the degree of Bachelor of Science before beginning the study of medicine. For a suggested four-year program, see the "Handbook of The School of Arts and Sciences."

Students in the course in Science who complete the first three years of that course, including the minimum pre-medical requirements as outlined

Pre-medical students should choose electives for their junior and senior years from the following list: Biology 206 (Bacteriology), Biology 323 (Systematic Bacteriology). Biology 341-342 (Anatomy & Physiology), Biology 323 (Histology), Biology 344 (Vertebrate Embryology), Chemistry 207 (Quantitative Analysis), Chemistry 326 (Physiological Chemistry), Chemistry 342 (Physical Chemistry), English 208 (Composition and Literature), English 307 (Technical Writing), English 317 (Commercial Correspondence), Entomology 312 (Medical Entomology), Genetics 301 (Genetics), Genetics 403 (Eugenics). Military Science, Modern Languages, Municipal and Sanitary Engline 406, Rural Sociology 201 (Introduction to Social Problems), Rural Sociology 313 (Special Bacteriology.) Degree requirements omitted in the program for the first two years should be taken.

#### SCHOOL OF ARTS AND SCIENCES

above, and who subsequently complete the first two years in medicine at a Class A Medical School, will be awarded the degree of Bachelor of Science upon transferring their medical credits back to the A. and M. College of Texas, provided the grade point requirement has been met.

#### PROGRAM FOR STUDENTS MAJORING IN GEOLOGY

### FRESHMAN YEAR

As outlined for the course in science, page 95 except that Language 103-104 (German) should be taken in satisfaction of the language requirement.

### SOPHOMORE YEAR

First Semester	Credit			Second	Semester	Cree	lit
English 203( Composition and Literature	(2-0) 2	C			201	.(2-6)	4
Geology 201(	(3-0) 3	• 1	Inglish 2	210	iscussion	.(2-0)	2
Geology 207( Mineralogy and Petrology	(3-4) 4	0	eology 2			. (3-3)	1
Military Science	1-2) 1	N				.(1-2)	1
Modern Language 203		N			204	.(3-0)	3
German		-	Germa			(0.0)	
Physics 201	(3-2) 4	ł		202. e Physic	s	. (3-2)	4
							-
	17						18

#### JUNIOR YEAR

Architecture 109	1
Freehand Drawing Chemistry 206	4
Chemistry 207(2-3) Quantitative Analysis	3
History 305	3
Geology 313	1
Modern Language 101 or 105(3-0) French or Spanish	3
Elective	3
	18

Agronomy 301(3-2) Soils	4
Architecture 110(0-4) Freehand Drawing	1
Chemistry 342(3-4) Physical Chemistry	4
Economics 403	3
Geology 314(0-4) Field Geology	1
Modern Language 102 or 106(3-0) French or Spanish	3
Elective	3
	19

#### SUMMER WORK

#### Geology 400s, Field Geology, six weeks, credit 7.

#### SENIOR YEAR

Architecture 205(0-4) Freehand Drawing	1	Architecture 206(0-4) Freehand Drawing	
English 401	2	English 307(2-0)	
Geology 303(3-4) Petrology	4	Technical Writing Geology 304(3-4) Petrology	4
Geology 305(3-3) Paleontology	4	Geology 306(3-3) Paleontology	4
Geology 407(2-4) Economic Minerals		Geology 312	4
Elective	3		3
	17		18

NOTE.—An undergraduate course in general Botany should also be taken if possible. Because the field of Geology is so extensive and requires so much familiarity with other sciences, a fifth-year, which may lead to a Master of Science degree, is almost essential to adequate training.

#### AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

### PREPARATION FOR TEACHING

Prospective teachers of other lines than Vocational Agriculture and Industrial Education should refer to page 71 for information concerning certification. Those who major in Education or Physical Education follow a modified Liberal Arts program; are required to elect a sequence of courses preparing for some one of the usual high school teaching lines; and if necessary to this end may omit the required foreign language, in which case they will receive the B.S. rather than the B.A. degree on the completion of requirements.

### PROGRAM FOR EDUCATION MAJORS

FRESHMAN YEAR

			•••
First Semester Crea			edit
Biology 211(2-4)	3	Biology 212(2-4)	3
General Biology English 103(3-0)	3	General Biology English 104(3-0)	3
Rhetoric and Composition	v	Rhetoric and Composition	
History 103	3	History 104	3
Development of Modern Europe		Development of Modern Europe	
Mathematics 101(3-0) Algebra	3	Mathematics 103	3
Military Science(1-2)	1	Military Science	1
<sup>11</sup> Modern Language(3-0)	3	<sup>11</sup> Modern Language(3-0)	3
French, German on Spanish		French, German on Spanish	
	16		16
	10		10
SOP	HOMORE	C YEAR	
Economics 203	3	Chemistry 101(3-3) Inorganic Chemistry	4
Principles of Economics Education 121(3-0)	3	Economics 203(3-0)	3
An Introduction to Education	•	Principles of Economics	
English 231(3-0)	3	English 232	3
English Literature	3	English Literature	. 1
Geology 201(3-0) General	.3	Military Science(1-2) <sup>11</sup> Modern Language(3-0)	1
Military Science(1-2)	1	French, German or Spanish	
<sup>11</sup> Modern Language(3-0)	3	Psychology 301(3-0)	. 3
French, German or Spanish		Educational Psychology	
	16		17
	UNIOR Y	EAR	
Education 321(3-0)	3	Education 322(3-0)	3
Secondary School Methods Physical Education 207(3-0)	3	Secondary School Administration History 305(3-0)	3
Health Education	U	American Government	J
Rural Sociology 311(3-0)	3	Physical Education 306(3-2)	4
Social Psychology		Public School Physical Education	•
Elective	8	Elective	8
	17		18
- SH	ENIOR Y	EAR	
Education 426(3-0)	3	Education 430(3-0)	3
Tests and Measurements	Landa ar	Curriculum Construction	
English 401(2-0)	2	<sup>12</sup> Elective	15
Public Speaking <sup>12</sup> Elective	13		18
	10		10

<sup>11</sup> Courses preparatory to the student's prospective field of teaching may be substituted for the required foreign language. Lists of such courses are given in the Handbook of the School of Arts and Sciences.

<sup>13</sup> Six hours of senior elective must be in education or educational psychology.

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#### SCHOOL OF ARTS AND SCIENCES

## PROGRAM FOR PHYSICAL EDUCATION MAJORS

#### FRESHMAN YEAR

First Semester Cree	lit
Biology 203(2-4)	3
Zoology English 103(3-0)	3
Rhetoric and Composition History 103(3-0)	3
Development of Modern Europe Military Science	1
<sup>13</sup> Modern Language(3-0)	3
French, German or Spanish Rural Sociology 201(3-0)	. 3
Introduction to Social Problems	
	16

Second Semester Cre	dit
Biology 204(2-4) Zoology	3
Education 121	3
English 104	3
History 104	3
Military Science	13
<sup>13</sup> Modern Language	3
	16

#### SOPHOMORE YEAR

Biology 341	4
General Physiology	
Economics 203	3
Principles of Economics	
English 231(3-0)	3
English Literature	
Military Science(1-2) <sup>13</sup> Modern Language(3-0)	1
	3
French, German or Spanish	
Physical Education 207(3-0)	3
Health Education	
	17

Chemistry 101(3-3)	4
Inorganic Chemistry	
Economics 204	3
Principles of Economics	
English 232(3-0)	3
English Literature	
Military Science(1-2)	1
<sup>13</sup> Modern Language(3-0)	3
French. German or Spanish	
Physical Education 208(3-0)	3
Athletic Training	
	_
	17

#### JUNIOR YEAR

Education 321	.3
Secondary School Methods	
Physical Education 305(3-2)	4
Public School Physical Education	
Physical Education 311(3-2)	4
Fundamentals of Athletic Coaching	
Psychology 301(3-0)	3
Educational Psychology	
Elective	3
	_
	17

Education 322(3-0)	3
Secondary School Administration	
History 305	8
American Government	
Physical Education 306(3-2)	4
Public School Physical Education	
Physical Education 312(3-2)	4
Fundamentals of Athletic Coaching	
Elective	3
	17

#### SENIOR YEAR

English 401(2-0)	2	Physical Education 402(3-2)	4
Public Speaking		Theory and Practice of Athletic	
Physical Education 401(3-2)	4	Coaching	
Theory and Practice of Athletic		Physical Education 404(3-2)	4
Coaching		Organization and Administration	
Physical Education 403	4	of Physical Education	
Organization and Administration		Elective	10
of Physical Education			-
Elective	8	×	18
	18		

<sup>&</sup>lt;sup>13</sup> Courses preparatory to the student's prospective field of teaching may be substituted for the required foreign language. Lists of such courses are given in the Handbook of the School of Arts and Sciences.

## THE SCHOOL OF ENGINEERING

### COURSE IN ARCHITECTURE

#### FRESHMAN YEAR

First Semester Credit

Second Semester Credit

Architecture 101(0-4)	1
Architecture 107	2
History of Architecture Architecture 109(0-4) Freehand Drawing	1
Engineering Drawing 124	3
English 103	3
Rhetoric and Composition Mathematics 102	3
Algebra Mathematics 103(3-0)	3
Trigonometry Mechanical Engineering 101(1-2)	2
Engineering Problems Military Science(1-2)	1
	19

Architecture 102(0-6)	2
Architectural Drawing Architecture 108(2-0) History of Architecture	2
Architecture 110	1
Freehand Drawing Chemistry 101	4
Inorganic Chemistry English 104	3
Rhetoric and Composition Mathematics 104(4-6)	4
Analytics Mechanical Engineering 102(1-2)	2
Engineering Problems Military Science	1
	19

#### SOPHOMORE YEAR

Architecture 201(0-10)	3
Architectural Design	
Architecture 203(0-6)	2
Shades, Shadows, Perspective	
Architecture 205	1
Freehand Drawing	
Architecture 215	2
History of Architecture	
English 203(2-0)	2
Composition and Literature	
Military Science(1-2)	1
Modern Language(3-0)	
French or German	
Physics 201(3-2)	4
College Physics	_

Architecture 202	3
Architectural Design	
Architecture 206	1
Freehand Drawing	
Architecture 216(2-0)	2
History of Architecture	-
Civil Engineering 206(1-3)	2
Plane Surveying	
English 210	2
Writing and Discussion	
Military Science(1-2)	1
Modern Language(3-0)	3
French or German	
Physics 202(3-2)	4
	-
College Physics	
	18
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#### JUNIOR YEAR

18

18

Architecture 301(0-16)	5
Architectural Design	
Architecture 305	1
Freehand Drawing	
Architecture 313(4-0)	4
Mechanics of Materials	
Architecture 315	2
Modern Architecture	
Modern Language(3-0)	3
French or German	
Elective	3

Architecture 302(0-16)	5
Architectural Design	
Architecture 306(0-4)	1
Modeling	
Architecture 314(3-3)	4
Stress Analysis	
Architecture 320	2
Building Construction	
Modern Language	3
French or German	
Elective	3
	18

### SCHOOL OF ENGINEERING

## SENIOR YEAR

First Semester Cred	lit	Second Semester Cre	dit
Architecture 401(0-21) Architectural Design		Architecture 402(0-21) Architectural Design	
Architecture 417(3-0) Concrete Structures	3	Architecture 412	3
Architecture 423(2-0) Materials of Construction	2	<sup>14</sup> Electrical Engineering 436(3-0) Wiring and Lighting	3
Mechanical Engineering 335(3-9) Heating and Ventilation	3	History 305	3
Elective	3	Elective	3
	18		19
F	IFTH Y	EAR	
Architecture 415(2-0) The Fine Arts		Architecture 416(2-0) The Fine Arts	
Architecture 425(2-0) Professional Practice		Architectural Design (0-27)	
Architecture 451(0-27) Architectural Design	9	English 401(2-0) Public Speaking	2
Architectural Design Economics 403	3	Elective	5
Principles of Economics Elective	2		18
	18		

### COURSE IN ARCHITECTURAL ENGINEERING

#### FRESHMAN YEAR

Same as Architecture

#### SOPHOMORE YEAR

Architecture 201	3
Architectural Design	
Architecture 203	2
Shades, Shadows, Perspective	
Architecture 205	1
Freehand Drawing	
Architecture 215	2
History of Architecture	-
Mathematics 203(5-0)	5
Calculus	
Physics 203	4
General Physics	
Military Science(1-2)	1
	18

Architecture 202(0-10)	3
Architectural Design	
Architecture 206	1
Freehand Drawing	
Architecture 216	2
History of Architecture	
Mathematics 204(5-0)	5
Calculus	-
Mechanical Engineering 212(3-0)	3
Engineering Mechanics	-
Physics 204(3-3)	4
General Physics	-
Military Science(1-2)	1
	10

#### JUNIOR YEAR

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

<sup>14</sup> Offered in alternate years. Offered in 1936-37.

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#### SENIOR YEAR

	First Semester	Credit	Second Semester Cre	edit
	ure 415		Architecture 416	2
Architect	Fine Arts ure 417		The Fine Arts Architecture 418(2-3) Concrete Structures	3
Architect	ture 421		Architecture 422	4
Architect	ctural Design ture 425		<sup>15</sup> Electrical Engineering 436(3-0)	3
English	essional Practice 401	(2-0) 2	Wiring and Lighting Elective	8
	ic Speaking	6		20
		19		

### COURSES IN ENGINEERING

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

#### FRESHMAN YEAR

Chemistry 101	4
Engineering Drawing 111(0-6)	2
Mechanical Drawing	
English 103(3-0)	3
Rhetoric and Composition	-
Mathematics 102(3-0)	3
Algebra	-
Mathematics 103(3-0)	3
Trigonometry	
Mechanical Engineering 101(1-2)	2
Engineering Problems	-
Military Science(1-2)	1
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Chemistry 102(3-3)	4
Inorganic Chemistry Engineering Drawing 124(2-4)	3
English 104(3-0) Rhetoric and Composition	3
Mathematics 104(4-0) Analytics	4
Mechanical Engineering 102(1-2) Engineering Problems	2
Military Science	1
	17

### COURSE IN CHEMICAL ENGINEERING

(Gas, Petroleum Refining and Cotton Seed Oil) SOPHOMORE YEAR

Chemistry 205(3-6) Qualitative Analysis	5	Chemical Engineering 202(2-8) Quantitative Analysis	5
Engineering Drawing 201(0-2) Mechanical Drawing	1	Engineering Drawing 202(0-2) Mechanical Drawing	1
English 203	2	English 210	2
Mathematics 203	5	Mathematics 204	5
Military Science(1-2)		Military Science(1-2)	1
Physics 203(3-3) General Physics	4	Physics 204(3-3) General Physics	4
	18		18

		YEAR	
Chemistry 301(3-4)	4	Chemical Engineering 304(3-3)	4
Organic Chemistry		Unit Operations	-
Civil Engineering 206(1-3)	2	Chemistry 302(3-4)	4
Surveying		Organic Chemistry	
Economics 403(3-0)	3	Mechanical Engineering 212(3-0)	3
Principles of Economics		Engineering Mechanics	
Electrical Engineering 305(3-3)	4	Mechanical Engineering 320(5-0)	5
Electrical Machinery		Thermodynamics	
History 305(3-0)	ż	Elective	3
American Government			_
Elective	3		19
	19		

<sup>15</sup> Offered in alternate years. Offered in 1936-37.

### SCHOOL OF ENGINEERING

#### SUMMER WORK

#### Chemical Engineering 400s, Industrial Analysis, six weeks, credit 4.

#### SENIOR YEAR

First Semester Cree	lit	Second Semester Cre	dit
Chemical Engineering 409	5	Chemical Engineering 416	5
Chemical Engineering 411(3-4) Physical Chemistry	4	Chemical Engineering 418(3-4) Physical Chemistry	4
<sup>16</sup> Civil Engineering 305(4-0) Mechanics of Materials	4	Chemistry 438(1-0) Seminar	1
English 401(2-0) Public Speaking	2	<sup>17</sup> Geology 401(2-3) Geology for Engineers	
Mechanical Engineering 403(1-3) Engineering Laboratory	2	Mechanical Engineering 404(1-3) Engineering Laboratory	2
Elective	3	Elective	3
	20		18

### COURSE IN CIVIL ENGINEERING

(Technical Option)

# FRESHMAN YEAR (See page 102)

#### SOPHOMORE YEAR

Civil Engineering 201(2-6) Surveying	4	Civil Engineering 202(2-6) Railroad Engineering	1
Engineering Drawing 201(0-2) Mechanical Drawing	1	Engineering Drawing 202(0-2) Mechanical Drawing	1
English 203	2	English 210	2
History 305	3	Mathematics 204(5-0) Calculus	5
Mathematics 203(5-0) Calculus	5	Mechanical Engineering 212(3-0) Engineering Mechanics	3
Military Science(1-2)	1	Military Science	1
Physics 203(3-3) General Physics		Physics 204	
	20		20

#### SUMMER WORK

Civil Engineering 300s, Field Practice, six weeks, credit 5.

#### JUNIOR YEAR

Civil Engineering 305	4	Civil Engineering 311	3
Civil Engineering 315(0-2) Materials Laboratory	1	Civil Engineering 336(0-2) Hydraulics Laboratory	1
Civil Engineering 333(0-3) Railroad Surveying	1	Civil Engineering 340(3-0) Structural Analysis	3
Civil Engineering 335(0-4) Estimating and Drafting	1	Civil Engineering 342(0-4) Structural Design Problems	1
Economics 403(3-0) Principles of Economics	3	Civil Engineering 344(2-0) Reinforced Concrete	2
Electrical Engineering 305	4	Geology 401(2-3) Geology for Engineers	3
Mechanical Engineering 313(3-0) Engineering Mechanics	3	Mechanical Engineering 324(3-0) Steam and Gas Power	3
Elective	3	Elective	3
	20		19

 <sup>&</sup>lt;sup>16</sup> For Class of 1937, Mechanical Engineering 212 (3-0), Engineering Mechanics, will be substituted.
 <sup>17</sup> Students specializing in Cotton Seed Oil Engineering will substitute Chemical Engineering 422 (3-4) for Geology 401.

#### SENIOR YEAR

NOTE.—By proper choice of technical electives from the list below students may specialize to some extent in Highway, Hydraulic, Municipal, Sanitary, or Structural Engineering.

First Semester Cr	edit	Second Semester Cred	dit
Civil Engineering 407	) 3	Civil Engineering 414	3
Civil Engineering 423(2-4 Structures	) 3	Civil Engineering 443(0-4) Materials of Construction	1
Civil Engineering 461(2-2 Masonry	) 3	Civil Engineering 466(2-0) Professional Relations	2
Municipal and Sanitary Engineering 401	) 3	English 401(2-0) Public Speaking Municipal and Sanitary	2
<sup>18</sup> Technical Electives	6	Engineering 402(3-0)	3
Elective	3	Water Supply and Purification <sup>18</sup> Technical Electives	6
	21	Elective	3

<sup>18</sup> Technical electives to be chosen from the following:

3
3
3
3
3
3

	2
Structural Engineering Civil Engineering 456	3
Highway Adm. and Design Civil Engineering 458	3
Hydraulic Engineering Civil Engineering 468	3
Cost Estimating Municipal and Sanitary	
Engineering 408(3-0) Municipal Administration	3
Municipal and Sanitary Engineering 412(1-5)	3
Sanitary Laboratory	

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#### **COURSE IN CIVIL ENGINEERING**

(Administrative Option) FRESHMAN YEAR (See page 102) SOPHOMORE YEAR

### (Same as Technical Option)

#### JUNIOR YEAR

(Same as Technical Option, except substitute Accounting and Statistics 409, Accounting for Engineers, (3-0) for Mechanical Engineering 313, Engineering Mechanics, (3-0).

#### SENIOR YEAR

Civil Engineering 407(3-0) Roads and Pavements	3	Civil Engineering 443(0-4) Materials of Construction	1
Civil Engineering 448(3-0) Engineering Economy	3	Civil Engineering 466(2-0) Professional Relations	2
Civil Engineering 461(2-2) Masonry	3	Civil Engineering 468(3-0) Cost Estimating	3
English 401(2-0)	2	Municipal and Sanitary	
Public Speaking Municipal and Sanitary		Engineering 402(3-0) Water Supply and Purification	3
Engineering 401(3-0)	3	Municipal and Sanitary	
Sewerage and Sewage Disposal <sup>188</sup> Elective	6	Engineering 408(3-0) Municipal Administration	3
		<sup>18s</sup> Elective	9
	20		21
			• 4

<sup>185</sup> Nine hours of electives to be chosen from the fields of engineering or economics with the approval of the head of the Department of Civil Engineering.

### COURSE IN ELECTRICAL ENGINEERING

### FRESHMAN YEAR

(See page 102)

· SOPHOMORE YEAR (For the Class of 1939 and thereafter. Others follow 59th. Catalogue.)

First Semester C	redit	Second Semester Credit	t.
Electrical Engineering 201	-6) 5	Civil Engineering 206(1-3) 2 Surveying	2
Engineering Drawing 201(0- Mechanical Drawing	-2) 1	Electrical Engineering 208	5
English 203(2- Composition and Literature	-0) 2	Engineering Drawing 202(0-2) 1 Mechanical Drawing	l
Mathematics 203(5- Calculus	0) 5	English 210	2
Mechanical Engineering 201(0- Pattern Making and Foundry		Mathematics 204(5-0) 5 Calculus	5
Mechanical Engineering 309(0- Machine Shop	3) 1	Military Science	1
Military Science(1- Physics 207	·2) 1 ·2) 4	General Physics	
General Physics		. 20	)
	20		

#### JUNIOR YEAR

Economics 403	3
Principles of Economics	
Electrical Engineering 303(3-6)	5
Electric and Magnetic Circuits	
Mathematics 305(2-0)	2
Differential Equations	
Mechanical Engineering 212(3-0)	3
Engineering Mechanics	
<sup>19</sup> Mechanical Engineering 323(4-0)	4
Thermodynamics	
Elective	3
	_
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Civil Engineering 305(4-0)	4
Mechanics of Materials	
Electrical Engineering 302(5-0)	5
Alternating Currents	
Electrical Engineering 304(0-6)	2
Alternating Current Laboratory	
History 305	3
American Government	
Mechanical Engineering 313(3-0)	3
Engineering Mechanics	
Elective	3
	20

#### SENIOR YEAR

Electrical Engineering 401(4-0)	4
Alternating Current Machinery	
Electrical Engineering 403(1-6)	3
Alternating Current Laboratory	
Electrical Engineering 405(3-0)	3
Electric Transmission	
Electrical Engineering 431(2-0)	2
Engineering Administration	
<sup>19</sup> Mechanical Engineering 403(1-3)	2
Engineering Laboratory	
Elective	3
<sup>20</sup> Technical Elective	3
	_
	20

Electrical Engineering 402	4
Electrical Engineering 404(1-6) Alternating Current Laboratory	3
Electrical Engineering 432(3-0)	3
Public Utility Problems English 401(2-0)	2
Public Speaking <sup>19</sup> Mechanical Engineering 404(1-3)	2
Engineering Laboratory Elective	3
<sup>20</sup> Technical Elective	3
	20

<sup>&</sup>lt;sup>19</sup>Students whose major interest lies in Communication Arts may substitute Physics 301, Heat, (3-3) for Mechanical Engineering 323, Thermodynamics, (4-0). They may make substitutions for Mechanical Engineering 403-404, Engineering Laboratory, on condition that they include in their course of study not less than 10 credit hours from technical electives marked \*.

#### First Semester

#### Second Semester Credit

<sup>20</sup>The technical electives of the senior year are to be chosen from the following:

Credit

Civil Engineering 311(3-0)	3
Hydraulics	
*Electrical Engineering 409(3-3)	4
Radio Communication	
Electrical Engineering 426(2-2)	3
Illumination Engineering	
Geology 201	3
General	
*Physics 407(3-0)	3
Geophysics	
*Physics 409	3
Acoustics	

*Electrical Engineering 310(2-2) Communication Engineering	3
Electrical Engineering 406	
*Electrical Engineering 410(2-3)	
Electron Tubes Electrical Engineering 416(3-0)	3
Motor Applications *Electrical Engineering 428(3-3)	4
Communication Circuits Mechanical Engineering 407(3-0)	
Mechanical Refrigeration	Ŭ

### COURSE IN GEOLOGICAL ENGINEERING

#### FRESHMAN YEAR (See page 102) SOPHOMORE YEAR

English 203(2-0)	2
Composition and Literature Geology 201(3-0)	3
General Geology 207(3-4)	4
Mineralogy and Petrology Mathematics 203(5-0)	5
Calculus Physics 203(3-3)	4
General Physics Military Science(1-2)	1
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Biology 207(2-4)	3
Zoology	
English 210	2
Writing and Discussion	
Geology 202(3-3)	4
Historical Geology	
Mathematics 204(5-0)	5
Calculus	
Physics 204	4
General Physics	
Military Science(1-2)	1
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	19

#### JUNIOR YEAR

Civil Engineering 201(2-6)	4
Surveying Economics 403	3
Principles of Economics Geology 303(3-4)	4
Petrology Geology 305(3-3)	4
Paleontology Mechanical Engineering 212(3-0)	3
Engineering Mechanics Elective	3
	21

Electrical Engineering 305(3-3)	4
Electrical Machinery	
Geology 304(3-4) Petrology	4
Geology 306	4
Paleontology	
Geology 312(3-4)	4
Structural Geology	
Elective	3
	19

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#### SUMMER WORK

Geology 400s, Field Geology, six weeks, credit 7.

#### SENIOR YEAR

Chemistry 207(2-3) Quantitative Analysis		Chemistry 208(1-3) Technical Analysis	2
Civil Engineering 305(4-0) Mechanics of Materials	4	Civil Engineering 311(3-0) Hydraulics	3
Geology 405(4-0) Economic Geology		English 401(2-0) Public Speaking	2
Geology 407(2-4) Economic Minerals		Geology 404(3-0) Petroleum Geology	3
Petroleum Engineering 303(3-3) Petroleum Development		Geology 422(3-0) Natural Structural Materials	-
Elective	3	History 305(3-0) American Government	3
	21	Elective	3

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## COURSE IN INDUSTRIAL EDUCATION

# GROUP I. FOR VOCATIONAL INDUSTRIAL TEACHERS

This course is designed to meet the needs of vocational teachers. Students completing the same are qualified, under the State plan for vocational education, for the general continuation and trade and industrial schools, and are eligible to receive the Bachelor of Science degree in Industrial Education. Since most of the men who will graduate from this course are already teaching, they will complete these requirements through summer school work. extension courses, transfer of credits from other institutions, and, in some cases, by a year or more of study here. Thirty weeks of residence is required. Approved credits earned by teachers in the manner indicated above may be transferred to the A. & M. College of Texas.

Approved industrial experience will be evaluated in terms of college credits and, if acceptable to the head of the department and the Dean of the School of Engineering 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
English	
Mathematics	6
Economics	
Rural Sociology	3
History (Including History 305)	6
Public Speaking	2
Technical	
Shop Work	
Engineering Drawing	4
Sciences	
Chemistry	8
Physics	
Modern Industries	
Industrial Management	

Professional Education Cr The courses required by the State Department of Education for the Smith-Hughes certificate and any other courses in education suited to the needs of the student.	
Elective To be approved by the head of the department	34
TOTAL CREDITS	140

## GROUP 2. FOR INDUSTRIAL ARTS TEACHERS

## FRESHMAN YEAR

First Semester Cred	lit
Chemistry 101	4
Inorganic Chemistry Engineering Drawing 111(0-6)	2
Mechanical Drawing English 103(3-0)	3
Rhetoric and Composition Mathematics 101(3-0)	3
Algebra Mechanical Engineering 101(1-2)	2
Engineering Problems Mechanical Engineering 105(1-6)	3
Wood Work Military Science(1-2)	1
	18

Second Semester Cre	ait
Chemistry 102(3-3) Inorganic Chemistry	4
Engineering Drawing 124(2-4) Descriptive Geometry	3
English 104	3
Mathematics 103(3-0) Trigonometry	3
Mechanical Engineering 102(1-2) Engineering Problems	2
Mechanical Engineering 106(1-6) Cabinet Making	-
Military Science(1-2)	1
	19

Second Competer

Credit

#### SOPHOMORE YEAR

# First Semester Credit

Architecture 221(1-4)	2
Architectural Construction	
Engineering Drawing 201(0-2)	1
Mechanical Drawing	
English 203(2-0)	2
Composition and Literature	
Mechanical Engineering 201(0-3)	_1
Pattern Making and Foundry Wor	ĸ
Military Science(1-2)	
Physics 201(3-2)	4
College Physics	
Elective	6
	-
	17

Second Semester Cre	dit
Architecture 222(1-4) Architectural Construction	2
Electrical Engineering 204(2-4) Electric Wiring and Repair	3
Engineering Drawing 202(0-2) Mechanical Drawing	-
English 210(2-0) Writing and Discussion	
Industrial Education 204(3-0) Development and Practices	
Military Science(1-2)	
Physics 202(3-2) College Physics	4
Elective	3
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#### JUNIOR YEAR

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Agricultural Engineering 321(1-3)	- 2
Farm Shop	
Education 321	3
Secondary School Methods	
Industrial Education 301(3-0)	3
Methods of Teaching and Class	
Management	
Industrial Education 323(1-3)	2
Teaching Mechanical Drawing	
Mechanical Engineering 309(0-3)	1
Machine Shop	
Psychology 301	3
Educational Psychology	
Elective	4
	_
	18

History 305(3-0)	3
American Government	
Industrial Education 310(3-0)	3
Course Making	
Industrial Education 324(1-3)	2
Teaching Machine Drawing	
Industrial Education 418(1-5)	3
General Shop Methods	
Mechanical Engineering 310(0-3)	1
Machine Shop	
Mechanical Engineering 329(1-6)	3
Advanced Cabinet Making	
Elective	3
	—
	18

#### SENIOR YEAR

Economics 403	3
Principles of Economics Industrial Education 406(2-0)	2
Vocational Guidance	
<sup>21</sup> Industrial Education 415(2-5) Practice Teaching	4
Industrial Education 419(1-5)	3
Laboratory Industrial Methods Elective	5
	_
	17

English 401(2-0)	2
Public Speaking <sup>21</sup> Industrial Education 416(2-5) Practice Teaching	4
Elective	11
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	17

## COURSE IN MECHANICAL ENGINEERING (Technical Option)

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

<sup>&</sup>lt;sup>21</sup> Approved teaching experience with written reports may be substituted 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.

#### FRESHMAN YEAR (See page 102) SOPHOMORE YEAR

Credit

#### First Semester

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Chemistry 207	3
Quantitative Analysis Civil Engineering 206(1-3)	2
Surveying Engineering Drawing 201(0-2)	1
Mechanical Drawing English 203(2-0) Composition and Literature	2
Mathematics 203(5-0)	5
Mechanical Engineering 201(0-3) Pattern Making and Foundry	1
Military Science	
deneral Thysics	 19

Second Semester Cre	dit
Chemistry 208(1-3) Technical Analysis	2
Engineering Drawing 202(0-2) Mechanical Drawing	1
English 210(2-0) Writing and Discussion	2
Mathematics 204(5-0) Calculus	5
Mechanical Engineering 202(0-3) Pattern Making and Foundry	1
Mechanical Engineering 212(3-0) Engineering Mechanics	3
Military Science(1-2)	
Physics 204(3-3) General Physics	4
	_
	19

JUNIOR YEAR

Civil Engineering 305(4-0)	4
Mechanics of Materials	
Civil Engineering 311(3-0)	3
Hydraulics	
Electrical Engineering 307(3-3)	4
Electrical Machinery	
History 305(3-0)	3
American Government	
Mechanical Engineering 309(0-3)	1
Machine Shop	
Mechanical Engineering 313(3-0)	3
Engineering Mechanics	
Elective	3
	-
	21

Economics 403(3-0)	3
Principles of Economics Electrical Engineering 308(3-3)	4
Electrical Machinery Mechanical Engineering 307(2-3)	3
Kinematics Mechanical Engineering 310(0-3)	1
Machine Shop Mechanical Engineering 320(5-0)	5
Thermodynamics Elective	3
<ul> <li>a maximum and the first state of the f</li></ul>	19

#### SENIOR YEAR

Electrical Engineering 431(2-0)	2
Engineering Administration Mechanical Engineering 303(2-3)	3
Machine Design Mechanical Engineering 403(1-3)	2
Engineering Laboratory Mechanical Engineering 417(3-0)	3
Power Engineering Mechanical Engineering 419(3-0)	3
Industrial Engineering Mechanical Engineering 423(3-0)	3
Industrial Administration Elective	3
	10
	13

English 401(2-0)	2
Public Speaking Mechanical Engineering 304(2-3)	
Machine Design	
Mechanical Engineering 404(1-3)	2
Engineering Laboratory	3
Elective	
<sup>22</sup> Technical Elective	10
	20

## 22 Technical electives to be chosen from the following:

Electrical Engineering 416	) 3
Motor Applications Mechanical Engineering 407(3-0	) 3
Refrigeration Mechanical Engineering 418	0) 3
Power Engineering Mechanical Engineering 420(3-(	
Industrial Engineering	

Mechanical Engineering 428(3-0) Aerodynamics	3
Mechanical Engineering 430(2-2)	3
Production Engineering	
Mechanical Engineering 432(4-0)	4
Automotive Engineering	
Mechanical Engineering 436(4-0)	4
Adv. Heat., Vent. and Air Con.	

# COURSE IN MECHANICAL ENGINEERING

(Administrative Option) FRESHMAN YEAR (See page 102) SOPHOMORE YEAR (Same as Technical Option) JUNIOR YEAR

First Semester Cre	edit	Second Semester Cre	dit
Accounting and Statistics 409(3-0) Accounting for Engineers	) 3	Accounting and Statistics 303(3-3) Statistical Method	4
Civil Engineering 305	4	Economics 316	3
Economics 403	3	Electrical Engineering 308	4
Electrical Engineering 307	4	Mechanical Engineering 307(2-3) Kinematics	3
History 305	3	Mechanical Engineering 310(0-3) Machine Shop	1
Mechanical Engineering 309(0-3) Machine Shop	) 1	Mechanical Engineering 324(3-0) Steam and Gas Power	3
Elective	3	Elective	3
	21		21

#### SENIOR YEAR

Mechanical Engineering 303(2-3) Machine Design	3	English 401(2-0) Public Speaking	
Mechanical Engineering 403(1-3) Engineering Laboratory	2	Mechanical Engineering 404(1-3) Engineering Laboratory	2
Mechanical Engineering 419(3-0) Industrial Engineering	3	Mechanical Engineering 420(3-0) Industrial Engineering	3
Mechanical Engineering 423(3-0) Industrial Administration	3	Mechanical Engineering 438(3-0) Marketing Industrial Products	
<sup>22</sup> <sup>s</sup> Electives	9	<sup>22s</sup> Electives	9
	20		19

# FOUR-YEAR COURSE IN PETROLEUM ENGINEERING

(For class of 1939 and thereafter. Others follow 59th, catalogue.)

# FRESHMAN YEAR (See page 102) SOPHOMORE YEAR

Chemistry 207(2-3) Quantitative Analysis	3	Civil Engineering 201(2-6) Surveying	4
Engineering Drawing 201(0-2)	1	Engineering Drawing 202(0-2)	1
Mechanical Drawing Geology 201(3-0)	3	Mechanical Drawing Geology 202	4
General Geology 207(3-4)	4	Historical Geology Mathematics 204(5-0)	5
Mineralogy and Petrology Mathematics 203(5-0)	5	Calculus Petroleum Engineering 204	2
Calculus Military Science(1-2)		The Petroleum Industry Military Science	1
Yerror Yerror Yerror Yerror Yerror Yerror Yerror Yerror (3-3) General Physics	4	Physics 204(3-3) General Physics	4
	21		21

 <sup>&</sup>lt;sup>22</sup> Twelve hours of electives must be chosen from the following list and must be approved by the head of the Department of Mechanical Engineering: Civil Engineering 468, (Cost Eesimating); Economics 311, (Money and Banking);
 Economics 315, (Insurance); Economics 318, (Labor Problems); Economics 408, (Corporation Finance); Economics 409, (Foreign Trade); Economics 412, (Public Finance);
 Economics 420, (Investment); Economics 422, (Credit Institutions); Economics 423, (Advertising); Economics 424, (Modern Transportation); Electrical Engineering 432, (Public Utility Problems); English 307, (Technical Writing); English 317, (Commercial Correspondence); Mechanical Engineering 430, (Production Engineering); Mechanical Engineering 438, (Marketing Industrial Products).

#### SCHOOL OF ENGINEERING

#### JUNIOR YEAR

#### First Semester Credit Second Semester Civil Engineering 311.....(3-0) 3 English 203.. .......... Composition and Literature Hydraulics . Geology 312......(3-4) 4 Structural Geology Mechanical Engineering 212......(3-0) 3 Engineering Mechanics Mechanical Engineering 323.....(4-0) 4 Principles of Economics Electrical Engineering 305......(3-3) 4 Electrical Machinery (3.0) 2 Thermodynamics Petroleum Engineering 303......(3-3) 4 Petroleum Development 8 Elective..... 20

Petroleum Refining	
Civil Engineering 305	
Mechanics of Materials	
Mechanical Engineering 403(1-3) 2	
Engineering Laboratory ·	
Petroleum Engineering 401	
Oil Meas, and Trans.	
Petroleum Engineering 403(0-3), 1	
Petroleum Problems	•
Petroleum Engineering 405(3-0) 3	
Equipment and Applications	
Elective	
- 19	

	2	<u> </u>
SENIOR	YEAR	21
0) <b>3</b>	English 401	2
D) 4	Geology 404	3
3) 2		.3
3) <b>3</b>	Mechanical Engineering 404(1-3) Engineering Laboratory	2
3)•1.	Petroleum Engineering 402	
0) 3	Petroleum Engineering 404(0-3) Petroleum Problems	1
3	Petroleum Engineering 406(2-3) Natural Gas and Gasoline	3
19	Elective	3

Chemistry 342......(3-4). 4 Mechanical Engineering 307......(2-3) 3 Petroleum Production Methods

.....

#### FIVE-YEAR COURSE IN PETROLEUM ENGINEERING

FRESHMAN	YEAR
(Can mage	1091

(Dee page 102)
SOPHOMORE YEAR
(See page 110)
JUNIOR YEAR

		0	_
Chemistry 206 Organic Chemistry	.(3-2)	4	
English 203	.(2-0)	2	
Composition and Literature Mechanical Engineering 212	.(3-0)	3	
Engineering Mechanics Petroleum Engineering 303	.(3-3)	4	
Petroleum Development Elective		3	
<sup>23</sup> Technical Elective		4	
		20	

#### SENIOR YEAR

Elective.....

Economics 403	3
Mechanical Engineering 313(3-0)	3
Engineering Mechanics Mechanical Engineering 323(4-0)	4
Thermodynamics Petroleum Engineering 401	3
Oil Meas. and Transportation Petroleum Engineering 403(0-3)	1
Petroleum Problems Elective	3
<sup>23</sup> Technical Elective	2
	19

Civil Engineering 311(3-0)	3
Hydraulics Civil Engineering 336(0-2)	1
Hydraulics Laboratory English 210(2-0)	2
Writing and Discussion History 305(3-0)	3
American Government Petroleum Engineering 404(0-3)	1
Petroleum Problems Petroleum Engineering 406	3
Natural Gas and Gasoline Elective	2
<sup>25</sup> Technical Elective	4

20

3

4

21

Credit

#### FIFTH YEAR

#### First Semester Credit

Chemical Engineering 419(3-0)	3
Petroleum Refining Electrical Engineering 305(3-3)	4
Electrical Machinery English 307(2-0)	2
Technical Writing Geology 312(3-4)	
Structural Geology Mechanical Engineering 403(1-3)	
Engineering Laboratory Petroleum Engineering 405	
Equipment and Applications	
Petroleum Engineering 407(0-8) Production Research	3
	21

Second Semester Cre	dit
Chemical Engineering 408(2-0) Metallurgy of Iron and Steel	2
English 401 Public Speaking (2-0)	2
Geology 404	3
Mechanical Engineering 404(1-3) Engineering Laboratory	2
Mechanical Engineering 410(3-0) Internal Combustion Engines	3
Petroleum Engineering 402(3-0) Oil Field Management	3
Petroleum Engineering 408(0-8) Production Research	3
Physics 407(3-0) Geophysics	3
	21

4 4

18

<sup>23</sup>Technical Electives to be chosen from the following:

Physics 301(3-3)	4	Physics 302(3-3)
Heat		Properties of Matter
Physics 305(2-0)	2	Physics 402(3-3)
Light		Electricity and Magnetism

# COURSE IN TEXTILE ENGINEERING

FRESHMAN YEAR (See page 102) SOPHOMORE YEAR

Accounting and Statistics 201(3-3)	4
Principles of Accounting	
Chemistry 207(2-3)	3
Quantitative Analysis	
Civil Engineering 206(1-3)	2
Surveying	
Engineering Drawing 201(0-2)	1
Mechanical Drawing	
English 203(2-0)	2
Composition and Literature	
Mechanical Engineering 201(0-3)	1
Pattern Making and Foundry	-
Military Science	1
	â
Physics 203(3-3)	4
General Physics	

Accounting and Statistics 202(3-3)	4
Principles of Accounting	
Chemistry 208(1-3)	2
	_
Technical Analysis	
Engineering Drawing 202(0-2)	1
Mechanical Drawing	-
English 210	2
Writing and Discussion	
	-
History 305	- 3
American Government	
	-
Mechanical Engineering 202(0-3)	1
Pattern Making and Foundry	
Military Science(1-2)	1
Physics 204(3-3)	- 4
General Physics	

# 18

# JUNIOR YEAR

Economics 403	3
Mechanical Engineering 309(0-3)	1
Machine Shop Textile Engineering 205(3-0)	3
Cotton Exchanges Textile Engineering 301(2-3)	3
Yarn Manufacture Textile Engineering 303(0-3)	1
Fabric Design Textile Engineering 307	5
Weaving Elective	-
E4ecuve	3
	19

<sup>24</sup> Chemistry 308(3-3) Dveing	4
Electrical Engineering 305	4
Electrical Machinery Mechanical Engineering 307(2-3) Kinematics	3
Textile Engineering 302(0-2) Yarn Manufacture	1
Textile Engineering 304(0-3) Fabric Design	1
Textile Engineering 306	4
Elective	3
	20

<sup>24</sup> Offered in alternate years. Not offered in 1936-37.

## SENIOR YEAR

First Semester Cree	lit	Second Semester Cree	dit
Economics 311(3-0) Money and Banking Mechanical Engineering 419(3-0)		Electrical Engineering 431	
Industrial Engineering	-	Public Speaking	-
Textile Engineering 401(3-2) Yarn Manufacture	4	Textile Engineering 402(2-3) Yarn Manufacture	3
Textile Engineering 413(1-3) Cotton Classing	2	Textile Engineering 414(0-3) Cotton Classing	1
Textile Engineering 415(0-3) Fabric Design	1	Textile Engineering 416(1-3) Fabric Design	2
Textile Engineering 419(1-3) Weaving	2	Textile Engineering 420(0-3) Weaving	1
Elective	5	<sup>25</sup> Textile Engineering 422(3-0) History of Textile Industry	3
	20	Elective	6
			20

# JUNIOR AND SENIOR ELECTIVES IN ENGINEERING

Engineering students selected for the advanced course, R. O. T. C., will elect the proper courses in Military Science. Electives for others are to be chosen with the approval of the Dean of the School of Engineering. The following courses are recommended as desirable for Juniors and Seniors not enrolled in the R. O. T. C.

Accounting and Statistics' 409(3-0)	3
Accounting for Engineers	
Architecture 315(2-0)	2
Modern Architecture	
Architecture 415	2
m1 12 A 4	-
Biology 206	3
Diology 200	3
General Bacteriology	•
Economics 311	3
Money and Banking	
English (Advanced)	
English (Advanced) Genetics 405(3-0)	3
Survey of Eugenics	
Geology 201	3
General	-
History 311	3
Modern and Contemporary Europe	
History 423	3
American Foreign Relations	
Mathematics 305(2-0)	2
Differential Equations	
Modern Language(3-0)	3
French, German or Spanish	
Psychology 207(3-0)	3
Psychology	•
Rural Sociology 311	3
	3
Social Psychology	~
Architecture 416	2
The Fine Arts	

Biology 323(1-6)	3
Systematic Bacteriology	
Economics 318(3-0)	3
Labor Problems	Č
Economics 408	3
	э
Corporation Finance	-
Economics 412(3-0)	3
Public Finance and Taxation	
English (Advanced)	
Geology 202(3-3)	4
Historical	-
	3
History 312(3-0) Modern and Contemporary Europe	9
Modern and Contemporary Europe	
History 322(3-0)	3
Industrial History of U.S.	
History 424(3-0)	3
American Foreign Relations	
Mathematics 202(3-0)	3
Math. Theory of Investment	
	•
Mechanical Engineering 307(2-3)	3
Kinematics	
Modern Language	3
French, German or Spanish	
Municipal and Sanitary	
Engineering 408(3-0)	3
Municipal Administration	
	3
Rural Sociology 312(3-0)	3
General Sociology	

<sup>25</sup> Offered in alternate years. Offered in 1936-37.

# TWO-YEAR COURSE IN COTTON MARKETING AND CLASSING

#### FIRST YEAR

	First Semester	Cred	it	Second Semester Credit
	ral Economics 103 omic History of Agricu		3	Agricultural Economics 101(4-0) 4 Agricultural Resources
Chemistry	y 101 anic Chemistry		4	English 104
English Rhete	103 oric and Composition	(3-0)	3	History 322(3-0) 3 Industrial History of U. S.
Mathemat Algeb	tics 101	(3-0)	3	Mathematics 102(3-0) 3 Algebra
Military	Science	(1-2)	1	Military Science(1-2) 1
	Engineering 107 n Classing	(2-5)	4	Textile Engineering 108(2-5) 4 Cotton Classing
			18	18
		SE	CONI	D YEAR
Accountir	ng and Statistics 201	(3-3)	4	Accounting and Statistics 202(3-3) 4

Principles of Accounting		Principles of Accounting	*
Economics 203(3-0)	3	Economics 204(3-0)	3
Principles of Economics	-	Principles of Economics	
English 203(2-0)	2	Economics 316	3
Composition and Literature		Business Law	
History 305(3-0)	3	English 210(2-0)	2
American Government		Writing and Discussion	
Military Science(1-2)		Military Science(1-2)	
Textile Engineering 205(3-0)	3	Textile Engineering 212(1-5)	3
Cotton Exchanges		Cotton Classing	
Textile Engineering 211(1-5)	3	Textile Engineering 218(3-0)	3
Cotton Classing		Foreign Cotton Markets	
	19		19

NOTE.—Completion of this Course will be accepted for full junior standing in Group 2 of the Course in Agricultural Administration.

# THE SCHOOL OF VETERINARY MEDICINE ENTRANCE REQUIREMENTS

Applicants for admission to the first year class in the School of Veterinary Medicine must present a total of not less than 1 year (35 semester hours) of work in an approved college or university. Deficiencies in the prescribed pre-veterinary course may be made up during the college year and summer sessions. The following pre-veterinary course is prescribed:

First Semester Cree	l:t
Animal Husbandry 107	3
General Animal Husbandry Biology 101(3-4)	4
General Botany Biology 203(2-4)	3
General Zoology Chemistry 101(3-3)	4
Inorganic Chemistry English 103	3
Rhetoric and Composition Military Science	1
(1-2)	10
	10

Second Semester Cr	edit
Biology 102	) 3.
Seed Plants	
Biology 204	) 3
General Zoology	
Chemistry 102	) 4
Inorganic Chemistry	
English 104(3-0 Rhetoric and Composition	) 3
Military Science(1-2	) 1
Poultry Husbandry 201	
Poultry Production	
	`
	17.

## COURSE IN VETERINARY MEDICINE

#### FIRST YEAR

(For the Class of 1941)

Chemistry 206	4
English 203(2-0)	2
Composition and Literature Entomology 201(2-2)	3
General Entomology Military Science(1-2)	1
Veterinary Anatomy 111(3-6) Anatomy of Domestic Animals	5
Vet. Phys. and Pharm. 121(2-0) Physiology of Domestic Animals	2
	17
	11

	3
Bacteriology English 307(2-0)	2
Technical Writing	3
Entomology 208(2-2) Animal Parasites	3
History 305(3-0) American Government	3
Military Science(1-2)	1
Veterinary Anatomy 112(3-6) Anatomy of Domestic Animals	<b>5</b> .
Vet. Phys. and Pharm. 122(2-0) Physiology of Domestic Animals	2
	19

#### SECOND YEAR (For the Class of 1941)

17

Dairy Husbandry 301(3-2)	4
Market Milk Veterinary Anatomy 211(3-6)	5
Anatomy of Domestic Animals Veterinary Anatomy 213(2-4)	3
Histology and Embryology Vet. Phys. and Pharm. 221(2-9)	2
Physiology of Domestic Animals Elective	3
	_

Genetics Veterinary Pathology 242(3-2) 4 General Pathology Vet. Phys. and Pharm. 222(3-4) 4	ŀ
General Pathology Vet. Phys. and Pharm. 222(3-4) 4	
Vet. Phys. and Pharm. 222(3-4) 4	ł
	í
Physiology of Domestic Animals	
Elective	j
	,

## THIRD YEAR (For the Class of 1941)

Credit

Veterinary Medicine 352(3-0) Non-infectious Diseases	3
Veterinary Medicine 361(3-0) General Surgery	3
Veterinary Medicine 371(0-7)	2
Veterinary Pathology 341(2-0) Special Pathology	2
Veterinary Pathology 343(2-4) Special Bacteriology	3
Vet. Phys. and Pharm. 333(3-4) Pharmacology	4
Elective	3
	20

First Semester

Veterinary Medicine 352(3-0) Non-infectious Diseases	3
Veterinary Medicine 362(3-0) General Surgery	3
Veterinary Medicine 372(0-12)	4
Veterinary Pathology 342(2-4) Special Pathology	3
Vet. Phys. and Pharm. 334(3-0) Pharmacology	3
Elective	3
	19

Second Semester

Credit

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## FOURTH YEAR (For the Class of 1941)

Animal Husbandry 409(3-3)	4
Animal Nutrition	
Veterinary Medicine 451(3-0)	3
Diseases of Small Animals and For	vls
Veterinary Medicine 453(3-0)	3
Infectious Diseases	
Veterinary Medicine 461(2-0)	2
Obstetrics	
Veterinary Medicine 471(0-7)	2
Clinic	
Veterinary Pathology 441(2-2)	3
Immunology; Serum Therapy	
Veterinary Pathology 443(2-2)	3
Parasitology	
	20

English 401(2-0)	2
Public Speaking	
Veterinary Medicine 452(3-0)	3
Practice of Medicine	
Veterinary Medicine 462(3-4)	4
Operative Surgery	
Veterinary Medicine 472(0-7)	2
Clinic	
Veterinary Pathology 442(2-2)	3
Meat Hygiene	
Veterinary Pathology 444(2-2)	3
Laboratory Diagnosis	
Vet. Phys. and Pharm. 432(1-2)	1
Toxocology	
	18

## COURSE IN VETERINARY MEDICINE

#### SOPHOMORE YEAR (For the Class of 1939)

Chemistry 206	4
Organic Chemistry English 203(2-0)	2
Composition and Literature Entomology 201(2-2) General Entomology	3
Military Science	
Anatomy of Domestic Animals Veterinary Anatomy 213(2-4) Histology and Embryology	3
Vet. Phys. and Phar. 221	2
	20

Biology 206	) 3
Bacteriology	
Biology 207	) 3
Zoology	
<sup>23</sup> English 307(2-0	) 2
Technical Writing	
Entomology 208	) 3
Animal Parasites	
History 305	) 3
American Government	., .
Military Science	1 (
Veterinary Pathology 242(3-2	5 Ā
General Pathology	-
Vet. Phys. and Phar. 222	h (
Physiology of Domestic Animals	
i hysiology of Domestic Ammais	
	0.0
	23

## JUNIOR YEAR (For the Classes of 1938 and 1939)

First Semester Cre	dit
Dairy Husbandry 301(3-2) Market Milk	4
Veterinary Medicine 351	3
Veterinary Medicine 361(3-0) General Surgery	3
Veterinary Medicine 371(0-7)	2
Clinic Veterinary Pathology 341(2-0) Special Pathology	2
Veterinary Pathology 343(2-4)	3
Special Bacteriology Vet. Phys. and Phar. 333(3-4)	4
Pharmacology Elective	3
	24

Second Semester Cre	dit
Genetics 301(3-2) Genetics	4
Veterinary Medicine 352(3-0) Non-infectious Diseases	3
Veterinary Medicine 362(3-0)	3
General Surgery Veterinary Medicine 372(0-12) Clinic	4
Veterinary Pathology 342(2-4)	3
Special Pathology Vet. Phys. and Phar. 334(3-0)	3
Pharmacology Elective	3
	23

## SENIOR YEAR (For the Classes of 1937, 1938 and 1939)

Animal Husbandry 409	4
Animal Nutrition	
Veterinary Medicine 451(3-0)	3
Diseases of Small Animals	
and Fowls	
Veterinary Medicine 453(3-0)	3
Infectious Diseases	
Veterinary Medicine 461(2-0)	2
Obstetrics	
Veterinary Medicine 471(0-7)	2
Clinic	-
Veterinary Pathology 441(2-2)	3
Immunology; Serum Therapy	•
Veterinary Pathology 443	3
Parasitology	
Elective	3
Elective	-
	23
	40

English 401(2-0) Public Speaking	2
Veterinary Medicine 452(3-0) Practice of Medicine	3
Veterinary Medicine 462(3-4) Operative Surgery	4
Veterinary Medicine 472(0-7)	2
Veterinary Pathology 442(2-2)	3
Meat Hygiene Veterinary Pathology 444(2-2)	3
Laboratory Diagnosis Vet. Phys. and Pharm. 432(1-2)	1
Toxocology Elective	3
	21

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26 Or English 317.

# COURSES OF INSTRUCTION BY DEPARTMENTS

The courses of instruction are described on the following pages under the departments in which they are offered. Courses from 101 to 199 are primarily for freshmen, 201 to 299 for sophomores, 301 to 399 for juniors, 401 to 499 for seniors, 501 to 599 for graduate students; courses 571 to 599 are offered by members of the Agricultural Experiment Station Staff. First semester courses are as a rule given odd numbers, second semester courses, even numbers.

For courses in Religious Education see page 36.

The figures in parenthesis following the name of a course indicate the number of hours per week, theory and practice, respectively, devoted to the course. The credit value of the course is also indicated.

The roman numerals, I, II, following the credit value of the course indicate the semester or semesters in which the course is offered. If the course runs throughout the session no numerals are shown.

The letter "S" indicates that the course is offered in the summer session only.

No new text book is to be adopted nor is any change to be made in the required text book for any course except upon the recommendation of the head of the department and the approval of the dean concerned, and the written authority of the Executive Committee.

Freshman and sophomore classes with an enrollment of less than ten students and junior and senior classes with less than six students will be offered only in exceptional cases.

For convenience of reference, the departments are listed below in alphabetical order.

#### DEPARTMENT

PAGE DEPARTMENT

PAGE

<ol> <li>Horticulture</li> <li>Industrial Education</li> <li>Industrial Education</li> <li>Landscape Art</li> <li>Mathematics</li> <li>Mechanical Engine</li> <li>Military Science ar</li> <li>Modern Languages</li> <li>Municipal and Sar</li> <li>Petroleum Enginee</li> </ol>
<ul> <li>Landscape Art</li> <li>Mathematics</li> <li>Mechanical Engine</li> <li>Military Science at</li> <li>Modern Languages</li> <li>Municipal and Sar</li> </ul>
25 Mathematics 27 Mechanical Engine 30 Military Science ar 34 Modern Languages. 36 Municipal and San
27 Mechanical Engine 30 Military Science ar 34 Modern Languages. 36 Municipal and San
<ul> <li>Military Science ar</li> <li>Modern Languages</li> <li>Municipal and San</li> </ul>
34 Modern Languages. 36 Municipal and San
36 Municipal and San
Deteral Prot
retroieum Enginee
89 Physical Education.
43 Physics
48 Poultry Husbandry.
50 Psychology
52 Rural Sociology
55 Textile Engineering
59 Veterinary Anatom
59 Veterinary Medicin
6.) Veterinary Patholog
62 Veterinary Physiolo
65 Pharmacology
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ndustrial Education	170
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Iodern Languages	
Municipal and Sanitary Engineering.	
etroleum Engineering	
Physical Education	
Physics	
Poultry Husbandry	195
sychology	198
Rural Sociology	198
Cextile Engineering	200
eterinary Anatomy	
eterinary Medicine and Surgery	
eterinary Pathology	
Veterinary Physiology and	00
Pharmacology	204

## DEPARTMENT OF ACCOUNTING AND STATISTICS

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

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

Introductory course designed to furnish such a knowledge of accounting as will be of value to the business executive and also serve as a foundation for advanced accounting. The subject matter includes: analysis and recording of business transactions; use of the journal, ledger, trial balance, working sheets, adjusting and closing entries, operating and financial statements; special columnar journals; controlling accounts, departmentalization; business papers and business procedure related to accounting.

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

A continuation of course 201. The subject matter includes: accruals and deferments, classification of accounts, voucher systems, systems of internal check, introduction to partnership and corporation accounting, accounting for manufacturing concerns, analysis and interpretation of statements.

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

Fundamental processes of accounting, special phases of corporation accounting, introduction to actuarial accounting, specific asset and liability accounts, consignments, installment sales, depreciation, analysis of financial condition and results of operation

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

A continuation of course 301. Statement of application of funds, partnership accounting, insurance, accounting for insolvent concerns, branch accounting, parent company and subsidiary accounting, consolidations, foreign exchange, estates and trusts, introduction to budgeting.

303. Statistical Method. (3-3). Credit 4. • I, II

Collection, tabulation, presentation, and analysis of data. A study of sampling, graphics, averages, ratios and coefficients, dispersion, skewness, probability and error, index numbers, seasonal and long-time trend, baro-meters, linear correlation.

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

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

402. Accounting Systems. (3-0). Credit 3.

A study of the special features of accounting for various types of enterprises, an analysis of the accounting systems devised and recommended by government agencies and trade associations. Each student is expected to develop a system for some business organization. Prerequisite: Accounting and Statistics 301.

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403. Income Tax. (2-3). Credit 3.

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

406. Agricultural and Business Cycles. (3-0). Credit 3. An empirical and statistical study of agricultural data, production, consumption and price indexes; analysis of seasonal and long-time trends, and factors constituting cyclical fluctuation; theory, causes, effects and control of cycles. Prerequisite: Accounting and Statistics 303.

407. Auditing. (3-3). Credit 4.

Theory and practice of auditing; types of audits; audit procedure for individual assets, liabilities, and nominal accounts; working papers and reports; case studies. Prerequisite: Accounting and Statistics 301.

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

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

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

Principles of accounting directly related to the problems of the engineer, contractor, and architect; survey of the general accounting system as the source of cost data; development of the fundamental principles of valuation; introduction to cost accounting.

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

Cost accounting literature, research on valuation, income, budgeting, or other accounting problems. Prerequisite: Accounting and Statistics 401, 407.

#### FOR GRADUATES

501. Statement Analysis. (3-3). Credit 4.

An analytical study of the different kinds of statements for the guidance of executives, investors and creditors; balance sheet and profit and loss ratios, Prerequisite: Accounting and Statistics 201, 202.

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

Consideration of the accounting problems and the practices peculiar to specific industries. Class work on municipal, bank, insurance, and public utility accounting. Individual reports on problems in the above fields or in specific lines of manufacturing, wholesaling or retailing. Prerequisite: Accounting and Statistics 201, 202.

503. Price Analysis. (3-2). Credit 4.

Economic concepts relating to prices, statistical methods of analyzing prices, supply and demand curves, elasticity of demand, price forecasting, study and criticism of works on price analysis. Term paper required on factors affecting the price of an agricultural commodity. Prerequisite: Accounting and Statistics 303, Economics 203, 204.

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504. Advanced Statistics. (3-2). Credit 4.

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. Analysis of variance. Prerequisite: Accounting and Statistics 303, Mathematics 101.

#### DEPARTMENT OF AGRICULTURAL ECONOMICS

(Including Marketing and Finance, and Farm and Ranch Management)

Professor Barger, Professor Hunt, Associate Professors 1 Paine, Schlesselman, <sup>2</sup> Hanks, <sup>3</sup> Mr. Melcher, <sup>4</sup> Mr. Timm.

101. Agricultural Resources. (4-0). Credit 4. 1.11 A background course for students af agriculture, stressing the causual relationship between natural environmental, economic, cultural, and other factors and the production and commerce in agricultural commodities.

<sup>1</sup>103. Economic History of Agriculture. (3-0). Credit 3. I, II

The history of agriculture in Europe from its earliest stages; the economic development of agriculture in the United States from colonial times to the present; the interrelationship between development in agriculture, and industry and commerce; the growth of institutions and the enactment of legislation for the advancement of agriculture.

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

A thorough study of the natural agricultural regions of the United States and Canada, with special stress on the relationship between natural environment and the past, present and potential agricultural and commercial development of those areas.

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

A basic course covering the fundamental theory, principles, and applications of advertising in business and agriculture. Prerequisite: Economics 203 and 204, or 403.

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

Principles and practices of credit and collections as employed by agricultural and business concerns. Prerequisite: Economics 311.

312. Agricultural Economics. (3-0). Credit 3. LI Principles of economics as applied to the problems of agriculture.

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<sup>&</sup>lt;sup>1</sup> On leave February 19 to September 1, 1936.

<sup>&</sup>lt;sup>2</sup> Appointed February 20, 1936. <sup>3</sup> Resigned January 31, 1936.

<sup>&</sup>lt;sup>4</sup> Appointed February 1, 1936.

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

A general introductory course covering the principles, practices and problems involved in the marketing of agricultural commodities. Prerequisite: Economics 203 or 403; or Agricultural Economics 312.

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

Systems of accounts and records suited to farms and ranches. Emphasis on the use of cost finding principles as aids to more efficient farm management. Laboratory work based on records of actual farms. Prerequisite: Twelve hours of credit in technical agriculture.

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

The development of the various agencies of transportation in the United States; history of governmental regulation; survey and analysis of present day transportation trends and problems; special attention to transportation problems having an important influence on the marketing of farm products. Prerequisite: Economics 203 and 204, or 403; or Agricultural Economics 312.

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

A study of farmers' cooperative marketing and purchasing organizations in the United States and foreign countries from the standpoints of their history, economic philosophy, factors of success and failure, types of organization, business methods, legal aspects, governmental relationships, and potential development. Prerequisite: Agricultural Economics 314.

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

Methods of conducting marketing surveys; analysis of data and use of findings considered from the standpoint both of consumers and of concerns handling agricultural or industrial products. Prerequisite: Agricultural Economics 425.

421. Farm Management. (3-2). Credit 4. I, II

The application of business principles to the organization and operation of farms and ranches. Special attention to factors influencing farm profits. Laboratory work based on actual farms and ranches. Prerequisite: Twenty hours of credit in technical agriculture.

## 423. Land Economics. (3-0). Credit 3.

A general survey of the economic problems of land, covering such fundamentals as the relation of population to its supply; its classification, utilization, tenure, valuation, credit, and taxation; property rights in land; and state and national land policies. Major attention to agricultural land. Prerequisite: Agricultural Economics 312 or Economics 203 and 204, or 403.

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

A systematic description and a critical analysis of the fundamental operations of wholesale and retail concerns, particularly those serving agricultural communities. Prerequisite: Economics 203 and 204, or 403.

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

A consideration of the general principles of successful personal selling, sales organization and sales management; analysis of some carefully selected sales problems of concerns handling industrial and agricultural products. Prerequisite: Economics 203 and 204, or 403.

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

Historical survey of the development of cotton marketing problems; demand and supply outlook; services in cotton marketing; descriptions of various markets and price determining factors in these markets; cooperative efforts in marketing cotton; critical analysis of cotton policies of the Federal Government. Prerequisite: Agricultural Economics 314.

429. Economic Policy for Agriculture. (2-0). Credit 2.

A critical analysis of the past and present programs of governmental agencies and farmers' organizations for the economic betterment of agriculture. Prerequisite: Economics 203 and 204, or 403; or Agricultural Economics 312.

430. Farm Credit. (3-0). Credit 3.

Analysis of the credit requirements of individual farmers and farmers' cooperative organizations; investors and depositors as sources of credit; principles upon which each type of farm credit is extended; the instruments and legal aspects of farm credit; the cost of credit; description of financial institutions which serve agriculture, with major attention to the component units of the Farm Credit Administration. Prerequisite: Economics 311.

432. Advanced Farm and Ranch Management. (2-3) Credit 3. II

Detailed problems involved in the organization and management of specific farms and ranches, covering such matters as efficiency analysis, budget preparation, layout and improvement. Survey of research literature in farm and ranch organization and management. Prerequisite: Agricultural Economics 421.

FOR GRADUATES

501, 502. Advanced Marketing Problems. (4-0). Credit 4 each semester. A thorough study of the problems involved in marketing farm products such as price determining factors; costs affecting distribution; operation of produce exchanges and futures markets; governmental regulation of middlemen and marketing services; and adjustment of supply to demand individually, cooperatively, and by governmental aid. Prerequisite: Agricultural Economics 314.

503. Land Problems. (4-0). Credit 4. An extensive study of problems involved in developing state and national policies for the proper utilization of our land resources. Prerequisite: Agricultural Economics 423.

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#### AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

511. Farm Management Surveys. (2-4). Credit 3. I Methods of making surveys of regional systems of farming; analysis of survey data; use of findings in formulating farm organization and management programs. Practice work consists of surveying actual farms and ranches. Prerequisite: Agricultural Economics 421.

512. Cotton Marketing Problems. (4-0). Credit 4.

Extensive study of potential cotton areas of the world, trends in production, trends of consumption of cotton and substitutes for cotton in the various consuming areas; national and international policies that affect the cotton farmers; price determining factors in the various markets; governmental aid in estimating supply and demand, regulations of standards, and control of futures market; cooperative versus individual sale of cotton. Prerequisite: Agricultural Economics 427.

514. Contemporary Problems in Agricultural Economics. (4-0). Credit 4. II A critical consideration of some of the most important contemporary problems in agricultural economics. Prerequisite: Agricultural Economics 312 or 429; and 430.

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

Principles of research as applied to the field of agricultural economics. Practice work consists of an analysis of the research projects in agricultural economics conducted by federal agencies, state Agricultural Experiment Stations, and by private research institutions. Special attention to the methods and programs of the Division of Farm and Ranch Economics of the Texas Agricultural Experiment Station. Prerequisites: Agricultural Economics 312 or 429; 314 and 430.

# DEPARTMENT OF AGRICULTURAL EDUCATION

Professor Alexander, Professor H. Ross, Mr. Sherrill

302. Principles of Agricultural Education. (3-0). Credit 3.

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An introduction to the field of general education, designed to acquaint the student with the principles of educational theory; the aim and meaning of education, emphasizing the vocational viewpoint.

401, 402. Teaching Vocational Agriculture. (2-6). Credit 4 each semester.

Analysis of the agricultural teacher's job; courses of study; annual plan, lesson plans, project outlines and supervision; equipment; reports; observation and directed teaching.

## FOR GRADUATES

(Agricultural Education 401, 402 are prerequisites to the following courses.)

501, 502 Advanced Methods in Agricultural Education. (4-0). Credit 4 each semester.

An advanced course in methods of teaching vocational agriculture.

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- 505. Supervised Practice. (4-0). Credit 4. I An advanced study of supervised practice in vocational agriculture.
- 507. Future Farmer Activities. (2-0). Credit 2. Ľ Methods of conducting future farmer activities of statewide importance.

508. Promotional Activities in Vocational Agriculture. (2-0). Credit 2. II Principles of news writing, plans for collective exhibits, instructional booths, fairs and contests. Open only to teachers of vocational agriculture.

509. Part-Time Classes. (2-0). Credit 2. Methods of organizing and conducting part-time classes in vocational agriculture.

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. I

Supervision of practice work, determining course content, follow-up work, setting up publicity programs, evaluating improved practices resulting from evening school instruction.

512. Agricultural Outlook Material. (2-0). Credit 2. H

Methods of using Agricultural Outlook Material. Open to teachers of agriculture and county agents who have had a course in cooperative marketing.

513. Administration and Supervision of Agricultural Education. (2-0). I 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

<sup>5</sup> Professor Scoates, <sup>e</sup> Professor F. R. Jones, Associate Professors Thurmond, Christy, <sup>68</sup> Mr. Henry

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

Construction, adjustment, operation and repair of all types of farm machinery; tilling, seeding, cultivating, fertilizing and power machinery.

203. Gas Engines. (2-2). Credit 3.

Sources of farm power; construction, operation, care, and repair of various types of internal combustion engines with agricultural application.

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<sup>&</sup>lt;sup>5</sup> On leave, 1935-1936.

<sup>&</sup>lt;sup>6</sup> Acting head of department, 1935-36. <sup>68</sup> Appointed February 14, 1936.

205. Farm Buildings and Structures. (2-3). Credit 3. Ι. Methods of construction of various buildings found on the farm. Includes masonry, as well as wood, construction and installation of utilities. 216. Automotive Machinery. (3-3). Credit 4. П Construction, operation, care and repair of tractors, automobiles, and trucks. Prerequisite: Agricultural Engineering 203. 305. Terracing and Drainage. (2-3). Credit 3. L Surveying with its farm application; principles of farm drainage as applied to open ditches, terraces, tile drains; promotion of drainage districts; use of dynamite, removal of stumps, law with respect to farm waters. 321, 322. Farm Shop. (1-3). Credit 2 each semester. A course for vocational teachers; soldering, belt lacing, rope knots and splices, concrete construction, carpentry, forging, tool sharpening. 413. Farm Buildings. (2-3). Credit 3. Design and location of farm buildings; building materials; construction, arrangement. 418. Farm Home Utilities. (3-3). Credit 4. П Types, installation, operation, care and repair of the following utilities for farm buildings: ventilation, heating, lighting, water supply and sewerage disposal, refrigeration, air conditioning. 424. Terracing. (1-3). Credit 2. I. II The control of soil erosion and soil moisture by the use of terraces, dams, and similar structures.

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

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

#### 428. Irrigation and Drainage. (3-6). Credit 5.

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

FOR GRADUATES

501, 502. Advanced Drainage and Irrigation. (3-3). Credit 4 each semester. Advanced study of farm drainage and irrigation with special emphasis on recent developments. Prerequisite: Agricultural Engineering 305.

503, 504. Arvanced Farm Machinery. (3-3). Credit 4 each semester.

Advanced study of farm machinery with special emphasis on recent developments. Prerequisite: Agricultural Engineering 201.

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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.

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

513, 514. Advanced Soil Erosion Engineering. (3-3). Credit 4 each semester. The advanced study of design, construction, and layout of terraces and other obstructions used for the control of soil erosion, as well as the outlet structures for same, with special emphasis on late developments.

515, 516. Technical Research. Credit 2 to 6 each semester. Projects subject to the approval of the head of the department.

#### DEPARTMENT OF AGRONOMY AND GENETICS

Professor Humbert, Professors L. G. Jones, <sup>7</sup> Horlacher, <sup>8</sup> Godbey, Associate Professors Mogford, Stewart, <sup>8</sup>Quisenberry, Mr. Apple

#### AGRONOMY

105. Fundamentals of Crop Production. (3-2). Credit 4. I, II Classification and distribution of farm crops; importance of good varieties and good seed, crop improvement; preparation of the seed bed; commercial fertilizers, manures, and lime; seeding practices; crop tillage; harvesting; meadow and pasture management; weeds; crop rotation; diseases and insect enemies.

301. Soils. (3-2). Credit 4.

Soil forming processes; geological classification of soils; physical nature of mineral soils; organic matter; soil structure and its modification; classification of soils and the soil survey; forms of soil water; soil water in relation to plants, control of soil water; soil heat, aeration; absorptive properties of soil; removal of nutrients by cropping and leaching; erosion losses; alkali

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<sup>7</sup> Resigned, January 31, 1936.

<sup>&</sup>lt;sup>8</sup> Associate Professor, First Semester 1935-36.

<sup>&</sup>lt;sup>9</sup> Appointed February 1, 1936.

soils; soil acidity; soil organisms; principles of fertilizer practice; farm manures; green manures; maintenance of soil fertility; laboratory and field tests. Prerequisite: Chemistry 101, 102.

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

The production, harvesting and preservation of alfalfa, cowpeas, soy beans, vetches, Sudan grass, sorghums, Bermuda grass, Johnson grass, Lespedeza and the other miscellaneous hay and pasture crops adapted to Southern agriculture; problems of meadow and pasture management; also instruction in commercial grading of forage according to federal standards.

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

The production, harvesting and utilization of corn, oats, wheat, barley, rye, rice, and grain sorghums together with instruction in the judging and commercial grading of grain according to federal standards.

#### 315. Cotton Production. (2-2). Credit 3.

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

## 413. Soil and Crop Problems. (3-0). Credit 3.

Special problems dealing with the management and utilization of distinctive types of soils and soil condition and a detailed consideration of crop management problems under varying soil and climatic conditions. Prerequisite: Agronomy 301.

415, 416. Soil and Crop Seminar. (1-0). Credit 1 each semester.

A review and presentation of the results of selected lines of research, dealing with soils and crops.

417. Range and Pasture Improvement and Maintenance. (2-0). Credit 2. I Problems dealing with vegetation, improvement and maintenance of ranges and pastures. Weeds and poisonous plants and their eradication.

#### 418. Soil Coservation. (2-3). Credit 3.

A course dealing with the importance of soil conservation from the standpoint of different soil types in the agricultural regions of Texas and the United States. Conservation methods are presented according to climatic regions, cropping systems, topographic locations, and other influencing factors. Field practice in soil mapping is included in the laboratory periods. Prerequisite: Agronomy 301.

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

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505, 506. Advanced Soils. (3-4). Credit 4 each semester.

A review of our present knowledge of the soil as a medium for plant growth; study of the more recent and noteworthy investigations pertaining to soils and fertility.

507, 508. Advanced Cotton Production. (3-4). Credit 4 each semester.

An advanced study of cotton from the standpoint of species, varieties, breeding, fertilization, tillage, practices and harvesting. Extended use is made of recent cotton literature in scientific journals, experiment station bulletins, and such reference books on cotton as are available.

509, 510. Research Problems. Credit 1 to 4 each semester.

Technical research problems subject to approval of head of department.

#### GENETICS

301. Genetics. (3-2). Credit 4.

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; and introduction to biometrical methods; laboratory work with Drosophila. Prerequisite: Biology 101.

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

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

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

Genetics as applied to the problems of the animal breeder; reproduction; fertility; sterility; Mendelism in farm animals; quantitative characters; mutations; acquired characters; systems of breeding, such as grading, cross-breeding, inbreeding, linebreeding and outcrossing; selection. Genetic analysis of pedigrees. Prerequisite: Genetics 301.

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

Variation and heredity in human beings. The various phases of the problem of race betterment are studied from the biological point of view. Prerequisite: Genetics 301 and senior classification.

405. Survey of Eugenics. (3-0). Credit 3.

A general study of eugenics and eugenic reform, and certain genetic principles underlying human heredity.

## FOR GRADUATES

501, 502. Advanced Plant Genetics. (3-4). Credit 4 each semester.

Specialized study of plant genetics. Opportunity to specialize in some commercial crop. Standard text books and current scientific literature used.

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503, 504. Advanced Animal Genetics. (3-4). Credit 4 each semester.

Specialized study of animal genetics. Opportunity to specialize on some breed of farm animals, guinea pigs, pigeons or Drosophila. Standard text books and current scientific literature used.

505, 506. Advanced Biometry. (3-4). Credit 4 each semester.

The application of certain biometric principles to the interpretation of genetic data.

507, 508. Genetic Studies in Cotton. (3-4). Credit 4 each semester.

A detailed study of cotton genetics and breeding for students especially interested in cotton.

509, 510. Research Problems. Credit 1 to 4 each semester. Technical research problems subject to approval of head of department.

571, 572. Research in Cotton Breeding. Thesis.

A thesis course for students who are majoring in genetics or agronomy and who desire to become familiar with the method of commercial cotton breeding. The problem given to the student will cover, in its completion, in relation to cotton breeding, the biometrical methods; progeny analysis; germination, seedling and maturity tests proceedure; stapling; ginning. Students electing this course must first be familiar with the fundamentals of genetics and agronomy. Mr. Killough.

## DEPARTMENT OF ANIMAL HUSBANDRY

Professor D. W. Williams, Professors Mackey, Buchanan, Associate Professors <sup>10</sup>Knox, Schuessler, <sup>11</sup>Mr. Beeson, <sup>12</sup>Mr. Dahlberg, Mr. Gremmel

107. General Animal Husbandry. (2-4). Credit 3. I, II

An introductory survey course. Farm animals as a source of food, clothing and labor; the place of livestock in farming; the place of the United States and of Texas in the livestock industry; history of the industry in the United States; heredity the basis for improvement; selection or judging and its importance; pedigrees; methods used in improvement; the importance of proper nutritional development; chemistry and physics the basis for nutrition; factors influencing efficiency in feeding; care and management as factors determining results obtained; the importance of sanitation and disease control to the livestock producer; the place and special advantages of each class of livestock; classifications used in showing live stock; classifications of the breeds and market types of horses, beef cattle, hogs, sheep and goats.

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

<sup>&</sup>lt;sup>10</sup> Resigned, September 30, 1935.

<sup>&</sup>lt;sup>11</sup> Resigned, January 31, 1936. <sup>12</sup> Appointed, February 1, 1936.

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.

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; marketing machinery of the live stock industry; shipping losses; shrinks and fills; pure bred sales. Prerequisite: Animal Husbandry 107.

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

Chemical composition of feeding stuffs; composition of farm animals; digestion; metabolism; functions of nutrients; vitamins; coefficients of digestibility; energy in feeds and its uses; feed requirements of animals; maintenance; growth; fattening; milk production; wool production; work; computation of rations; manurial value of feeds; nature and uses of feed stuffs including cereal by-products, legumes and legume seeds, oil bearing seeds and by-products, packing house by-products, hays, fodders, straws, pastures, forage, silage, and miscellaneous feeds. Prerequisite: Chemistry 212, 214.

307. Farm Meats. (1-3). Credit 2.

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.

Form as related to function in farm animals; characteristics considered in the selection and improvement of various breeds and types; factors determining the value; score card and comparative judging.

403. Advanced Judging. (0-6). Credit 2.

An advanced course in livestock judging. Prerequisite: Animal Husbandry 202.

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

The world beef cattle situation; historical development; systems of production and determination of the place of each; distribution and value in comparison with other meat animals; location of beef enterprise; establishment of the herd; improvement methods; mating and reproduction; calving; feed and care of calf; development of stock for the breeding herd; wintering, summer management; cattle feeding; selection of feeds; value of feeds; financial aspect of beef production; equipment; parasites and diseases; fitting and showing; marketing. Prerequisite: Animal Husbandry 303 or 409.

409. Animal Nutrition and Live Stock Feeding. (3-3). Credit 4.

A modification of course 303 with a study of the practical feeding of horses, dairy cattle, beef cattle, sheep, and swine.

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#### AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

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.

Historical; feeding and handling the breeding herd during various seasons; culling; records; the sow and the litter; growing and fattening pigs; forage crops; feeding on forage; dry lot feeding; choice and value of feeds; garbage disposal plants; prevention of disease; slaughtering and curing; the pure bred herd; fitting and showing. Prerequisite: Animal Husbandry 303 or 409.

413. Horse and Mule Production. (2-3). Credit 3.

Review of situation; historical development; mechanical vs. horsepower; anatomy; unsoundness; ailments and diseases; feeding the brood mare; stallions; growing and developing colts; feeding and handling horses at work; stables and equipment; harness; shoeing, fitting and showing; polo and saddle horse breeding and training; horse markets; jacks and jennets; mule production. Prerequisite: Animal Husbandry 303 or 409.

416. Live Stock Management. (3-2). Credit 4.

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

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

Microscopic structure; chemical composition; production; preparation for market; market reports; marketing; comparison with other textile materials; measurement; grading; sorting; scouring; pullaries; process of manufacture of fabrics.

419. Meat Preservation Problems. (1-3). Credit 2.

A detailed study of problems in methods of curing and storing under various conditions; methods of canning. Prerequisite: Animal Husbandry 307. During the summer session, students who have not had Animal Husbandry 307 or its equivalent will be required to do extra laboratory work in order to become familiar with the material covered in that course.

420. Quality in Meats. (2-0). Credit 2.

The effects of feeding, breeding, and management of the animal on the quality of pork, beef, and mutton; a study of cutting tests in relation to type and finish.

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.

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423. Seminar. (2-0). Credit 2.

Research methods in animal experimentation; sources of error in experiment work; review of research literature with oral and written presentation. Prerequisite: Animal Husbandry 303, Genetics 301.

#### 424. Range Live Stock Production. (3-0). Credit 3.

Review of historical development; types of ranges; types and breeds of livestock used; range livestock improvement; handling cattle, sheep and goats during various seasons of the year; culling of herds and flocks; range livestock losses including parasites, deficiency, diseases, droughts; stocking of the range under various conditions; carrying capacity determination; over and under grazing; water development; salting; feeding both regular and under emergency conditions; finishing on the range; equipment; labor; cost of production; marketing. Prerequisite: Animal Husbandry 303 or 409.

## FOR GRADUATES

- 501, 502. Advanced Animal Nutrition. (3-3). Credit 4 each semester. A continuation of material covered in course 303; review of more recent investigations; methods of investigations; sources of error.
- 505a, 506a. Advanced Beef Cattle Production. (3-3). Credit 4 each semester. A continuation of course 406.
- 505b, 506b. Advanced Sheep Production. (3-3). Credit 4 each semester. A continuation of course 410.
- 505c, 506c. Advanced Swine Production (3-3). Credit 4 each semester. A continuation of course 412.
- 505d, 506d. Advanced Horse Production (3-3). Credit 4 each semester. A continuation of course 413.

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 an organized wool or mohair research project.

Studies under way include a determination of the grades and shrinkage 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.

Research problems in mammalian genetics and reproductive physiology, available as thesis material, to students majoring in animal husbandry, dairy husbandry, genetics, biology, veterinary anatomy or veterinary physiology. Problems may either be organized as Experiment Station projects or they may be assigned portions of projects already organized. Lines of work already in progress include inheritance studies with sheep and goats, cytology of farm

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animals, species hybridization, reproductive physiology of sheep and goats, and the inheritance of resistance to disease. The student must show that he is well grounded in the principles of genetics, anatomy and physiology, before being admitted. Offered only by consent of the man in charge and with the approval of the head of the department in which the student majors. Dr. Warwick.

## DEPARTMENT OF ARCHITECTURE

Professor Langford, Professor Finney, Assistant Professor C. M. Brook, SJr., Mr. Zisman, Mr. Sullivan

101, 102. Architectural Drawing. (0-4, 0-6). Credit 1, 2.

Lettering, line drawing, mouldings, band ornaments, proportion of openings; application of the orders; architectural composition; india ink, and color-washes.

107, 108. History of Architecture. (2-0). Credit 2 each semester.

Introduction to the background of architecture; Egyptian, Western Asiatic, Greek and Roman architecture.

109, 110. Freehand Drawing. (0-4). Credit 1 each semester.

Sketching from geometrical solids, simple objects, plaster casts, still life; elementary color and color wheels. Adaption of light and shade to drawing.

201, 202. Architectural Design. (0-10). Credit 3 each semester.

Simple problems in design and composition; presentation, rendering; application of elements of architecture; analytique; research. Prerequisite: For course 201, Architecture 102; for course 202, Architecture 201 and 203.

203. Shades, Shadows, and Perspective. (0-6). Credit 2.

A study of the principles of shades, shadows, and perspective, and of their application to various architectural subjects. Prerequisite: Eng. Drawing 124.

205, 206. Freehand Drawing. (0-4). Credit 1 each semester.

Sketches in charcoal of the full length antique and other subjects; shaded charcoal drawing from the full length figure and from casts of architectural ornaments; water color studies; pen and ink drawings; out-door sketching. Prerequisite: Architecture 110.

215, 216. History of Architecture. (2-0). Credit 2 each semester.

Early Christian, Byzantine, Romanesque, and Gothic styles; architecture of the Renaissance and to the beginning of the 19th century in the principal European countries. Prerequisite: Architecture 108.

221, 222. Architectural Construction. (1-4). Credit 2.

Details in frame and masonry construction. General drawing, scale and full size details, working drawings.

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

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ARCHITECTURE

Major and sketch design problems of small ensemble involving composition, planning and presentation. Archeaological problems, library research. Prerequisite: Architecture 202.

305, 306. Freehand Drawing. (0-4). Credit 1 each semester.

Advanced freehand drawing from the antique and from life in various media; modeling in clay of sculptural and architectural decoration and ornament. Prerequisite: Architecture 206.

313, 314. Mechanics of Materials; Stress Analysis. (4-0, 3-3).

Credit 4 each semester. A study of the principles of analytic mechanics and graphic statics; properties of materials, general theory of structural design. Prerequisite: Mathematics 102, 104.

315. Modern Architecture. (2-0). Credit 2. An analysis of modern buildings; historical influences; modern develop-

ment and tendencies. Prerequisite: Architecture 216.

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

Details in frame and masonry construction; general drawings; scale and full size details; working drawings. Prerequisite: Architecture 202.

401, 402. Architectural Design. (0-21). Credit 7 each semester.

Major design and sketch problems of large ensemble involving composition, planning, and presentation. Archaeological problems and library research. Prerequisite: Architecture 302.

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

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

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

History of the fine arts in their relationship in architecture; the historic styles of decoration; the development of furniture and furnishings; a study of the history of sculpture and painting. Prerequisite: Senior classification.

417, 418. Concrete Structures. (3-0, 2-3). Credit 3 each semester.

Theory of reinforced concrete design and its application in the design of slabs, beams, girders, columns, and footings; concrete buildings. Prerequisite: Architecture 313, or Civil Engineering 305.

421, 422. Structural Design. (2-6). Credit 4 each semester.

Advanced problems in building construction; wooden and steel trusses; plate girders; critical study of steel frame work for high buildings. Prerequisite: Architecture 314, Civil Engineering 305.

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<sup>423.</sup> Materials of Construction. (2-0). Credit 2. A brief study of the materials of construction, their properties, character-

istics, and uses. Prerequisite: Architecture 313, or registration in Civil Engineering 305.

425. Professional Practice. (2-0). Credit 2.

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Professional relations; office management; contracts; law of architecture and building; building economics; specifications. Prerequisite: Senior classification.

451, 452. Architectural Design. (0-27). Credit 9 each semester.

Advanced problems in architectural design; city planning; group studies; sketch problems and library research. Prerequisite: Architecture 402.

# FOR GRADUATES

501, 502. Architectural Design. (0-24). Credit 8 each semester.

Design of buildings and groups of buildings. Practice, criticism; consultations; research.

503, 504. Architectural Construction. (2-8). Credit 5 each semester.

Theory and practice in advanced constructive design; foundations; walls; frames.

505, 506. Architectural Practice. (1-4). Credit 2 each semester. Contracts, specifications, superintendence, office methods.

507, 508. Architectural Presentation. (0-6). Credit 2 each semester. Sketching, rendering, color harmony and effects.

509, 510. Mechanical Equipment of Buildings. (1-4). Credit 2 each semester. Theory, practice, and research relating to mechanical equipment of buildings.

# DEPARTMENT OF BIOLOGY

Professor Ball, Professor Reeves, Associate Professor Doak, Assistant Professors Gibbons, LaMotte, Berry, Talley, Mr. Hopkins.

## BOTANY

101. General Botany. (3-4). Credit 4 each semester. I, II External and internal form and structure; life processes of plants; types of various subdivisions of the plant-kingdom.

 102. Morphology and Taxonomy of Seed Plants. (2-4). Credit 3. II Designed to give a more thorough acquaintance with the structure and relationships of the higher plants. Open to students of Veterinary Medicine. Horticulture, Agronomy, and Arts and Sciences. Prerequisite: Biology 101.

211, 212. General Biology. (2-4). Credit 3 each semester. Biological types and principles; interdependence of living things.

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#### BIOLOGY

213. Plant Physiology. (2-4). Credit 3.

Preparation for advanced work in agronomy and horticulture; physiology of growth, nutrition and reproduction in plants. Prerequisite: Biology 101.

346. Systematic Botany. (1-5). Credit 3.

This course is designed to give the student such training in the systematic relationships of flowering plants as will enable him to determine by sight the family and generic groups so that with little further application species may be determined. Special attention will be given to a comparative study of the structures upon which modern systematic botany is needed.

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

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, 206.

#### ZOOLOGY

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

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

207. General Zoology. (2-4). Credit 3.

A study of animals of economic importance. Types of the various groups; origin, development and distribution of animals.

317, 318. Comparative Vertebrate Anatomy. (2-4). Credit 3 each semester. Comparative anatomy of typical chordates; progressive development of organs and organ-systems. Prerequisite: Biology 203, 204.

341, 342. General Physiology. (3-4). Credit 4 each semester. Prerequisite: Biology 203, 204 or 211, 212. Course 341 open to students in Physical Education. (See Veterinary Physiology and Pharmacology 341, 342).

343. Histology. (2-4). Credit 3.

This course will offer a study of the cell in its various forms as exemplified in the tissues of the mammalia. A study will be made of the histological structure of the different types of muscle tissue, the nervous system, alimentary tissues, ductless glands, respiratory system, tissues of the reproductive, excretory and vascular systems.

344. Embryology. (2-4). Credit 3.

This course will present the fundamental facts of vertebrate development, and is based on the work in histology. It will include a study of the origin of the germ layers, the formation of germ cells, fertilization, cleavage of the egg, and the development of the fetal membranes. The derivations of the ectoderm, mesoderm, and entoderm will receive especial attention.

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The laboratory work will deal with the microscopic study of the whole mounts and serial sections of pig and chick embryos.

#### BACTERIOLOGY

206. Introductory Bacteriology. (2-4). Credit 3. I, II Nature and relations of bacteria related to agriculture. Prerequisite: Biology 101.

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- Bacteriology of Milk. (2-4). Credit 3. Bacteriology of milk; dairy sanitation; milk-borne diseases; control. Prerequisite: Biology 206.
- 323. Systematic Bacteriology. (1-6). Credit 3. II Relation of bacteria to other microorganisms and to each other. Methods of isolation and identification of bacteria. Prerequisite: Biology 206.

#### FOR GRADUATES

- 501, 502. Plant Morphology. (2-6). Credit 4 each semester. Comparative plant morphology with emphasis on seed plants; morphological technique; taxonomic applications.
- 503, 504. Advanced Vertebrate Zoology. (2-6). Credit 4 each semester. Comparative anatomy of vertebrate types. Origin and development of organs and organ systems.
- 505, 506. Advanced Bacteriology. (2-6). Credit 4 each semester. Advanced methods of bacteriological analyses.

509, 510. Advanced Plant Physiology. (2-6). Credit 4 each semester.

Responses of the plant to various external and internal stimuli; physiology of growth, nutrition and reproduction.

- 511, 512. Biochemistry of the Cotton Seed. (2-6). Credit 4 each semester. Composition of the various organs and tissues of the cotton seed; standard microchemical methods.
- 513, 514. Advanced Plant Pathology. (2-6). Credit 4 each semester. Morphology and physiology of pathogenic fungi.

515, 516. Cytology. (2-6). Credit 4 each semester.

An intensive study of the organization and activities of the cell; cytological technique. Emphasis is placed upon topics related to heredity.

517, 518. Animal Parasitology. (2-6). Credit 4 each semester. Morphology, taxonomy and biology of parasitic protozoa and worms.

## CHEMISTRY

# DEPARTMENT OF CHEMISTRY AND CHEMICAL ENGINEERING

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

Mr. Taggart, Mr. Harris.

#### CHEMISTRY

√101. General Inorganic Chemistry. (3-3). Credit 4. I, II

Fundamental laws and theories of chemical activity. Practical application of the more important chemical processes involving non-metals are briefly described

General laboratory work deals with non-metals and simple tests of technical importance supplementing lecture demonstrations.

1/102. General Inorganic Chemistry. (3-3). Credit 4.

Fundamental theories of structure and activity. Practical application of the more important chemical processes involving metals described. Organic chemistry is briefly outlined.

Laboratory work consists of elementary qualitative separation and identification of metallic and non-metallic ions. Prerequisite: Chemistry 101.

103. General Inorganic Chemistry. (3-4). Credit 4. I. II Same as course 101 with the addition of one hour of laboratory per week.

104. General Inorganic Chemistry. (3-4). Credit 4. Same as course 102 with the addition of one hour of laboratory per week.

Prerequisite: Chemistry 103.

v205'. Qualitative Analysis. (3-6). Credit 5.

The theory and practice of fundamental analytical operations designed to enable the student to make rapid and accurate analysis of substances of average complexity, and to understand the steps by which his results are obtained.

The laboratory work consists of a study of the properties and reactions of the more common basic and acidic radicals, their separation and identification from mixtures, the method of getting solids into solution for analysis and the analysis of unknown substances. Prerequisite: Chemistry 102.

206. Organic Chemistry. (3-2). Credit 4.

The subject is treated primarily as a pure science. In the laboratory a study is made of the properties and typical reactions of compounds discussed in the theory. Prerequisite: Chemistry 102.

207. Quantitative Analysis. (2-3). Credit 3.

A considerable portion of the class-room time is devoted to chemical calculation involved in the practice. The laboratory work consists of a number of carefully selected experiments in quantitative analysis designed to typify operations of general application. Prerequisite: Chemistry 102.

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

This course is designed to give the student an insight into the methods employed in the analysis of materials connected with his profession and the applications of the results obtained to practical problems. The work in the laboratory is discussed and explained, and its application to engineering problems emphasized. Fuels, steels, cements, waters for industrial purposes, and industrial products commonly met with, are analyzed by rapid technical methods. Prerequisite: Chemistry 207.

212. Agricultural Chemistry. (3-0). Credit 3. 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 fungicides. An elementary study of organic chemistry is made in the beginning. Prerequisite: Chemistry 102.

214. Agricultural Analysis. (1-3). Credit 2. I, II Chemical analysis of feeds, fertilizers, soils, insecticides, and fungicides. Prerequisite: Chemistry 102.

To be taken with Chemistry 212.

# $\sqrt{301}$ , 302. Organic Chemistry. (3-4). Credit 4 each semester.

An introduction to the chemistry of the compounds of carbon. A study of general principles, and their application to various industrial processes. The laboratory work serves as a basis of the course. The student here familiarizes himself with the reactions, properties and relations of typical organic compounds. Prerequisite: Chemistry 102.

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

Physical and chemical properties of textile fibers, dyes, dyestuffs, and mordants, principles and appliances involved in the commercial coloring of textiles, especially cotton and woolen goods. Most of the principles discussed, in the theory are tested in the laboratory, with especial attention to the production of dyes to meet particular commercial requirements. Prerequisite: Chemistry 102.

(Offered in alternate years. Not offered in 1936-37.)

#### 326. Physiological Chemistry. (3-3). Credit 4.

A study of the chemical composition of living matter, and the fundamentals of digestion and nutrition. Prerequisite: Chemistry 206 or 301.

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

Explanation of basic chemical theories and principles with reference to their relationship to transformations in living matter. Special emphasis on such topics as atomic structure, diffusion and osmotic pressure, colloids. chemical equilibrium, catalysis, reaction velocity, hydrogen-ion concentration and its importance in biological processes. Prerequisite: Chemistry 206 or 301, and 207, or Chemical Engineering 202.

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438. Seminar. (1-0). Credit 1.

443, 444. Animal Biochemistry. (3-3). Credit 4 each semester.

The chemistry of cell constituents and their utilization in the animal body. Prerequisite: Chemistry 302.

445, 446. Plant Biochemistry. (3-3). Credit 4 each semester.

A study of the chemical processes in the growth and development of plants. Prerequisite: Chemistry 302.

#### FOR GRADUATES

501, 502. Advanced Agricultural Chemistry. (2-6). Credit 4 each semester. Similar to courses 212, 214, with more advanced work.

507, 508. Advanced Organic Chemistry. (2-6). Credit 4 each semester.

Analysis and preparation of organic compounds. Prerequisite: Chemistry 302.

511, 512. Advanced Physical Chemistry. (3-3). Credit 4 each semester. An intensive study of physical and electro chemistry. Prerequisite: Chemical Engineering 418.

513, 514. Research. Credit 1 to 4 each semester.

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

Credit 4 each semester.

Vitamins, amino acids, mineral contents of feeds, productive protein, and productive energy as related to animal nutrition.

The laboratory work is under Agricultural Experiment Station conditions and includes analysis of feeds, experiments, and a thesis on the chemistry of animal nutrition. Dr. Fraps.

573, 574. Special Topics in the Chemistry of Animal Nutrition. (2-6).

Credit 4 each semester.

A continuation of course 571, 572. Dr. Fraps.

575, 576. Special Topics in the Chemistry of Soils. (2-4). Credit 3 each semester.

The study of soil acidity, phosphoric acid, potash, and nitrogen related to crops, and similar topics by means of books, bulletins, original articles, and the preparation of reports. The laboratory work accompanying the course will depend upon the experience of the student. Dr. Fraps.

577, 578. Special Topics in the Chemistry of Soils. (2-6).

Credit 4 each semester.

A continuation of course 575, 576.

#### CHEMICAL ENGINEERING

The foundation for the work in chemical engineering is laid in the courses in chemistry already described. Chemistry and chemical engineering cover such a broad field that in the senior year students are advised to specialize in some branch, such as its application to the cotton seed oil industry, petroleum technology, problems of sanitation, or the chemical control of ceramics. The chemical industries most highly developed in this state are inspected from time to time.

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√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.

П 304. Chemical Engineering Unit Operations. (3-3). Credit 4.

A study of operations involved in the complete processing of raw materials, including necessary stoichiometry, material balances, and elementary design.

Included in the laboratory work is a thorough study of cottonseed and its products. Prerequisite: Chemistry 301.

## 400s. Quantitative Analysis. Second term summer following junior year. Credit 4.

Lectures, recitations and conferences dealing with technical methods of analysis, both rapid and exact. Before beginning an analysis the student is required to consult current literature and standard books of reference and present a written outline for criticism and suggestion. The laboratory work comprises the analysis of limestone, fuels, lubricating oils, gas, boiler water, iron and steel, alloys, ores, paint, soap, sugar, asphalt and other materials of engineering and industrial importance. Prerequisite: Chemical Engineering 202.

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

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 102.

# 1409. Gas and Oil Technology. (3-6). Credit 5.

Application of chemistry and engineering to gas, natural gasoline, and petroleum.

The laboratory work comprises the refining of petroleum. Prerequisite: Chemistry 302 and Chemical Engineering 304.

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

Explanation and mathematical development of the theories and principles

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of chemistry. Topics discussed are atomic structure, gas laws, thermodynamics, thermochemistry, liquids, solutions, osmotic pressure, and colloids. Experiments in the laboratory substantiate the theories and principles developed in the class room. Prerequisite: Chemistry 302 and Chemical Engineering 202.

414. Sanitary Chemistry. (3-4). Credit 4.

Sanitary examination of food, milk, and milk products, and the sanitary analysis of water, including water treatment methods. Methods of purification of water, as the use of sand filters, coagulants, and algicides; sources of pollution of water and milk supplies and their relation to public health, problems common to the sanitary chemist and the engineer. Prerequisite: Chemistry 206 or 301.

416. Chemical Technology. (3-6). Credit 5.

The application of chemical theories and laws to industrial processes. The laboratory work consists of the study and operation of evaporators, fractionating towers, flow of heat, flow of fluids, and humidification. Prerequisite: Chemical Engineering 409.

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

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

419. Petroleum Refining. (3-0). Credit 3.

The application of chemical theories and laws to the refining of petroleum. Prerequisite: Mechanical Engineering 323.

422. Animal and Vegetable Oils. (3-4). Credit 4.

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

### FOR GRADUATES

503, 504. Advanced Industrial Chemistry. (2-6). Credit 4 each semester. A study of industrial processes. Prerequisite: Chemistry 302.

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

A study of cotton seed oil production and refining. Prerequisite: Chemistry 302.

## DEPARTMENT OF CIVIL ENGINEERING

Professor Richey, Professors McNew, <sup>13</sup>Munson, Grinter, Associate Professors <sup>14</sup>Sandstedt, J. A. Orr, Assistant Professor C. S. Adams, Mr. Herzik.

<sup>14</sup> Acting Professor, 1935-36.

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<sup>201.</sup> Plane Surveying. (2-6). Credit 4. I, II Chaining; the adjustment, use and care of compass, transit, level, plane

<sup>&</sup>lt;sup>13</sup> On leave, 1935-26.

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.

## 202. Railroad Engineering. (2-6). Credit 4.

Outlining, reconnaissance, preliminary, and location surveys, computing and staking out simple and compound curves; changes in alignment, and connecting curves; transition curves; cross sectioning, earth work, computations; track materials. Prerequisite: Civil Engineering 201..

#### √ 206. Plane Surveying. (1-3). Credit 2. I, Ií

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

300s. Surveying Practice Summer following sophomore year, 6 weeks. Credit 5.

First six weeks of summer session.

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

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

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; flow of viscous fluids. Prerequisite: Mechanical Engineering 212 or equivalent.

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

Determination of the strength, ductility, modulus of elasticity, and other properties of engineering materials. Tests of timber, steel, cast iron, cement, and reports showing results. Prerequisite: Civil Engineering 305 or registration in that course.

### 333. Ralroad 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.

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

Topographic mapping; plans and estimates for engineering projects. Prerequisite: Civil Engineering 201.

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

Calibration of nozzles, orifices, water meters, weirs, pressure gauges; measurement of pipe friction; measurement of pipe flow with pitot instrument and Venturi meter; efficiency tests on impulse motor, hydraulic ram, and centrifugal pump; solution of assigned problems. Prerequisite: Civil Engineering 311 or registration therein.

### 340. Elementary Structural Analysis. (3-0). Credit 3.

Loads and reactions for simple structures; review of moment and shear in beams; influence lines for beams and truesses; algebraic and graphical methods for determining stresses in trusses. Prerequisite: Civil Engineering 305.

#### 342. Structural Design Problems. (0-4). Credit 1.

Application of graphical methods in solving reactions and stresses in simple structures; designing and detailing of structural members. Prerequisite: Civil Engineering 340 or registration in that course.

#### 344. Mechanics of Reinforced Concrete. (2-0). Credit 2.

Theory of stress distribution in plain and reinforced concrete beams; derivation of working formulas for rectangular reinforced beams and T beams; stress determination and elementary design of beams; theory, investigation, and design of reinforced columns. Prerequisite: Civil Engineering 305.

## 407. Roads and Pavements. (3-0). Credit 3.

A brief study of country roads and city pavements. Highway location, design, construction and maintenance; road laws, finances, organization and supervision briefly considered. The text is supplemented by lectures, the use of Bulletins, models and samples of materials. Prerequisite: Civil Engineering 201, Mechanical Engineering 212.

#### 414. Reinforced Concrete Design. (2-3). Credit 3.

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

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

Origin, production, specification, and tests of bituminous materials and mixtures used in the construction and maintenance of roads and pavements. Prerequisite: Senior classification in engineering.

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

Types of highway bridges; calculation of stresses; design of bridge floors; beam bridges; plate girders; high and low truss bridges; bridge details, deflections. The practice consists chiefly in making design computations and

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general drawings for a low riveted truss bridge in accordance with a given set of specifications. Prerequisite: Civil Engineering 340, 342.

#### 443. Materials of Construction. (0-4). Credit 1.

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

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

Comparison of engineering plants or projects on the basis of first cost, ultimate economy of comparisons involving depreciation, operating expense, etc.; accounting records and cost records; estimating costs. Prerequisite: Senior classification in engineering.

#### 452. Structural Engineering. (2-3). Credit 3.

An introduction to the design of continuous structures of reinforced concrete and steel, such as rigid frame bridges and building frames. Laboratory checking of computed stresses by the use of celluloid models and deformation gauges; laboratory study of the variation of stress in hooks of reinforcing bars, in the plates at a welded joint, and in similar structural details, by the aid of the photo-elasticity polariscope and the strain gage. Prerequisite: Civil Engineering 423 or 455.

#### 455. Steel Buildings. (2-3). Credit 3.

Structural features of mill buildings, office buildings, warehouses. Design of one of the foregoing types of buildings. Prerequisite: Civil Engineering 340, 342.

456. Highway Administration and Design. (2-3). Credit 3.

Study of highway laws, the administration of streets and highway improvements, and the procedure followed in planning and executing municipal street improvements. Problems in pavement design. Prerequisite: Civil Engineering 407.

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

An elementary study of the control and utilization of water resources for irrigation, power, and flood protection; correlation of rainfall and stream flow by means of isohyetals and hydrographs; channel improvement, levee 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.

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463. Hydrology. (3-0). Credit 3.

A study of the occurrences and measurement of precipitation and stream flow; relations between precipitation and run-off; estimating seepage, evaporation, run-off, storage; and flood discharges for drainage basins. Prerequisite: Civil Engineering 311.

### 466. Professional Relations. (2-0). Credit 2.

A study of the responsibilities, duties, and opportunities of the engineer in his various capacities, such as inspector or junior engineer, salaried executive, independent consulting engineer, with special reference to the civil engineering field; brief study of contracts and engineering specifications; lectures, partly by visiting professional men, planned to enable the young engineer to fit most advantageously into the professional, industrial, and civic life of his community. Prerequisite: Senior classification in Civil Engineering.

468. Cost Estimating. (3-0). Credit 3.

Study of different methods of estimating the cost of proposed engineering construction; methods of keeping cost records, securing data on current costs, procedure in taking off quantities from plans, distribution of overhead, allowance for contingencies and profit. Problems in estimating quantities and costs of proposed construction, from given plans and specifications. Prerequisite: Senior classification in engineering.

#### FOR GRADUATES

525, 526. Highway Construction and Materials. (3-3). Credit 4 each semester. Highway design and construction, including location, drainage, foundations, types, costs. Laboratory and field investigations of highway materials and pavement mixtures.

527, 528. Hydraulic Engineering. (3-3). Credit 4 each semester. Advanced hydrology, water power development, flood control, irrigation.

531, 532. Advanced Structural Analysis and Design. (3-3).

Credit 4 each semester. Analysis of stresses in rigid frames; secondary stresses; analysis of cantilever, suspension, and continuous bridge trusses. Design of reinforced concrete arch and building frame.

533, 534. Advanced Mechanics of Materials. (4-0). Credit 4 each semester.

Deflections of structures; internal stresses in members and details determined by mathematical analysis, mechanical methods, and study of test data.

541, 542. Research. Credit 2 to 6.

Technical research; projects subject to approval of head of department.

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### DEPARTMENT OF DAIRY HUSBANDRY

Professor Shepardson, Professor Darnell, Associate Professor Renner

202. Dairying. (2-2). Credit 3.

Dairying in its relation to agricultural and community development; branches of dairy industry and conditions affecting their development; the place of dairying on the farm; composition and food value of milk and its products; the production and handling of clean milk on the farm.

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301. Market Milk. (3-2). Credit 4.

Nutritional value of milk; milk and public health; organization of city milk supplies; processing and distribution and inspection of market milk. Prerequisite: Dairy Husbandry 202, must have had or be taking Dairy Husbandry 320 or its equivalent.

303. Dairy Cattle Judging....(0-4). Credit 1. A study of comparative judging of dairy cattle.

306. Butter Making and Factory Management. (3-2). Credit 4. 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.

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.

311. Technical Control of Dairy Products. (2-3). Credit 3.

Methods of analysis of milk and pilk products, and their use in controlling the composition and purity of dairy products and in the detection of adulterations. Prerequisites: Dairy Husbandry 202, Chemistry 212, 214.

#### 320. Bacteriology of Dairy Products. (3-4). Credit 4.

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.

322.	Advanced	Dairv	Bacteriology.	(2-3)	Credit 3	П

A study of bacteriological problems in connection with dairy products. Prerequisite: Dairy Husbandry 320.

(Offered in alternate years. Not offered in 1936-37.)

407. Ice Cream Making and Refrigeration. (3-2). Credit 4.

Mixing and freezing ice cream, sherbets and other frozen products and the physical principles involved; types of freezers; flavoring materials; fillers, binders, ice cream standards; the theory and practice of artificial refrigeration and its use in the ice cream plant. Prerequisite: Dairy Husbandry 202.

#### DAIRY HUSBANDRY

П 408. Cheese Making and Advanced Testing. (2-3). Credit 3. A study of the manufacture, ripening and marketing of the various types

of cheese; analysis of dairy products. Prerequisite: Dairy Husbandry 202. (Offered in alternate years. Offered in 1936-37.)

409. Selection and Breeding of Dairy Cattle. (2-3). Credit 3. H 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.

П 415. Condensed Milk and Milk Powder. (3-0). Credit 3. The food value, manufacture and distribution of condensed and evaporated milk, milk powder, milk sugar, casein and other milk products; a study of milk substitutes. Prerequisite: Dairy Husbandry 301.

L 417. History and Development of Dairy Cattle. (3-3). Credit 4. A general history of dairy farming and its place in a permanent system of agriculture, history, origin and classification of dairy cattle and dairy

cattle breeds. Prerequisite: Dairy Husbandry 202, Genetics 301.

11 418. Feeding and Management of Dairy Cattle. (3-2). Credit 4

The care, feeding and management of the dairy herd; calf raising, developing the dairy heifer; herd records and record keeping. Prerequisite: Animal Husbandry Jus, Lany Husban 202.

421, 422. Seminar. (1-0). Credit 1 each semester.

A review of current dairy literature and presentat. The papers on selected dairy topics.

#### 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

#### AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

problems subject to the approval of the head of the department. Prerequisite: Dairy Husbandry 301, 306, 407, 415.

## DEPARTMENT OF ECONOMICS

Professor Clark, Professor I. G. Adams, Associate Professor Nutter, Mr. Elkins.

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.

The historical development and general economic aspects of the insurance business. Special attention is given to property and life insurance. Prerequisite: Economics 203, 204, or 403.

316. Business Law. (3-0). Credit 3.

The nature and scope of law, contract, sales agency, negotiable instruments; employment, perional property, real property, wills and inheritance, surety, bankruptcy. Supplementary studies of Texas laws and of court decisions. Prerequisite sophomore standing.

318. Labor Problems. (3-0). Credit 3.

Theories of wages, development of trade unions and labor unions, proposals for solution of labor problems, labor legislation, and other problems growing out of modern industrial development. Prerequisite: Economics 203, 204, or 403.

 $\sqrt{403}$ . Principles of Economics. (3-0). Credit 3.

The theory of economic activities concerning production, distribution and consumption, and the practical economic problems of money, credit and banking, foreign exchange, tariff, transportation, taxation, trusts, insurance. The same ground is covered as in course 203, 204, but in a more compact way.

408. Corporation Finance. (3-0). Credit 3.

The common forms of business organizations with special attention to corporations; advantages and disadvantages of incorporation, formation and organization of corporations, capital stock and bonds, legal status of corporations, bankruptcy and reorganization. Prerequisite: Economics 403 or its equivalent.

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#### **ECONOMICS**

409. Foreign Trade and Exchange. (3-0). Credit 3.
 The principles of international commerce, methods of conducting foreign trade, and the theory and practice of foreign exchange. Prerequisite: Economics 403 or its equivalent.

412. Public Finance and Taxation. (3-0). Credit 3.

The purpose of the course is to give a working knowledge of public financial institutions and practices. Among the topics considered are: the amount and growth of public expenditures; the sources of revenue; budgetary methods; principles which should govern appropriations; public industries and price making; the principles of taxation; the important kinds of taxes; the principles of borrowing; the management of public debts. Prerequisite: Economics 203, 204, or 403.

## 413, 414. Advanced Economic Theory. (3-0). Credit 3 each semester.

This course is based on two assumptions, namely, (1) the nature of economic theory is such that maturity of judgement is essential to its comprehension, and (2) contact with practical economic problems is highly valuable in grasping economic concepts. The advanced course in economic theory, therefore, covers the same ground as that covered in other courses in economic principles but covers it more exhaustively. The course is open only to students who have had Economics 203, 204, or its equivalent, and in addition at least one course in applied economics.

#### 416. Public Utility Economics. (3-0). Credit 3.

A general survey course examining; historical development; legal and economic principles; evolution in methods and types of regulation; financial policies; labor policies; taxation and rate-making; public ownership. Prerequisite: Economics 203, 204, or the equivalent.

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

The economic basis of investment, the elements of investment credit; private securities and public obligations; security price movement; investment institutions. Prerequisite: Economics 403 or its equivalent.

### 421. Government and Industry. (3-0). Credit 3.

A comprehensive survey and a critical analysis of the reasons for the depression; legislation designed to afford temporary relief, stimulate recovering, regulate commerce and industry, and formulate long-term plans for better social use of our economic resources. Prerequisite: Economics 203, 204, or 403.

## 422. Credit Institutions. (3-0). Credit 3.

A critical study of the principal credit institutions of the United States and other nations. The major emphasis is placed on commercial credit. Some attention, however, is given to other credit institutions. Prerequisite: Economics 311 or its equivalent.

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#### AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

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

Place of advertising in business; 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. Prerequisites: Economics 203 and 204, or 403.

#### 424. Modern Transportation. (3-0). Credit 3.

A comprehensive survey of rail, motor, water, air and pipe line transportation, including the special operating, administrative, rate, financial, and regulatory problems of each and the problems and the technique of coordination. Prerequisite: Economics 403 or its equivalent.

FOR GRADUATES

Students undertaking graduate work in economics, along with the other require-ments for admission to the graduate school, are required to have a background in principles of economics. The more of the related courses one has had the better prepared he will be to carry the work.

501, 502. History of Economic Doctrines. (4-0). Credit 4 each semester.

The purpose of this course is to study in detail, beginning with the Physiocrats, the growth of the science of economics. A careful study is made of the various schools of economists and an analysis is made of such fundamental concepts as production, value, capital, interest and profits as they have appeared from time to time in the writings of the leading economists. Gide and Rist's History of Economic Doctrines serves as a guide to these authorities.

505. Public Finance. (4-0). Credit 4.

An account of the evolution of financial systems; a chronological review of the discussion of the theories and principles of finance; a study of current theory and practice in public borrowing and levying, financial administration and expenditures of public revenues in the United States and the principal European countries.

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

A historical survey of the evolution of labor movements and programs, with a critical examination of their underlying philosophies. The economic principles involved in the leading problems of labor and wages. 507. Comparative Economic Theory. (4-0). Credit 4. I

### DEPARTMENT OF EDUCATION

Professor W. L. Hughes, Professor Wilcox

121. An Introduction to Education. (3-0). Credit 3.

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#### EDUCATION

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. II The administrative problems of rural and village schools, such as community leadership, evaluating the efficiency of teachers, financing rural schools, cooperating with agencies for rural school improvement, consolidation, teacher institutes.

223. Public School Instrumental Music. (3-0). Credit 3. S A general survey of the system of teaching instrumental music (band and orchestra).

321. Secondary School Methods. (3-0). Credit 3. I, II 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.

The history of modern education with special attention to the history of education in the United States.

424. Principles of Rural School Supervision. (3-3). Credit 4. S The activities of the rural school supervisor. Practice in adjusting and making equipment specially suitable for the rural school. Prerequisite Education 221, 222.

426. Tests and Measurements. (3-0). Credit 3. I A study of the use of intelligence and achievement tests in administration and supervision of public schools. Prerequisite: Junior or Senior standing.

428. Junior High School Methods. (3-0). Credit 3. II This course will introduce the student to the modern practices of teaching in the Junior High School. Prerequisite: Psychology 323.

430. Curriculum Construction. (3-0). Credit 3. II Problems and lectures in revising and adjusting the public school curriculum to meet the needs of modern society. Prerequisite: Junior or Senior standing.

431. An Introductory Course in Techniques of Curriculum Construction. (3-0). Credit 3. S

An introduction to the problems faced in the work of curriculum production and the current practices employed in solving them. Emphasis is placed upon preliminary survey, planning the curriculum, organizing materials, and course of study construction.

#### FOR GRADUATES

501. Problems in Rural Education. (4-0). Credit 4. I The rural school problem in the United States, including problems in related fields.

502. County School Administration. (3-0). Credit 3.

The organization and administration of a county system of schools operating under a district system.

504 The Development of Education in Texas. (2-0). Credit 2. II The origin and development of public schools in Texas.

507. Programs and Procedures in Supervision. (2-0). Credit 2. I Types of supervision and the organization of supervisory programs.

508. Administration of Local School Finance. (2-0). Credit 2. II A study of school funds on the local school level; sources, budgeting, systems of accounting as related to school efficiency.

510. Administration of Pupil-Personnel. (2-0). Credit 2.

A study of devices to record and improve census taking and attendance; classification and promotional schemes; school record systems; school reports and pupil appraisal studies, marketing systems.

511. The Newer Techniques in Teaching. (4-0). Credit 4.

A critical evaluation of such techniques as supervised study, the project, the problem, the Dalton Plan, the Winnetka Plan, the Activity Movement, the appreciation lesson, the Morrison Plan, and the use of work books.

512. Interpreting the Schools to the Public. (2-0). Credit 2. II A study of types of programs designed to give to the public comprehensive information of the local school; devices and media used in presenting information.

513. The School Plant. (2-0). Credit 2. I A study of plans for determining the extent and character of present and future building and equipment needs of a school unit; efficiency of present plant; operation and maintenance; planning the building program.

514. State School Finance. (2-0). Credit 2.

A study of taxation for school support; apportionment of state school funds; endowments and subsidies; equalizing educational opportunities and tax burdens.

515. State School Administration. (2-0). Credit 2. I A study of state school administrative organizations; origin and develop-

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ELECTRICAL ENGINEERING

ment of local units; proper relationships of the State to local units; state boards of education and their functioning; training and certification of teachers.

516. Administration of Teacher-Personnel. (2-0). Credit 2.

A study of selection, tenure, and promotion of teachers, including inservice training; efficiency records and ratings.

## DEPARTMENT OF ELECTRICAL ENGINEERING

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

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 102, 104.

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

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

208. Direct Current Machinery. (3-6). Credit 5.

A study of the application of the fundamental laws of the electric and magnetic circuit to the design and operation of the direct current motor and generator.

The laboratory work includes practice in wiring up and the operation of D. C. dynamos and motors; the determination of characteristic and the measurement and calculation of losses, efficiencies and regulation. Prerequisites: Electrical Engineering 201, Mathematics 102, 104.

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

The principles of alternating currents, including the relations of voltage, current, resistance, inductance and capacity. Prerequisite: Electrical Engineering 303, Mathematics 204. Must be accompanied by Electrical Engineering 304.

303. Electric and Magnetic Circuit Phenomena. (3-6). Credit 5. I, II

Study of the reactions of simple circuits containing resistance, inductance, and capacitance. Differential equations of the electric, magnetic and dielectric circuits. Studies of methods of measurement of electrical entities.

The practice includes the accurate measurement of the electric entities such as resistance, inductance, capacitance, effect of temperature and position of these entities. Calibration and test of electrical instruments, such as ammeter, voltmeter, and wattmeter, tests of magnetic properties of materials. Prerequisites: Electrical Engineering 206, Mathematics 204.

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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 303, Mathematics 204. Must be accompanied by Electrical Engineering 302.

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/305. Electrical Machinery. (3-3). Credit 4. I, II

A study of the fundamental principles of dynamos, motors and transformers of the types commonly used in general engineering practice. The practice is designed to familiarize the general engineering student with the operation and the more important characteristics of both direct and alternating current machines. Prerequisite: Physics 204, Mathematics 204.

307, 308. Electrical Machinery. (3-3). Credit 4 each semester.

The fundamental principles of direct and alternating current machinery, and the operating characteristics of electrical machinery usually installed in power plants and electrically operated industrial enterprises.

The practice includes the operation of the principal types of electric motors, generators and transformers and the study of their operating characteristics. Prerequisite: Physics 204, Mathematics 204.

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

A study of the principles of electrical communication systems, including a basic study of sound, speech and hearing, transmitters and receivers, exchange and toll service and systems, and telegraph systems.

The practice includes an experimental study of circuits and instruments covered in the course, emphasizing fundamental principles rather than mechanical details of modern practice. Prerequisite: Physics 202, or 204, or 208.

401, 402. Alternating Current Machinery. (4-0). Credit 4 each semester.

A graphical and mathematical study of alternating current machinery, including generators, transformers, motors and converters. Prerequisite: Electrical Engineering 302 or 308. Must be accompanied by Electrical Engineering 403, 404.

403, 404. Alternating Current Laboratory. (1-6). Credit 3 each semester.

A laboratory study of the characteristics of various types of alternating current machines. Prerequisite: Electrical Engineering 302 or 308, registration in Electrical Engineering 401, 402.

405. Electric Transmission. (3-0). Credit 3.

Lectures and recitations on the transmission of electricity by wires. The subject is treated by the use of hyperbolic functions and covers the fundamental principles of electric transmission which are applicable to either telephone or power transmission. Prerequisite: Mathematics 305, Electrical Engineering 302.

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

Lectures and recitations on the transmission and distribution of power by electrical methods, including the design and cost estimate of several transmission and distribution systems. Prerequisite: Electrical Engineering 405.

#### 409. Radio Communication. (3-3). Credit 4.

An introduction to radio engineering, including a basic study of radiation and radiation devices, thermionic tubes and their application in radio receiving and transmitting circuits.

### 410. Electron Tubes. (2-3). Credit 3.

An introduction to the theory and industrial application of electron tubes and devices, including thermionic, gaseous, light sensitive, and cathode ray tubes. The laboratory shall consist primarily of experimental studies of the performance characteristics of electron tubes.

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

The determination of the proper sizes and types of motors to be applied in various industrial loads. Special emphasis is laid on the preliminary study of duty cycle and numerical calculation of starting duty and motor ratings. The study of industrial controllers. Prerequisite: Electrical Engineering 401 or 308.

426. Illumination Engineering. (2-2). Credit 3.

The principles of illumination; the design of lighting systems for buildings of various types. Tests of lighting units and of complete systems both for interior and exterior use. Prerequisite: Electrical Engineering 302 or 308 or 305.

#### 428. Communication Circuits. (3-3). Credit 4.

A study of the engineering principles used in telephone communication, including transmission theory, inductive interference, network, and filters, loading, repeater and carrier systems. Laboratory investigations including transmission measurements on artificial lines and repeaters involving the use of vacuum tube measuring devices and impedance bridges. Prerequisite: Electrical Engineering 405.

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

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.

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436. Wiring and Lighting. (3-0). Credit 3.

(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 alternate years. Offered in 1936-1937).

#### FOR GRADUATES

501, 502. Advanced Alternating Currents. (2-6). Credit 4 each semester.

The theory of transient phenomena; polyphase circuits; the study of transients with oscillograph.

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

The design of electrical machines and the predetermination of their characteristics.

504. Electrical Plant Design. (1-3). Credit 2.

The design of power plants with special emphasis on the electrical machinery.

507, 508. Advanced Alternating Current Machinery. (2-6).

Credit 4 each semester.

A study of the complicated alternating current machines.

509. Advanced Communication Engineering—Telephony. (3-3). Credit 4. I

A study of the design and operation of telephone repeater and carrier systems, filters, networks, transmission measuring devices, telephoto and printer telegraph systems; laboratory investigations to include transient and frequency characteristics of telephone lines, and transmission measurements on typical networks and lines.

510. Advanced Communication Engineering-Radio. (3-3). Credit 4. II

A detailed study of the design and operation of sound amplifiers, and of radio frequency systems with particular reference to radiating devices. Oscillographic studies and field strength measurements are the major laboratory investigations.

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

Credit 4.

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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.

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516. Acoustic Devices in Sound Reproducing systems. (3-3). Credit 4. II A detailed study of microphones and loud speakers with an introduction to the basic theory of vibrating systems, and a brief study of architectural and physiological acoustics incident to the proper application of sound reproducing systems. Laboratory work includes measurements of speakers and microphones and noise surveys and acoustic treatment of small auditoria.

517, 518. Research in Electrical Engineering. Credit 2 to 6 each semester. Technical research projects approved by the head of the department.

### DEPARTMENT OF ENGINEERING DRAWING

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Professor A. Mitchell, Assistant Professors Dent, Spencer.

### Mr. Breland, Mr. McGuire

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

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

 $\sqrt{124}$ . Descriptive Geometry. (2-4). Credit 3. I, II Problems relating to points, lines, planes; solids, intersections of planes and solids, intersections of solids, development of surfaces.

201. 202. Mechanical Drawing. (0-2). Credit 1 each semester.

A continuation of course 111, including elementary parts of machines and engineering structures; details and assemblages; Patent Office Drawing, tracing, blueprinting. The course is varied to meet the practical needs of students in the different engineering departments. Prerequisite: Eng. Drawing 111.

213, 214. Mechanical Drawing. (0-2). Credit 1 each semester.

Care and use of drawing instruments, freehand lettering, exercises in the use of drawing instruments, construction of plane and space curves, elements of projection, technical sketching, principles of dimensioning, topographical conventional signs, contours, earth sections, mapping.

## DEPARTMENT OF ENGINEERING RESEARCH

### Professor Giesecke

501, 502. Research. Credit 2 to 6.

Project subject to the approval of the head of the department.

### DEPARTMENT OF ENGLISH

Professor Summey, Professors Cofer, Spriggs, Mayo, Morgan, Associate Professors Gunter, Spahr, Assistant Professors Key, Abbott, Hays Mr. Stone, Mr. Elmquist, Mr. Wilkinson.

v 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. I Advanced composition; readings from nineteenth century and recent literature. Prerequisite: English 103, 104.

1/210. Writing and Discussion. (2-0). Credit 2.

A study of basic thought processes and their application to written and oral discussion; practice in outlining, writing, and speaking; parallel readings. Prerequisite: English 203 or 231.

NOTE: For English 210, students who have made an average grade of C in courses 103, 104, and 203 may substitute English 305, 310, 316, 325, or 328.

231, 232. English Literature. (3-0). Credit 3 each semester.

A survey of English literature from Chaucer to the late nineteenth century, with parallel readings and written reports; special attention given to the main currents of English thought as reflected in the literature. Prerequisite: English 103, 104.

305. Contemporary Civilization. (2-0). Credit 2.

A composition and discussion course dealing with current thought and with various phases of contemporary civilization. Restricted to students whose record in English shows that they can take the course with profit.. Prerequisite: English 203, 210, or 231, 232.

(Not offered in 1936-37.)

307. Technical Writing. (2-0). Credit 2. I, II

The composition of reports, recommendations, and scientific articles suitable for publication, with some opportunity for oral presentation. Pre-requisite: English 203, 210, 231, or 232.

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. I A survey of the history, vocabulary, syntax, and sounds of the English

310. Phonetics and Pronunciation. (3-0). Credit 3.

language. Prerequisite: English 231, 232, or 203, 210.

A study of the formation of English sounds and of usage in pronunciation. Prerequisite: English 231, 232, or 203, 210.

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312. Shakespeare. (3-0). Credit 3.

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

315. English Literature of the Seventeenth Century. (2-0). Credit 2. I

A period course in English poetry and prose of the seventeenth century, with the omission of Shakespeare. Prerequisite: English 231, 232, or 203, 210. (Not offered in 1936-37.)

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.

(Not offered in 1936-37.)

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 course. Prerequisite: English

203 or 231. (Not offered in 1936-37.)

328. American Literature Since 1870. (2-0). Credit 2.

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

V401. Public Speaking. (2-0). Credit 2.

Practice in the use of the voice, in public discussion, and in the planning and delivery of speeches for special occasions; conferences with the instructor required. Prerequisite: English 203, 210, or 231, 232.

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413, 414. Contemporary Literature. (2-0). Credit 2 each semester.

A study of the most significant British and American novelists, poets, and dramatists from about 1890 to the present, with lectures on the social, political, economic, and intellectual background. Among the authors studied are Bernard Shaw, Samuel Butler, John Galsworthy, Rudyard Kipling, H. G. Wells, Sinclair Lewis, Joseph Conrad, Eugene O'Neill, and Edna St. Vincent Millay. Prerequisite: English 231, 232, or 203, 210.

415. Contemporary Continental Drama. (2-0). Credit 2. I A study of representative plays (in translation) by Ibsen, Strindberg, Hauptmann, Sudermann, Schnitzler, Maeterlinck, Rostand, Hervien, Brieux, Benavente and Pirandello. Prerequisite: English 231, 232, or 203, 210.

(Not offered in 1936-37.)

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.

(Not offered in 1936-37.)

431. The Novel. (3-0). Credit 3.

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: 231, 232.

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#### DEPARTMENT OF ENTOMOLOGY

Professor Bilsing, Associate Professor Little, Assistant Professor Johnston

201. General Entomology. (2-2). Credit 3. I, 11 The systematic position of the various insects; the relation of the anatomy of insects to control measures; the life histories of the more common insects; methods of control for injurious forms.

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

The physical and insecticidal properties of arsenicals, fluorine compounds, lime sulphur, and nicotine mixtures. Preparation and application of dust and sprays, and methods of fumigation. Dusting, spraying and fumigating machinery are used in practice.

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

A study of insects and other arthropods which are parasitic upon domestic animals or which are concerned in the transmission of diseases of live stock. Methods of eradication and control. Prerequisite: Entomology 201.

#### ENTOMOLOGY

301, 302. Systematic Entomology. (2-4). Credit 3 each semester.

A systematic study of the various orders of insects. The student has free access to the entomological library, which contains bound volumes of standard publications on entomology; and to a considerable insect collection for identification purposes.

305, 306. Morphology. (2-3). Credit 3 each semester.

The external and internal anatomy of insects; the exoskeleton, endoskeleton, mouth parts, wing veination, and other morphological characteristics of taxonomic value. The second semester is devoted to a study of internal insect anatomy.

#### 307. Apiculture. (3-2). Credit 4.

The biology of the honey bee; honey plants; bee diseases; wintering and queen rearing are considered.

308. Apicu'ture. (3-2). Credit 4.

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

### 312. Medical Entomology. (3-2). Credit 4.

A study of the life history, habits, and control methods of insects which are directly concerned in the transmission of human diseases such as yellow fever, malarial fever, typhus fever, bubonic plague.

(Offered in alternate years. Offered in 1936-37.)

401, 402. Advanced Economic Entomology. (2-4): Credit 3 each semester. For students who desire knowledge of insect life histories; the physical and chemical properties of insecticies and their effects on insects, methods of entomological research. Prerequisite: Entomology 201 or 301.

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

The life history, habits and control of the insect pests of fruit and truck crops with special attention to control methods adapted to Texas conditions, and to the value of parasites and orchard management in the control of insect pests

411. Cotton Insects. (2-2). Credit 3. I, II A study of the insects affecting the cotton plant, life histories, structural characteristics and classification. Dusting and spraying machinery; control by sterilization.

412. Entomological Literature. (30). Credit 3.
 A summary of the most important works on the classification of insecu, a survey of the entomological publications of the United States Department of Agriculture, and state experiment stations.

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#### 164 AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

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.

503, 504. Cotton Insects. (3-3). Credit 4 each semester.

A detailed study of the life history of the most important insects affecting cotton; survey of the literature on the subject. The use of cultural methods dusting and sterilizing machinery and insecticides.

505, 506. Advanced Apiculture. (3-3). Credit 4 each semester.

A problem in apiary management or in the study of one or more of the diseases affecting bees; grading and marketing honey, foul brood laws, and methods of eradicating bee diseases.

507, 508. Economic Entomology. (3-3). Credit 4 each semester.

A detailed study of the most important economic pests. A comparison is made of the structure of insects belonging to the same group which attack our more important crops. Cultural methods, trap crops, insecticies, and fumigation.

509, 510. Microtechnique. (3-3). Credit 4 each semester.

A study of insect tissue; methods of making microscopic slides, making sections and staining tissues.

511, 512. Research Entomology. (3-3). Credit 4 each semester.

A study of the distribution of insects and the ecological relationship to their environment. Prerequisite: Taxonomic work.

513, 514. Morphology. (3-3). Credit 4 each semester.

Study of the morphological characteristics which are of taxonomic value including wing veination genitalia and other external characteristics.

#### GEOLOGY

## DEPARTMENT OF GEOLOGY

Professor Baker, Associate Professor Burt, Assistant Professor Turner, Mr. Cline

### 201. General Geology. (3-0). Credit 3.

The agents and processes which have produced surface features of the earth and the structure of the earth's crust. Geology majors and students in Geological or Petroleum Engineering should take this course at the same time as Geology 207. Prerequisite: Chemistry 101, or equivalent.

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

Hypotheses of the earth's origin. Principles of stratigraphy and paleontology. The physical and organic record of the earth's history. The laboratory work consists of detailed study of geologic maps and folios. Some field trips. Prerequisite: Geology 201 or 401.

### 207. Mineralogy and Petrology. (3-4). Credit 4.

A brief course in mineralogy and petrology. Description and determination of common rock-forming minerals and rocks. Geology majors and students in Geological or Petroleum Engineering should take this course along with Geology 201. Prerequisite: Chemistry 101, or equivalent.

#### 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.

#### 305, 306. Paleontology. (3-3). Credit 4 each semester.

An introductory study of the chief characteristics, successions, and environmental conditions of the animal and plant life recorded in the rocks. The laboratory work includes field trips and the preparation and study of specimens. Prerequisite: Geology 202, Biology 207, or equivalent, and approval of head of department.

## 312. Structural Geology. (3-4). Credit 4. I, II

The interpretation of rock structures caused by earth movements. The relation of 'rock structures to stratigraphic, physiographic, and economic problems. Prerequisite: Geology 202 and 207, and approval of head of department.

#### 313, 314. Field Geology. (0-4). Credit 1 each semester.

Training in methods of field observations and geologic surveying in selected areas adjacent to the campus. Students must have Wednesday afternoons from 1 to 5 free for this course but all time lost on account of inclement weather must be made up. Prerequisite: the three sophomore courses in geology and C. E. 201.

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400s. Field Geology. (Second summer term). Credit 7.

Geological observations and mapping in a mountain area exhibiting sufficient diversity of rock types, structures, and physiography. Credit is contingent upon student's preparing and submitting a full written report satisfactory to instructor, report to be submitted not later than October 15 of year in which course is taken. The field party will be organized not later than May 15. Prerequisite: Geology 201, 202, and 207, and approval of head of department.

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

An abbreviated study of general geology with special emphasis on erosion, deposition, underground water, rock structures affecting tunnel, foundation, and water supply projects, and other subjects relating to engineering work. The laboratory includes a study of common rocks and the interpretation of maps of typical geologic areas.

404. Geology of Petroleum. (3-0). Credit 3.

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. Prerequisite: Geology 312 and approval of head of department.

405. Economic Geology. (4-0). Credit 4.

A brief study of the metallic and non-metallic mineral deposits except petroleum. Prerequisite: Geology 202 and approval of head of department.

407. Economic Minerals. (2-4). Credit 3.

Crystallography, determinative and descriptive mineralogy and blowpipe analysis of ore and other minerals of economic value. Prerequisite: Geology 207.

422. Natural Structural Materials. (3-0). Credit 3.

Building stones and stone products, clays and clay products, their qualities, occurrence, uses, and processes of fabrication and manufacture with special reference to the great undeveloped wealth of Texas in these materials. Open to architectural and engineering students.

## FOR GRADUATES

505, 506. Special Geology. Credit 2 to 6 each semester.

Advanced work along specialized lines for properly qualified students. May include independent investigation of problems in various phases of geology. Primarily a thesis course. Prerequisite: Approval of head of department.

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509, 510. Advanced Field Geology. Credit 2 to 6 each semester.

Systematic geologic surveying of selected areas. The course is designed as a field basis for thesis for advanced degrees and will be varieed to meet the needs of individual students.

511. Economic Mineral Deposits. (5-0). Credit 5.

A study of the origin, classification, and exploitation of economic mineral deposits other than stone, clay, and fuels. Open to properly qualified seniors. Prerequisite: Geology 405.

513. Earth Sculpture and Depositional Agencies. (5-5). Credit 7.

Advanced work in interpretation and origin of land forms (geomorphology and geomorphogeny). Laboratory work in the interpretation of modern topographic and other maps. Prerequisite: Approval of head of department.

514. Advanced Stratigraphic and Historical Geology. (5-2). Credit 6. II Prerequisite: Geology 513.

516. Micropaleontology. (1-6). Credit 3.

Study of microscopic fossils and their uses in correlation. Laboratory work in the examination of well samples. Prerequisite: Approval of head of department.

518. Sedimentation. (2-6). Credit 4

Investigation of processes of sedimentation with analytical laboratory work on sedimentary rocks. Seminar. Prerequisite: Approval of head of department.

## DEPARTMENT OF HISTORY

Professor Gammon, Professor Sugareff, Assistant Professor Steen, Mr. Ludlum

103, 104. Development of Modern Europe. (3-0). Credit 3 each semester. A survey of the political and social development of Western Europe, 1500 to the present.

211. Comparative Government. (3-0). Credit 3.

A comparative study of the governments of England, France, Germany and Switzerland in the first half of the year, followed by an introduction to the elements of international law.

213, 214. History of England. (3-0). Credit 3 each semester.

British, Saxon and Norman origins; national development; struggles between church and state; crown and nobles; nobles and commons; Agrarian and Industrial Revolutions; relations with Ireland; evolution of democracy; growth of the Empire before, during and since the World War. Full year continuous course.

215, 216. History of the United States. (3-0). Credit 3 each semester. Discovery and colonization; colonial government, economic and social

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institutions; the Revolution; adoption of the Constitution; growth of nationalism; cotton and the slavery problem; war for Southern independence; reconstruction; new social and industrial problems. Full year continuous course.

305. American Government. (3-0). Credit 3.

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.

Overthrow of Napoleon; Restoration; Industrial Revolution; Revolutions of 1830 and 1848; struggle for democratice government; new nationalism; expansion and imperialism; alliances and ententes; causes and results of the World War.

(Offered in alternate year. Offered in 1936-37.)

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

The industrial growth of the United States; emphasizes agricultural changes and development, economic expansion of United States in industries and commerce, rise of labor and capital organizations, the tariff and banking.

423, 424. American Foreign Relations. (3-0). Credit 3 each semester.

The history of United States foreign relations and development of our leading foreign policies down to the Civil War; a study of contemporary foreign policies and relations against the background of American political and industrial expansion since the Civil War.

Open to all Seniors and Juniors who have had one college course in history or government.

(Offered in alternate years. Not offered in 1936-37.)

## DEPARTMENT OF HORTICULTURE

Professor Adriance, Associate Professor Brison.

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

Fundamental principles and methods of plant propagation, including vegetables, fruits, and ornamentals; methods of planting and managing the home orchard. Practice: Propagation of plants from seed and bud; planning, planting, pruning, spraying, and general care of the home orchard.

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

Planning, planting, equipping and operating vegetable gardens, with special reference to the needs of the home; study of the individual crop with reference to its soils and climatic requirements. Practice in planning, planting and cultivating a small garden, equipping, fertilizing, spraying, harvesting, erection of hot-beds and cold frames.

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

## 311. Fruits and Vegetable Products. (1-3). Credit 2.

Methods of preservation of fruits and vegetables, including dehydration, canning, pickling, and freezing. Special attention will be given to the preparation of fruit and vegetable juices and to the processing of pecans.

## 317, 318. Principles of Fruit Production. (2-3). Credit 3 each semester.

Orchard management, including problems of location, soils, planting, cultivating, protection from insects and diseases, pruning, harvesting and marketing. Practice: Practical orchard work from planting to marketing. Prerequisite: Horticulture 201.

### 401. Systematic Pomology. (3-2). Credit 4.

Fruits, their identification, classification, distribution, importance, and history; a detailed study of the more important species and varieties. Practice is given with such fruits as can be obtained during the season. Prerequisite: Horticulture 317, 318.

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

The history, anatomy, taxonomy, breeding, seed production, and plant improvement of vegetable crops. The practice deals with a study of the actual plants as to type, variety, technique of breeding, selection of seed, taxonomy and anatomy of the various plants. Prerequisite: Horticulture 202, 310.

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

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

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

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

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

A study of horticultural sections of the United States; with emphasis on producing centers in Texas; various fruits and vegetables considered with regard to point of origin and time of movement to market. Study of com-

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

The development of the art and science of horticulture with emphasis on American horticulture. The men who have made outstanding contributions to the development of the various horticultural enterprises receive special attention. Books and periodicals which have influenced the trend of thought and practice in horticulture are also considered. A brief summary of the development of European horticulture, followed by a study of the different eras in its development in America.

426. Commercial Propagation. (2-3). Credit 3.

Fundamental problems in propagation of horticultural plants, principally fruit trees and ornamentals. Physiological responses in rooting of stem and leaf cutting, including artificial treatments to stimulate rooting; morphology and physiology of graft unions; congeniality between stocks and scions; and adaptation of stocks to their environment. Commercial nursery practice, including methods of budding and grafting, and care of nursery stock after propagation. Commercial production of bulbs for planting will also be considered. Practice in laboratory, greenhouse, and the college orchards.

### FOR GRADUATES

501, 502. Advanced Fruit Growing. (3-3). Credit 4 each semester.

Problems of cultivation, fertilization, pruning, thinning of fruit and protection from frost and insect pests and diseases; the improvement of fruit by means of bud selection and breeding. Prerequisite: Horticulture 317, 318, or equivalent work.

503, 504. Advanced Vegetable Gardening. (3-3). Credit 4 each semester.

Recent developments in the production of vegetables for market and truck gardening purposes; irrigation; forcing plants for early market, and the development of plants by breeding and selection. Prerequisite: Horticulture 310, 404, or equivalent work.

507, 508. Horticultural Problems. (2-6). Credit 4 each semester.

Various problems concerning recent developments in horticulture are considered, both in theory and in laboratory. Recent work at other stations is reviewed.

# DEPARTMENT OF INDUSTRIAL EDUCATION

Professor E. L. Williams, Associate Professor Glenn

NOTE: The following courses are offered in residence during the Summer Session only: 202, 203, 320, 322, 411, 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.

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203. Trade Analysis. (2-0). Credit 2.

The student must know a trade; it will be divided into its several parts as; units, operations, jobs, sciences and mathematical content. The material will then be organized into teachable form. Prerequisite: At least two years of trade experience.

204. Development and Practice in Industrial Education. (2-0) or (3-0)). Credit 2 or 3. H

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. 11

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.

Analysis of occupations and organizations of the teachable content.

## 323, 324. Methods of Teaching Mechanical and Machine Drawing.

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(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.

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406. Vocational Guidance. (2-0). Credit 2.

A survey of the recent development of educational and vocational guidance within and outside of the schools.

## 409. Methods of Introducing Industrial Organization and Management into Industrial Schools. (2-0). Credit 2.

A study of the history and development of industrial organization and management up to the present; most efficient methods; how these systems can best be adapted in industrial schools to make them more practical.

#### 411. Lesson Planning. (2-0). Credit 2.

The lesson, its purpose and aim; steps in lesson presentation; testing the effectiveness of instruction.

### 415, 416. Practice Teaching. (2-5). Credit 4 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.

419. Laboratory of Industries Methods. (1-5). Credit 3.

The student will make a study of the units of industries as generally recommended for public school industrial arts and will select, plan, and design problems and projects to meet these requirements.

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

Coordination between instruction given to the junior employee and the job, and the procedure in follow-up and promotional advancement.

## 422. Social, Economic and Educational Influences Affecting the Junior Worker. (2-0). Credit 2.

A study of the supply and demand of workers in various occupations; pay and opportunities for advancement and their relation to society as a whole.

#### FOR GRADUATES

500. A Practical Study of the Relation of Industry to Education. (5-0). Credit 5.

This course is to be conducted during the summer only and as a tour of inspection and research. Advanced arrangements will be made in the various cities with the directors of industrial education. The group will visit industrial schools, industries, and teacher-training institutions. Lectures will be given by men in each phase of work. Seminars will be held whenever possible en route. A final report will be required.

#### 505. Philosophy of Industrial Education. (4-0). Credit 4.

The social, economic, and political necessities back of the movement for industrial education; the relation of industrial education to general education, types of courses to meet the demands of the community; the relations of

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industrial education to capital, labor, Americanization, and world competition in industry.

507. Organization of Industrial Education. (4-0). Credit 4.

Problems in making surveys, planning industrial departments for public schools, and setting the proper organization.

508. Administration and Supervision in Industrial Education. (4-0). Credit 4.

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Problems of the local director or supervisor of departments of industrial education.

## 509, 510. Methods of Teaching High School Drawing. (2-4). Credit 3 each semester.

A survey of the field of drawing. The designing and organizing of problems and teaching devices. The first semester is devoted to general mechanical drawing as taught in the first two years of high school; the second semester to machine drawing. Either semester may be taken separately.

511. Industrial Education Problems. (4-0). Credit 4.

A study of current problems in Industrial Education. Research and organization of material to assist in the solving of individual problems.

## 512. Methods of Training Employees in Commerce and Industry. (3-0). Credit 3.

A study of the various methods used by commercial and industrial concerns to train workers for their respective needs. The aim of this course is to help teachers and supervisors analyze the training needs of local businesses; and organize courses for the preparation and improvement of their employees.

514. Guidance Seminar. (2-0). Credit 2.

The organization of occupational information; educational and vocational guidance; counseling case problems. Prerequesite: I. E. 406 or a similar course. 515. Research in Industrial Education. (1-3). or (2-6). Credit 2 or 4. I

516. Methods of Teaching High School Shop Work. (2-3). Credit 3.

A survey of the field of the particular shop activity in which the student is interested. Selecting, designing, building and organizing the instruction material for problems in the particular activities. This course to be conducted in cooperation with such departments as Mechanical Engineering and Agricultural Engineering, involving such shop activities as Machine Shop Practice, Pattern Making, and Foundry and Automotive Machinery. The theory part of this course to be handled by members of the staff of the Industrial Education Department and the practice by the members of the other departments concerned.

#### **EXTENSION COURSES**

Under the Federal Vocational Education Act, the College offers extension courses in Industrial Education in centers where a sufficient number of persons are interested in one subject to make such an arrangement possible. The time devoted to each course is thirty clock hours. The fee is \$5.00 per credit hour.

These extension courses are planned to meet the requirements of the State Board for Vocational Education for certification of teachers of all types of trades and industrian work. Students taking these courses must meet the qualifications set up by the Stat. Board for Vocational Education.

### DEPARTMENT OF LANDSCAPE ART

Professor Hensel, Professor McGinnis

301. An Introduction to Landscape Art. (3-4). Credit 4. I, II

A first course in landscape design, including a brief history of gardening. The planning and planting of the various outdoor areas including home and school grounds, small parks, and other public, semi-public, and private areas. • Prerequisite: Horticulture 201.

#### 303. Elementary Forestry. (2-2). Credit 3.

A general survey of the field of forestry, with identification of the prin cipal trees of this section, log, tree, and stand measurement; grazing as applied to forestry, the simpler forest operations.

#### 304. Landscape Construction. (0-8). Credit 3.

Detailed plans of arrangement; sketch plans, planting plans; landscape construction work; tree repair. Prerequisite: Landscape Art 301, Architecture; 101, 102, 109, 110.

#### 306. Ornamentals. (2-2). Credit 3.

A study of the indigenous and exotic trees, shrubs and vines of Landscape value found growing in this section with special reference to their importance in planting design. A large propagating house, a rather extensive nursery, and a representative collection of shrubs, trees and vines in the College arboretum are accessible for student study. Prerequisite: Horticulture 201.

#### 401, 402. Advanced Landscape Art. (3-8). Credit 6 each semester.

The development of large areas, private estates, parks, subdivisions, cemeteries, and other private, scmi-private, and public properties. Major problems: landscape construction: detailed plans; professional practice. Prerequisite: Landscape Art 301, 304.

403. Advanced Ornamentals. (2-4). Credit 3.

The propagation of the various ornamentals and their subsequent handling in the greenhouse, hot beds, cold frames, and nursery.

#### 404. Floriculture. (2-2). Credit 3.

Culture and use of the annuals, perennials, and bulbous plants especially adapted to our climatic conditions. Planned primarily for students in Landscape Design, but sufficiently broad to be of practical value to those who wish a working knowledge of this subject. Considerable attention is paid to general

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#### MATHEMATICS

greenhouse practices for which purpose the College Greenhouses, hotbeds and cold frames, with a representative collection of the commoner conservatory and flowering plants are available. Prerequisite: Horticulture 201.

### FOR GRADUATES

505, 506. Landscape Design. (2-12). Credit 6 each semester.

Advanced landscape problems; research consultations; criticism. Prerequisite: Landscape Art 301, 302, 401, 402.

### DEPARTMENT OF MATHEMATICS

Professor Porter, Professors J. W. Mitchell, Halperin, D. C. Jones, Associate Professors Martin, Edmondson, Binney, Assistant Professors Nelson, J. W.

Ross, Mr. Blumberg, Mr. McGee, Mr. Chaney, Mr. Hall, Mr. Finlay.

Mr. Klipple, Mr. Jackson

101. Algebra. (3-0). Credit 3.

A rapid review of elementary topics, followed by the study of quadratic equations.

102. Algebra. (3-0). Credit 3.

The binominal theorem, variation, the progressions, complex numbers; elementary theory of equations, logarithms, limits, undetermined coefficients.

103. Plane Trigonometry. (3-0). Credit 3.

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. (4-0). Credit 4.

The straight line, transformation of co-ordinates, circle, ellipse, parabola, hyperbola, graphs of trigonometric, logarithmic and exponetial functions. Review of certain topics of preceding courses. Prerequisite: Mathematics 101 and 103.

109. Agricultural Mathematics. (3-0). Credit 3.

Review of certain fundamental topics in Algebra, Geometry, and Trigonometry; problems relating to Agriculture.

110. Survey Course in Mathematics. (3-0). Credit 3.

Quadratic equations, binomial theorem, progressions, permutations and combinations, logarithms, trigonometric functions, straight line, parabola, hyperbola, empirical curves, derivatives of polynomials, integrals of polynomials.

202. Mathematical Theory of Investment. (3-0). Credit 3. II Review of progressions, limits, series, logarithms; graphs; interest, annuities, amortization, bonds, sinking funds and depreciation, probability, life insurance. Prerequisite: Mathematics 102.

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203, 304. Calculus. (5-0). Credit 5 each semester.

Differentiation, limits, infinitesimals, integration, maxima and minima, areas, volumes, water pressure, work, introduction to solid geometry, moment of inertia, center of gravity, radius of curvature, Taylor's theorem, elementary examples of differential equations. Reviews of certain topics of preceding courses. Prerequisite: Mathematics 104.

303. Theory of Equations. (4-0). Credit 4.

305. Differential Equations. (2-0). Credit 2.

Definitions and preliminary notions; change of variables; ordinary differential equations; linear differential equations of the first order; linear differential equations of higher order with constant coefficients; exact linear differential equations. Particular forms of equations; total differential equations in more than two variables; systems of differential equations with two dependent variables; partial differential equations. Prerequisite: Mathematics 204.

405.	Vect	tor Analysis.	(4-0).	Credit	4.	
409,	410.	Advanced Ca	lculus.	(4-0).	Credit 4 each	semester.

#### FOR GRADUATES

504. Solid Analytic Geometry. (4-0). Credit 4.

- 506. Theory of Probability. (4-0). Credit 4.
- 507, 508. Theory of Functions of a Real Variable. (4-0). Credit 4 each semester.
- 511. Ordinary Differential Equations. (4-0). Credit 4.
- 512. Partial Differential Equations. (4-0). Credit 4.
- 513, 514. Differential Geometry. (4-0). Credit 4 each semester.
- 515, 516 Advanced Algebra. (4-0). Credit 4 each semester.
- 517, 518. Theory of Functions of a Complex Variable. (4-0). Credit 4 each semester.
- 519. Elliptical Integrals. (3-0). Credit 3.

### DEPARTMENT OF MECHANICAL ENGINEERING

Professor Crawford, Professors Brewer, Faires, Associate Professor Long, Assistant Professors Truettner, Wingren, Trail, Mr. Downard, Mr. McCarter, Mr. Fleming, Mr. Hopper, <sup>16</sup> Mr. Scarborough.

101, 102. Engineering Problems. (1-2). Credit 2 each semester.
 Use of the slide rule, (dimensional equations), solution of problems involv-

<sup>15</sup> Appointed, February 11, 1936.

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MECHANICAL ENGINEERING

ing engineering data; problems involving trigonometry; elementary statics; work, power, and energy.

105. Bench Work in Wood. (1-6). Credit 3.

Designing and making layout of simple bench projects to be made by hand tools, wood turning, glueing, finishing; grinding and care of tools.

106. Cabinet Making. (1-6). Credit 3.

Design, rod making, construction, and finishing of cabinets, study of lumber, its manufacture, seasoning; glues, varnishes, and other finishing materials, mill work, the preparation of cutting tickets, the care of power wood-working machinery; production methods. Prerequisite: Mechanical Engineering 105 or the equivalent.

201. Pattern Making and Foundry Work. (0-3). Credit 1. I, II Simple pattern layouts and construction of patterns; pattern storage; costs and weights of patterns and castings; the patternmaking industry, Cupolas, gas fired furnaces, moulding sands, core making, foundry layouts, and practice in moulding and casting both ferrous and non-ferrous metals.

202. Pattern Making and Foundry Work. (0-3). Credit 1.

A continuation of course 201, including advanced methods of pattern making and production.

V 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.

213. Dairy Mechanics. (2-3). Credit 3.

A study of elementary mechanics, power transmission, steam and steam boilers, pipes and pipe fitting, refrigeration and insulation, temperature measurement and control, electric motors, disposal of waste products, and similar mechanical problems as applied to dairying and dairy products manufacture. 303, 304. Machine Design. (2-3). Credit 3 each semester.

A study of the theory and practice of machine design applied to machine elements and complete machines. Prerequisite: Mechanical Engineering 307, 313 and Civil Engineering 305.

307. Kinematics. (2-3). Credit 3.
 Motions, velocities, velocity ratio and accelerations and their effects on machines; the transmission of motions by linkage, cams, belts, and gears Prerequisite: Physics 203.

√309. Machine Shop. (0-3). Credit 1. I, II

Practice in bench and machine tool work in metals. This includes chip-

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ping, scraping, filing, babbitting, pipe fitting, drilling, turning, boring, grinding, milling, machine work.

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310. Machine Shop. (0-3). Credit 1.

A continuation of course 309 including also tool making and heat treatment of steel; application of factory production methods.

313. Engineering Mechanics. (3-0). Credit 3. I, II

A continuation of course 212, including also dynamics of rotation, work, energy, friction, impact.

 $\sqrt{320}$ . Thermodynamics. (5-0). Credit 5.

A study of the laws of thermodynamics as they are applied to the behavior of liquids, vapors, and gases. Emphasis placed on the application of these laws to steam turbines, steam engines, refrigeration machines, internal combustion engines, air compressors, boilers, and condensers. Prerequisite: Mathematics 204, Physics 204.

323. Thermodynamics. (4-0). Credit 4. I A modification of course 320, with the same prerequisites, especially arranged for non-mechanical Engineering students.

324. Steam and Gas Power. (3-0). Credit 3.

The use of steam tables; theory of operation of steam engines, steam turbines, internal combustion engines, boilers and auxiliaries; computations involving heat balances, and efficiencies of power generating equipment. Prerequisite: Physics 204, Mathematics 204.

### 329. Advanced Cabinet Making. (1-6). Credit 3. II

Advanced cabinet making, design, finishing, estimating, detailing, rod making, and one research problem on one of the above subjects, or any subject that deals with cabinet making and design as applied to a school shop. Prerequisite: Teaching experience in cabinet making, and courses equivalent to M. E. 105 and 106.

335. Heating and Ventilating. (3-0). Credit 3.

The fundamental principles of the various systems of heating, ventilating, and air conditioning, with working methods of design.

V403, 404. Engineering Laboratory. (1-3). Credit 2 each semester.

Testing gauges, indicators, fans, pumps, boilers, engines and turbines; a study of the actual mechanical operation of various machines. The student is expected to make calculations and written reports on the investigations and the results obtained. Prerequisite: Mechanical Engineering 320 or 323.

#### 407. Mechanical Refrigeration. (3-0). Credit 3.

The application of the principles of thermodynamics to mechanical refrigeration. Kinds of equipment and methods of practical production of

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refrigeration, ice making and cold storage. Prerequisite: Mechanical Engineering 320 or 323.

410. Internal Combustion Engines. (3-0). Credit 3. П 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. Prerequisites: Mechanical Engineering 320.

419, 420. Industrial Engineering. (3-0). Credit 3 each semester.

Principles of management as applied in modern industry; location and layout of factories, control of production, systems of wage payment, cost keeping, human relations. Prerequisite: Senior classification.

423. Industrial Administration. (3-0). Credit 3.

Problems involving material control, store accounts, business statistics and investments. Prerequisite: Senior classification in Mechanical Engineering; must be accompanied by Mechanical Engineering 419.

428. Aerodynamics. (3-0). Credit 3.

The fundamental principles of airplane design and construction. Recent articles on current practice; research problems. Prerequisite: Mechanical Engineering 313.

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.

Sketches and drawings of plant layouts for selected problems; reports, materials and production scheduling. Must be preceded or accompanied by Mechanical Engineering 419.

П 432. Automotive Engineering. (4-0). Credit 4.

A study of the modern automobile, its power plant, fuels, performance, vibration, dynamic balancing, its electrical equipment, braking systems, construction etc. from an engineering standpoint.

## 434. Airplane Design. (1-6). Credit 3.

Force, stress, and performance analysis of the complete airplane. Prerequisite: Mechanical Engineering 428.

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#### AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

## 436. Advanced Heating, Ventilating and Air Conditioning. (4-0).

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Credit 4.

An advanced study of the thermodynamics of heating, cooling and conditioning of air of residence, office and factory. The calculations for and selection of heating, ventilating, and air conditioning equipment, piping and duct layouts. Prerequisite: Mechanical Engineering 320 or its equivalent.

438. Marketing Industrial Products. (3-0). Credit 3.

The industrial marketing field, its magnitude, methods employed, fundamentals of marketing, the growth of demand for the sales engineer, the training of sales engineers, administration and control of sales operations. Required in Administrative options in Engineering.

#### FOR GRADUATES

503, 504. Power Plants. (2-6). Credit 4 each semester.

The design of central and isolated power plants with special attention to overall economic operation. Prerequisite: Mechanical Engineering 418.

507, 508. Experimental Engineering Research. (1-8). Credit 4 each semester. Methods and practice in Mechanical Engineering research, taking up extended problems specially chosen to meet the needs of the individual student.

513. Kinematics and Dynamics of Machines. (4-0). Credit 4. I Velocities and accelerations, with particular emphasis upon balancing and vibrations. Prerequisite: Mechanical Engineering 304.

515. Advanced Engineering Thermodynamics. (4-0). Credit 4.

An extended study of the theories of thermodynamics and their application to the more involved problems in engineering practice. Prerequisite: Mechanical Engineering 320.

516. Heat Transmission. (4-0). Credit 4. II

A study of the fundamental laws relating to heat flow, emphasis being laid on the application of these laws to engineering materials used in various industrial processes. Also a study of up-to-date developments by reference to current literature.

## DEPARTMENT OF MILITARY SCIENCE AND TACTICS

Professor Colonel A. R. Emery, Professors Lieutenant Colonel S. R. Hopkins, Lieutenant Colonel W. C. Washington, Major D. R. Alfonte, Major W. R. Irvin, Major J. W. Rice, Major L. S. Stickney, Captain G. B. Troland.

Assistant Professors Major Raymond Orr, Major A. O. Gorder, Captain D. T. Johnson, Captain J. E. Reierson, Captain M. H. Marcus, Captain J. J. Binns, Captain P. H. Enslow, First Lieutenant B. P. Heiser, First Lieutenant Martin Moses.

#### MILITARY SCIENCE

Assistants Technical Sergeant J. V. King, Staff Sergeant C. M. Halliburton, Staff Sergeant E. Seeger, Staff Sergeant V. M. Miller, Sergeant W. B. Richards, Sergeant H. Richards, Sergeant R. F. Snider, Private First Class F. A. Whitmore, Private C. R. Meisenheimer.

#### INFANTRY UNIT

Professor D. R. Alfonte, Major, Infantry Assistant Professor Raymond Orr, Major Infantry Assistant Professor A. O. Gorder, Major, Infantry Assistant Professor Martin Moses, First Lieut., Infantry Assistant H. Richards, Sgt., D.E.M.L.

101, 102. (1-2) Credit 1 each semester.

(a) Theoretical: Military Courtesy and Discipline, Infantry drill, hygiene, sanitation, rifle marksmanship, map reading, current history, military policy, organization and leadership.

(b) Practical: Infantry drill, physical training, preliminary target practice, gallery practice, and ceremonies.

201, 202. (1-2). Credit 1 each semester.

(a) Theoretical: Musketry, automatic rifle, scouting and patrolling, combat principles, infantry weapons, and military history.

(b) Practical: Command and leadership as 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, aerial photographs, Howitzer Company weapons, combat principles.

(b) Practical: Command and leadership as sergeants, machine gunnery and Howitzer Company weapons.

Prerequisite: M. S. 201, 202.

401, 402. (3-2). Credit 3 each semester.

(a) Theoretical: Military History and Policy, Military Law, Company Administration and Supply, Reserve Officers' Regulations; Tanks, Mechanization. Offensive Combat, Defensive Combat, Combat Orders and Solution of Problems, Combat Principles of the various Small Infantry Units, Antiaircraft Defense, Defense against Chemical Warfare.

(b) Practical: Principles of Leadership and Instructional Methods. Prerequisite: M. S. 301, 302.

## FIELD ARTILLERY UNIT

Professor S. R. Hopkins, Lieutenant Colonel, Field Artillery Assistant Professor J. J. Binns, Captain Field Artillery

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Assistant Professor P. H. Enslow, Captain, Field Artillery Assistant Professor B. P. Heiser, First Lieut., Field Artillery Assistant John V. King, Tech, Sgt., D.E.M.L. Assistant C. M. Halliburton, Staff Sgt., D.E.M.L. Assistant F. A. Whitmore, Pfc., D.E.M.L.

/103, 104. (1-2). Credit 1 each semester.

(a) Theoretical: Military fundamentals including citizenship, military history and policy, current international situation; discipline and military courtesies; sanitation and first aid; military organization; elementary gunnery; ammunition and materiel.

(b) Practical: Dismounted drill, duties of cannoneers and firing battery, materiel, ceremonies, and leadership.

203, 204. (1-2). Credit 1 each semester.

(a) Theoretical: Map and aerial photograph reading, battery communications, care of animals and stable management, equitation and horsemanship.

(b) Practical: Dismounted drill, fire control instruments, orientation, battery communications, battery detail, driving and draft, equitation, and leadership. Prerequisite: M. S. 103, 104.

303, 304. (3-2). Credit 3 each semester.

(a) Theoretical: Use of battery detail, liaison, field artillery communications, equitation and gunnery including the preparation and conduct of fire.

(b) Practical: Use of battery detail, signal communications, driving and draft, preparation and conduct of fire, dismounted drill, leadership and pistol marksmanship. Prerequisite: M. S. 203, 204.

403, 404. (3-2). Credit 3 each semester.

(a) Theoretical: Tactics, military history and policy, military law and administration, and equitation.

(b) Practical: Duty as battery officers and instructors, command, leadership, and tactics. Prerequisite: M. S. 303, 304.

#### SIGNAL CORPS UNIT

Professor L. S. Stickney, Major, Signal Corps Assistant R. F. Snider, Sgt. D.E.M.L.

105, 106. (1-2). Credit 1 each semester.

(a) Theoretical: Military courtesy and discipline, Infantry drill regulations, organization and administration of a company, hygiene and first aid code practice, telegraphy, military telephones, military switchboards, and automatic pistol.

#### MILITARY SCIENCE

(b) Practical: Infantry drill, tent pitching, 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, guard duty, operation of field radio sets, care of personal equipment, map reading.

Prerequisite: M. S. 105, 106, and continued enrollment in Electrical Engineering.

305, 306. (3-2, 0-2). Credit 3, 1.

(a) Theoretical: Message center, codes and ciphers, cryptanalysis, signal plans and orders.

(b) Practical: Infantry drill, leadership and command, message center operations, operations of telephone systems.

In addition to the above the student must complete E. E. 310.

Prerequisite: M. S. 205, 206, and continued enrollment in Electrical Engineering.

405, 406. (0-2, 3-2). Credit, 1, 3.

(a) Theoretical: Organization of Army, company administration, Signal Corps organizations, Signal communication for all arms, use and limitations of signal agencies, combat orders, tactics and technique of Infantry and Signal Corps, military history and policy.

(b) Practical: Infantry drill, leadership and command, handling of message centers, radio nets, wire nets and combined problems.

In addition to the above the student must complete E. E. 409.

Prerequisite: M. S. 305, 306, and continued enrollment in Electrical Engineering.

#### CAVALRY UNIT

Professor William R. Irvin, Major, Cavalry Assistant Professor M. H. Marcus, Captain, Cavalry Assistant E. Seeger, Staff Sgt., D.E.M.L.

107, 108. (1-2). Credit 1 each semester.

(a) Theoretical: Military courtesy and discipline, National Defense Act and R.O.T.C. Regulations, Military history, current international situation, organization of the Cavalry, Cavalry drill to include the rifle platoon, elementary equitation and care of the horse, military hygiene and first aid, rifle marksmanship. (b) Practical: Cavalry drill mounted and dismounted, rifle marksmanship.

## 207, 208. (1-2). Credit 1 each semester.

(a) Theoretical: Military history, Cavalry drill mounted and dismounted to include the rifle platoon, elementary equitation, scouting and patrolling musketry, combat principles, rifle and machine rifle, Cavalry marches and camps.

(b) Practical: Cavalry drill mounted and dismounted to include the rifle platoon, machine rifle and pistol, employment of Cavalry mounted and dismounted to include leadership of the squad, scouting and patrolling, and musketry.

Prerequisite: M. S. 107, 108.

307, 308. (3-2). Credit 3 each semester.

(a) Theoretical: Aerial photograph reading, care of animals and stable management, principles of leadership, equitation, machine guns, marches and security. offensive and defensive combat and organization of the ground, combat principles of the rifle and machine gun platoon, combat orders and the solution of problems.

(b) Practical: Cavalry drill, mounted and dismounted, command and leadership as sergeants, pistol marksmanship, the mechanics of the machine gun.

Prerequisite: M. S. 207, 208.

407, 408. (3-2). Credit 3 each semester.

(a) Theoretical: Military history and policy, military law, administration, supply and mess management, property, emergency procurement, Officers' Reserve Corps Regulations, Cavalry leadership and instructional methods, equitation, mechanization, combat principles of the rifle troop and machine gun troop, anti-aircraft defense, defense against Chemical Warfare and combat intelligence.

(b) Practical: Cavalry leadership, combat principles of the rifle troop, Cavalry drill to include the troop.

Prerequisite: M. S. 307, 308.

#### ENGINEER UNIT

Professor G. B. Troland, Captain, Corps of Engineers Assistant Professor D. T. Johnson, Captain, Corps of Engineers. Assistant W. B. Richards, Sgt., D.E.M.L.

111, 112. (1-2). Credit 1 each semester.

(a) Theoretical: Organization of the Army, discipline, military courtesies, sanitation and first aid, National Defense Act, military history and policy, citizenship, current international situation, leadership, weapons, rifle marks-manship, and musketry.

(b) Practical: Military courtesy, Infantry drill, first aid, weapons, rifle marksmanship, musketry.

211, 212. (1-2). Credit 1 each semester.

(a) Theoretical: Organization and duties of Engineers, map and aerial photograph reading, military sketching and map making, drill and command, scouting and patrolling, combat principles.

(b) Practical: Drill and command, sketching, rigging, map making, scouting and patrolling, combat principles.

Prerequisite: M. S. 111, 112.

311, 312. (3-2). Credit 3 each semester.

(a) Theoretical: Interior guard duty, care of animals and stable management, military roads, military bridging (fixed and floating), military explosives, and demolitions, field fortifications, drill and command, combat training, mechanization.

(b) Practical: Command and leadership, technical exercises and map problems, use and care of explosives, location and construction of roads, design and construction of bridges, military field engineering.

Prerequisite: M. S. 211, 212.

## 411, 412. (3-2). Credit 3 each semester.

(a) Theoretical: Organization and duties of Engineers, construction in war, military bridges, combat training (organization of ground), military law, company administration, military history and policy, leadership.

(b) Practical: Command and leadership as officers and instructors, combat principles, design and construction of military bridges, organization of ground, construction in war.

Prerequisite: M. S. 311, 312.

#### COAST ARTILLERY UNIT (ANTIAIRCRAFT)

Professor William C. Washington, Lieutenant Colonel, C. A. C. Assistant Professor John E. Reierson, Captain, C. A. C. Assistant N. M. Miller, Staff Sgt., D.E.M.L.

113, 114. (1-2). Credit 1 each semester.

(a) Theoretical: Organization of the army, organization of the Coast Artillery Corps, military discipline, courtesies and customs of the service, military sanitation and first aid, military history and policy, national defense act and R. O. T. C., military obligations of citizenship, current international situation, leadership, rifle marksmanship, Coast Artillery ammunition, and weapons and materiels. (b) Practical: Infantry drill, first aid, care and use of rifle, small bore rifle practice, care and adjustment and drill on 155 mm. gun, 75 mm. antiaircraft gun and .30 caliber antiaircraft machine gun, cordage, and mechanical maneuvers.

213, 214. (1-2). Credit 1 each semester.

(a) Theoretical: Leadership, fire control and position finding for seacoast artillery, fire control and position finding for antiaircraft artillery, identification of aircraft, and characteristics of naval targets.

(b) Practical: Infantry drill, range section duties for harbor defense and antiaircraft artillery, and aiming and laying of all types of artillery.

Prerequisite: M. S. 113, 114.

313, 314. (3-2). Credit 3 each semester.

(a) Theoretical: Map and aerial photograph reading, combat orders, leadership, basic gunnery, fire contron and position finding for seasoast artillery, and basic gunnery, fire control and position finding for antiaircraft artillery.

(b) Practical: Infantry drill and ceremonies, solution of map problems, fire adjustment problems, and computation of calibration and trial shot problems for aerial targets.

Prerequisite: M. S. 213, 214.

413, 414. (3-2). Credit 3 each semester.

(a) Theoretical: The law of military offenses, courts-martial, battery administration, military history and policy, leadership, motor transportation, harbor defense and antiaircraft artillery tactics, orientation, materiel, and field engineering.

(b) Practical: Moot court-martial, official correspondence and paper work, infantry drill and ceremonies, tractor and truck driving, tactical map problems, meridian determination on Polaris, plane table and transit traverses, and reconnaissance and selection of battery positions for antiaircraft artillery.

Prerequisite: M. S. 313, 314.

## CHEMICAL WARFARE SERVICE UNIT

Professor James W. Rice, Major, C. W. S. Assistant Claude R. Meisenheimer, Private, D. E. M. L.

115, 116. (1-2). Credit 1 each semester.

(a) Theoretical: Military discipline and courtesy; organization of the army, National Defense Act; military history and policy; obligations of citizenship; current international events; military hygiene; weapons; interior guard duty; map reading.

(b) Practical: Leadership, map reading, pistol marksmanship, chemical warfare weapons.

215, 216. (1-2). Credit 1 each semester.

(a) Theoretical: Organization of the army and of the chemical warfare service; map and aerial photographic reading; supply and mess management; military history; chemical warfare weapons; chemical warfare agents; combat training; defense against chemical agents; communications.

(b) Practical: Leadership, chemical warfare weapons, protective appliances.

Prerequisite: M. S. 115, 116.

315, 316b. (3-2)(1-2). Credit 3, 1.

(a) Theoretical: Administration, military law, military history; combat principles, infantry and chemical warfare service; estimate of the situation and combat orders; tactics and technique of chemical warfare.

(b) Practical: Principles of leadership, instructional methods, chemical warfare weapons, identification of agents.

Prerequisite: 215, 216.

316a. Military Chemistry. (2-0). Credit 2.

(a) Theoretical: Industrial and military toxics, physiological effects, first aid treatment, military explosives.

Prerequisite: M. S. 315, Chemistry 301.

415, 416b. (3-2)(1-2). Credit 3, 1.

(a) Theoretical: Military history; regulations of officers reserve corps; use and care of motor transport; mechanization; offensive and defensive combat principles including the battalion; signal communications; chemical weapons.

(b) Practical: Leadership and command; training methods; planning methods; chemical warfare weapons; duties of officers.

Prerequisite: M. S. 315, 316b.

416a. Military Chemical Engineering. (2-0). Credit 2.

(a) Theoretical; Physics and transportation of gases; meterology; air analysis and measurement methods; theory of absorption; design of gas masks; design of ventilation system.

Prerequisites: Mathematics 203 and 204, Physics 203, M. S. 316a, Chemistry 342 or Chemical Engineering 411.

## DEPARTMENT OF MODERN LANGUAGES

Professor Campbell, Associate Professor Woolket, Mr. Bettger

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

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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.

ations, a working knowledge of these languages is often most helpful. It is therefore advisable, when possible, for students to take up such a language early in their undergraduate course and thereby have the use of it when they begin advanced work in agriculture, engineering, or in pure science. Otherwise, as often happens, their specialization may be hampered and delayed.

A student entering college with entrance credit for two units in a foreign language and whose course calls for more language study in college may continue his high school language by taking the intermediate course. If his subsequent work is unsatisfactory and shows inadequate preparation, he will be required to drop that course and to take in its stead the beginning course, for which he will receive no college credit. In general, students entering with high school credit for two units of a foreign language with a grade of below B, will be advised to start a different language, especially if a year or more has lapsed since the completion of their high school work in modern language.

In beginning courses, by means of daily oral and written exercises, a thorough drili is given in pronunciation, the essentials of grammar, and the more important idiomatic expressions. The reading of simple texts is taken up as early as possible.

In intermediate courses, selected texts and magazines are read with incidental grammar review and drill in the use of colloquial idioms. Short dictation exercises are frequently given. Special stress is laid upon sight reading. Parallel reading of from 150 to 300 pages of selected prose works is required. In French and German, the reading is gradually adapted to the work of other departments; in Spanish, the texts read are chiefly literary and commercial.

- 101, 102. Beginning French. (3-0). Credit 3 each semester. Grammar and reading.
- 103, 104. Beginning German. (3-0). Credit 3 each semester. Grammar and reading.
- 105, 106. Beginning Spanish. (3-0). Credit 3 each semester. Grammar and reading.
- 201, 202. Intermediate French. (3-0). Credit 3 each semester. Grammar review. Reading of selected texts. Parallel reading.
- 203. 204. Intermediate German. (3-0). Credit 3 each semester. Grammar review. Reading of selected texts. Parallel reading.
- 205, 206. Intermediate Spanish. (3-0). Credit 3 each semester. Grammar review. Reading and conversation. Parallel reading.

222. Architectural French. (3-0). Credit 3.

A practical course in reading and interpretation of available texts and periodicals of greatest value to architects. Prerequisite: Language 202 or equivalent. Open also to students who have completed Language 201 with grade of A or B.

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(Offered on demand and when departmental schedule will permit.)

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: Language 204 or equivalent. Open also to students who have completed Language 203 with grade of A or B.

(Offered on demand and when departmental schedule will permit.)

226. Commercial and Industrial Spanisb. (3-0). Credit 3. II A practical course designed for those who expect to follow their professions among Spanish speaking people. Social and commercial correspondence and reading of commercial and industrial texts and periodicals. Prerequisite: Language 206 or equivalent. Open also to students who have completed Language 205 with grade of A or B.

(Offered on demand and when departmental schedule will permit.)

305, 306. Modern Spanish Drama. (3-0). Credit 3 each semester.

- Drama of the nineteenth and twentieth centuries beginning with Moratin and concluding with contemporary Spanish and Spanish-American dramatists. Open to students who have completed courses 205, 206, or 335, 336. (Offered in alternate years. Not offered in 1936-37.)
- 335, 336. Modern Spanish Novel. (3-0). Credit 3 each semester.
- The study of representative Spanish and Spanish-American novels from the beginning of the nineteenth century to the present time.
  - Open to students who have completed courses 205, 206 or 305, 306. (Offered in alternate years. Offered in 1936-37.)

## DEPARTMENT OF MUNICIPAL AND SANITARY ENGINEERING

## Professor Steel

401. Sewerage and Sewage Disposal. (3-0). Credit 3. I Determination of the quantity of storm water and domestic sewage, design and construction of sewer systems; principles of sewage treatment; methods of treatment; operation of sewage treatment plants. Prerequisite: Civil Engineering 311.

402. Water Supply and Purification. (3-0). Credit 3. II Development of ground and surface water supplies; principles and methods of water purification; design, construction and operation of waterworks systems for municipalities. Prerequisite: Civil Engineering 311 or registration in that course.

403. Sanitary Design. (1-5). Credit 3.

Practical problems in the design of sewer systems and appurtenances; sewage treatment plants; water collection and distribution systems; water purification plants. Prerequisite: Municipal and Sanitary Engineering 401 or 402 or registration in either of these courses.

406. Sanitation and Public Health. (3-0). Credit 3.

Relation of sanitation to public health; municipal sanitary work, including garbage and refuse disposal; plumbing; control of food supplies; mosquito, fly and rodent control; sanitation of swimming pools and tourist camps, organization of health departments. Prerequisite: Junior classification.

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408. Municipal Administration. (3-0). Credit 3.

City government, including the city manager plan; relation of city to state; administration of city departments; public utilities; city planning. Prerequisite: Junior classification.

412. Sanitary Laboratory. (1-5). Credit 3.

Field and laboratory work on control and operation of sewage and water treatment plants and investigation of stream pollution. Prerequisite: Municipal and Sanitary Engineering 401 or 402.

## FOR GRADUATES

501, 502. City Management. (4-0). Credit 4 each semester.

Development of European and American cities, forms of city government; functions of the city manager; administration of municipal affairs; organization of city departments; city finances; public utilities; fire prevention and protection; police administration; parks and playgrounds; public health and welfare; housing; city planning.

503, 504. Sanitary Engineering. (4-0). Credit 4 each semester.

Principles and methods of sewage treatment, principles and methods of water purification, recent developments in the treatment of water and sewage; garbage and refuse collection and disposal; mosquito control; sanitation and public health.

505, 506. Research. Credit 2 to 6.

Research in sanitary engineering and municipal affairs; projects subject to the approval of head of department.

## DEPARTMENT OF PETROLEUM ENGINEERING

## Professor Vance, Associate Professor Stevens

204. The Petroleum Industry. (2-0). Credit 2.

A general introductory study of the petroleum industry including historical development, exploration, development and production methods, refining, and the natural gas and natural gasoline industries. Prerequisite: Chemistry 101 and Geology 201.

#### 303. Petroleum Development. (3-3). Credit 4.

Petrolcum exploration, principles of oil field development, rotary and cable tool drilling methods, drilling fluids, oil field hydrology, cemeting, well completion practice and well records. Prerequisite: Petroleum Engineering 204, Geology 201 and 207, Physics 204.

## 304. Petroleum Production Methods. (2-3). Credit 3.

A study of the factors influencing the flow of oil into the well. Operation of flowing, gas lift and pumping wells. The separation of oil and gas and the methods of treating cut oil. Prerequisite: Petroleum Engineering 303.

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ľ 401. Oil Measurements and Transportation. (2-3). Credit 3.

The measurement, sampling and testing of crude oil, tank strapping and preparation of tank tables, oil storage, the prevention of loss by evaporation, fire and lightning protection. A study of the principles of pipe line design and construction. Prerequisite: Petroleum Engineering 303, 304.

402. Oil Field Management. (3-0). Credit 3.

The management of oil field properties, taxes and insurance, organization, regulation and valuation of oil and gas properties. Prerequisite: Petroleum Engineering 303, 304, 401, and 405.

403, 404. Petroleum Problems. (0-3). Credit 1 each semester.

Practical investigation of oil field problems, subject to approval of head of department. Prerequisite: Petroleum Engineering 303, 304, and registration in 405.

405. Equipment and Applications. (3-0). Credit 3.

A study of the drilling and production equipment used in oil field practice. Prerequisite: Petroleum Engineering 303, 304.

406. Natural Gas and Gasoline. (2-3). Credit 3. П

Theory and practice of gas measurement, orifice meters, positive displacement meters, pitot tubes, orifice wells testers, etc., The transportation of gas and the manufacture of natural gasoline. Prerequisite: Petroleum Engineering 303, 304.

407, 408. Production Research. (0-8). Credit 3 each semester.

Original investigation of some problem within the field of petroleum production. Prerequisite: fifth year standing.

#### 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 Norton, Professors Penberthy, Rollins, Associate Professor H. R. McQuillan, Assistant Professor Sikes, Mr. Dimmitt

The work of the Department of Physical Education is given in the following divisions:

I. Physical Education II. Intramural Athletics. Physical Education and Corrective Gymnastics.

III. Freshman Athletics. IV. Intercollegiate Athletics.

V. Courses for students who desire to major in Physical Education. I. Physical Training and Corrective Gymnastics.

(a) Physical examination of freshmen and individual advice regarding defects of any nature. Classification of each case according to physical exercise, capacity and needs.

 (b) Health talks to freshmen at frequent intervals throughout the year.
 (c) Freshman physical training correlated with the corrective program and the corrective program and the corrective program. 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

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hours a week throughout the year.

(d) Individual gymnastics.

Intramural Athletics. II.

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. IV. Intercollegiate Athletics.

The Department of Physical Education has charge of all intercollegiate athletics, under the regulations laid down by the College and by the Southwest Athletic Conference. Intercollegiate contests are now held in the following sports: Football, basketball, track, baseball, tennis, cross country, golf, and swimming. V. Courses in Physical Education.

 $\sqrt{101}$ , 102. Physical Education for Freshmen. (0-2). No credit.

Grades of S (Superior), P (Passed), and F (Failed) will be given. The grades ofS will carry one grade point per 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 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 alternate years. Offered in 1936-37.)

311, 312. Fundamentals of Athletic Coaching. (3-2). Credit 4 each semester. Fundamentals of football, basketball, track and baseball. Individua!

technique. Prerequisite: Junior standing and approval of instructor.

(Offered in alternate years. Offered in 1936-37.)

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 alternate years. Not offered in 1936-37.)

403, 404. Organization and Administration of Physical Education. (3-2).

Credit 4 each semester.

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Organization and administration of interscholastic and intercollegiate athletics; intramural athletics in public schools and colleges, business adminis-

#### PHYSICS

tration of physical education and athletic sports. Prerequisite: Junior standing and approval of instructor.

(Offered in alternate years. Not offered in 1936-37.)

## DEPARTMENT OF PHYSICS

Professor Silvey, Associate Professors Vezey, Sanders, McCorkle, Assistant Professor Smith, Mr. Schoepfle

201, 202. College Physics. (3-2). Credit 4 each semester.

For students in general science courses and those preparing to enter medical school. The mechanics of solids, liquids and gases; the phenomena of heat, light, sound, electricity and magnetism. Emphasis is laid on the fundamental principles rather than the mathematical processes involved. The practice includes about thirty experiments in the subjects named above.

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

A general course in mechanics, heat, light, electricity, and magnetism for engineering students. Stress is laid on the derivation of the various formulas necessary for an understanding of the mathematical relations existing in physical determination. The practice includes about thirty experiments in the subjects named above. The work is, in general, quantitative. Prerequisite: Mathematics 102, 104.

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 102, 104.

301. Heat. (3-3). Credit 4.

Heat transfer, kinetic theory, critical points, isothermal and adiabatic changes and the thermodynamics of the changes of state and radiation. Pre-requisite: Physics 202, 204, or 208, and Mathematics 204.

(Offered in alternate years. Not offered in 1936-37.)

302. Properties of Matter. (3-3). Credit 4.

Universal gravitation, elasticity, surface tension, diffusion, viscosity and the mechanics of fluids. Prerequisite: Physics 202, 204, or 208, and Mathematics 204.

(Offered in alternate years. Not offered in 1936-37.)

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: (2-3) Credit 4

401. Optics. (3-3). Credit 4.

Periodic motion, wave motion, the nature and propagation of light, inter-

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ference, polarization and the theory of optical instruments. Prerequisite: Physics 202, 204, or 208, and Mathematics 204.

(Offered in alternate years. Offered in 1936-37.)

402. Electricity and Magnetism. (3-3). Credit 4.

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Electric fields, potential, capacitance, current, resistance, electrolysis, primary and secondary cells, thermoelectric phenomena, magnetism, electromagnetic induction, electronics and Roentgen rays. Prerequisite: Physics 202, 204, or 208, and Mathematics 204.

(Offered in alternate years. Offered in 1936-37.)

V407. Geophysics and Geophysical Methods. (3-0). Credit 3. I, II A study of the earth's gravitational, magnetic, electrical, elastic and thermal properties, and the various methods of geophysical prospecting. The effects of various types of deposits upon each method are shown with the object of determining, from an analysis of structural and lithologic conditions, the type of geophysical method most suitable in any particular area.

Prerequisite: Physics 202, or 204, and Mathematics 203, 204; or senior standing in Geology or Petroleum Engineering.

409. Theoretical Acoustics. (3-0). Credit 3.

A study of the fundamental theory of acoustic sound waves; theory of horns, including relations between acoustic and electrical impedence; Acoustic transmission; acoustic measurements and instruments; atmospheric acoustics. Prerequisite: Mathematics 203, 204, 305.

#### FOR GRADUATES

501, 502. Analytical Mechanics. (4-0). Credit 4 each semester.

A study of rectilinear motion, plane and solid motion of a point, plane and solid rotational motion, mechanisms, strains, kinetics of a particle, kinetics of a rigid body, statics, attraction and potential, plane and solid statics of a rigid body, hydrostatics and hydrokinetics.

503, 504. Advanced Electricity and Magnetism. (4-0).

Credit 4 each semester.

A study of the underlying principles of alternating electric currents, the development of graphical methods of analysis as a basis for the solution of practical problems. The development of the equations for the propagation of an electromagnetic disturbance through a dielectric. A study of electrastatic and electromagnetic fields, the electromagnetic theory of light, thermal and electrical conduction in magnetic fields.

505, 506. Theory of Thermodynamics and Thermal Radiation. (4-0).

Credit 4 each settlester.

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. (4-0). Credit 4.

A study of gas pressure, speed of gaseous moleucules, 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.

A study of the conductivity of electricity through gases, mobility and Jiffusion of gaseous ions, measurement of the elementary electric charge, ratio of charge to mass of ions, positive ions and photo-electric action. Open to undergraduate students who have a grade of A or B in Physics 301, 302.

## 510. Electron Theory. (0-3). Credit 1.

This course may be taken by students who are enrolled in Physics 508 and those who have credit in this course or its equivalent.

#### 511, 512. Advanced Optics. (4-0). Credit 4 each semester.

The electromagnetic theory of light, spherical and chromatic aberrations, interference, diffraction, crystal optics, optical properties of metals, emission, absorption, dispersion and dispersion formulae, resonance; line and band spectra and their use in the study of the nature of atoms and molecules.

#### DEPARTMENT OF POULTRY HUSBANDRY

Professor D. H. Reid, Associate Professor Munnerlyn

201. Poultry Production. (2-2). Credit 3.

The breeds and types of poultry, culling poultry for egg production, incubation, brooding and feeding for growth and egg production, winter and summer management, housing and hygiene, preparing poultry for market, methods of marketing; practical application of these subjects to general farm conditions. The practice consists of the identification of breeds and varieties, judging poultry as to sex, age, constitutional vigor and egg productions, plans for poultry farms and poultry houses, identification of feeds, methods of dressing poultry.

301. Market Poultry. (2-2). Credit 3.

Pen fattening, crate fattening, fattening on range, fattening the turkey flock, special feeds for ducks and geese, management of a feeding station, culling the market flock, cramming special roasting fowls, candling and grading eggs, preparing eggs for cold storage, feeds that affect the keeping quality of eggs, getting the best price for poultry products.

The practice includes mixing fattening rations, the feeding of broilers,

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roasters, turkeys, ducks, and geese, also candling and grading eggs, care of hatching eggs; and operation of an incubator.

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#### 302. Feeding and Brooding. (3-2). Credit 4.

Common grain and mill feeds for poultry, chemical composition, vitamin content and value as poultry feeds, embryology of the chick and introduction to brooding from a commercial standpoint. The practice includes methods of balancing poultry rations, different methods of determining the value of feeds, identifying and mixing poultry feeds, methods of pedigree breeding, anatomy of the common fowl, identification of digestive and egg production organs. Prerequisite: Poultry Husbandry 201.

303. Turkey Production. (2-0). Credit 2. I, II Breeds of turkeys; care of the breeding flock; feeding the breeding flock; good hatching eggs; incubating turkey eggs; feeding the poults; raising turkeys in confinement; summer care of young stock; fattening the turkey flock.

306. Game Propagation and Management. (2-3). Credit 3. • II

This course includes the history of game conservation in Texas. The habitat, habits, methods of rearing, incubation, mating and protecting Texas game. The principal enemies, parasites, and diseases of Texas game. Equipment needed and financial return probable from game propagation by the Texas farmer. Text book will be numerous references, books, and bulletins now in possession of the department.

Practice work will consist of numerous field trips to surrounding posted farms and fish ponds. Also the construction of artificial cover, the planting of feed crop for game, and various equipment needed for game propagation.

## 401. Culling and Management. (3-2). Credit 4.

The underlying principles of poultry culling, study of the literature, management of a large poultry flock on commercial poultry farms, also large farm flocks, selecting the breeding stock, important qualities of a good breeding male. The practice includes a study of the relationship between physiological characteristics and egg production of the domestic fowls; the standard type, weight and qualities of standard bred domestic fowls; and culling practice, incubation, and hatchery management. Prerequisite: Poultry Husbandry 201.

402. Poultry Farming. (3-2). Credit 4.

The laying out of poultry farms, costs and management in raising a flock of one thousand or more, types of houses, incubators and brooders, raising of special types of poultry, battery brooding methods, teaching and demonstrating plans. The course includes a study of the literature relating to poultry breeding principles and practices. The practice consists of problems in organizing, financing and establishing a commercial poultry business. Prerequisite: Poultry Husbandry 201.

403. Judging. (2-2). Credit 3.

The judging of standard breeds and varieties, special instructions for judges, methods of fitting for the show room, methods of breaking ties in poultry show, standard disgualifications and special disgualifications for the different varieties. The practice consists of judging classes of exhibition poultry raised on the College poultry farm and the judging of two or more small shows in the surrounding communities. Prerequisite: Poultry Husbandry 201.

408. Poultry Meats. (1-3). Credit 2.

Theory: The essentials of good dressing practice for poultry; proper refrigeration for poultry; methods of sticking and optimum temperatures of water used in dressing poultry.

The practice includes sticking, picking, scalding, singeing, drawing different kinds of poultry. It also includes cutting up poultry for different purposes as broilers, roasters, fricasse, also a study of the effects of different methods of refrigeration.

410. Advanced Wild Life Studies. (2-3). Credit 3. H

The lectures will outline methods of studying wild life. Special features for the attraction of each species of game and song birds, ways of studying the real status of predators, methods of increasing wild life on given areas. Studies of how to increase the economic value of game and fur-bearing animals to farmers. The practice work will consist of an intensive study of a given area, mapping, the area as to food, cover, and removal of harmful factors. Planning improvements and planting food and cover. The study of at least four coveys of bobwhite quail, their habits, history, and losses. Collection and identification of food and cover plants.

## FOR GRADUATES

501, 502. Research Problems. (3-4). Credit 4 each semester.

A study of recent investigations in poultry breeding and nutrition. Research methods are given attention. Experiment station literature, scientific journals and newer publications are to be read and reported by the student.

503, 504. Advanced Incubation and Brooding. (3-4).

Credit 4 each semester. Factors underlying the successful hatching of eggs. A study of the effects of various chemicals and disinfectants on the hatching of hens' eggs. Peculiar requirements of hatching eggs from different species of domestic fowl. Chickens, ducks, geese, turkeys and guinea fowl. Nutritive requirements of the young of the different species of domestic fowl. Optimum percentages of proteins and other nutrients in the ration. The vitamins necessary for growth; vitamins necessary to avoid malformation and to secure good growth; minerals essential to good growth. Results of vitamin deficiency in rations.

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505. Embryology of the Chick. (2-6). Credit 4. I 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.

571. Cooperative Study of Poultry Nutrition. Credit 2 to 6.

The history of the scientific study of poultry nutrition, including life, animal heat, nutrients, vitamins, etc., and the contributions of the imporant research workers in the field. A series of written reports, a three-hour weekly conference with the instructor and the carrying out of an Experiment Station project in animal nutrition will be required.

## DEPARTMENT OF PSYCHOLOGY

## Professor Winkler

207. Psychology. (3-0). Credit 3.

An introductory course dealing with the elementary principles of psychology.

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301. Educational Psychology. (3-0). Credit 3. I, II

The application of psychology to the problems of teaching. The nature and operation of the laws of learning; transfer of training; nature, measurement and significance of individual differences, and the conditions that influence efficiency of learning.

302. Mental Efficiency. (2-0). Credit 2.

A study of the more general factors which influence mental efficiency; the significance and importance of mental hygiene in modern life.

323. The Psychology of Adolescence. (3-0). Credit 3.

The psychological problems of the normal teen-age individual, including consideration of the ways and means of aiding youth to meet these problems constructively.

## DEPARTMENT OF RURAL SOCIOLOGY

Professor Russell, Mr. D. R. Davis

201. Introduction to Social Problems. (3-0). Credit 3.

An introduction to the study of society. The work is mainly descriptive, but the ethical implications of some social relations are discussed. Human relations in the family; education, economic activity, politics, race contacts, and international affairs.

204. Introductory Rural Sociology. (3-0). Credit 3. If The underlying social problems of the country district. The human element in rural life and production; some disorganizing tendencies in rural

RURAL SOCIOLOGY

life, as farm tenancy, communication, poor schools, decaying churches, progressive agricultural tendencies.

## 306. Rural Social Work. (3-0). Credit 3

The organization of rural public welfare work; a critical analysis of the present relief work in the small towns and rural communities; a study of rural rehabilitation, rural work center, rural colonization, and part time subsistence farming; a study of case work standards relating to orphan. delinquent, dependent, and neglected children, family welfare work, health, and mental hygiene work.

## 311. Social Psychology. (3-0). Credit 3.

The factors affecting group behavior together with methods of social control; the forces and influences which determine the mental attitudes of country people; the connection between a good understanding of the social mind and successful organization effort; methods of dealing with the problems involved; the many questions related to public opinion.

## 312. General Sociology. (3-0). Credit 3.

The position of sociology among the social sciences. The subject matter of sociology is outlined under the following heads; population, physical environment, human motivation, social organization and social pathology. Emphasis is placed upon methods of investigation and quantitative measurement of the data of sociology.

## 404. Rural Organization. (3-0). Credit 3.

A study of community life in rural districts with its natural organizing and disorganizing tendencies; a survey and evaluation of attempts at community organization, as the survey, community club plan, community council plan, the school community center, the community church, the Y. M. C. A., the Red Cross.

#### 407. Rural Sociology. (2-2). Credit 3.

An analysis of the conditions, forces and agencies influencing the life of the country dweller and the country community; a detailed study of a number of special problems related to the social side of country life, such as population questions; cityward drift; town and country relationships; rural health problems, recreation, rural leadership; community organizations and community planning. Attention is also given to the social problems connected with the home, the school, the church, the press and other social institutions.

415. Agricultural Journalism. (2-2). Credit 3.

The principles of newspaper writing, especially the preparation of material for agricultural papers and country weeklies; the part a country paper should play in country development; in the laboratory work, opportunity is given for actual writing for newspapers and farm journals. The Publicity Office of the College, and the Publicity Department of the Extension Service cooperate in the course.

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#### 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.

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#### 512. The Rural Community. (4-0). Credit 4.

A study of the rural community as to its geographic background, population, social institutions, and occupational attitudes. Different efforts at organizing the rural community, as the country public welfare project, school and church community center projects, recreational and health projects, local, state and national agencies for rural community co-operation are studied.

## DEPARTMENT OF TEXTILE ENGINEERING

Professor Bagley, Assistant Professor Powers

107, 108. Cotton Classing. (2-5). Credit 4 each semester.

Classes of buyers found in interior towns; problems and methods of interior buying; detail office methods, keeping account of purchases and sales of cotton.

205. Cotton Exchanges. (3-0). Credit 3.

History and purpose of cotton exchanges, operation and details.

211, 212. Cotton Classing. (1-5). Credit 3 each semester.

Lectures covering the larger problems of cotton marketing. Practice similar to 107, 108. Prerequisite: Textile Engineering 107, 108.

218. Foreign Cotton Markets. (3-0). Credit 3. II 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.

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 alternate years. Offered in 1936-37.)

## DEPARTMENT OF VETERINARY ANATOMY

Professor Francis, Mr. Thaxton

111, 112. Anatomy of the Domestic Animals. (3-6). Credit 5 each semester. A study of the bones joints and muscles; the thoracic and abdominal viscera.

211. Anatomy of the Domestic Animals. (3-6). Credit 5.

Dissection of the circulatory system, the nervous system and the organs of special sense.

213. Histology and Embryology. (2-4). Credit 3. i A lecture and laboratory course.

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 processes 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.

## FOR GRADUATES

511, 512. Veterinary Anatomy. (2-4). Credit 3 each semester.

## DEPARTMENT OF VETERINARY MEDICINE AND SURGERY

Professor Marsteller, Professors Dunn, Lenert

351, 352. Non-infectious Diseases. (3-0). Credit 3 each semester.

Lectures and demonstrations on physical diagnosis. Diseases of the digestive, circulatory, respiratory, and urinary organs.

361, 372. General Surgery. (3-0). Credit 3 each semester. The principles of surgery, restraint of domestic animals, surgical diagnosis, surgical exercises and soundness.

371, 372. Clinics. (0-7, 0-12). Credit 2, 4.

NOTE: All students taking clinics are required to give attention daily to cases assigned, and if necessary laboratory diagnosis and post-mortem examinations must be conducted. Students will visit sick animals on farms, ranches, and other premises near the College. Trips to other parts of the State are required when outbreaks of diseases occur that can not be studied at the College. About five 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. Prerequisite: Veterinary Anatomy 302.

451. Diseases of Small Animals and Fowls. (3-0). Credit 3. I Non-infectious and infectious diseases in pet animals and domestic fowls.

452. Practice of Veterinary Medicine and Jurisprudence. (3-0). Credit 3. II General business methods, and State and national laws relating to the practice of veterinary medicine.

453. Infectious Diseases. (3-0). Credit 3. I Symptoms, treatment and control of infectious diseases.

455. Diseases of Poultry. (2-0). Credit 2.

461. Obstetrics. (2-0). Credit 2.

Accident of breeding, diseases incident to pregnancy, parturition and post-partum conditions. Attention is also given to diseases of the newly born.

462. Operative Surgery. (3-4). Credit 4. П Castrating, spraying, dentistry, lameness, shoeing. Surgical exercises are required.

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471, 472. Clinics. (0-7). Credit 2 each semester.

501, 502. Special Surgery. (2-4). Credit 3 each semetser.

Problems of surgical conditions, surgical pathology, surgical technique and sterility of animals.

## DEPARTMENT OF VETERINARY PATHOLOGY

## Associate Professor Wharton

242. General Pathology. (3-2). Credit 4.

The elementary disease process and their causes, including a study of the gross and minute appearance of the diseased tissue. Such processes as inflamation, necrosis, gangrene, atrophy, hypertrophy, ulceration; the various degenerations, infiltrations, pigmentations and tumor formations are considered. Practice consists of the microscopical study of these processes and instruction in laboratory technique. Prerequisite: Veterinary Anatomy 213.

341, 342. Special Pathology. (2-0, 2-4). Credit 2, 3.

Lectures on the special systematic pathology and morbid anatomy of the different organs and systems of organs. The pathology of the various infectious and contagious diseases is considered. The practice includes the demonstration of museum and fresh specimens and an introduction to postmortem technique. Prerequisite: Veterinary Pathology 242.

#### 343. Special Bacteriology. (2-4). Credit 3.

The pathogenic micro-organisms; their morphology, cultural characteristics and pathogenicity are considered. The practice consists of the study of the more important micro-organisms which produce diseases in man and domestic animals. Prerequisite: Biology 206.

## 441. Immunology and Serum Therapy. (2-2). Credit 3.

The fundamental principles of immunity. Special attention is given to the preparation of biologics used in the prevention of infectious diseases Prerequisite: Veterinary Pathology 343.

#### 442. Food Hygiene. (2-2). Credit 3.

The abattoir inspection of meats and meat products; Federal regulations governing such inspection, condemnation and disposal of carcasses, also regulations governing interstate and foreign shipments of livestock. Prerequisite: Veterinary Pathology 341, 342. Some time is devoted to laboratory inspection of milk and water.

## 443. Parasitology. (2-2). Credit 3.

Parasites infesting domestic animals and the pathological conditions produced by them. Attention is given to treatment and control measures. Prerequisite: Biology 207.

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444. Laboratory Diagnosis. (2-2). Credit 3.

Methods of procedure in the preparation of materials for laboratory examination; technique of examination; biological tests of special importance; animal inoculations; isolation of the organisms of diseases from lesions.

Prerequisite: Veterinary Pathology 341, 342, 343.

## FOR GRADUATES

541, 542. Advanced Special Pathology. (3-4). Credit 4 each semester.

Etiology, pathogenesis, lesions and results of diseases of organs and systems of organs; pathology of infectious diseases. Prerequisite: Veterinary Pathology 242, or equivalent.

543, 544. Advanced Special Bacteriology. (3-4). Credit 4 each semester.

A study of pathogenic micro-organisms; their cultural and biological characteristics and pathogenicity. Prerequisite: Biology 206.

## DEPARTMENT OF VETERINARY PHYSIOLOGY AND

## PHARMACOLOGY

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 system.

221, 222. Physiology of the Domestic Animals. (2-0, 3-4). Credit 2, 4.

Digestion, absorption, secretion, excretion; physiological chemistry, with special reference to digestive juices, enzymes, hormones, urine, and chemical composition of the body. The practice consists of studying blood, urine, and other body fluids; action of natural and artificial digestive juices on food-stuffs; graphic records of the functioning of the muscular, nervous, respiratory, and circulatory systems. Prerequisite: V. P. P. 121, 122.

333, 334. Pharmacology. (3-4, 3-0). Credit 4, 3.

Metrology, history of therapeutics, source and composition of drugs, methods of administration, factors influencing the action of drugs, posology, prescription writing, drugs affecting the various tissues and organs of the body. Practice consists of identification of crude drugs; extraction of drugs; constituents; pharmaceutical methods; manufacture of types of official and a a few non-official preparations; prescription compounding; chemical and biological methods of standardization of medical preparations; action of drugs on experimental animals. 341. General Physiology. (3-4). Credit 4.

Structure of the human body; physiology of the skeletal, muscular, nervous, respiratory, and circulatory systems. Prerequisite: Biology 203, 204 or 211, 212.

Elective for students in Science and Physical Education. (Previously designated Biology 341.)

342. General Physiology. (3-4). Credit 4. II Physiology of digestion, nutrition, metabolism, secretion, excretion, and reproduction. Prerequisite: V. P. P. 341 and Chemistry 206.

Elective for students in Science.

(Previously designated Biology 342.)

432. Toxocology. (1-2). Credit 1.

Causes, symptoms, lesions, prevention, and treatment of organic and inorganic poisons, including poisonous plants and endogenous poisons. Practice consists of analysis of more common organic and inorganic poisons; actions and treatment of poisons on experimental animals.

## FOR GRADUATES

501, 502. Advanced Practical Physiology. (2-4). Credit 3 each semester.

Recent phases of physiology; modern experimental methods. The work is arranged to suit the needs of the student and in harmony with his previous training.

503, 504. Advanced Physiology of Nutrition. (2-4). Credit 3 each semester. A detailed study of the modern theories of nutrition with special reference to vitamins. Prerequisite: Chemistry 206.

505, 506. Advanced Poisonous Plants. (2-4). Credit 3 each semester.

Original investigations and detailed studies of the poisonous plants affecting domestic animals. Prerequisite: Biology 101, 102.

507, 508. Advanced Experimental Pharmacology. (2-4).

Credit 3 each semester.

Modern methods of research in pharmacology and pharmaceutical processes. Original research in studying the actions and uses of drugs. Prerequisite: V. P. P. 333, 334.

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## Part V

## RESEARCH, EXTENSION, SUMMER SESSION, AND OTHER ACTIVITIES

# THE TEXAS AGRICULTURAL EXPERIMENT STATION SYSTEM

## A. B. CONNER, Director

The Texas Agricultural Experiment Station System is the agricultural research agency of the State, its function being the investigation and solution of agricultural problems. It consists of the central or main station at College Station with appropriate indoor laboratories, and sixteen outdoor laboratories, or substations, located in various sections of Texas, as follows: Angleton, Beaumont, Beeville, Chillicothe, Denton, Lubbock, Nacogdoches, Balmorhea, Spur, Temple, Tyler, Sonora, Weslaco, Iowa Park, Winter Haven, and College Station. In addition, there are beeyards at Dilley, Seguin, and Roxton, and a queenyard at the State Apicultural Research Laboratory located at San Antonio. The work of the Station System comprises researches in the more important problems of veterinary science, chemistry, horticulture, animal industry (including range animal husbandry, dairy husbandry, swine husbandry, and poultry husbandry), botany, entomology, agronomy, plant pathology and physiology, farm and ranch economics, rural home research, agricultural engineering, and feed control service. The substations and other outdoor or field laboratories are utilized for extending the work of the main station so that statewide information may be secured upon the various phases of the investigational work. The Station System is the source of valuable information for students of agriculture and the farmers and stockmen of the State. It is looked to for facts by the School of Agriculture, the Extension Service, and other agencies for the dissemination of agricultural information. The work of the main station and of the Feeding and Breeding substation (Substation No. 10) presents to students unusual opportunities both in theoretical instruction and practical experience.

For the fiscal year ending August 31, 1936, the Station System received \$282,830.00 State appropriations; and \$127,341.19 Federal funds for the year ending June 30, 1936.

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 disease affecting horses, mules, cattle, sheep, goats, and swine.

*Chemistry*: The division of Chemistry conducts researches relating to feeding stuffs, soils, fertilizers, irrigation waters, minerals, paints, and miscellaneous analyses; the analysis of feeding stuffs for the Feed Control Service; and the enforcement of the State law regulating the sale of commercial fertilizers. The Chief of the division is also State Chemist.

*Horticulture*: The division of Horticulture conducts investigations relating to fruits, vegetables, and ornamental trees and shrubs, and the introduction and propagation of new and promising varieties of fruits, vegetables and shrubs from foreign countries.

Range Animal Husbandry: The division of Range Animal Husbandry conducts investigations in the breeding, management, feeding, and grazing of range animals, such as sheep, Angora goats, and cattle. Special attention is being paid to inheritance and scientific breeding as related to the improvement of specially adapted types of animals and to the improvement of wool and mohair. The division operates the wool and mohair scouring plant which is located at the Main Station. Substations 7, 10, and 14 are used extensively for researches relating to range animal husbandry.

Soil Surveys: The division of Soil Survey is operated in cooperation with the Bureau of Chemistry and Soils of the United States Department of Agriculture, and its work is the detailed and 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; for prohibiting their adulteration, for correct weighing and marketing; and for collecting of samples. It also provides for the expense of enforcing the law and for fixing penalties and places the enforcement of the act in the hands of the Director of the Texas Agricultural Experiment Station. The Director is empowered to adopt names, standards, and definitions; to refuse registration of any feeding stuff under a name which would be misleading as to materials of which it is made, or which does not conform to the standards, and after ten day's 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

#### AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

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 ecenomic importance to the State is the extension of the cotton growing area, brought about through trials and tests of early varieties followed by breeding work in Northwest Texas, which has opened up an extensive new cotton-growing region not infested with the boll weevil.

Plant Pathology and Physiology: The division of Plant Pathology and Physiology conducts researches relating to diseases affecting the plants of the State with a view of developing methods of combating them. Studies are made of the diseases of field crops, vegetables, trees, and ornamentals and shrubs of various kinds. Intensive cotton root rot investigations are being conducted at the main station and at the central Cotton Root Rot Station in the blacklands, as well as at the other points in the State where this disease is prevalent.

Farm and Ranch Economics: The activities of the division of Farm and Ranch Economics are confined primarily to research in the business phases of the agricultural industry of the State. Research conducted at present may be classified under three major groups: Farm Management, Marketing, and Farm Taxation. Specific projects under way are type-of-farming area studies, system-of-farming studies, economic factors influencing the marketing of vegetables in the Lower Rio Grande Valley of Texas, relation of quality to price in farmers cotton market, and farm taxation. The chief objective of the research program of the division is to assist farmers and ranchmen in the several agricultural areas of the State to make the most of their resources in land, labor, and equipment.

*Botany*: The division of Botany is engaged in the study of the flora of Texas as it relates both to ranching and crop farming in the different sections of the State. The diversity of vegetation on the range affects the quality and feed values produced. The flora in a section where cultivated crops are grown has an intimate relation to plant diseases and may oftentimes act as host plants for virulent diseases, of which cotton root rot is an example. The study of the flora of Texas in all its relationships is a most important field of endeavor.

Swine Husbandry: The division of Swine Husbandry conducts investigations and researches in the feeding, breeding, and management of swine. The swine husbandry plant is located on the grounds of the feeding and breeding substation near the College campus.

Dairy Husbandry: The division of Dairy Husbandry also has its plant on the feeding and breeding substation, where researches in the feeding, management, and improvement by breeding of dairy cattle are being conducted.

*Poultry Husbandry*: The division of Poultry Husbandry is conducting investigations in connection with the feeding, breeding, and management of poultry, with special reference to the improvement of flocks by breeding and increased egg production through the judicious use of animal and vegetable protein feeding stuffs. The poultry plant is located on the grounds of the feeding and breeding substation near the College campus.

*Rural Home Research*: The division of Rural Home Research is engaged in the study of nutrition as it relates to the development and growth in children. Nutrition may affect not only the growth and development but also the health of the individual, and studies of diet in relation to the well-being of the individual are of the greatest importance. Studies are also being made of the influence of sunlight on the durability and fastness of cotton fabrics, which work not only as an important relation to the utility of cotton fabrics but also promises to develop information as to the possibility of deterioration of cotton fibers in the field before harvesting.

Apiculture Research: The division of Apiculture has a specially equipped laboratory for beekeeping investigations, located near San Antonio, in Bexar county. The laboratory is in charge of a competent Apiculturist who is conducting researches bearing directly on the successful continuation of the beekeeping industry of the State. A competent queen breeder is also located at this laboratory.

Agricultural Engineering: The division of Agricultural Engineering is at the present time making an intensive study of cotton harvesting machinery and problems connected with the placement of cotton seed and fertilizers. The engineering phases of soil and water conservation naturally fall within the field of this division.

## 210 AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

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 the name implies, subordinate to and a part of the main station. In the location of these substations, due regard has been given to the needs for outlying work within the several agricultural regions of the State, and the principal lines of work are closely related to the problems peculiar to the regions involved.

## Cooperation with the School of Agriculture

Under the terms of a memorandum of understanding between the School of Agriculture and the Station, a number of teachers in the School of Agriculture are carrying cooperative projects of research on the Station, and certain research workers from time to time lecture to classes in the School of Agriculture.

## Cooperation with the Graduate School

In cooperation with the graduate school members of the Agricultural Experiment Station Staff offer the following graduate courses, which are described under the respective departments of instruction.

Agricultural Economics 571, 572. Methods of Research. (2-6).

Animal Husbandry 571, 572. Wool and Mohair Research. (3-4).

Animal Husbandry 573, 574. Research in Animal Breeding. (3-4).

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

Chemistry 573, 574. Special Topics in the Chemistry of Animal Nutrition. (2-6).

Chemistry 575, 576. Special Topics in the Chemistry of Soils. (2-6).

Chemistry 577, 578. Special Topics in the Chemistry of Soils. (2-6).

Genetics 571, 572. Research in Cotton Breeding. Thesis.

Poultry Husbandry 571. Cooperative Study of Poultry Nutrition. (2-6).

## 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 STÁTION

## F. E. GIESECKE, Director

The Texas Engineering Experiment Station was organized in 1914 for the purpose of assisting in the industrial development of Texas, of investigating engineering and industrial problems, and of disseminating information relating thereto.

The Engineering Experiment Station staff is selected from time to time from the teaching force of the following departments of the College, according to the particular projects under investigation.

Agricultural Engineering Architecture Chemical Engineering Civil Engineering Electrical Engineering Engineering Research Geology Mechanical Engineering Municipal and Sanitary Engineering Petroleum Engineering Physics

Textile Engineering

The heads of these departments constitute the Advisory Council of the Engineering Experiment Station.

Forty-two bulletins have been issued. So long as the supply lasts, bulletins are distributed free, except in a few cases, in which a small charge is made.

For copies of bulletins or for other information, address Texas Engineering Experiment Station, College Station, Texas.

## THE EXTENSION SERVICE

## H. H. WILLIAMSON, Director

The Cooperative Extension Service, a Federal-State-County agency for "diffusing useful information in agriculture and home economics" to all the people living in the open country and in towns and villages up to 2,500 in population, has its headquarters on the campus and is administered by A. and M. College.

The work of this Service is established on a demonstration basis and is carried on in the counties by 254 agricultural agents and 172 home demonstration agents. Supervision is exercised by the administrative officials and by twelve district agricultural agents and twelve district home demonstration agents. Subject matter specialists aid the county agents in the development of demonstrations in better farming, ranching, and home making. Supervisory officers and specialists together total approximately 64 persons. The Extension Service carries to the farm and ranch people of Texas the practical results of the research work of the United States Department of Agriculture, the State Colleges of Agriculture and like institutions. It teaches rural people how to apply these to the practical problems of the farm and home, both in production and marketing.

Teaching through demonstration methods makes it a self-education process which has as its aim the development of a self reliant and thinking rural constituency capable of its own leadership in bringing about a comfortable, prosperous cultured country life.

The Extension Service also supervises a similar work among the negroes carried on in cooperation with Prairie View Normal and Industrial College. Three men and two women in administrative positions with a field force of 62 agricultural and home demonstration agents constitute the personnel of the negro work.

## 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, cooperations, 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-Student's 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 \$108,755.00 of State funds and \$40,400.00 of Federal funds are available for carrying on the designated activities of the office. The

#### STATE ENTOMOLOGIST

personnel comprises 8 technical foresters, 1 educational assistant, 1 maintenance engineer, 1 draftsman, 4 inspectors, 59 patrolmen, 5 lookout men, 12 smokechasers, 68 emergency patrolmen, 60 forest guards, and 2 forest foremen.

## DIVISION OF FOREST PROTECTION

This division has charge of activities relating to the protection of timber from fires, insects, and diseases. Division headquarters are at Lufkin, which is centrally located as regards the timber section of Texas.

## DIVISION OF FOREST MANAGEMENT

The administration of the State Forest areas and the various research and demonstration projects pertaining to methods of 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.

## PUBLICATIONS

Twenty-five bulletins have been issued, dealing with practically all phases of forestry, and in additions, 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 and sampled for analysis, the samples are analyzed, and the results are published as bulletins of the Experiment Station. It is also the duty of the State Chemist to investigate the composition, properties, and agricultural values of fertilizers and of fertilizer materials and to conduct experiments relative to the value of fertilizers. Such investigations are being made, and the results published from time to time. The people of the State are furnished with information concerning fertilizers by means of personal letters, bulletins, and otherwise.

Analyses are made of soils, irrigation and domestic waters, and fertilizers, when such analysis would be of public benefit along the line of agricultural chemistry and when the samples are taken in accordance with the requirements. Persons who desire to secure an analysis should request further information and instructions for sampling, as samples must be properly taken if the analysis is to have any value. The State work occupies all the time and attention of the staff, so that it is not possible to accept private work.

Analyses of feeding stuffs for the Feed Control Service, and chemical investigations of their composition and properties are also made by the Division of Chemistry of the Agricultural Experiment Station.

## TEXAS COOPERATIVE WILDLIFE SERVICE

## Walter P. Taylor, Senior Biologist, In Charge

According to a memorandum of understanding between the Agricultural and Mechanical College of Texas (including the School of Agriculture, the 'Texas Agricultural Experiment Station, and the Extension Service) the Texas Game, Fish and Oyster Commission, and the Biological Survey, United States Department of Agriculture, cooperative work in education, research, and extension is being conducted in the field of game and wildlife management.

The objectives of the Service are as follows:

1. To investigate and correlate the production and conservation of wildlife and to study the local and regional problems involved.

2. To demonstrate the feasibility in land use of practical game management in obtaining a maximum population of game and fur-bearing species and increasing the population of other desirable species of wildlife.

3. To make readily available to game officials, land owners, and others, the facts and methods found through investigation best suited to local and state conditions.

4. To provide comprehensive and inclusive sources of technical information for public, private, and scientific use through the exchange of data with other regional laboratories coordinated through the agency of the Bureau of Biological Survey.

### THE FIREMEN'S TRAINING SCHOOL

# H. R. BRAYTON, Director

Since 1930 the College has conducted a Training School for Texac riremen. This was established at the request of the volunteer fire departments of the State and is conducted under the direction of a member of the Department of Chemistry and Chemical Engineering.

Inaugurated as a summer short course, the work has been expanded as rapidly as has been made possible by additional appropriations and now includes two closely coordinated main divisions.

### SUMMER SHORT COURSE

Each summer a five day session is held at the College in which are enrolled firemen, drill-masters, chiefs and fire marshals from the various cities of Texas. These men are given intensive training along lines of fire extinguishment, control and prevention, buiding construction and inspection, first aid and methods of instruction. Through legislative appropriations a complete fire fighting equipment is available for instructional purposes. The instruction given in classroom and by drills with apparatus and equipment is conducted by drill-masters, chiefs, and specialists from the larger cities, national organizations, and the College staff. Completion of this work, including a written examination, qualifies the cities represented to receive 3 per cent credit on their local insurance key rate, granted by the Texas Insurance Commission. Continuation of this credit requires annual attendance at the Training School and systematic drills during the year in the local communities.

### EXTENSION INSTRUCTION

Each quarter during the year, outlines covering drills and class room work to be used the following three months are mailed to the four hundred and eighty-seven fire departments in the State. These outlines give each department an organized course of training throughout the year and standardize the work of all departments in the State in the most modern approved methods.

To further assist the various cities in improving the work of their local fire departments, the Training School maintains an experienced chief as full time field instructor, who visits the various cities and towns and assists their local authorities in conducting drills and schools of instruction. He carries the instruction of the summer short course into the local communities and makes it available for the entire department. When requested by local departments, the field instructor also assists schools and city officials in their fire prevention work.

The entire efforts of the Training School are directed toward reducing in Texas the annual loss of life of some four hundred human beings and a property loss of approximately twenty millions of dollars as a result of fire.

### RADIO BROADCAST STATION WTAW E. P. HUMBERT, Program Director

Since 1922 the College has maintained the radio broadcast station. The original station, which had a rating of only 28 watts, was built by the students and staff of the Electrical Engineering Department. The Station has been enlarged and improved from time to time and at present is a modern Station operating on 500 watts and a frequency of 1120 Kcls.

The Station maintains a regular schedule of programs. These programs consist largely of talks and discussions of an educational nature given by representatives from all divisions of the College staff. On occasion music and entertainment features by special groups are included in the program.

Each day except Sunday from 11:30 A. M. to 11:50 A. M. WTAW joins the Texas Quality Network to broadcast a program from the studios in the Y.M.C.A. building. The Texas Quality Network includes, WFAA, Dallas; KPRC, Houston; and WOAI, San Antonio and gives a complete coverage of the State. These programs are confined to educational, agricultural and economic topics of timely interest.

In addition to proving a source of accurate and timely information to the citizens in the State, and particularly to the rural population, the Station serves as a means of vitalizing courses in Communication Engineering in the College and of aiding the Engineering Experiment Station in its research problems.

### SUMMER SESSION

# C. H. WINKLER, Director

The Summer Session consists of two terms of six weeks each. The 1936 Summer Session opens Tuesday, June 2, and closes Saturday, August 22. Students may enroll for the full session or for either term.

The purposes of the Summer Session are:

1. To provide teachers and others denied the privilege of attending College during the regular session an opportunity to pursue courses for college credit.

2. To give students of the College and others an opportunity to shorten their college course by doing summer school work.

3. To offer those qualified to pursue graduate work an opportunity for study in courses leading to the Master of Science degree.

4. To provide opportunity for professional improvement through short courses of highly specialized character in certain trades and professions, such as cotton classing, industrial education, cotton oil mill operators, firemen, graduate veterinarians, and farmers' short course.

Practically all departments of the College are open to students in the Summer Session. Detailed announcements of all the courses will be issued about the first of April. For Summer School catalogue and other information address Director of the Summer School, or the Registrar, College Station, Texas.

# Part VI

# **REGISTER OF STUDENTS**

# GRADUATE STUDENTS

Adams, Robert Solomon Chemistry College Station
B. S., Mississippi State College, 1934.
Allen, Leonard Quentin Rural Education Austi
B. S., East Texas State Teachers College, 1926.
Apple, Spencer Butler Horticulture College Statio
B. S., Agricultural and Mechanical College of Texas, 1933.
Ashby, Gerald K Chemistry College Station
B. S., Agricultural and Mechanical College of Texas, 1934.
Atkinson, Luther Jay Agricultural Economics Forman, Arkansa
B. S., University of Arkansas, 1934.
Baggett, Roosevelt T Agricultural Economics College Station
B. S., Agricultural and Mechanical College of Texas, 1926.
Bagwell, Marshall Underwood Petroleum Production Engineering _ Lubboc
B. S., Texas Technological College, 1934.
Bellville, George Robertson Chemistry
B. S., Southern Methodist University, 1934.
Benson, Fred Jacob Civil Engineering Grainfield, Kansa
B. S., Kansas State College, 1935.
Bibby, Francis Flavius Entomology College Station
B. S., Mississippi State College, 1914.
Bradford, Odis Bryan Poultry Husbandry Commerc
M. S., Agricultural and Mechanical College of Texas, 1929.
Brewer, Alexander Van Mechanical Engineering Bryan
B. S., Purdue University, 1913; M. E., 1925.
Broome, William Scott Civil Engineering Houston
B. S., Agricultural and Mechanical College, 1914.
Brown, Merritt H Electrical Engineering College Station
B. S., Simpson College, 1934.
Campbell, Robert Linwell Chemistry Nacogdoche
B. S., Stephen F. Austin State Teachers College, 1935.
Chalk, Alfred F Economics McAller
B. A., Baylor University, 1934.
Chaney, J. G Mathematics Bryan
M. S., University of Texas, 1930.
Chang, Ming Sung Genetics
B. S., Central University of Nanking, 1930.
Christry, Donald Agricultural Engineering College Station
B. S., Kansas State College, 1933.
Coston, Ocie Agricultural Economics Winnsbore
B. S., East Texas State Teachers College, 1932.
Couch, James Russell Animal Husbandry College Station
B. S., Agricultural and Mechanical College of Texas, 1931; M. S., 1934.

Lankford, Leonard Avera Municipal and Sanitary Engineering _ Dallas B. S., Southern Methodist University, 1934.
Lee, Yung Chen Agricultural Economics Kaiding, China
B. S., National University, 1916.
Leonhardt, Harry Hurlburt Agricultural Engineering College Station
B. S., South Dakota State College of Agriculture and Mechanic Arts, 1933.
Long, Wayne E Mechanical Engineering College Station
B. S., Agricultural and Mechanical College of Texas, 1927.
Lowrey, Robert Dyer Accounting and Statistics College Station
B. S., Texas Technological College, 1933.
Lynch, W. W Electrical Engineering Dallas
B. S., Agricultural and Mechanical College of Texas, 1922.
McCulley, William Straight Mathematics Omaha, Nebraska
B. A., State University of Iowa, 1932.
McDowell, C.H Agriculture Iowa Park
B. S., Agricultural and Mechanical College of Texas, 1912.
McGee, Roger V Mathematics Bryan
B. S., Agricultural and Mechanical College of Texas, 1922.
McLarry, Weldon Gray Electrical Engineering College Station
B. S., Agricultural and Mechanical College of Texas, 1934.
Marek, Jerry William Chemistry Brenham
Match, Jelly William Ciclinistry Diemain
B. S., Agricultural and Mechanical College of Texas, 1935. Matthys, Walter Charlie Rural Education Riesel
B. B. A., Baylor University, 1935.
Melcher, Robert Lee Agricultural Economics La Grange
B. S., Agricultural and Mechanical College of Texas, 1932.
Mertz, Earl Richard Mechanical Engineering Clayton, Missouri
B.S., Missouri School of Mines, 1933.
Miller, James Eads
B. S., Agricultural and Mechanical College of Texas, 1934.
Mize, John Townsend Hinton Rural Education Bryan
B. A., Baylor University, 1934.
Nau, Robert H Electrical Engineering Hillsboro, Iowa
B. S., Iowa State College, 1935.
Nelson, John Charles H Civil Engineering Dallas
B. S., Agricultural and Mechanical College of Texas, 1935.
Nordsieck, Herbert H Chemistry College Station
B. S., Butler University, 1934.
Oliver, John Eoff Accounting and Statistics Stephenville
B. S., Texas University, 1929.
Oliver, John Percy Architecture Stephenville
B. S., Agricultural and Mechanical College of Texas, 1926.
Orchard, John Malcolm Agricultural Education Bishop
B. S., Texas College of Arts and Industries, 1934.
Parrack, Alvin Landrus Electrical Engineering Chillicothe
B. S., Agricultural and Mechanical College of Texas, 1935.
Patterson, Raleigh Elwood Agriculture Gueydan, Louisiana
B. S., Louisiana State University and Mechanical College, 1934.
Phillips, Oscar M Horticulture Commerce B. S., East Texas State Teachers College, 1935.

Post, John Lehmann Chemical Engineering Leesville, Louisiana
B. S., University of Michigan, 1926.
Potts, Richard C Agriculture Stillwater, Oklahoma
B. S., Oklahoma Agricultural and Mechanical College, 1935.
Rambo, Earle Kensington Agricultural Enginereing _ Ninety Six, S. Car.
B. S., Clemson College, 1936.
Randolph, Uriel Addison Horticulture Cherokee
B. S., Agricultural and Mechanical College of Texas, 1933.
Rasmussen, Abbey Andrew Mechanical Engineering Seadrift
B.S., Agricultural and Mechanical College of Texas, 1920.
Ray, Clavis Boyd Agriculture Lamesa
B. S., Agricultural and Mechanical College of Texas, 1931.
Richmond, Thomas Rollin Genetics
B. S., Agricultural and Mechanical College of Texas, 1931.
Riggs, John Karnan Animal Husbandry Sioux City, Iowa
B. S., Iowa State College, 1935.
Rix, R. A Poultry Husbandry Commerce
B. S., Sam Houston State Teachers College, 1922; M. S. Agricultural and
Mechanical College of Texas, 1927.
Roberts, William Edward Civil Engineering Dallas
B. S., Agricultural and Mechanical College of Texas, 1926.
Roeber, Charles Arthur
B. A., University of Texas, 1929.
Rosprim, Joe A
B. S., Sam Houston State Teachers College, 1931.
Rougeou, Clyde Lee
B. S., South West Louisiana Institute, 1936.
Sellner, Edward Civil Engineering Kansas City, Kansas
B. S., Case School of Applied Science, 1935.
Shannon, Ivan Maurice
B. S., Agricultural and Mechanical College of Texas, 1933.
Shepard, Groom Shirley Chemistry Hamlin
B. A., Hardin-Simmons University, 1934.
Shone, Louis Albert Poultry Husbandry College Station
B. S., Agricultural and Mechanical College of Texas, 1934.
B. S., Agricultural and Mechanical College of Texas, 1934. Siddall, Cameron Entomology Anderson
B. S., Agricultural and Mechanical College of Texas, 1931. Sloan, Everett M Industrial Education Greenwood
B. S., North Texas State Teachers College, 1933.
Smith, Manning Farr Chemistry Shreveport, Louisiana
B. S., Centenary College of Louisiana, 1934.
Speake, Cleophas Stanley Electrical Engineering Rajah Sarae, India
B.A., Taylor University, 1933.
Strandtmann, Russell William, Biology Maxwell
B. S., Southwest Texas State Teachers College, 1935.
Struwe, Charles Edgar Accounting and Statistics Waxahachie
B. S., Agricultural and Mechanical College of Texas, 1935.
Sturkie, Paul David Genetics Proctor
B. S., Agricultural and Mechanical College of Texas, 1933.
Sweet, Ralph Beeman Biology College Station
M. A., University of Texas, 1935.

GRADUATE STUDINIS

Tang, Wen Tong Genetics	Chuan Chow, China
B. S., Nanking University, 1929.	
Teal, Edwin Trout Mechanical Engineering	
B. S., Agricultural and Mechanical College of Texas, 19	
Timm, Tyrus Ramon Agricultural Economics	Hallettsville
B. S., Agricultural and Mechanical College of Texas, 193	34.
Turner, Millard T Agronomy	Marlin
B. S., North Texas State Teachers College, 1934.	
Tyson, Kenneth M Industrial Education	Denton
B. S., North Texas State Teachers College, 1935.	
Vertrees, William Campbell Horticulture	College Station
B. S., Agricultural and Mechanical College of Texas, 193	
Waldrop, Allister McLelland, Jr., Accounting and Statistic	cs Bryan
B. A., Southwestern University, 1930.	
Watson, William Blackburn Geology	Brownwood
B. S., Daniel Baker College, 1933.	
Wilkes, Floyd M Animal Husbandry	Floydada
B. S., Texas Technological College, 1935.	
Winkler, C. H., Jr Biology	College Station
B. S., Agricultural and Mechanical College of Texas, 193	34.
Wipprecht, Carl Genetics	Bryan
B. S., Agricultural and Mechanical College of Texas, 191	
Yang, Hsien Tong Agricultural Economics	Hankow, China
B. S., Cornell University, 1935.	
Young, Thomas C Electrical Engineering	Lubbock
B. S., Texas Technological College, 1935.	
Zalmanzig, Fred Dodge Mun. and San. Eng	San Antonio
B. S., St. Mary's University, 1934.	

# UNDERGRADUATE STUDENTS

#### ABBREVIATIONS

AA-Agricultural Administration Agr—Agriculture AgEd—Agricultural Education AgEng—Agricultural Engineering Arch-Architecture ArchEng—Architectural Engineering CE—Civil Engineering ChE—Chemical Engineering EE—Electrical Engineering GE—Geological Engineering IE-Industrial Education LA—Liberal Arts ME—Mechanical Engineering PPE-Petroleum Production Engineering

Abbott, Henry Gee, 3 ChE ..... Dallas Abbott, Olen Williford, 3 ChE .... McAllen Abbott, Truman Clifford, 1 AgEd .....

Abernathy, Arthur Henry, Jr., 1 ME 

Adkisson, G. W., Ji, Z AA Collway, Alk. Adkisson, James Foster, Jr., 1 E ..... Greenville Adler, Vernon Tommins, 3 Sci .... Boerne Adrain, Jim Louie, 1 VM ...... Girvin Aiken, William Hambler, 2 ChE .... Salado Ainsworth, I. V., 1 Arch ... Wichita Falls Airhard, Wallis Hendricks, 2 AA ...... Blue Ridge Akin, Joseph Charles, 1 AA ..... Blue Ridge Akin, Joseph Charles, 2 PPE Yoakum Albrecht, William Charles, 2 PPE Yoakum Albrecht, William Charles, 2 PPE Yoakum Aldrich, Clarence Henry, 1 Agr Wichita Falls Aldrich, Johnnie Lee, 1 AA ..... Temple Aldridge, Frank M., Jr., 2 ChE Gainesville Alexander, Joe Marshall, 1 PPE .... Damon Alexander, Lawrence Edward, 1 FE Waco Alexander, Ulysses McDonald, 2 ChE ...... Fort Worth 

Pre-Vet-Pre-Veterinary Medicine **RE--Rural** Education Sci-Science TE-Textile Engineering TE-Textue Engineering VM-Veterinary Medicine CM-Two-year Course in Cotton Market-ing and classing

5-Fifth Year 4--Senior 3-Junior 2-Sophomore

1-Freshman

Spec-Special

Allen, Thomas Oscar, 4 EE ...... Columbus Ambrosio, Biago Frank, 4 EE ....... Brooklyn, New York Ammons, Estle Gordon, 2 AgEd ..... Amsler, Dan Wood, 2 Sci ...... Hempstead

Apperson, William Jeffries, Jr., 1 AA

Arcularius, Harry Robert, 2 ChE ... Marfa Arendale, John Morris, Jr., 1 Sci Houston Arendale, Ted Clitheral, 1 ChE Wills Point Arisco, Charles Vincent, 4 ChE Pt. Arthur Arledge, William Fisher 1 ME Arisco, Charles Vincent, 4 ChE Pt. Arthur Arledge, William Fisher, 1 ME .... Dallas Armbruster, Courtney, 2 Agr ..... Buda Armistead, Jack Dana, 1 ChE .... Houston Armistead, Willis William, 2 VM Houston Armstrong, Clifton Elliott, 1 Agr El Paso Armstrong, Lowell Rogers, 1 AgEd ...... Sidney Armstrong, Roger Woodson, 1 Agr H Paso Arneson, Edwin P., Jr., 2 CE San Antonio Arnold, Edwin Yates, 1 AA ... Greenville Arnold, Jeffie Jim, 1 PPE .... Bellville Arsuaga, Alfonso, 1 AgEng Caguas, Puerto Rico Sidney

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 Augntry, James Davis, I AgEd
 Valley View

 Valley View
 Valley View

 Austin, Harry Guiden, Jr., 2 EE
 Beton

 Aycock, T. P., 1 Agr
 Rosebud

 Aycock, T. P., 1 Agr
 Rosebud

 Ageners, John Walter, 3 Agr
 Chillicothe

 Babb, Bennie William, 3 AA
 Comstock

 Bacque, Odon L., 2 Ag Eng
 Lafayette, Louisiana

 Badgett, James Roscoe, 4 IE
 Denison

 Baggett, William Ramsey, Jr., 1 Agr
 Ozona

 Valley View EE .... Belton ..... Ozona Ball, Frank Elihue, 1 Agr ...... Pattonville Ballerstedt, Richard Herman, 2 Sci, Bryan Balmer Wilbur James, 4 CE ... Beaumont Balser, Leroy Adolph, 1 CE ..... Lockhart Balthis, Russell Forest, Jr., 4 IE Kirbyville Bancroft, Donald Huntley, 3 PPE Barbisch, Jee Bill, 2 ArchEng .... Austin Barfoot, Leverette Hale, 3 CE Stephenville Barnes, Frank Lowe, Jr., 1 Agr .... Waco Barnes, George Wallace, 2 CE ..... Bryan Barnes, R. C., Jr., 1 ME Belton Barnes, Roy Wilson, 1 CM Bernes, William Wright, Jr., 3 CE ..... Fort Worth Barnett, John Franklin, Jr., 4 Sci Palaeios Barnett, Price Menofee 1 AA Pelaeios Barnett, Price Menefee, 1 AA .... Palacios Barnett, Wendell Hines, 1 AA .... Kaufman Barr, Robert Randle, 1 ChE .... Freeport Bartel, Arthur, 1 Arch ..... Comfort Barthelow, Adams Joseph, 1 ChE ..... ...... San Antonio

San Antonio Barton, Henry Garland, 4 LA ...... Marlin Barton, Joel R., Jr., 1 Agr Sterling City Barton, Jimmie Wilson, 2 VM ...... Temple Barton, Warren Douglas, 1 AA .... Dallas Bartosh, Dan Valentine, 1 ME .... Granger Basham, Marion Houser, 1 Sci .... Amarillo Dan Den Clautan 2 Sci .... Chandler Bean, Raymond Franklin, 2 Agr ...... Gladewater Bean, Woodrow Wilson, 1 Agr ... McNary Bearden, Harold James, 4 TE College Station Beasley, James Otis, Spec LA ..... Gladewater Beasley, William Archie, 1 PPE Greenville Beauchamp, Roy Douglas, 1 AA Corsicana Beauroyre, Roger Valentine, 1 TE ...... Mexico City, Mexico Beck, Robert Clinton, 1 CE ....... Harlingen Becka, John 3 ME — Temple Becka, John 3 ME — Temple Beckcom, Edwin A., 2 VM ... Jacksonville Becker, George, Jr., 2 AA .... Kaufman Beckler, David Zander, 1 ChE Beckler, New York Kochester, New York Beckmann, Alfred Giles, 1 LA San Antonio Beckmann, Willie Otto, 1 Agr ...... Kenney Bedingfield, James Morris, 1 LA Freeport Beene, Alvis George, 1 CE ..... Gladewater Beene, Jesse Herman, 3 Agr .... Comanche Beeson, George Thompson, 1 Agr Paradise Beeson, Leigh Chalmers, 1 PPE .... Canyon Begeman, Herman Louis, 1 Agr .... Electra Behrman, James Milton, 1 AgEng Naples Beinhorn, William Alvin, 2 LA .... Houston Naples Belden, Leonard, 1 LA .... College Station Belinsky, Joseph, 1 Pre-Vet,..... Pawtucket, R. I. Belk, Joe Fred, 2 EE Teague Bell, Harvey Carroll, Jr., 1 ChE Caldwell Bell, Richard Arthur, 1 Agr Tornillo Bell, Richard Arthur, 1 Agr Tornillo Bell, Thomas Burke, 1 AA Bryan Bell, Woodrow Morris, 2 PPE Greenville Bell, William Thomas, 1 VM Jasper Bellowy, Jaco Dae 3 RE Crand Projria Bell, William Thomas, 1 VM \_\_\_\_\_\_ Jasper Bellamy, Jess Dee, 3 RE \_\_\_\_\_ Grand Prairie Bellamy, Sidney, 1 Sci \_\_\_\_\_\_ Dallas Bellinghausen, Karl Paul, 1 CE \_\_\_\_\_\_ Mexico City, Mexico Bender, Charles Robert, 1 PPE \_\_\_\_ La Porte Beneke, Milton Nelson, 2 AA \_\_\_\_\_ Houston Benge, Robert Kenney, 1 AA \_\_\_\_\_ Borger Benner, Archie V., 2 Arch Eng \_\_\_ El Paso Bennett, Allyn Charles, 2 AA ...... Mart Bennett, Horace Hudson, 3 AgEd Decatur Bennett, John D., 1 ME ..... Derby

Bennett, Joe Fred, 1 AgEd ..... Coolidge

Berg, William Aaron, 1 PPE .. Seagoville Bergmann, Charles Herman, Jr., 1 AA . .... Goliad

Bergstrom, Wray Lawrence, 1 Pre-Vet ....

l, 1 ChE ..... .. Munford, Tennessee

Bielstein, Charles Max, 3 Sci .... Baytown Bielstein, Walter Joe, 2 PPE .... Baytown Bierschwale, Keyser William, 1 AA ......

Bills, James Hulen, 1 RE \_\_\_\_\_\_ Fort Worth Bingham, Henry Todd, 2 CE \_\_\_\_\_\_ Bingham, Kenneth Awal 2 FF P

San Antonio Birnbaum, Joseph, 1 PPE .... San Antonio Birt, Bryan Benton, 2 ME ...... Harper Bischoff, Helmut Albert, 2 PPE .....

Bishop, Luna Mayo, 1 AgEd ...... Cumby Bittick, Bill Eathen, 1 CE .... Camp Ruby Bittle, George Thomas, 2 Agr ...... Eastland Bittle, George Thomas, 2 Agr ...... Eastland Black, Cloyd Irving, 1 AA ...... Jacksboro Black, George Lee, 1 ME ....... Slidell Black, Joseph Marion, Jr., 3 VM Marshall Black, John William, 2 Sci ..... Bryan Black, Chn William, 2 Sci ..... Bryan Black, William Hambright, 1 CE ... Jewett Blackwood, James C., 4 PPE Rosenberg Blair, George Benjamin, 1 AA .... Silverton Blair, George Benjamin, 1 AA ..... Silverton Blair, Philip Joseph, 2 AA College Station Blair, Robert James, 3 AgEng .... Houston Blair, William Nolte, 1 ChE ...... Rosenberg Blair, William Robert, 1 ME ...... El Paso Blake, Gene Frederick, 1 Arch .... Hearne Blakeney, Thomas Gill, 2 AgEng Bowie Blalock, John Wilmer, 4 Sci ...... Troup Bland, Robert Oscar, 1 AgEd ..... Rusk

Bodin, Claude Lewis, or., 2 ohr Lake Charles, Louisiana Bodine, Homer Hooker, 1 Agr .... Colorado Bodine, Lenn, Jr., 2 Agr ...... Colorado Boettcher, Remhardt Bruno, Jr., 2 AA ..... East Bernard Bogel, Amos Graves, Jr., 2 ME .... Alpine Bohning, William Garrett, 1 Agr Lometo Bokenkamp, Freeman Harold, 1 ME ...... Houston Bradewein, Joseph Bearley, 91, 92 Dr. Houston Braddy, William Lloyd, 1 Agr Fort Worth Bradford, Winston Jack, 1 LA Sweetwater Bradley, George Victor, 1 Agr ..... Dublin Bradley, John Pierce, 1 ME San Antonio Bradley, Joseph Weldon, 2 Agr .... Dublin Bradley, Wright, 1 PPE ...... Palestine Bradshaw, Donald Kenneth, 1 ME Dallas Bradshaw, Thomas Eugene, 2 ME Dallas Braikovich Andrew Christopher 3 AA ... Houston Braikovich, Andrew Christopher, 3 AA .... ..... Galveston Brailsford, George Whitfield, 4 ChE ...... ..... Houston

Brain, David Carey, 1 Sci ..... Dallas Brain, William Fielding, 3 Arch .... Dallas Braly, F. B., 4 Sci ..... Bullard Brauchle, Robert Rudolph Penn, 2 Agr

Braunig, Fred Talley, 1 LA \_\_\_\_\_ San Antonio Braunig, Fred Talley, 1 LA \_\_\_\_\_ Yorktown Bravenec, Edward Emil, 3 RE \_\_\_\_\_\_ College Statioa Bray, John William, 1 ME

New Orlean, Louisiana Bray, William Randall, 1 ME ...... Houston Brazelton, William Buchanan, 2 GE Waco Breaux, Fred Randolph, Jr. 1 Sci, Houston Brennan, Harry William, Jr., 1 PPE Cisco Brennan, Robert Elmo, 1 Agr ..... **Corpus** Christi

Brennan, William Phillip, 2 ME

Crystal City Brent, Edwin, 2 Sci ..... Bonham Brent, Edwin, 2 Sci \_\_\_\_\_\_ Bonham Brewster, James Edward, 2 Agr \_\_\_\_ Temple Brigance, Joe H., 1 PPE \_\_\_\_\_\_ Brazoria Briggs, Arthur Allen, 4 CE \_\_\_\_\_ Childress Brim, Eura Connie, 1 RE Grove, Oklahoma Brin, Alfred Ross, 4 Sci \_\_\_\_\_ Terrell Brisson, John H. 4 AA \_\_\_\_\_ Pittsburg Bristley, Leon Prestridge, 2 Sci \_\_\_\_\_ Liberty Britt, Adolphus Rankin, 1 RE \_\_\_\_ Dodd City Brock, Gunther Adolph, 1 VM \_\_\_\_ Dallas Brod, Robert Nelson, 1 ME Corpus Christi Brookover, William D., Jr., 1 PPE \_\_\_\_\_\_ Brownwood

Brooks, Walter Atwood, 2 PPE Corpus Christi Brooks, Bernard Barney, 1 Che Pioneer Brooks, Joe Myers, 2 AA Brooks, Willard Crawford, 1 VM Prairie Grove, Arkansas Broussard, George Patout, 1 VM New Iberia. Louisiana Brownwood

Broussard, Paul Denis, 1 AA ..... Freeport

Brown, Charles Edward, 3 ChE Fort Worth Brown, Columbus Pitchlyn, 1 AA ... Clint Brown, Columbus Pitchlyn, 1 AA ... Clint Brown, Charles Sumners, 1 Agr .... Mathis Brown, Donald Henry, 2 PPE .... Decatur Brown, Edgar Dodd, Jr., 3 Arch ... Clint Brown, Edgar Dodd, Jr., 2 ChE College Station Brown, Jarg Gorge, 1 CE Buffalo, Kan. Brown, J. B., 2 ChE ..... Decatur Brown, Joe Louis, 3 LA ... San Antonio Brown, John Marshall, 1 EE .... Paradise Brown, Jack Tyre, 2 AA ...... Luling Brown, Miller French, 1 ME .... Beaumont Brown, Tom, 1 Sci ..... Bronte Brown, Thornes, Inc. 1 EE ...... Bronte Brown, Charles Edward, 3 ChE Fort Worth Browning, Robert Allen, 1 PPE .....

Shreveport, Louisiana Monterrey, Mexico Monterrey, Mexico Buford, William Ragsdale, 3 EE .... Terrell Bugh, Chester Leroy, 2 ME ..... Houston Buie, Davis Weaver, 2 AA ..... Gilmer Bulck, Thomas Albert, 2 PPE .... Bryan Burch, George Riley, 2 VM Wichita Falls Burchfield, Roy Wade, 1 LA .... Bonham Burda, Edward John, 4 EE San Antonio Burden, Robert Darrel, 2 Agr ..... Chester Burditt, Bucky Lee, 4 Sci ........ Del Rio Burgess, Edgar Beaumont, 2 Agr ..... Burgin, Ervin David, 2 AgEd ....... Hondo Burgoon, George Back Burns, James Martin, 1 AA ........... Goliad Burnside, Neil Delmont, 1 Agr ..... Bellaire burns, James Martin, 1 AA \_\_\_\_\_\_ Gollad Burnside, Neil Delmont, 1 Agr \_\_\_\_ Bellaire Burrow, John Grigg, 1 Agr \_\_\_\_ Tulia Burrus, Joe Howard, 3 EE \_\_\_\_ Houston Burton, Bill, 1 Agr \_\_\_\_\_ Houston Burton, Bill, 1 Agr \_\_\_\_\_ El Paso Burton, Henry Edgar, 2 VM \_\_\_\_ Kirbyville Bush, Forest Woodrow, 2 Arch \_\_\_\_ Houston Bush, Robert Ewell, 1 Sci \_\_\_\_\_ Palestine Bussey, James Tilden, 1 CM \_\_\_\_ Childress Butcher, Charles Edward, 1 LA \_\_\_\_ Houston Butler, Glenn Hayden, 1 AA \_\_\_\_ Dallas Butler, Ogburne Duke, 1 AgEng \_\_\_\_\_ Orange Butler, William Jarvis, 1 ChE \_\_\_\_\_ Orange Butler, William Jarvis, 1 ChE \_\_\_\_\_ Orange Butler, William Jarvis, 1 ChE \_\_\_\_\_ Orange Butter, Ulliam Jarvis, 2 ChE Port Arthur Buttrill, Carrol Oliver, 2 ChE Port Arthur Buttrill, Wilbur D, 1 AgEd \_\_\_\_\_\_ Denton Bynum, Rufe Sinclair, 2 PPE \_\_\_\_\_\_ San Antonio Буга, ките Sinclair, 2 PPE San Antonio Byrd, Charles Lively, 3 Agr ... Mesquite Byrd, Lawrence Herman, 3 ChE

Byrd, Lynn Lyndell, 4 Agr ...... Mesquite

Carter, Theodore Thomas, 2 Agr College Station Carter, William Otto, 1 LA .... Sweetwater Caruthers, Carlton Beauford, 4 PPE ......

Caruthers, Edward Blount Blair, 1 ME

Casbeer, Thomas Jefferson, 3 Agr Lampasas

Case, Charlie Harmon, 1 AgEng

Castle, Harry Wendell, 4 PPE Lake Charles, Louisiana Castleberry, Edmond Wright, 3 AA Paris Castleberry, Harold, 2 Sci Abany Cate, Robert Marvin, 2 PPE Cleburne Caughran, Morgan Brice. 1 EE Mundaw

Cate, Robert Marvin, 2 PPE ...... Cleburne Caughran, Morgan Brice, 1 EE .... Munday Cauthan, Weldon Davis, 1 AA ...... Trinity Cazell, Gabriel Francois, Jr., 3 LA ..... San Antonio Cazzell, Robert Bernard, 1 LA ... Amarilly Cellum, Louis Blanchard, 1 ME Lubbock Colv. Lack Cloveloud 3 Acr. Francisco

Cellum, Louis Blanchard, 1 ME Lubbock Cely, Jack Cleveland, 3 Agr .... Frankston Cely, Tom Rogers, 4 Sci ....... Frankston Cerva, Othon Javier, 1 ME .... Eagle Pass Cervenka, Landis Edward, 2 ME Rowena Chadwick, Charles William, 2 VM ........ Jackson, Mississippi Chadwick Vornen Davie, 3 VM

Chadwick, Vernon Davis, 3 VM.

Chamberlain, Nugent Francis, 2 ChE ..... Henderson

Chancellor, William Wade, 1 EE Chandler, Arthur L. 1 Acc. Mineral Wells

Chandler, Arthur L., 1 Agr Bullard Chandler, Darrell Edison, 2 PPE Gilmer Chandler, Kenneth Price, 1 Agr Montague

Chauvin, Philip Hale, Jr., 1 Agr Little Rock, Arkansas Chenault, Maxev Cleburne 2

Chenault, Maxey Cleburne, 3 ArchEng Snyder

Cherry, Joseph Washington, 1 EE

Church, Warren Elan, 1 Agr ...... Colorado Clark, A. L., Jr., 1 ME ...... Port Neches Clark, Everet Cleveland, 2 CE .... Devers Clark, Edwin Napoleon, 1 LA ...... Bandera Clark, Fred W., Jr., 1 EE ...... Van Horn Clark, James Elmer, 2 Agr ...... Liberty Clark, Jack Whalen, 1 ME .... San Benito

Byrd, Willie Murphy, 3 Agr .... Colorado Byrnes, Robert Joseph, 1 AA .... Edcouch Cabaniss, Bert Adron, 1 EE ....Lockhart Cabaniss, Joe Edward, 1 Agr ..... Mathis Cade, Charles Miller, 2 Agr San Antonio Caffrey, James Sentell, 1 ME ..... Cisco Cage, James Giliam, 4 AA Stephenville Cain, Robert Farmer, 1 Agr .... Plainview Cajka, Daniel Lynell, 1 Agr .... Wheelock Calfee, Marion Randolph, 3 AA Stamford Callahan, Arthur Paul, 4 PPE .... Dallas Callaway, George Denton, 3 ChE New Gulf Callaway, Herbert, 3 PPE ..... Crockett Calloway, George Eldon, 4 AA Calioway, George Eldon, 4 AA College Station Calvert, Wilbert Adair, 2 LA Archer City Calvin, Charles Burton, 2 Sci San Antonio Cameron, Robert Gerald, 2 AA San Antonio Camp, Lynn Butler, 2 Agr ... Lockhart Camp, Robert Charles, 1 AA Ada, Okle. Campbell, Bruce Burnett, 2 ME ... Sabinal Campbell, Ed Robert, 1 Agr .... Brady Campbell, Gordon Miller, 2 CE ... Tyler Campbell, Joe Haskell, 1 PPE ... Midland Campbell, Thomas Grayson, 2 AgEng .... San Antonio Campbell, Thomas McCormick, 1 ChE ... Pasadena ...... San Antonio Campbell, William Edwin, 1 Sci .... Elgin Campbell, William Gibbs, 2 Agr Carey, Earl, 1 PPE Wichita Falls Carry, Earl, 1 PPE Wichita Falls Carey, Bichard III, 1 LA Beaumont Carryill, E. William, 1 LA Waco Carryinchael, Monte Evart, 4 Agr Lamkin Carmichael, Malcolm Jerome, 4 RE Lamkın Carnahan, Bailey Gordon, 3 Agr San Antonio Carney, Charles Russell, Jr., 4 AA Cuero Carpenter, Albert Lewis, 1 PPE Bellville Carpenter, Claude Cecil, 2 CM Littlefield Carpenter, Charles William, 1 ME Marshall Carpenter, Hugh Curlee, 2 PPE .... Dallas Carpenter, Meade Aubrey, Jr., 4 ME Pendleton ..... Lamkin Carpenter, Robert William, Jr., 2 LA .... ..... Frisco -----Carrell, Dayton Moses, 4 Agr Carrell, Dayton Moses, 4 Agr \_\_\_\_\_\_ College Station Carrington, Joe C., Jr., 1 Sci \_\_\_\_\_ Austin Carroll, Jim Magill, 3 EE \_\_\_\_\_ Denton Carroll, Robert Everette, 1 VM \_\_\_\_ Abilene Carroll, W. R., 1 ChE \_\_\_\_\_ Houston Carson, Curtis Royster, 1 Agr \_\_\_\_ Bryan Carstens, Joseph Eugene, Jr., 1 PPE \_\_\_\_\_\_ Houston ..... Houston Carter, Elston S., 1 AgEng ...... Killeen Carter, Hugo Charles, 1 EE ..... Luling Carter, Henry Eschol, 1 ArchEng ..... ..... Galveston Carter, James Daniel, 1 Agr ...... Poolville Carter, Marvin Newsom, 4 AgEd Poolville Carter, Preston Malin, 1 CE .... Texarkana

Claybourn, George – Fate-Clearman, Hugh Lee, 2 Agr — Lamesa Clemens, Frank Carter, III, 1 ME Houston Cloud, Thomas Steele, 2 ChE — Amarillo Cloud, Roy Roosevelt, 4 AgEd, Murchison Cloudt, Chester Roger, 1 AA Rocksprings Cloudt, Otto Bismark, Jr., 1 Agr — Rocksprings Coats, Louis Carl, 1 ME Beaumont Coats, Louis Carl, 1 ME Jacksonville Cobb, Ralph York, 1 AA Bryan Coburn, George Carlton, 1 VM Bryan Cochran, Chudleigh Ben, 2 ME, San Antonio Cochran, Woodrow Nash, 2 PPE Lufkin Cock, Calvin Ernest, Jr., 1 EE Cock, Carrin Ernest, Jr., I EE Corpus Christi Cockrell, Joseph E., 2 PPE Co Coffey, Murray Bradfield, 3 AgEd Richland Springs Coffin, William Arthur, 1 Agr ....Mathis Cohen, Stanley E., 1 Pre-Vet, Easton, Pa. Cohn, Harry, 1 ME .....Dallas Cokinos, Geneos Pete, 2 PPE ...Beaumont Colburn, Frank Monroe, 2 ME .....Orange Colburn, William Lee, 1 AA .....Winters Cole, Thomas Elijah, 3 Agr ...Bruceville Cole, Thomas William, 1 Agr .....Houston Coleman, Charles Leonard, 4 VM ...Alpine Colegnair, James Joffree, 1 LA ......Bonham Colglazier, James Joffree, 1 LA Colglazier, James Joffree, 1 LA San Antonio Collard, Frank, 1 CE Collerain, Joseph Bernard, 2 AA ..Houston Colliey, Roland Lee, 1 VM Collie, Robert Monroe, 2 ChE Collier, Fred Allan, 3 LA Collier, Fred Allan, 3 LA Collier, Fred Allan, 3 LA Collins, Robert Ervin, 1 ChE, Dallas Collins, Tom F., 1 Agr Collins, William Denny, Jr., 2 Ag Ed .....Corpus Christi Conolly, Sidney McLean, 1 LA ...... Converse, Elliot Van Veltner, 1 LA Cook, John Albert, Jr., 2 EE .. Asherton Cook, James Gwin, 1 LA ......Sinton

Cook, John Melvin, 1 LA, Carrizo Springs Coulson, Edward Donald, 2 LA ...Houston Coulter, William Wallace, 4 Sci ....Houston Coulter, William Wallace, 4 Sci ....Houston Counselman, Orville Lewis, 1 ChE, Conway Counts, James M., 1 AgEd, College Station Courreges, Emile Joseph, 1 AA ...Mineola Courtade, Arthur Henry, 2 AgEd, Riesel Courtade, Melvin William, 1 Agr ...Riesel Courtion, Charles Emille, 1 ME, San Angelo Cousins, Sidney Ivan, 3 ME .......Bryan Covington Homer Rokes 2 Ash Covington, Homer Baker, 2 Arch ... Cowan, Marion Glenn, 1 Sci San Antonio Cowan, Melvin Lawrence, 2 CE ...Proctor Cowan, William Churchill, Jr., 1 AA ..... ..... Tulia 

 Tulia
 Tulia

 Cowles, Alvin Walter, 1 AA
 New Braunfels

 Cox, Carroll W., Spec AgEd
 Buda

 Cox, Carroll W., Spec AgEd
 Buda

 Cox, Carroll W., Spec AgEd
 Wichita Falls

 Cox, Horace Melvin, 1 AA
 Wichita Falls

 Cox, Horace Melvin, 1 AA
 San Antonio

 Cox, N. A., 2 VM
 Ralls

 Cox, Valton V., 1 CM
 Ralls

 Cox, X B., Jr., 3 Agr
 San Angelo

 Cozart, William Adolph, 1 Agr
 Abilene

 Craddock, John M., 4 EE
 Stephenville

 Craft, Herbert Gray, 2 EE
 Alvarado

 Craig, Bobby Neal, 3 AgEng
 Panhandle

 Craig, Bobby Neal, 3 AgEng
 Panhandle

 Craig, Jack Wilson, Cowles, Alvin Walter, 1 AA ..... Cravens, Gerald McAdoo, 1 EE Crichton, Jack Alston, 3 PPE

..... Crichton, La.

Crisler, James Seymour, 4 CE ......Bryan Crisman, Oliver Wayne, 2 PPE ..Overton Cristal, Oliver Hayle, 2 112 .....Sweetwater Crist, James Louis, 1 Agr .....Sweetwater Criswell, Dallas Lupton, 1 ME ....Calvert Critz, Carl Chanceanlme, 1 Sci ......Teague Critz, James Stubbs, 1 LA ......Teague Crockett, Jack Edward, 1 Agr .....San Saba

Cullinan, Harvey James, 4 ME ....Dalhart Culliom, Thomas Leslie, 1 PPE ......Dalas Cullum, Felder Wilson, 1 ME ....Dalas Culp, John Douglas, 2 PPE, ...Gainesville Culpepper, James Coleman, 1 RE, Bremond Cummings, Leslie Lafarette, 2 DE Cummings, Leslie Lafayette, 2 PPE . Bryan -----

Cunningham, Atlee Marion, 1 ME

Calallen Calallen Cunningham, Calvin Perry, 1 Sci ..Tyler Cunningham, George Henderson, 1 Agr... Corsicana Cunningham, George Wayne, 1 AA Whiteshow

Cunningham, Joseph Anderson, 3 AgEd ....

Cunningham, Oscar Newton, 1 EE

Darley, Homer Lorell, 1 LA Bryan Dark, James Marion, 2 EE Waco Darley, Homer Lorell, 1 LA Dallas Darrow, Thomas Stephen, 1 LA Bryan Daughtrey, Jewel, 2 Agr Clorado Davenport, Paul Quenton, 1 AgEd Dallas David, Jud Harry, Jr., 1 ME Corrigan Davidson, Duval A., Jr., 2 PPE Edinburg Bryan

Davis, Thomas Bridewell, Jr., 2 A. Huntsville Davis, Thomas Hale, 3 ChE Davis, Thomas Hale, 3 ChE Davis, Vann Bradley, 4 LA Brackettville Davis, William Russell, 1 ChE, Ft. Worth Davis, William Russell, 1 ChE, Ft. Worth Davis, William Russell, 1 GE, San Antonio Dawson, Aryles Howard, 2 Agr Day, Ben Ro, 1 AgEng Day, James Earl, 1 EE Dahart Deaderick, John Bowden, 1 ME San Angelo Deam, Andrew Prather, 1 EE Deam, Andrew Prather, 1 EE Deam, Ashby Alfonsoe, 2 GE Mathematical San Saba Dean, William Valentine, Jr., 4 ChE Da Armond Cruce Lowerth 2 1 Saba Davis, Thomas Bridewell, Jr., 2 AA .... De Armond, Graves Leverett, 3 LA McKinney Deavenport, John Leslie, 1 ChE, Midland December, Franklin Otto, 4 EE December, Franklin Otto, 4 EE Orange Grove Decker, A. C., 1 LA Orange Grove Decker, Maurice Burnett, 1 EE Dedman, George Rucker, 3 ME Houston Dees, Billy Gibb, 1 PPE Kaufman Delameter, Benjamin Franklin, 3 CE College Station Delambre, Knox Major, 1 LA Houston De La Torre, Jose Antonio, 1 ChE De La Torre, Jose Antonio, I ChE Mexico City.M. DeLay, Roy Earl, 3 ChE Dellas Delleney, Ned Bullock, 1 Agr Marlin Delong, David E., 1 Agr El Dorado De Maret, Jack Skains, 2 Sci Franklin Dempwolf, Edward Newton, 2 ChE Claburge Denman, William Bryan, 2 Sci, Gonzales Dennis, Franklin Honeycutt, 2 LA Dennis, Franklin Honeycutt, 2 LA Denny, Otway Broad, 1 PPE Dent, James Jeff, Jr., 3 LA Dent, James Jeff, Jr., 3 LA Dent, James Gerald, 2 EE, Deodati, Joseph Benjamin, 1 ME Derrick, Hugh Alan, 1 GE Derrick, Wilburn Thomas, 1 RE Grand Prairie Derryberry, George A., 3 Agr. Henrietta Grand Prairie Derryberry, George A., 3 Agr ...Henrietta Derryberry, James Perry, 4 Agr. McKinney Dershimer, John Edward, 2 CE Dershimer, John Edward, 2 Devine, Jean Francis, 2 PPE Pharr Devine, Robert Prentiss, 1 ChE, Pharr De Waal, Roland C, 1 ME Houston De Ware, Charles Allen, 2 LA Brenham De Ware, Jesse Marmaduke III, 4 Sci Jefferson Jefferson

Jefferson De Wees, Russel Joseph, Jr., 1 LA ...Dallas Dewey, Brownridge Hefferrom, 2 LA ..... Bryan

Dibrell, Charles F., 2 LA .... .....San Antonio Dickerson, Clifford James, 1 AA, Wellington Dickson, John Lafayett, 1 EE ......Freeport Dickson, Kenneth Taylor, 4 AA ..Lexington Dickson, Ray Lsther, 2 Agr ........Spur Dickson, Robert Earl, 2 AA ......Mart Dickson, Robert Murray, 1 AA Lexington Dieb, John Mitchell, 2 ChE, ...Fort Worth Diehl, James Jacob, Jr., 4 EE ....Texarkana Dietz, Jesse C., 1 ME .....Texarkana Dikeman, Matthew Monroe, 4 AA ...... Temple Dikeman, Matthew Monroe, 4 AA Temple Dillon, Ben Ellis, 1 CE Dillon, Edgar Marvin, 1 ME Dillon, James Franklin, 1 PPE Brenham Dillon, John Francis, 1 PPE Monroe, James Holmes, 1 Agr Dismukes, Charlie Monroe, Jr., 4 AA Camp Verde Dittman, Henry, 1 Sci., ....Goose Creek Dittmar, Martin M., 1 ChE, San Antonio Doane, John Steven, 2 LA Doane, John Steven, 2 LA Doans, Rollie Paul, 1 PPE Stamford Dodson, Frederick Wilkins, Jr., 1 Sci Marallo Dollahite, Hilery B., 1 PPE, Rockspring Dollinger, Francis Oliver, 4 PPE Amarillo Donahue, Donald Paul, 3 ME \_\_\_\_\_\_ Beaumont Donalson, James Lee, 1 Agr \_\_\_Prairie Lea Donelson, Henry, 3 VM \_\_\_\_\_Stanton Donley, Gerald Armsted, 1 ChE, Beeville Dooley, Will Douglas, 1 Agr \_\_\_\_\_\_ Iola Dopslauf, Donald Louis, 1 AgEng \_\_\_\_\_\_ Feirberter Fairbanks Dorman, Anzly Elmer, 1 PPE ....Newton Dorman, Herschel Dodd 2 Var Dorman, Anziy Elmer, 1 Fr L .... Newoon Dorman, Herschel Dodd, 2 VM .....Orange Dorsett, Theodore Monroe, 1 ME, Galveston Doss, Robert Lawrence, 1 LA, Whitewright Dougherty, Charles Francis, Jr., 2 ChE . Kilgore ...... Douglas, Joe Bowman, 2 Sci ...Waxahachie Douglas, Joe Bowman, 2 Sci. ...Waxanachie Dowling, Alfred Pete, 2 LA, ......Gainesville Downs, William Harold, 1 Agr ....Beaumont Doyle, Clarence Ray, 2 CE, Wichita Falls Doyle, James Joe, 1 ChE .......Houston Doyle, William Vincent, 3 EE .....Slidell Drake, Ezra Wilbur, 2 PPE, ......Liberty Dowlos Bishard Odom 14gr. San Angelo Drake, Richard Odom, 1Agr ...San Angelo Draper, Charles Neely, 2 AA ...Commerce Draughon, Nathan Solomon, 1 ME, Temple Drennan, Weldon Bailey, 1 LA ...Cieburne Drew, Jack Handley, 1 Sci, ...Livingston Drinkard, John Edward, 2 AA ....Mart Driskill, George Weyland, 1 LA ..... Vinita, Okla. Drollinger, Clarence Orville, 2 AA, Dallas Drow, Donald Lee, 2 ME ....San Antonio Derummond Thomas Marion, 1 LA, Paducah Drake, Richard Odom, 1Agr ....San Angelo Drummond, Thomas Marion, 1 LA, Paducah Dryden, Edward M., 4 ME ......Robstown Dubuisson, Emile Bernard, I Agr, Beaumont Duck, Ira Bragg, Jr., 2 Agr ......Abilene Duckworth, William Harrill, 1 LA Caldwell Duhon, Lamar M., Jr., 2 PPE, Victoria 

Duke, Earl Taylor, 3 Ag1 .....Claude Duke, Edny Thon.as, 1 ME ....Livingston Duke, Frank Robert, 1 AA ....Livingston

Duke, Hayden Russell, 3 CE ...Stephenville Duke, Hubert Tom, 2 Agr .....Claude Duke, Willard, 2 Sci ......Belton Dulaney, Fred A., Jr., 2 LA ..Carthage Dullnig, Adolph Cleveland, Jr., 2 GE .... San Antonio San Antonio Dunagan, Gerald Houston, 1 LA Du Puy, James Albert, 2 Agr Tennessee Colony Durst, Roy Thorne, 4 ME Durst, Roy Thorne, 4 ME Durst, Roy Thorne, 4 ME Dyer, R. L., Jr., 1 Agr Eads, Edwin Mouzon, 4 Arch Eads, Edwin Mouzon, 4 Arch Eads, Richard Bailey, 1 LA Hitchcock Eakin, Larkin Cloyes, 4 Agr Mody Early, Robert Gould, 3 LA Waco Easley, Gregg Patrick, 1 PPE Caldwell Easley, Samuel James, 4 ChE, Ft. Worth Eastham, John Moise, 2 LA Beaumont Echols, Wodrow, 3 Agr Echols, Walter Harlan, 2 PPE, San Angelo Echols, Walter Harlan, 2 PPE, San Angelo Echols Woodrow Hall, 1 AA Barston Echerhoff, James Henry, 4 ChE Eckert, Richard Philip, 1 ME Mason Ecdvize Comite Beaucons (Merice) Ector, Walton Hartley, 3 ChE Mew Boston Eddins, Curtis Ramsey, 4 IE Marlin Edds, George Tyson, 4 VM ..College Station Edge, Clarence Lamont, 1 LA ...Bryan Edge, Milton Caryl, 2 Sci ....Bryan Edge, Victor II, Spec AS ....Bryan Edmonds, John Robert, 3 EE ....Dallas Edmonds, W. S., 2 AA ...College S.atou Edmundson, Eugene Burwell, 1 EE, Houston Ed.all, Arthur Ben, 1 Agr ....Elbert Elmendorf, Edward Homer, Jr., 2 LA ..... ......San Antonio Elmore, Robert E., 2 EE ......Fort Worth

Flrod, Henry Exall, Jr., 1 Arch .. Houston

Fernandez, Roberto Simeon, 2 ChE

Fernandez, Roberto Simeon, 2 ChE Monterrey, Mex. Ffrench, Lawrence A., 1 ChE Tampico, Mex. Fickessen, Jack W., 1 CE Waco Fields, Cyrus W., 1 PPE Star Fields, Raymond Joseph, 1 LA Fike, Travis Lawrence, 1 AA Mart Fink, Carl, 2 VM Kerrville Finkenburger, Fred Bernard, 3 Sci Houston

Flanagan, Christopher John, Jr., 1 PPE .... Flanagan, Christopher John, Jr., 1 PPE .... Houston Flippo, Richard Mason, 3 GE ...Fort Worth Floyo, Richard Mason, 3 GE ...Fort Worth Floyd, Moore Franklin, 1 PPE ...Lufkin Flynn, Cecil Frank, 1 Agr ...Chillicothe Flynn, Cecil Frank, 1 Agr ...Chillicothe Flynn, James Paul, 4 PPE, Port Arthur Flynt, Robert Charles, 1 Agr ....Tulia Foerster, Alfred J., 1 ChE .....Paige Fooshee, Neill, 2 CE ....Longview Foret, Joseph Avril, Jr., 2 LA ...Longview Foreshand, Tommie Lee, 1 PPE ...Houston Forest, Caswell Underwood, 3 CE, Dallas Forsyth, Valoris Lawrence, 3 PPE .... Fort Worth Fortenberry, Henry Harper, 1 VM Greenwood Fortson, Earl Craven, 1 PPE, Fort Worth Foster, Charles Bradford, 2 CE Shrevport, La. Foster, Donald Sam, 4 Sci Foster, Donald Sam, 4 Sci Foster, Charles Bryan Foster, Joseph William, 4 AA Calvert Foster, Robert Henry, 1 AgEd Foster, Robert Henry, 1 AgEd Foster, Thomas Grady, 2 Agr Foster, Calvert Foster, Allen Tatum, 1 ME Fox, Edwin Franklin, 1 CM Fox, Edwin Franklin, 1 CM Fox, Robert Lee, 2 EE Fox, Robert Lee, 2 EE Franke, Theodore Kenneth, 1 AgEd E Campo Franklin, John Davidson, Jr., 4 AgEd .... 

..... Paint Rock

Fulton, George Wesley, 1 ME, Waxahachie Fulton, George Wesley, 1 ME, Waxanachie Funderburgh, John W., 1 AA .....McKinney Furr, Ellis Edward, 3 Agr ......Olney Futrell, Frank Douglas, 1 AA, .....Gilmer Gaby, Charley Dalmar, 1 Agr ......Kilgore Gaddis, Luman Lynn, Jr., 1 EE ...Borger Gaffney, John Bernard, 1 ArchEng

Gaffney, John Bernard, 1 ArchEng Freeport Gaida, Ed W., 1 AgEng Galex, John L., 1 AgEng Galex, John L., 1 AgEng Gallaway, Frank David, 1 CE Gallimore, James Duward, 1 Agr Gallimore, James Duward, 1 Agr Gallimore, James Duward, 1 Agr Cotulia Gamard, Edward Wilbet, 1 ME, San Antonio Gandy, Charles Wilson, 1 AA Gandy, Charles Wilson, 1 Agr Gand, Eldred Drennan, 1 Agr Garcia, Gilbert M., 1 PPE, San Antonio Garcia, Gilbert M., 1 PPE, San Antonio Gardner, John Riley, 1 Agr Cardner, Thomas Edward, Jr., 1 Agr Dallas

Gardner, William Howard, 2 Agr ...... Dallas Garner, Edwin Cayce, 1 AA ......Vernon Garrett, Dennis Frank, 1 PPE, Gladewater Garrett, Leonard Edwin, 1 ME ....Pittsburg Garrett, Roy Curtis, 2 AgEng .....Killeen Garrett Wayne Holmes, 3 AgEng Garza, Michael Henry, 4 ChE Garza, Michael Henry, 4 ChE Gaskell, Roy Lee, Jr., 2 ChE Gates, Leslie Charles, 2 AgEd Gavrischeff, Michael Boris, 1 Ag Eng Marfa ...... Gerhardt, Edgar Lewis, 2 ChE Wichita Falls Geyer, Alfred Christian, 1 EE Yorktown Gholson, James Francis, 1 AA Gibbs, James Francis, 1 AA Gibbs, Jonald W., 1 Agr Wallank Gibbs, Leon Wilford, 1 LA Gibbs, Leon Wilford, 1 LA Gibbs, Leon Wilford, 1 LA Gibson, Solon Pat, 2 Agr, San Antonio Gibson, Solon Pat, 2 Agr, San Antonio Gibson, Solon Pat, 2 Agr, San Antonio Gibson, Waylon Garvin, 3 AgEd Hughes Springs Giesecke, Leonard Frederick, 4 TE, Houston Giesecke, Walter Kennedy, 1 GE Angleton Giesen, Bernard William, 3 EE Giessel, John, Jr., 2 PPE Brenham Giessel, John, Jr., 2 PPE Brenham Gilbert, John H., 1 AgEd Cotulla Gilbert, Sol Moses, 3 EE Fort Worth Gilberth, Joe Clyde, 3 CE, Sulphur Springs Gilchrist, Frank Urban, 2 EE, Jacksonville

Gililland, William Jack, 1 VM, Hereford Gillespie, Andrew Jackson, 1 Agr, Alleytown

Gilmore, Bernard Bensan, 2 AgEd ....... Throckmorton Glen, Alfred Irwin, 1 GE \_\_\_\_\_ Houston Glenn, James Clarence, 1 ChE, Fort Worth Glidden, Joseph Daniel, 4 ChE ...Orange Glover, Joe Marion, 2 Agr ........Baird Goddard, Soe Markin, 2 Agr. O'Donnell Godfrey, J. W., 3 EE Bryan Godsey, Wilbur R., 3 PPE Bryan Goforth, Robert Gerald, 1 AgEng Goforth, William Tayler, 1 AA Goforth, William Tayler, 1 AA San Marcos Goldenberg, Charles, 1 PPE Mouston Golman, Philip, 1 LA Golston, Joe Rex, 1 GE Gomez, Jose Silver, 2 EE Galveston Gomez, Ralph Garcia, 4 VM Bryan Goode, William Edison, 1 LA Goode, Jack Pinkney, 4 LA Goode, James Phillip, 1 LA, Shreveport, La. Goodloe, Harry Frank, 1 Agr Dallas Goodnicht, Rayford Daniel, 1 ME. Quanah Graham, Hugh, 2 AgEd .......Thorndale Graham, John Roy, 2 Agr ......Bryan Graham, Luther Lawrence, 1 Pre-Vet ..... Alice ..... Green, Oscar King, 1 AA ......Pecos Greenberg, Samuel Mendel, 3 ChE, Dallas Greene, Alexander Earle, 1 Sci, Brooklyn, N. Y. Greenhalgh, Robert Ayton, 2 ME ..... ..... Greenville Greening, Vincent Eugene, 1 VM ... Long Beach, Calif.

Greenwald, William James, 1 PPE ..... ..... Sugar Land Hamilton, Edward Alricks, 1 Sci ...Jasper Hamilton, Edwin Lee, 4 CE ..........Dallas Hammack, Doyle Fletcher, 2 AgEng ...... 

Greenway, James Henry, 3 AgEd ...... Greenwell, Robert Edward, 1 LA Wood Lake Greer, James Edward, 3 Sci Greer, James Edward, 3 Sci Greer, James Edward, 3 Sci

.....Blooming Grove

Griffin, James Richard, 1 LA Blooming Grove Griffin, Percy E., 4 LA Griffin, Robert J., 2 RE Gragon Carlot and Carlot and

Hackley, John Knox, 1 AA .....Jacksboro Haegelin, Albert Alexander, 3 LA ....Hondo Haegelin, Joe Adolph, 3 Agr .....Hondo Haenel, August William, Jr., 1 Sci 

Hartwig, John William, 1 AA ........Howe Harvey, Trammel W., 1 AA, Mt. Pleasant Harvin, Albert Kenneth, 1 EE ..Nacogdoches Harzke, Albert Charles, 4 AgEd .....

Harzke, Albert Charles, 4 AgEd College Station Haseman, John Diedrich, 2 PPE, Houston Hassell, Aston Crandall, 1 Agr. Cedar Hill Hatch, Reginald Joe, 2 Agr .....Yoakum Hatcher, Taylor Frost, 2 AgEd, Jefferson Haughton, Richard, 3 ME ......Dallas Haviland, Stephen William, 2 ChE, Groves Hawkins, Edward B., 1 Agr. ....Amarillo Hawkins, Thomas Hudson, 3 VM Fort Worth Hawks, J. Willard, 1 ChE .....Lancaster Hawks, J. Willard, 1 ChE \_\_\_\_\_\_ Fort Worth Hawks, J. Willard, 1 ChE \_\_\_\_\_\_ Lancaster Hawthorne, Earl Coe, 1 ME \_\_\_\_\_\_ Houston Hayes, Parker, Jr., 2 Agr \_\_\_\_ Groesbeck Hayes, Robert Eugene, 1 LA \_\_\_\_\_\_ Bartlesville, Okla. Haynes, Frank Petty, 1 TE \_\_\_\_Granger Haynes, Jack Andrew, 1 PPE, Gainesville Hazelsing Lunge Repry, 1 PPE

Hazelrigg, James Berry, 1 PPE .....

Houston

Hendricks, Jesse Elmer, Jr., 3 ChE

Hendricks, Jesse Elmer, Jr., 3 Che Dallas Hendrix, Ernest Elmer, J ME Dallas Henggeler, Frank J., 1 PPE Brownsville Henley, Charles Preston, Jr., 4 Che Cort Worth Hennessee, Doyle Winston, 2 VM Henry, James Maurice, 1 AgEd Henry, Marvin Milton, 1 CE, Port Worth Henry, Tom J., 3 Agr Henry, Tom J., 3 Agr Henry, Tom J., 3 Agr Hensler, Homer, Jr., 1 VM Hensler, Homer, J., 1 VM Henson, Thurman Franklin, 4 CE, Dublin Heppard, Glenn Roland, 1 ME, Port Arthur Hering, Woodrow Wilson, 2 ME Herndon, William Henry, 1 Archeng Kirbyville

Newson, John Elmer, 2 ChE, San Antonio Hey, Augustus Morrison, 1 Agr .... Tyler

Hicks, Dick Walton, 1 Agr Bandera Hicks, J. B., 3 Agr Stephenville Hicks, John Irvin, 1 ME Orange Hicks, Vernon Thornton, 1 AA, Beaumont Higbee, Dallas Clay, 1 LA Houston Higginbotham, James Pierce, 1 Agr Mahent

Higginbotham, Raymond Alexander. 2 AgEng Chillicothe High, John William, 2 Agr, College Station Hilburn, Paul W., 1 Agr ......Dublin Hildebrandt, Edward Frank, 5 Arch ......

Hildebrandt, Edward Frank, 5 Arch ...... Brenham Hill, Bryant Talmadge, 1 Agr .....Corrigan Hill, Carl Arvie, 3 CM .....Seagraves Hill, David Lee, 2 GE .....San Antonio Hill, Douglas Patterson, 1 PPE, Henderson Hill, Gordon C., 1 ChE .....Cleveland Hill, Howard Blasingame, 1 PPE Wichita Falls Hill, Howard Blasingame, 1 PPE Wichita Falls Hill, James Edward, 2 VM .....Longview Hill, Ralph Kelly, 3 ChE .....Telferner Hillier, Charles Russell, 3 Sci .....Sinton Hinter, Marvin Earl, 3 Agr .....Vernon Hines, George Columbus, 1 AA, San Angelo Hinnant, Marion Waymonn, 1 IE Corpus Christi

Hoffmeister, Carroll King, 4 ChE

Hoffmeister, Carroll King, 4 ChE Mogan, Addie Joss, 1 CM Mogan, Eddie Walsh, 2 AA Macy Hogan, Eddie Walsh, 2 AA Macy Hogue, Clifford Easters, 1 LA Molanson, Oscar Lawrence, 1 Sci Texas City Holden, Thomas George, 3 Agr Holick, Donald Howard, 1 CE Holick, Cibert Charles, 1 AA Holick, Gilbert Charles, 1 AA College Station Holland, Harry Frank, 2 AA Abbott Holland, Herman Trusten, 2 IE College Station Holleman, Theo Rufus, 1 EE Sandia Holliday, Dan W., 1 Pre-Vet Henryetta, Okla.

Hollingsworth, James Monroe, 3 AA, Petty Holloway, Ernest Robert, 4 ME, Galveston Holloway, Jack Walter, 1 Arch, La Grange Holmes, Billy Duncan, 1 PPE ....Bryan 

Ingraham, Chester Weston, 4 EE .....

Jackson, Roger William, 2 PPE Jackson, Roger William, 2 PPE Jacobs, Eugene Leo, 1 PreVet, Norfolk, Va. Jacobs, Lemuel Lee, Jr., 1 Agr, Dallas Jagge, Clinton Charles, 1 EE Jalufka, Lawrence Alfonse, 4 AA Jamail, Clarence Joseph, 1 AA Hallettsville Jamail, Clarence Joseph, 1 AA Houston James, Charles Oliver, 1 PPE Houston James, Charles Oliver, 1 PPE Houston James, Cecil Proctor, 1 RE Waco James, Lee Eynon, 4 Agr Jamison, Max Jose, 1 EE Jamison, Max Jose, 1 EE Jamison, Max Jose, 1 EE Jamison, William Quillin, 2 Sci, Denison Janensch, William Charles, 1 AA, Boerne Jarrard, Newton Eanes, 3 AA Houston Jauer, William Edward, 1 AA, Kares City Jaynes, Jay, 2 AgEng Marshall Jaeffers William Elmar 1 DPE Jenkins, Elton Lee, 1 PPE .....Burkburnett Jenkins, Elton Lee, 1 PPE .....Houston Jenkins, John Bill, 1 Agr ....Waxahachie Jenkins, Munn Ernest, 1 EE ...Hempstead Jenkins, Oliver Lee, 1 VM Jenkins, Oliver Lee, 1 VM Gothenburg, Neb. Jennings, Odell Luther, 1 Agr ...Tulia Jennings, Richard Victor, 1 Agr ...Tulia Jennings, Travis Jackson, 1 EE ...Anderson Jenson, Jim George, 1 Agr ....Coolidge Jett, James Edgar, 1 EE .....Boerne Jett, William Houston, 1 Agr ...Hearne Jewett, Harry Berkey, Jr., 1 Sci, Houston Jobson, William Key, 1 Arch Eng ......

Holmes, Laurence Ribbecke, 1 ME Harlingen Holmes, Ralph Conlon, 2 AA ......El Paso

Howe, Parker William, 4 AgEng, Dallas Howsley, Louis Albert, 1 AgEd Hoyme Vorte Hoyme, Kermit Helmer, 1 VM Jasper, Minn. Hrdlicka, Edward Brandes, 1 AA Hubbard, Fred Avery, 4 AA Hubbard, William Edward, 1 LA Sweetwater Hubbard Huckert, Joe Anthony, 2 AgEng ...Hereford Hudgins, Verneard Warner, 2 ME ....Bryan Hudson, Charles Howard, 1 PPE ....Laredo Hudson, Oliver Greer, 2 ChE ....Hearne Huebner, Gilbert Ruben, 2 CE, Brenham Huefolder, Hugh L., 2 Agr \_\_\_\_\_Lubbock Huff, Hugh L., 2 Agr \_\_\_\_\_Lubbock Huffaker, John, 1 EE \_\_\_\_\_San Antonio Huffaker, Roy, 4 EE \_\_\_\_\_San Antonio Huffhines, Grover Howard, 3 ME \_\_\_\_\_ Hughes, Charles Reynolds, 1 Arch Hughes, Richard John, 2 GE ..... Hughes, Itchard John, 2 GB Market, Thomas Kleberg, 2 EE, Galveston Hughes, William W., 1 LA Hulsey, Burck Benson, 1 EE Humann, Tom A., 3 ME, Tampico, Mex. Humbert, John Leroy, 2 LA, College Sta. Humbert, Robert Pierre, 2 ME, College, Sta. Humphries, Woodroe W., 1 Agr .... Mart Hunnicutt, William Robert, 1 Sci, Bryan

Hunt, Clifton Guy, 1 EE, Mt. Pleasant

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Johansen, Johnnie Otto, 3 Agr ...Hubbard Johns, Herbert Theodore, 1 Agr ..... Johns, Nooe William, 1 PPE ....Boerne Johnson, Andrew Griffith, 2 LA Johns, Nooe William, Johnson, Andrew Griffith, 2 LA Franklinton, La. Johnson, Bernard Grover, 3 EE, La Porte Johnson, Charles Edgar, 2 Agr, Seymour Johnson, Cint Gray, 3 VM .....Beaumont Johnson, Carl John Bergwalt, 1 GE La Marque Johnson, Charles Morgan, 1 ChE, Paris Johnson, Charles Williford, 2 AA Charles Williford, 2 AA Johnson, Edward Duffy, 1 PPE ...La Port Johnson, Glover Douglas, 4 EE, Corsicana Johnson, George Kenneth, 2 AA Johnson, George Norris, 3 Sci ...Bryan Johnson, Harry Bryan, 1 GE ....Bryan Johnson, Harry Pershing, 1 CE ...Paris Johnson, J. B. 4 ArchEng ....Dallas Johnson, Harry Pershing, 1 CE ...Paris Johnson, J. B., 4 ArchEng .......Dallas Johnson, Johnny Julius, 1 AgEd ...Mason Johnson, John Peyton, 4 ME .....Dallas Johnson, Lem E., 1 VM ......Sonora Johnson, Lynn Page, 4 Agr, McKinney Johnson, Robert Van, 1 ME .....Dallas Johnson, Thomas Paxton, 2 Agr. El Paso Johnson, Walter Frederick, 4 Agr, Yoakum Johnson, William Samuel, Jr., 4 AA Johnston, Cecil Allan, 2 ChE Bryan Johnston, John Milton, 3 ChE Victoria Johnston, Thomas Franklin, 1 Sci, Kenedy Joiner, James Robert 4 CE Jones, Stafford Langran, 1 EE, Dallas Jones, Virgil B., 1 Agr ......Sweetwater Jones, William Donald, 1 ChE ......Savoy Jordan, Forrest William, 1 Agr .....Jurdi Jordan, Gilbert Louis, 2 ME ......Junction Jordan, Hugh Edgar, 1 ArchEng, Navasota Jordan, Richard Edmond, 1 VM ...Carthage Jordan, Walker Reynolds, 3 Agr, Mason Joseffy, Rafael, II, 3 Agr ....San Antonio Jowers, Thomas Giles, 1 ME, San Antonio Joyner, Leroy Edgar, Jr., 2 AgEd ..... ..... Edgewood Juaristi, Francisco Juaristi, 1 ChE ...... ..... Mexico, D. F., Mex.

Judson, William warren, 2 vin Tampico, Mex. Juenger, Hugh Vincent, 1 PPE, Houston Junhans, William Henry, Jr., 1 PPE Kaplan, Monte, 2 ChE \_\_\_\_\_\_\_ Waco Karcher, Albert Henry, Jr., 1 Agr \_\_\_\_\_\_\_ Giddings Kavanaugh, Robert J., 2 Sci, Port Arthur Kay, H. D., Jr., 3 AgEd \_\_Stephenville Keath, Medford Earl, 2 Agr \_\_Los Angeles Keek, Edward Thomas, 1 ME \_\_\_Dallas Keeling, Jack Rogers, Jr., 2 EE ...Ovalo Keeling, O'Brian, 1 AA \_\_Long Branch Keeton, Johnnie Frank, 2 LA, Fort Worth Keim, Joe Frye, 1 Agr \_\_\_\_Tulia Keller, Alfred E., 2 ChE \_\_\_\_\_Bryan Keller, John Gaston, 4 CE \_\_\_\_\_Kaufman Kelley, Dan Ewing, 1 Agr \_\_\_\_\_Waco Kelley, Jackson Clay, 3 AgEd, Beaumont Kelley, E. Lloyd, 1 VM \_\_\_\_\_Utopia Kelley, Will Harris, 3 Agr \_\_\_\_\_Houston Kelly, Joseph Lawrence, 1 AA \_\_\_\_Minden Kelly, Joseph Lawrence, 1 AA \_\_\_\_\_Minden Kelly, Lloyd Wyatt, 1 AgEng \_\_\_\_\_Wellington Kendrick, Homer William, 2 PPE, Houston Kendrick, Moredith Bailey, 2 TE, Amarillo Keng, Edward Burette, 3 Agr \_\_\_\_\_ Crockett Kennedy, James Peeler, 3 Agr \_\_\_\_\_ El Paso Kennedy, Tandy Richard, 2 AA, Groesbeck Kennerly, Irl Ferdinand, Jr., 1 PPE \_\_\_\_\_\_ Houston Kent, Jeptha Monroe, 3 EE, College Station Kent, Jeptha Monroe, 3 EE, College Station Killough, David G., 1 EE, College Station Kimball, Bok, Jr., 4 Sci Paris Kimble, Lloyd Stephen, 1 EE Fort Worth Kimbrough, Wallace Moran, 1 AgEd Kirk, Ribelin Garey, 4 CE, Carrizo Springs Kirk, William Thomas, 2 VM .....College Station Kirkpatrick, John Keith, 2 Sci ....Houston Kiser, Eugene Pickens, 3 AgEng, Kaufman

Lawoi, Sidney Anthony, 1 Sci Lawoi, Sidney Anthony, 1 Sci Lake Charles, La. Law, Morris Charles, 2 CM Lawder, William Howard, 1 ME Galveston

Lester, William Eugene, 2 PPE West Columbia Levine, Sam, 2 EE Corsicana Levy, Abe, 1 VM Calveston Lewis, Charles Franklin, 1 Agr Blooming Grove Lewis, Dudley Joe, 4 CE Fort Worth Lewis, Elton, 1 EE Lewis, Henry Authur, 1 PPE, Fort Worth Lewis, Homer Harris, 3 AgEd San Augustine Lewis, Everett Lamar, 1 AA Lewis, Everett Lamar, 1 AA Lewis, Leslie Lee, 1 ChE Lewis, Robert McBride, 1 Sci Lewis, William Elmo, Jr., 1 ME . Shreveport, La. Light, Beryl L., 3 EE \_\_\_\_\_\_ College Station Light, Beryl L., 3 EE \_\_\_\_\_\_ Dallas Lightfoot, Ashburn Jarrett, 4 Sci ...Dallas Ligon, Clayton Stribling, 1 Agr ...Llano Liles, Kenneth W., 1 AA, Throckmorton Lilienstern, George L., 1 AA, Mt. Pleasant Lindley, Ries Raleigh, 1 VM ..... La Porte Lindsey, Elmer Harvey, 1 Agr .... Pearsall Lindsey, Ernest Martin, 1 RE ....... Dallas Lindsey, James, 1 AA ......Devine Linebaugh, Joseph Thomas, 2 LA, Victoria Linskie, George Anthony, 1 IE ......Dallas Litteer, Dan Vilas, 2 AA ......Brenham

Kiser, Warren Clayton, 1 ArchEng

Kissinger, Guy H., 2 ArchEng .....

Kishi, Yoichi, 1 EE \_\_\_\_\_\_ Beaumonț Kissinger, Guy H., 2 ArchEng \_\_\_\_\_\_\_\_\_\_San Antonio Kissman, Ernest Carl, 2 Agr \_\_\_\_\_\_\_Incoln Kitching, Jim Haydon, 1 Sci \_\_\_\_\_\_McKinney Kitley, Donald Ralph, 2 ChE \_\_\_\_\_\_\_Troup Kittleband, Harold Patton, 4 AA \_\_\_\_\_\_\_\_Madisonville Klauber, Harry, 1 VM \_\_\_\_\_\_San Antonio Klein, James Ernest, 2 Agr, Fort Worth Klink, Robert John, 4 LA \_\_\_\_\_\_McAllen Klossner, Roy O., 2 ME \_\_\_\_\_\_Edinburg Klump, Virgil, 1 AA \_\_\_\_\_\_Bartlett Knapp, Frank Gilson, 4 LA \_\_\_\_Calvert Knapp, Frank Gilson, 4 LA \_\_\_\_\_Calvert Knapp, Frederick Maedgen, 2 LA, Calvert Knapp, Kenneth Kinch, 1 PPE, Houston Knizz, John, 1 ME \_\_\_\_\_\_Ato, N. J. Knight, William Rozelle, 4 Sci ..Houston Knippa, Alfred John, 1 LA \_\_\_\_\_\_Kippa Knowles, William Herbert, 1 LA, Beaumont Koch, Alva Ernest, 1 CE, New Braunfels Koch, Louis Miles, 1 Arch \_\_\_\_\_\_Austin Koehler, Fritz Buchel, 1 Agr \_\_\_\_\_\_Cuero Koenig, Perier Arnold, 2 Agr Bryan Koeplay, Martin Anthony, 2 Arch Koniakowsky, Jo Jo, 1 AA \_\_\_\_\_\_\_Yorktown

Kuenne, Oscar August, a IE, San Antonno Kuhn, Frank Hill, 1 CE, Randolph Field Kunkel, Lorenz Victor, 3 ChE ......Olney Kuratko, Charles Frank, 1 CE, Smithville Kuratko, Charles Frank, 1 CE, Smithville Kyle, Wood Barbee, 4 AA .....Carthage Kyle, Wood Barbee, 4 AA ......Carthage Laas, Moylan Ernest, 3 AA .....Bellville Lacy, Granulle Hale, 1 Agr, Marble Falls Lacy, James Meek, 1 ME, Saltillo, Mex. Lafleur, Charles Cephus, 1 GE ....Houston La Grone, J. C., 2 AA ......Comanche Lain, Albert Eugene, 1 PPE .....Seymour Laird, Joe Alex, 1 PPE .....Seymour Laird, Joe Alex, 1 PPE ......Bulouton Lake, Sim T., Jr., 2 ME ......Dallas Lamkin, Clarence Mark, 4 Agr ....Ponder Lancaster. Darrell Boyd, 4 Agr Lancaster, Darrell Boyd, 4 AgEng ...... • ..... Oenaville Landon, Maxwell, 1 Sci ......Dallas Landrum, Jessie Glenn, 1 RE ...Beaumont Landry, Jimmie E., 1 PPE ...... Freeport Landry, Milton John, 4 Agr .....Luling Landua, Harvin Louis, 2 ChE ....Brenham

Laney, William Roland, 1 ArchEng ...... ..... Denton

McCampbell, Ralph Henderson, 2 AA .....

Corpus Christi McCanne, Jack Frost, 2 ChE ......Lakeview McClellan, William DeRouhlac, 3 EE .....

McClung, Roy L., 2 Agr Alvord McClure, Luther Worth, Jr., 1 PPE

McCluskey, John Brown, 4 Sci ....Anderson McColloygh Vincent A 

McCollum, Jack Ford, 2 GE Hearne McCoy, Hermon Wilson, 3 ChE, Clarksville McCracken, Harold Edmund, 4 Agr \_\_\_\_\_\_ Kingsville

McCrary, William Bruce, 1 AA ......Ennis McCreary, Joe Lee, 2 AA .....Engle Lake McCrory, Dorsey Elwood, 1 AA, Waelder McCulloch, George Robert, 1 AA, Refugio McCullough, William Robert, 4 Agr ...... Wheelock

WcCutcheon, Alfred Holt, 2 AA

McDaniel, Woodrow Henson, 1 Agr Heidenheimer McDevitt, James Ferris, 1 Agr McDonald, Everett Eugene, 1 EE

McDonald, Walter Henry, 1 Agr ....Neches McDougal, William Jacob, 1 ME ....Neches McDougald, Hulan Ory, 1 AgEd .....Iola McElhannon, William Robert, 1 Arch, Brady McElroy. Robert Allan L. McElroy, Robert Allan, Jr., 3 EE

Victoria McElroy, Robert L., 1 AA Belton McEntire, William Elza, 4 IE, Weatherford McFadden, Elmer Herschel, 2 LA ...... Victoria

Tulsa, Okla. Fort Worth Llow, Irvin Henry, 3 Sci Tort Worth Llow, Jorge Jose, 2 EE Guines, Cuba Lock, Howard Harley, 4 AA Locket, Bob Reisner, 1 PPE Lockart, Bob Reisner, 1 PPE Locket, Kenneth Earl, 1 Agr Lofton, John Thomas, 1 TE Lofton, John Thomas, 1 AgEd Logan, Jefferson Davis, 1 AgEd Cogeretown Georgetown ..... Georgetown

Lucey, William Gerald, 3 AgEng, ORSMANN Luckenbach, Austin Albert, 1 ME Luckenbach, Austin Albert, 1 ME Ludecke, Edwin Gus, 1 CE Ludecke, Edwin Gus, 1 CE Ludwig, Raymond Nathan, 8 ChE San Antonio OME Pecos Ludwig, Raymond Nathan, 3 ChE San Antonio Luke, Edwin Devere, 3 ME \_\_\_\_\_Pecos Luker, Charles T., 1 VM \_\_\_\_\_Proctor Lundberg, Gosta Alexander, 1 ME, Dallas Lyle, Clayton Bane, 4 AgEng, Denison Lyles, John Vinston, 1 AgEng ...Cooper Lyon, James Alvoir, 4 PPE \_\_\_\_Buffalo Lyster, David K., Jr., 1 Agr, Childress McAdams, James Orien, 3 AA \_\_\_\_Devers McAdams, James Orien, 3 AA \_\_\_\_\_Devers McAllister, William Marx, 1 EE \_\_\_\_\_\_Jourdanton McBride, Martin, Jr., 2 Sci \_\_\_\_Greenville

McBride, Martin, Jr., 2 Sci ......Greenville

Marks, William Miles, 1 ME ...Beaumont Marques, Raymond La Rasquitu, 1 LA .... Brownsville Marquette, Louis Leddon, 4 CE .....Teague Marschall, Herbert William, 1 Sci, Dallas Marsh, Gareld Eugene, 2 ME ....Amarillo Marshall, John Alton, 2 AgEd ..... Heidenbeimer Marshall, John Alton, 2 AgEd Heidenheimer Marshall, Kenneth Jacob, 1 AgEd, Silsbee Marshall, Lewis Hickerson, 1 AgEd Martin, Alfred A., 1 Agr Martin, Arthur Max, 2 Sci Martin, Carroll Clinton, 1 ME MGGregor Martin, Clarence Herbert, 2 Sci Martin, Eavl Franklin, 1 Agr Martin, Eavl Francis, 4 AA Martin, Edwin Sydney, 4 ME Martin, F. W., 4 AgEd Martin, F. W., 4 AgEd Martin, Edwin Sydney, 4 Me Martin, Martin, Stanger Martin, F. W., 4 AgEd Martin, Stanger Martin, Stanger Martin, Stanger Martin, Stanger Martin, Stanger Martin, F. W., 4 AgEd Martin, Stanger Mar Martin, Meredith Tonsil, 2 PPE Martinez, Homer Thomas, 3 VM Hebbronville Martínez, Manuel Ernesto, 2 CE Victoria, Mex. Mascorro, Mercurio, Jr., 1 ME Mashburn, J. H., 1 PPE Mason, Arland Ray, 1 Agr Mason, Robert Houston, 4 Agr Baymondville Raymondville Massey, Ramond Manley, 1 GE, Caldwell Mathews, Grover Cleveland, 2 PPE Mayfield, Harold Wade, 1 AgEng, Temple Mayfield, Silas A., 4 EE, Hughes Springs Mayhall, William Allen, 1 LA, San Antonio Mayhew, Charles Milton, 1 ME ....Dallas Mayhew, Herman W., 1 PPE .....Dallas Maynew, Euvis, 1 AgEng .......Temple

McKinley, William Albert, 1 Sci ...Dallas McKinney, Carroll Brooks, 1 CE ....Waco McKinney, Charles Milton, 1 TE ...Pampa McKithan, Robert James, 2 EE, Temple McKnight, Arlis Dalton, 2 AA, Jacksonville McLendon, Dan Harvey, 2ChE ......Pharr McLernon, George Justus, 2 PPE ...... San Antonio

 McLernon, George Justus, 2 PPE

 McLeroy, John Otto, 2 CE
 San Antonio

 McLerran, Archie Ralph, 1 ME
 Mearaoo

 McMahan, Justie Otto, 3 Agr
 Spur

 McMahon, James Ezra, 1 LA
 Houston

 McMahon, Robert David, 1 ME, Cleveland
 McMillan, Gordon Felix, 2 AA

 McMillan, Samuel Augustus, 2 AA
 College Station

 McMillan, Thomas Orval, 2 Sci
 College Station

 McMullin, Thomas Jones, 4 EE
 College Station

McMullin, Thomas Jorvai, 2 Sc. College Station McMullin, Thomas Jones, 4 EE College Station McMurrough, Glynn Gabriel, 1 AA, Dobbin McMurry, Leonard Doyle, 1 ME ... Memphis McNees, Rufus George, 1 PPE McNeil, Levi Jordan, 2 Agr ... Brazoria McNeill, William Gowin, 2 CM ... Seymour McNeill, Wayne Robert, 1 Agr ... Canyon McNiel, John Jackson, 1 VM, Fort Worth McNiel, Nixon Lige, 1 Sci, Corpus Christi McNutt, William Harvey, 1 VM ...... San Antonio

McRae, Walter Thomas, 1 PPE, Fort Worth McReynolds, John Marshall, I EE, Houston MacDonald, Iran Ross, 8 Sci ....Galveston Maceo, Joe Thomas, 1 Sci .....Galveston Maceo, Vincent Anthony, 1 ME, Galveston MacInerney, Daniel Buckley, 8 LA Galveston

MacInerney, Edward O'Connor, 1 LA ......

Galveston Mackey, Robert Charles, 2 AA, Robstown Maddox, Frank Ollin, 2 GE .......Ennis Madison, William Frederick, 3 Agr .....

Maddox, Frank Ollin, 2 GE \_\_\_\_\_\_ Amarillo Madigon, William Frederick, 3 Agr \_\_\_\_\_\_\_ Marking Amarillo Maedgen, Clarence Alvin, 2 VM \_\_\_\_\_\_ Marking Amarillo Magee, Fabrian Lee, 1 AA \_\_\_\_\_\_ Frost Magee, Fabrian Lee, 1 AA \_\_\_\_\_\_ Frost Major, Fred James, 2 VM \_\_\_\_\_\_ Marking Maior, Fred James, 2 VM \_\_\_\_\_\_ Marking Malok, Antonio Cuenca, 2 Arch \_\_\_\_\_\_\_ Malone, Milton Smith, 3 Agr \_\_\_\_\_\_ Ballinger Malore, Stephen St. John, 3 CE \_\_\_\_\_\_\_\_ Mashington, D. C Mandell, Buddy Paul, 1 ME \_\_\_\_\_\_ Markington, Markington, C. Mandell, Buddy Paul, 1 ME \_\_\_\_\_\_\_ Mangum, Wilson Page, 1 LA \_\_\_\_\_\_ Bryan Maning, Charles Rufus, 2 AA \_\_\_\_\_\_ Manning, Charles Rufus, 2 AA \_\_\_\_\_\_ Marking \_\_\_\_\_\_\_ Marking \_\_\_\_\_\_\_ Marking \_\_\_\_\_\_\_ Marking \_\_\_\_\_\_ Marking \_\_\_\_\_\_\_ Marking \_\_\_\_\_\_\_ Marking \_\_\_\_\_\_ Marking

Markham, Jack, 1 Agr ......Brownfield Markle, David Albert, 1 AA, Port Neches Marks, Travis Smith, 3 Agr ......Barker

Merka, Milton Samuel, 1 Agr ....Bryan Merriman, Harold Frederick, 1 Agr ..... Throckmorton Merritt, Arthur, Jr., 2 VM .....Robstown Merritt, Travis J., 1 PPE ......Houston Merz, Robert Louis, 2 AgEd .....Albert Metcalfe, Joseph Davis, 3 CE ....Pearsall Metz, Thomas Wesley, 2 EE .....Center Mewhinney, Logan Underwood, 2 Sci ...... Hollard Mewninney, Logan Underwood, 2 Sci — Holland Meyer, Chester Felix, 2 ME, San Antonio Meyer, George Bernad, 2 VM Meyer, Lawrence Joffre, 1 PPE, Palestine Meyne, Herman Ferdinand, SpecAgr — College Station Michael, Ralph, 3 Agr Middleton, Frank Edwards, 1 Che — San Antonio Middleton, William Arthur, Jr., 3 PPE — Bryan ..... Holland Bryan ..... Miears, Frank, 4 Agr ......Kountze Miles, Frain, 'Aged Waco Miles, Ben Burnet, 1 ME Waco Miller, Ermon Allan, 2 Agr Morton Miller, Ely Hans, 1 Che Waco Minnock, Jack Edmund, 1 ME, Galena Fark Minnock, William Alexander, Jr., 1 PPE. Galena Park Minsky, Sol, 1 Pre-Vet, Brooklyn, N. Y. Miranda, John Anderson, 2 ME, Galveston Mitchell, Frank William, 1 AgEd ...Kosse Mitchell, James Alison, 1 CE ....Groesbeck Mitchell, Jesse Woodrow, 1 AA ......Kilgore Mitchell, Richard David, 1 Agr ......Frost Mitchell, Robert Eugene, 2 IE ...Corsicana Mixon, Earl Lloyd, 1 ME ......Humble

Montague, Kenneth Elwin, 2 PPE Montague, Kenneth Eiwin, 2 115 Beaumont Montague, Nick William, 2 PPE .Slaton Montgomery, Charles Arthur, Jr., 4 Sci... Denton Montgomery, James Troy, 2 LA ....Richards Montgomery, Morris Bailey, 3 RE Richards Montgomery, Reed, Jr., 3 EE \_\_\_\_\_Richards Moody, Bernard Farr, 4 VM, Savannah, Ga. Moody, Willie Evans, 2 ME \_\_Piedmont Moore, Glen Alfred, 1 EE \_\_\_\_\_Dehmont Moore, Andrew A., 2 VM \_\_\_\_Dublin Moore, Alford Roy, 1 Agr, Daingerfield Moore, Archie Woods, Jr., 2 AA, Galveston Moore, Benson Arlie, 1 Arch \_\_\_\_Vernon Moore & Dauda A AA \_\_\_\_\_Perrin ..... Richards Moore, Walter Heard, 4 ME \_\_\_\_\_\_ Temple Moore, William Joseph, 2 Agr \_\_\_\_\_\_ Mount Vernon Moran, Henry Charles, 2 AA \_\_\_\_\_ Houston Morehead, John Henry, 3 IE \_\_\_\_\_ Bryan Morgan, Tyra Aubrey, 1 Sci ...... Tempse Morgan, Warren Ambrose, 4 AgEd, DeLeon Morris, Albert Earl, 2 AgEng, Graham Morris, Don Keith, 2 LA ......Henderson . Daingerfield Morriss, James Caldwell, 1 ME Douglasville ..... ..... Morrow, Arthur DeKalb, Jr., 2 Agr...... Worrow, John Milton, 2 RE, Wortham Morrow, Ray Noel, 1 AgEd. Grand Prairie Mortan, George Monroe, 1 EE .....Sharman Moseley, Hal Millard, 2 Arch ......Quanah Moseley, Matt Martin, Jr., 4 EE .....Quanah Moseley, William Marshall, 1 IE ..... ..... Port Arthur Mosesman, Max Abe, 4 ChE ......Dallas Mosley, Walter Oliver, 2 EE, North Zulch

Moss, Coker Worth, 1 ME ......Chireno Moss, Orum Lavearl, 1 VM ......Franklin

Moss, Coker Worth, 1 ME ......Chireno Moss, Orum Lavearl, 1 VM .....Franklin Mosty, Charles Huling, 1 Agr, Center Point Mothes, Frank Goss, 1 Arch .....Seymour Moudy, Chester Ellis, 1 CE .....Nevada Moughon, Billy C., 1 VM .....Lufkin Mozisek, Arnolo Rudolph, 1 ChE, Weimar Mrozek, Alvin Victor, 1 ME, Agua Dulce Mueller, Clifford Albert, 1 Agr ...Kenedy Mueller, Carl Basse, 2 PPE ......Austin Mullen, William Charles, Jr., 2 ME ...... Fort Worth Mullins, Orin Elbert, 1 VM ......Bryan Munn, Woodrow W., 2 Agr, Sterling City Munson, John Hanks, 1 CE, East Columbia Munz, Carrol Philip, 3 IE .....Brenham Murdoch, William Ernest, 1 LA, Oakwood Murphey, Frank Sidney, 1 Agr ...Marshall Murphy, David Jr., 3 PPE ......Mexia Murphy, Joseph George, 2 Sci ....Palestine Murphy, Vaymon Thomas, 1 EE Murphy, Waymon Thomas, 1 EE Murphy, Crady Odell 3 Agr. Ouitmap

Newsome, Joseph William, 1 Agr, Houston Newth, Harold Randolph, 1 Arch Eng .... Mingus Newton, Charles Ladell, 1 AgEd ..... ...... Maysfield

Newton, Dennie Elbert, 1 Sci ....Kirbyville

Newton, John Martyn, Jr., 4 Sci ..... ...... San Antonio

Newton, William Harrison, 1 AgEng ...... Fort Worth 

Nicholson, Edward Benjamin, 2 PPE \_\_\_\_\_\_\_ Nocona Nicholson, Harold Earl, 3 AA \_\_\_\_\_ Wheeler Nicholson, John Noble, 2 LA \_\_\_\_\_ Houston Nicholson, George, 4 EE \_\_\_\_\_ San Antonio Nickols, John Elvy, 2 Arch, College Station Nick, William Dale, 4 AA \_\_\_\_\_ Canadian Noel, James A., 1 ME \_\_\_\_\_\_ Rice Noelke, Herbert Clayton, Jr., 4 AA \_\_\_\_\_\_ Noone Edward James A PPE

Noelke, Herbert Clayton, Jr., 4 AA San Angelo Noone, Edward James, 4 PPE College Station Nordhaus, Alexander, Jr., 2 ChE San Antonio Norman, Clyde Thomas, 3 CE Norris, Fred William, 1 PPE North, William Glass, 1 GE Northrop, Joseph Walter, 1 PPE, Houston Northrop, Page Harris, 1 Arch, Houston Northrop, Adolphus Blackwell, 3 EE Grandview Norwood, Glynn Ed, 1 AA, Madisonville Norwood, Gerald Ventress, 1 LA Bryan Norwood, James Scott, 1 AA Houston Norwood, Robert Thomas, 4 AA Mart Nuckols, Samuel Roundtree, 1 ME, Whitney Nuckols, William Denzil, 3 EE Clifton Nuckols, William Horton, 1 AA Null, Glenn Cord Nuckols, William Horton, 1 AA San Antonio Null, Glenn Garland, 2 CM Nye, Ira Benjamin, 1 VM Oakley, Alonzo Wesley, Jr., 3 EE, Terrell Oates, Eugene C., 1 ME Houston O'Connell, William Hutchison, 1 PPE U'Connell, William Hutchison, 1 PPE Dallas Odell, Earle Geddes, 3 EE Dallas Ogden, John F., 1 AgEd Brady Olbrich, Alvin Paul, 1 AgEng, Burlington Oliver, Charles Robert, 1 LA, Fort Worth Olsen, Hubert Henry, 1 ChE, Galveston Olson, Arthur S., 3 CE, College Station O'Neal, William Causby, 1 AgEd, Emhouse Oppert, Perry Steve, 2 AA San Antonio O'Rear, Samuel Andrew, 1 AA, Wellington Orgain. Henry Kellogg, 1 CE Drms, James Young, Spec AgEng Bryan O'Rourke, James Edward 1 EE, Beaumont Orr, Joseph Anderson, Spec LA O'Rourke, James Edward. 1 EE. Beaumont Orr, Joseph Anderson, Spec LA College Station Ortiz, Mateo Remley, 2 Arch Mexico City, Mex. Osborn, Oliver, 1 Che Shorne, Gray Jeffrey, 2 PPE, Madisonville Oshman. Jack, 2 AA Oswalt. William Henrv. 1 CE Dallas Otto, Fred Vastine, 1 LA Dallas Otto, Fred Vastine, 1 LA Che Dallas Otto, Fred Vastine, 1 LA Che Dallas Otto, Fred Vastine, 1 LA Castell Owen, Herbert Gravel, 1 Che Castell Owen, Roy, 1 Agr

Ownby, Charles Wilbur, 2 PPE ....Houston Pace, Alfred Lloyd, 2 Agr ......Athens

Pace, Bailey William, 4 Agr, Valley View Paclik, Charlie John, 1 VM ....Gainesville Paderas, Ted Emile, 1 Agr .....Beaumont Padgett, Ernest M., 1 ChE ....Fort Worth Page, Grover, 1 Sci .......Dallas Page, Glacy Everett, 2 Agr ......Mexia Page, George Robert, 1 PPE ......Houston Pager, Charles Edward 2 PPE Resumont Page, George Robert, 1 PFE .......Houston Paggi, Charles Edward, 2 PPE, Beaumont Palm, John Gustave, 1 Agr .....El Paso Palmer, William Clifford, 3 PPE ....Ennis Pancoast, Christopher Peguese, 1 Agr .... ...... San Antonio Parker, Clarence Calvin, 2 LA ......Houston Parker, Dan Right, 3 LA ......Houston Parker, Quanah T., 1 ChE ......Vernon Parker, Thomas Allen, 2 AgEd ....Menard Parks, Hunter William, 3 AA .....Terrell Parr, George Washington, 2 LA ....Sabinal Parrish, Billy Eiland, 1 ME .....Dallas Parrott, Fred Herbert, 2 ChE ....Denison Parsons, John Charles, 2 Sci ...San Antonio Pate, Brantly Miller, 4 ME .....Galveston Pate, Francis McInerney, 2 ChE Parker, Clarence Calvin, 2 LA ...... Houston Galveston Patrick, Lindsey Allen, 2 AgEng College Station Patrick, Orrell Lee, 1 ChE Corsicana Galveston Patterson, Aubrey Basil, 3 Agr ...Henderson Patterson, Carl Alph, 1 AA .....Bryan Patterson, George William, 1 Agr ..... Pearce, Reggie Brown, 2 EE .. ..... Sterling City Sterling City Peavy, Herbert Leonard, 2 AA ...Beaumont Pecena, Ben Joe, 1 VM ......Wheelock Pedigo, Edward Maurice, 2 AA ...Sherman Peebles, John Ed, 1 Sci ......Livingston Peeler, Cletus Ewing, 2 ChE ......Dallas Peers, Harry L., 3 ME .....Fort Worth Peirce, Theron Leroy, 2 GE .......Waco Pena, Gustavo J., 2 CM ......Laredo Pendery, Roger Adrian, 2 PPE, Fort Worth Pennington, Malcolm Charles, 2 Agr ....... Harrold ..... Percifull, Wayman Wade, 1 Agr ....Bronte Percy, Harry Victor, 2 AA Junior Jonah Percz, Adolfo Baria, 1 CE, Jueretoro, Mex. Perfect, George Barham, 1 LA Dallas Perkins, Tom Arcade, 1 AgEd, Mt. Pleasant Perritte, Herbert Hoover, 2 ME \_\_\_\_\_\_\_ College Station Perrone, John Paul, 2 AA \_\_\_\_\_\_ Hearne Perry, Clifton Gayle, 1 CM \_\_\_Lovelady Perser, Earl Wesley, 1 Agr \_\_\_\_Crosbyton Persons, John Verner, 1 Sci, Hallettsville Peterson, Glenn Adolph, 3 Agr \_\_\_\_\_\_ Port Lavaca Peterson Leland Fred 4 PEF

Peterson, Leland Fred, 4 PPE ......Temple

Peterson, Troy Eliot, 4 ChE ......Charco Pettit, A. D., Jr., 4 AgEd ......Gustine Pettus, Winston, 1 Agr ......Graham Pfeiffer, Joe John, 1 AA .....Cockhart Phenix, Bruce Clarke, 1 ChE ....Corsicana Phillips, Albert Barrow, 1 ME .....Marlin Phillips, Philip Darr, 1 PPE .....Borger Phipps, David Bartlett, 1 IE ...... Phipps, David Bartlett, 1 IE \_\_\_\_\_\_College Station Phythian, Walter Robert, 4 LA \_\_\_\_Taylor Pickett, Arnold Herd, 2 ME \_\_\_\_Post Pickoff, Julius, 1 LA \_\_\_\_\_Post Picton, Charles Jerald, 1 ME, Rockport Pike, Joel Barney, 1 EE \_\_\_\_\_Dallas Pinchin, Harold Jean, 1 ME, Hallettsville Pines, Jack, 1 Arch \_\_\_\_\_Tyler Pinney, James Eugene, 2 ChE, Santa Anna Pipkin, Andy Edward, 2 AA, Breckenridge Pinkin, LA Pipkin, Raymond Grady, 1 LA .... Eastland Pochyla, Herbert William, 1 ME ....Waco Polanovich, Anton Tony, 1, EE ..... Polifka, Frank Jacob Frederick, 1 ME Palacios Polk, Charles E., 1 AA Belton Pollan, G. W., 1 Agr Rice Pollock, William Miller, 1 EE Gladewater Pool, George Willard, I Agr Richland Springs Pool, John Lee, 3 EE \_\_\_\_\_\_Dallas Poole, Daniel Henry, 3 ME \_\_\_\_\_Sherman Poole, Daniel Henry, 3 ME \_\_\_\_\_Sherman oPole, William Oliver, 1 AA \_\_\_\_Robstown Pope, Jerome J., 1 LA \_\_\_\_\_Dallas Porter, Aubrey Lynn, 3 AA \_\_\_\_\_Dallas Porter, Cover Curran, 4 ChE \_\_\_\_Dallas Porter, Curt Culwell, 4 ChE, Weatherford Porter, Harold Andrew, 2 CE \_\_\_\_DeKab Porter, Henry Karnes, 1 ME \_\_\_\_\_Belton Porter, Thomas William, 1 AA \_\_Hillsboro Porter, Walter Lee, Jr., 1 ChE \_\_\_\_\_\_ College Station Porterfield, Clyde Jackson, 1 AgEd, Moody Pos. Robert Eucene, 3 AeEd Bryan Pos, Robert Eugene, 3 AgEd ... Bryan Pos, Walter Henry, 1 IE ......Bryan Poss, Theo Max, 1 PPE ......Waring Post, Ben Gibson, 1 LA .....Montgomery Post, Thomas Gressam, 4 PPE, Montgomery Postle, Douglas French, 1 CE Glencoe, Ill. Postle, Merton French, 1 CE Postle, Merton French, 1 CE Glencoe, III. Poteet, G. W., 1 PPE Wellington Potter, Woodrow Wilson, 2 CE Weatherford 

rrovine, Clarence Riley, 4 ME Wolfe City Prugel, August Emil, 1 Agr Prugel, James Albert, 1 Agr Pruitt, Marila Manaoh, 3 Agr, Greenville Prutzman, Forrest Gilbert, 3 PPE Pustejovsky, Edwin Roy, 3 Agr. "Runge Pustejovsky, Edwin Roy, 3 Agr. "Runge Putnam, Hiram Aldine, 1 PPE ....Dobbin Qualls, William Henry, 1 VM ........ Lake Charles, La. Qualtrough, Henry Mosehart, 4 LA Houston Quarles, Norman Kerrigan, 1 AgEd, Slocum Queen, Alton Sylvester, 2 LA....Palacios Quigles, Murray Basile, Jr., 4 PPE ..... Quortrup, Earl Richard, 4 VM ..... Galveston Quortrup, Earl Richard, 4 VM ....Bryan Raabe, Martin Luther, 1 CE .....Waco Rabinowitz, Darwyn, 1 PPE .....Dallas Racki, M. M., Jr., 3 CE ....Beaumont Rackley, Richard Banning, 1 AA ...... Corpus Christi Radack, Edmund Andrew, 1 PPE, Glidden Radbury, Joseph Allen, 2 Agr ...... Fort Worth Madisonville Madisonville Randolph, Tom Ball, 4 Agr .....Cherokee Raney, Alfred Lafayette, 2 AA, Fort Worth Ranson, Doyl Mincer, 1 Agr ....Lamesa Raouf, Ali Parviz, 2 Agr, Haifa, Palestine Rasor, Jess John, 1 Agr .....Frisco Ratcliffe, Willie Harrold, 1 Agr, Marshall Ray, Leonard Frank, 3 Agr ......Longview Reagan, Rocky L., 1 Agr ......Beeville Reagor, Clarence, 2 EE .....Llano Rece, Warren Putnam, 1 EE .....Dallas

Rector, Bill Nat, 2 Agr ......Sanger Rector, Walter Stokes, 1 ME, Houston Redden, Thomas Lee, 1 AA .....Temple Redding, Egbert Forbs, 4 AgEng, Rosebud Redford, R. J., 1 AgEd Kerens Redford, R. J., 1 AgEd Kerens Redman, Bruce, 1 EE Colorado Redmond, Harold Edwin, 2 VM Luling Reed, Albert William, Jr., 2 LA Brownsville Reed, Ferdinand Joseph, 1 PPE, Beaumont Reeder, Vendor Harvard, 3 AA Corpus Christi Rehm, Paul Edward, 2 ChE ......Abilene Rehmet, Joe Reynolds, 2 PPE .....Alize Reid, Percy Raeburn, 4 AA, Corpus Christi Reinarz, Alvin Robert, 3 ME, San Antonio Rektorik Lulius, 2 ApEd . Kerrville 

 Rhodes, Coke Horne, 1 LA
 Charlotte

 Rhodes, Raymond Dewey, 1 PPE
 Waskora

 Rice, Ib Boyd, 1 Agr
 Linčale

 Rich, Charles Leffler, 2 Sci
 Lovelady

 Rich, George Clinton, 4 VM
 El Campo

 Richardson, Frank, 4 PPE
 Beaumont

 Richardson, Frank, 4 PPE
 Beaumont

 Richardson, Grady Leon, 4 AgEd
 Stephenville

 Richey, Robert Thomas, 4 Sci
 College Station

 Richman, Wallace R., 3 CE
 College Station

 Charlotte Richmond, Harry Davis, 1 ME Richmond, Harry Davis, 1 ME Raymondville Richmond, Jack Samuel, Jr., 2 Agr Mexico City, Mex. Richmond, Walkace Parrish, 3 CE, Kyle Richmond, Walkace Parrish, 3 CE, Kyle Richmond, Walkace Parrish, 3 CE, Kyle Richter, Albert Earl, 4 AA Enuis Richter, Francis Joseph, 4 LA Laredo Riddle, Rolean Bill, 1 LA Riddle, Rolean Bill, 1 LA Ridde, Coy Alonzo, 1 Agr Rider, Branes, 1 Agr Riley, Allen Gien, 1 CM Riley, James Frazer, 2 AA, San Antonio Roberson, Jordan Jackson, 4 AA Latexo Rohert, Frank Emet, 3 AgEd Latexo Robert, Frank Emet, 3 AgEd ......Latexo Robert, Walter L., 2 AgEd .....Latexo Roberts, Cephas E., 1 AgEd ......Poynor

Roberts, Clarence F., Jr., 4 EE ...Houston Roberts, Charles Von, Jr., 1 Sci ....Overton Roberts, Daniel William, 2 VM ...... Birmingham, Ala, Roberts, J. Frank, 4 AgEng .....Dallas Roberts, James Robert, 2 ME, San Anutonio Roberts, Lewis Melvin, 4 Agr ....Terrell Roberts, William Mathew, 2 ME .....

Roberts, William Mathew, 2 ME Sweetwater Robertson, Barton Warren, 1 ME, Amarillo Robertson, Perry Billy, 1 LA Robinson, Ralph William, 1 ME, Abilene Robinson, Art Ira, 3 ChE, San Antonio Robinson, Francis Nathaniel, 4 ME, Dallas Babinson Laba Honry, 3 Sci

Ruhmann, Welton Augustus, 3 AgEd .....

Ryan, John Harold, 4 AgEng, McQueeney

Sachse, Frank Marion, 1 Agr .....Quitacte Sada, Enrique, 1 Agr, Mexico City, Mex. Sadler, Walter White, 2 AgEd ...... College Station Saf, Jack, 1 ME ......San Antonio Sakach, Stephen P., 2 Agr, Barberton, Ohio Sakamoto, Seichi, 2 Agr, San Antonio Salaza, Manuel, 2 LA ......Yorktown Saldana, Miguel, 2 ChE .....Laredo Sale, Elbert B., 2 AA ......Stanton Salzman, Joseph Henry, 1 AgEng ...... Big Wells Samule Samule Samule Samule Salzman, Joseph Henry, 1 AgEng Big Wells Sample, Bell, Jr., 2 EE Sample Sample, Ernest Lynn, 1 LA Bryan Sanchez, Federico Sanchez, 4 Agr Sandefer, Keith, 2 EE Daisetta Sanders, Horace Grely, 1 LA Slaton Sanders, Virgil Rockold, 1 LA Dallas Sanderson, Edward Russell, 1 ME Eastland Eastland Sandifer, Weldon Woodrow, 1 AA, Wheeler Sandlin, John L., 4 EE San Angels San Mioual Arthur Albert Schelper, Max Whitwood, 1 ChE Schelper, Max Whitwood, 1 ChE Schepps, Harmon, 2 Agr \_\_\_\_\_\_ San Antonio Schepps, Harmon, 2 Agr \_\_\_\_\_\_ Dallas Scheska, Fred August, 1 LA, Gonzales Schier, Clarence John, 2 AA \_\_\_\_\_\_ Seguin Schlarli, Alfred, 1 CE \_\_\_\_\_\_ Seguin Schlankey, Joseph Louis, 1 ChE, Galveston Schloemann, Gus A., 1 ME, Gatesville Schmidt, Carey B., 1 PPE \_\_\_\_\_\_ Brenham Schmidt, August M., 2 Agr \_\_\_\_\_ Gregory Schoenfeld, Perry Cornelius, 2 GE \_\_\_\_\_\_ San Antonic Schoppe, Carl Wilson, 1 LA \_\_\_\_\_ Galveston Schott, Francis Joseph, 3 VM, Nacogdoches Schott, Francis Joseph, 3 VM, Nacogdoches Schoverling, W. J., 4 Sci ..........Houston Schramm, Harry Bose, 3 PPE Schultz, Frank William, 2 AA ......Bryan 

Schutze, Dick, 1 AgEng ......Austin

Schwab, Carl Milton, 1 PPE ....Sour Lake Schwertner, Oscar B., 2 AgEd, Schwetner Scoates, Harry William, Spec AgEng ......

Scolares, Harry William, Opec AgEng College Station Scoffield, James Arthur, 1 Sci .......Wharton Scott, Charles B. F., 1 Agr

oPrt Arthur Shepler, James Emmet, 1 PPE ....Houston Sheppard, Allen Valton, 1 Agr ....Vineyard 

Sherrill, Francis Mack, 2 AA, Rocksprings Sherrill, Word Bell, 4 Agr, Rocksprings Sherwood, Robert Spencer, 4 ME \_\_\_\_\_\_\_ College Station Shields, Maricn Alexander, 2 AgEd, Neches Shillng, Harold C., 3 Sci .....Fort Worth Sh pman, Roy Marvin, 2 CE, Three Rivers. Shopkey, James C., 1 AA ......Gilmer Shockey, James C., 1 AA .....Gilmer Shockey, Jack Bois, 1 AA .....Gilmer Showake, Jack Bois, 1 AA ......Gilmer Showak, Justin Moody, 3 PPE ....Arlington Shows, John Hilburn, 4 AgEd, Ovett, Miss. Shroyer, Nathan William, 1 Agr...Crockett Simmang, Clifford Max, 4 ME San Antonio Simmon, B., Jr., 1 PPE San Antonio Simmons, James Oscar, 1 AA Simmons, William Waldrop, 1 IE, Sabinal Simms, Marvin Jackson, 3 Agr Colbert, Okla. Simms, Otho Monroe 2 Sci Ponce, Puerto Rico Simpson, Clarence E., Jr., 1 Che Simpson, Ormond Ralph, 4 ME Corpus Christi Simpson, Willard Eastman, 2 CE San Antonio Simpson, Winard Eastman, 2 CE San Antonio Simpson ,Warren Weldon, 4 PPE Bridgeport Sims, Ellis M., 4 ME College Station Sims, James Beno, 1 AA Leonard Sims, Marion Wilson, 2 ME Denton Sinclair, James Alva, 2 ME Mexia Singletary, George Frederick, 1 PPE, Bryan Singletary, George Frederick, 1 PPE, Bryan Singletary, George Frederick, 1 PPE, Bryan Singletary, George Frederick, 1 Ag Eng Skalnik, Victor Eugene, 4 EF, League City Skillern, Patrick Orval, 1 ME Skripka, Charlie Frank, 2 Sci, Rosenberg Skrla, Dick, 2 CE San Augu,stine Skripka, Charlie Frank, 2 Sci, Rosenberg Skrla, Dick, 2 CE Slagle, Lucian Erle, 1 EE Hearne Slaughter, Horep Leon, 2 Agr Edgewood Slaughter, Joreph Coman, 3 Sci Bryan Slaughter, Robert Montgomery, 1 LA Slay, Harold Dee, 1 EE Pineland Slay, Malcolm Godfrey, 2 AgEd Rosebud Slimp, Chester A, 1 AA San Antonio Slinkard, Henry Samuel, 1 ME Sloan, William Henderson, 3 CE Sloan, William Henderson, 3 CE Slowey, Albert Francis, 1 AgEd ....Bryan Small, William Warren, 1 ChE, El Paso Smith, Avery Wayne, 1 ME, Sulphur Springs Smith, Boyd Lee, 1 ME ......Houston

Smith, Charles Alexander, 1 AA, Dallas Smith, Charles Brado, 1 ME Houston Smith, Charles T., 1 PPE Austin Smith, Conway William Benton, 1 LA Smith, Conway William Benton, 1 LA .... Throckmorton Smith, Darrell, 1 PPE \_\_\_\_\_\_ Lott Smith, Everett L., 2 PPE \_\_\_\_\_\_ Overton Smith, Edwin Thomas, 1 GE \_\_\_\_\_\_ Chula Vista, Calif. Smith, Forter Carroll, 3 Agr \_\_\_\_Blanco Smith, Ford Lewis, Jr., 2 Sci \_\_\_\_Houston Smith, Forrest Marvin, 3 Agr, Clarksville Smith, Gipson, 2 Agr \_\_\_\_\_ Waco Smith, Gipson, 2 Agr ......Waco Smith, Harwood Knox, 5 Arch, San Benito Smith, Harry Massie, 4 PPE ....McKinney Smith, Niley Judson, 2 Agr ......Cameron Smith, Omar, 2 LA .........San Antonio Smith, Oneal Albert, 1 LA ......Greenville 

 Smith, Omar, 2 LA
 San Antonio

 Smith, Oneal Albert, 1 LA
 Greenville

 Smith, Robert Long, 3 EE
 Dallas

 Smith, Robert Neal, 2 ME
 Weslaco

 Smith, Robert Neal, 2 ME
 Weslaco

 Smith, Robert Neal, 2 ME
 Meslaco

 Smith, Robert Neal, 2 ME
 Meslaco

 Smith, Robert Neal, 2 ME
 Meslaco

 Smith, Robert Neal, 2 ME
 Dallas

 Smith, Robert Neal, 2 LA
 Dallas

 Smith, Stanley James, 1 LA
 Dallas

 Smith, William Bayne, 1 ME
 Dallas

 Smith, William Cagle, 3 ME
 Kilgore

 Smith, William Enest, 2 ChE, Monroe, La.
 Smith, William Henry, 1 Arch

 Waco
 Smith, William Porter, 3 Sci
 Sci

 Smith, Zed Zay, 1 CE
 Maples

 Smuth, Joe Grisby, 3 Arch
 Uvalde

 Snell, David Munro, 3 CE
 Dallas

 Solona, Alexander Rivero, 1 CM
 Solona, Alexander Rivero, 1 CM

 Solona, Alexander Rivero, 1 CM
 Mexico City, Mex.

 Sommers, Lee Marion, 4 EE, San Antonio
 Soul, 2 Agr

 Souder, Hildreth F., 4 AA, College Station
 Souder, Hildreth F., 4 AA, College Station

 Sowell, J. A., 1 Agrf
 Grang 

Sprott, Darrell Bernard, 2 VM ....Killeen St. Clair, Frederic Anthony, 1 AA ...Brady St. Clair, Oscar Eugene, 1 Arch Eng Golden -----Stach, Stanfield August, 4 AA .....Cameron Stages, William Edward, 2 LA .....Waco Staley, Vernon Edwin, Jr., 4 CE ...... Stallings, McLendon Montgomery, 4 AA Stapleton, Orrin David, 1 Agr ....Kenedy Starbuck, Clyde Alvin, 1 PPE ......Houston Stark, John Wayne, 1 LA .......Winters Steeger, Charles Joseph, 4 VM \_\_\_\_\_\_ Dallas Steele, James Lester, 4 EE, Corpus Christi Steen, Charles Alvin, 2 PPE \_\_\_\_\_\_ Bryan Steen, Elwyn Winget, 2 LA \_\_\_\_\_\_ Bryan Steffins, Karl Keller, 1 Agr \_\_\_\_\_ Brady Stefin, Harvey Frank, 1 Arch \_\_\_\_\_\_\_ ..... Sherman Stephens, William Henry, 2 ME .... ..... Waco Stephens, William Henry, 2 ME San Antonio Sterling, James Bennett, 1 LA, Dayton Stern, Henry Walter, 1 AA Rosenburg Stevens, Billy J., 4 AA Marillo Stevens, David Monroe, 2 LA, Greenville Stevens, John Vance, 3 Agr Stevenson, Fred. C., 2 Sci Stevenson, Fred. C., 2 Sci Stevenson, John McAllister, 3 ME, Ab'lene Stewart, Graham Preston, 1 LA, Greham Stewart, Robert Waters, 1 ME Fort Worth Stidham, Jack Edward, 1 AA Jones Prairie Stiles, Marshall Francis, Jr., 4 PPE Jones Prairie Stiles, William Edmund, 2 PPE Houston Stilwell, Henry Wesley, 2 AgEd, Texarkana Stine, Joe Carl, 4 ME Beaumont Stively, James Lawrence, 1 ME Darlington, Md. Stockton, William Lamar, 4 IE ... Terrell Stockton, William Nolan, 3 PPE, Kerens Stokes, William Luther, 2 AA ....Bartlett Stone, Sidney Smith, 1 AA, Nacogdoches Stoneham, S. Lloyd, 1 GE ......Stoneham Storms, Harvey Harrell, 2 Agr ..... San Marcos

Springer, Richard Allison, 2 ChE

Fort Worth

 

 Taylor, Harold Eugene, 1 ME
 San Augustine

 Taylor, John J., 4 PPE, College Station

 Taylor, James Wooten, 1 ME
 Taylor,

 Taylor, James Wooten, 1 ME
 Taylor,

 Taylor, John Wilker, 2 VM
 San Angelo

 Taylor, Luther Douglas, 1 PPE, Gilmer
 Bryan

 Taylor, Murell Kenton, 4 EE, Mt. Pleasant
 Taylor, Nobel James, 4 AgEng

 Taylor, Oneal Orrin, 1 Sci
 Jefferson

 Taylor, Samuel Ardis, 4 EE
 Tyler

 Taylor, Robert Suttle, 4 EE
 Corsicana

 Taylor, Thomas A., 1 LA
 Groesbeck

 Taylor, William Douglas, 1 AgEd
 San Marcos

 Taylor, William Hulen, 4 AgEd \_\_\_\_\_ Bryan Taylor, William Marion, Jr., 2 Arch \_\_\_\_\_ Corsicana San Marcos Taylor, William Robert, 1 Agr Stukenberg, John Davrell, 1 PPE \_\_\_\_\_\_\_\_\_Ardmore, Okla. Stukenberg, John Melvin, 3 LA \_\_Comfort Sturdivant, Wilton Charles, 2 LE \_\_\_\_\_\_\_\_ Brownwood Sturkie, Howard Neal, 1 Sci \_\_\_\_\_\_\_Proctor Sturkie, Ira O'Quin, 3 AgEd \_\_\_\_\_\_Proctor Sudheimer, Robert Leslie, 4 VM \_\_\_\_\_\_\_\_ Suebsaeng, Charuna, Spec Agron \_\_\_\_\_\_\_ Sullenberger, Hal McCallum, 2 VM, Dublin Sullins, Charles Austin, 4 PPE \_\_\_\_\_\_Wacous Sullivan, Edward Holden, 2 EE \_\_\_\_\_\_\_\_ Summers, Stanley Marvin, 1 LA \_\_\_Nocona Macker, Edward Antiony, 1 DA Macker, Edward Antiony, 1 DA Macker, Marker, 1 San Benito ..... ...... Thomas, Earl F., 1 ChE, Sulphur Springs Thomas, Edwin William, 1 VM Gainesville Thomas, Fred Clayton, 3 ME Thomas, James Elliot, 2 LA ..... Tom Bean Thomas, Lloyd, 3 AgEd .....Grandview Thomas, Ogden Underwood, 1 PPE ..... Lake Charles, La. Thomas, Willard Stanley, 1 Agr Thomas, Willard Stanley, 1 Agr Thomasson, William Landrum, 4 ME ...... Thompson, Aubrey Leon, 2 Agr College Station Thompson, Aubrey Leon, 2 Agr Throckmorton Thompson, Edwin Clements, 2 AgEd Killeen Thompson, James Ceaphus, 1 Agr, Marka Thompson, James Robert, 1 AgEd Lovelady Chillicothe Thompson, Ralph Felton, 1 Che San Antonio Thompson, Richard Franklin, 1 AgEd .... Atlanta Thompson, Sterling Nyles, 1 CE, Temple

Storms, Raymond Edwin, 3 PPE ..... Story, James Robert, 1 PPE \_\_\_\_\_\_Alice Stough, John Rutherford, 1 AgEd \_\_\_\_\_

Stough, John Rutherford, 1 AgEd Corsicana Stovall, Eldon Latimer, 4 Che Dallas Stradinger, John, 4 ME \_\_\_\_\_\_\_ Dallas Strauss, Harold Charles, 1 Agr, Bellville Streauss, Harold Charles, 1 Agr, Bellville Street, George Alfred, 1 LA, San Antonio Streicher, Wilhelm G., 1 PPE, Seagoville Stringer, Dewey Alex, 2 AA \_\_\_\_\_\_\_ Houston Strohacker, Louis George, 2 ME, Kerrville Strong, James Monroe, 1 CE \_\_\_Wellington Stropp, Wendell Keith, 2 AA \_\_\_\_\_\_ Gilmer Strother, Claud Paul, 1 ChE, Port Arthur Strother, Tom Bille, 1 IE \_\_\_\_\_\_\_ Anna Struwe, Robert Malcolm, 1 AA, Waxahachie Stuart, Charles William, 1 Pre-Vet \_\_\_\_\_\_\_ O'Donnell

Stufflebeme, Jacob Wallace, 2 Agr, Itasca Stukenberg, John Davrell, 1 PPE

 Tarver, Jack Hamilton, 1 PPE
 Shreveport, La.

 Shreveport, La.
 Shreveport, La.

 Tarwater, Sidney Lee, 2 AgEd, Caldwell
 Tate, Charles William, 2 VM

 Tate, Charles William, 2 VM
 Giddings

 Tate, Vance Wilson, 1 Sci
 Gonzales

 Tatsch, Henry Adolph, 2 EE, San Angelo
 Tatum, Robert Morris, 1 AA

 Taylor, Cloy Alton, 2 VM
 Bryan

 Taylor, Charles Carroll, 1 Sci
 Corpus Christi

 Taylor, Charley Scott, 1 AgEng
 Normangee

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Turner, Harry Stewart, Jr., 4 ME ..... Longview

Turner, Joe Gordon, 2 VM ....Fort Davis Turner, Thomas Thaddeus, 2 ME, Richards Turner, William Augustus, 2 ArchEng .....

Turner, william Regeneration Crockett Twilley, John Fougerousse, 2 ChE ...... Pineville, La.

Tynes, Walter Augustus, 3 GE ...Mabank Tyra, William Harrison, 1 Agr ...Ysleta Uhr, Clinton William, 1 AA, San Antonio Ulmer, James Arthur, 2 PPE, San Angelo Unberhagen, Wilbur Woodfin, 1 AgEd ....

Underwood, Harris, Jr., 4 PPE, Houston Underwood, Warner Rox, 1 LA

Underwood, Warner Rox, 1 LA Unsell, Glenn Harry, 1 CE Upchurch, Charles Oren, 2 PPE Upchurch, Melvin Louis, 4 AA Upchaw, Lloyd Donald, 2 ChE Upton, Allen Cordell, 1 ChE Utterback, Alvin Preston, 1 LA Brackettville Valentine, James Hardy, 1 Agr Edgewood

. Edgewood

Valentino, Ernest D., 1 ArchEng, Houston Van Atten, James Leroy, 2 EE Corpus Christi Vanderpool, Robert Lee, 1 LA, Galveston Vandeventer, John Henry, 1 Sci ...Houston

Vandeventer, John Henry, 1 Sei ....Houston Van Loan, Alonzo Hudson, 1 LA Van Lear, Thomas Atkinson, 1 PPE ..... San Antonio Vannoy, Frank James, 1 Agr ...Clarksville Vanston, Henry Dale, 1 ChE .....Denison Vasbinder, Preston Melvin, 1 AA ..Bryan Vaughan, John Graham, Jr., 2 ChE .... Dallas

Vasbinder, Preston Melvin, 1 AA Bryan Vaughan, John Graham, Jr., 2 ChE \_\_\_\_\_\_\_\_\_ Dallas Vaughan, Jerry Richard, 2 PPE \_\_\_\_\_\_ Vaughan, Woodrow Wilson, 1 EE \_\_\_\_\_\_\_ Venner, Ralph Clifton, 1 AA, Wolfe City Veselka, Ervin Otto, 1 CE, Corpus Christi Vestal, Donald McKee, 3 ME, Fort Worth Vestal, Tommie Seale, 1 PPE \_\_\_\_\_Coolidge Vick, Clarence Covington, 2 Agr, Bryan Vick, Jack Farquhar, 2 PPE \_\_\_\_\_\_Bryan Vickers, Richard Hardin, 1 ME \_\_\_\_\_\_\_ Smackover, Ark. Vieman, Lewis Dowe, 2 Agr \_\_\_\_\_\_Dickinson Vining, Edwin Clayton, 1 EE, Palestine Vinson, Joe Bob, 1 AA \_\_\_\_\_\_ Whitney Vinson, Matthew Lafayette, 1 CM \_\_\_\_\_\_ Moscow Vinson, Ralph Nicholas, 1 AA \_\_\_\_\_\_ Trinity Vitek, Richard Darius, 2 AA \_\_\_\_\_\_ Granger Voelkel, Albert Earl, 3 AA, Fayetteville Voelkel, Albert Earl, 3 AA, Fayetteville Vogt, Harry, 4 AA \_\_\_\_\_\_ La Granger Volt, Ralph Folkert, 2 EE, San Antonio Volve, Jemer Allen, 1 ME \_\_\_\_\_\_ Midland Vollentine, Jesse William, 3 ME Gonzales Von Roeder, George Laird, 2 Agr \_\_\_\_\_\_\_ . Gonzales

Von Tress, Robert David, 1 PPE ...Dallas

Thompson, Uel D., 1 AgEd, Waxahachie Thompson, William Alexis, 1 LA ...... Ft. Brown

Thompson, Yale Elmer, 2 ME

Thornton, Walter Blackwood, 1 AA .....

Thornton, Walter Blackwood, 1 AA McAllen Thornton, William Ernest, 2 Agr. Farwell Threadgill, Walter Orville, 3 CE, Bellevue Thr.ft, David Benjamin, 1 Agr. San Antonio Thurman, Robert Lee, 2 Agr. Cisco Tice, John Wesley, 2 PPE Dallas Tiemann, Erwin Fritz, Spec ME La Grange Colif

La Grange Tierstein, Victor, 1 VM, Los Angeles, Calif. Till, Raymond Charles, 2 AA, La Feria Tilley, Eugene Donwood, 2 AA, Mineola Timmerman, Bailey Atto, 1 LA, Rockdale Tinkle, William Joseph, 4 RE, Garrison Tinsley, John Edward, 1 PPE, Madisonville Tipton, Ralph Linebaugh. 2 AA Tipton, Ralph Linebaugh, 2 AA

Tipton, Ralph Linebaugh, 2 AA Jacksonville Titus, J. D., Jr., 1 AgEng Jacksonville Titus, Robert Davis, 1 Agr Woodson Todd, Berger Eugene, 2 AgEd Beeville Todd, Dick, 1 RE Crowell Todd, Dick, 1 RE Crowell Todd, Wilton Whaley, 2 RE Kosse Todd, Walter P., 4 AgEd Crowell Tohline, Max Bowers, 4 ME, Fort Worth Tolleson, Cecil Leslie, 1 ChE Waco Tom, John Calvin, 4 Sci Harlingen Tompkins, John William, 1 Agr Bishop Toney, Raymond Author, 2 PPE Davton Toole, James Osuell, Jr., 4 ME, Hemphill Tooles, Alfred John Lawrence, 3 ChE. Dallas

..... Dallas Toone, Thomas O., 1 LA Bryan Topletz, Harold Myer, 1 LA Dallas 

Galveston Traube, William, 2 LA \_\_\_\_\_ Ballas Trail, Charles Darwin, 1 Acr \_\_\_\_ Kaufman Trainer, Wyatte Gristie, 4 CE. San Antonio Tramonte, Joseph John, 1 LA \_\_\_\_Galveston Trantham, Grady Weldon, 1 ME \_\_\_\_ Abilene Trapolino, Jerome Mike, 1 PPE \_\_\_\_Houston Trapolino, Sylvester Louis. 1 PPE, Houston Travois Robert Harrie, 1 LA, San Antonio Travis, Robert Harrie, 1 LA, San Antonio Travior, Leonard C., 4 Agr, Mt. Pleasant Treadaway, Jessie William, 1 Agr Hillsboro

Wadhwani, L. H., 1 ME, Hirabad, India Wakefield, Gerald Alan, 4 Agr ..... Madisonville ..... Wakefield, Troy Parten, 2 Agr ..... Wakefield, Troy Parten, 2 Agr Madisonville Waldman, Herman Morris, 4 TE Liberty Walker, Alfred Hewlett, 4 Agr, Comstock Walker, Asa Lamar, 2 VM Crockett Walker, Clarence Allen, 2 AA Tyler Walker, Charles Warren, 2 ChE Port O'Connor Walker, Jack Kenneth, 4 AgEng Fort Worth Walker, James Wilson, 1 ME, Gainesville Walker, Joseph Woodrow, Jr., 1 VM Gainesville Gainesville 

 Gainesville
 Gainesville

 Walker, Kirby Hamilton, 3 ME
 Moseow

 Walker, Kirby Hamilton, 3 ME
 Laredo

 Walker, Lanyce Dean, 1 AA
 Mart

 Walker, Paul Kenneth, 3 Arch
 San Antonio

 Walker, Woodrow, 3 AgEng
 Hico

 Walker, Walter Hugh, 2 AgEd
 Dallas

 Walker, Oct, T & Agr
 Long Oct

 Wallin, Daniel Jackson, 2 AgEd Bryan Walling, Herbert Merl, 3 Agr, Gainesville Wallis, William Robert, 1 Agr ...Houston Walls, Lloyd McArthur, 2 AA ...Seguin Walters, Golding Frederick, 1 PPE Warner, George Carter, 3 Agr ......Abilene Warren, Hoyt Read, Jr., 4 EE ..... Warren, Jesse Travis, 2 Agr ..........Center Warren, Lester G., 1 LA ......Center Warren, William Joseph, Jr., 1 PPE ..... Washington, Courtenay Carven, 4 Arch ... Galveston Watanabe, Taro, 1 Agr \_\_\_\_\_\_ Galveston San Francisco, Calif. Waters, Philip Greene, 1 EE \_\_\_\_Houston Watkins, Harvey Ben, 1 ChE \_\_\_\_\_Treple Watkins, John Chapin, 1 Agr \_\_\_\_\_Tyler Watkins, Newton R., Jr., 1 AgEd, Rosebud Watkins, Owen Milton, 1 PPE \_\_\_Houston Watson, Carl Russell, 2 VM \_\_\_\_\_Marquez Watson, Paul, Jr., 1 CE \_\_\_\_\_Galveston Watson, Rich, 1 Agr \_\_\_\_\_Marquez Watts, Floyd Bentley, 1 VM, Gainesville Weatherbee, Frank Loring, 1 PPE \_\_\_\_\_\_ Galveston ...... Galveston

Weatherly, Edward Bruce, 1 Agr San Antonio Weaver, Lonnie Hobson, 2 VM, San Antonio Webber, Jack C., 1 ME ...... Wedel, William Leo, 3 AgEng .....Arp ...... Heidenheimer Wedemeyer, William Charles, 2 AgEd ..... Wedemeyer, William Charles, 2 AgEd ..... Crockett Wegenhoft, Victor Charles, 1 LA ..... Rock Island Wehner, Byrom Theodore, 1 ME ..Del Rio Wehner, Herman Henry, 1 EE ...Del Rio Wehrman, Jack Knighton, 4 EE, Brenham Weich, Harold Clifton, 1 Agr, Brenham Welch, Harold Clifton, 1 Sci, Sabine Pass Wells, James Esli, Spec AgEd ....Bryan Wells, James Esli, Spec AgEd ....Bryan Wells, Paul D., 1 AA, Corpus Christi Wendler, Charles Clifford, 1 AA, Boerne Wentworth, Earl Junior, 1 EE, Von Ormy Wessendorff, Joe Clyde, 3 LA, Richmond West, Daniel Earl, 1 AA .....Neches West, George William, 2 CE ......Anna West, James Lawrence, 1 AgEd ....Terrell West, William Herbert, 1 VM .....Sherman Westbrook, James Harrison, 3 AA, Waco West, William Herbert, 1 vm. Westbrook, James Harrison, 3 AA, Waco Westerman, Marl Avant, 1 AgEd ........ Valley Springs Westmoorland, William Peck, 4 AA ...... Weston, Ralph Silas, 1 VM San Rafael, Calif. Wexler, Leon Edward, 1 AA Wexler, Leon Edward, 1 AA Weyerman, Bill Curtis, 1 PPE ...Austin Whall, Clifford William, 1 EE ...... San Juan, Puerto Rico White, Howard Sigman, 2 AA, San Antonio White, Joe Philip, 3 LA ......Bryan White, Joseph Reeves, 3 VM .....Bryan White, John William, 1 ChE ......Waco White, Richard Edison, 2 ME, Eastland White, Richard Ratcliffe, 1 PPE ...... San Antonio White, Vincent C., 1 Arch ......Amarillo White, William Christopher, 1 PPE ..... Gladewater Whitehead, Ollie Carlile, 2 Agr ..... Georgetown Whitehill, David Lisle, 1 ArchEng Wichita Falls Whitehill, Maurice Earl 1 ArchEng Wichita Falls ..... Whitehurst, Sanford Huey, 2 Agr, Mesquite Whittendrist, Sanford Huey, 2 Agr., Mesquite Whittfield, John Thomas, 4 Agr. ....Itasca Whitley, Jim Barclay, 2 EE ......Temple Whitson, James William, 2 CE ....Milford Whitt, Edward, 1 AgEd .......Chilton Whitten, Cleveland W., 1 AgEng, Colorado Whorton, Edgar Harris, 1 AA .....Bryan Wicker, Edward Henry, 2 CM ..... ..... Corpus Christi

Wiley, Robert Augusta, 1 Pri Port Arthur Wiley, Samuel Rogers, 1 PPE, Houston Wiley, Thomas Walter, 4 Agr, McKinney Wiley, Vernon Cramer, 3 Ageng, Houston Wiley, William H., 4 Agr, Port Arthur Wilkerson, Herbert Lindsey, 1 PPE Paleetine Wilkins, John Thomas, 3 LA Palestine Wilkins, John Thomas, 3 LA Franklin Wilkins, William Taylor, 4 RE, Franklin Wilkinson, Albert Lee, 1 EE, Sour Lake Wilkinson, Robert Zoel, 3 Agr Denton Willard, Horace Randolph, 3 VM, Gidings Williams, Charles Adolphus, 2 EE Williams, Darrall E., 2 ChE ..Bluff Dale Williams, Don Wesley, 2 AA ......Gilmer Williams, Hugh Lawson, 4 AA, Richmond Williams, James Cecil, 1 Agr, Corsicana Williams, J. T., 1 PPE .....Turnersville Williams, Jack V., 3 Agr, Carrizo Springs Williams, Kay Robert, 1 AA, Panhandle Williams, Marion Eugene, 1 PPE, Conroe Williams, Maurice Robert, 3 EE, Edinburg Williams, Robert Howard, 1 EE Carrizo Springs Williams, Rubert J., 1 CM, Canutillo Williams, Robert J., 1 CM, Canutillo Greenville Williams, William Rinkie, 2 PPE, Dallas Williamson, Howard Morris, 3 Agr Williamson, Marion Newton, Jr., 1 AA.... Rochelle Williford, James Thomas, 1 EE .....Rochelle Willis, Nicholas William, 4 LA ...... Willis, Solomon Theodore, 3 ChE ...... Willke, Louis Gus, 3 ChE ........ Boerne Willmore, James Henry, 1 VM ...... San Antonio Fort Worth Willke, Couis Gus, 3 ChE ........ Boerne ..... Livingston Windham, James Thomas, 1 Agr ...Abilene

Winkelman, Charles Alvin, 1 Agr, Brenham Winkelman, Fred Adolph, 1 AA, Brenham Winn, William Todd, 1 Agr ....Marquez Winslar, Otha, 4 AgEd .....Purmela Winstein, George Dilworth, 1 VM ..... Bridgeville Winston, John Marshall, 2 EE ...Houston Wirtz, Isiaah Geoffrey, Jr., 3 VM ..... Wischkaemper. Richard H. L., Jr., 1 ME... Wischkaemper, Richard H. L., Jr., 1 ME. Wisenbaker, Royce Eugene, 1 AgEng ..... Mineola Witchell, Arthur Sidney, Jr., 1 ChE Witchell, Arthur Sidney, Jr., 1 ChE San Antonio Witkowski, Leo Victor, 3 Agr. Plainview Woerndel, Herman Otto, 1 Agr Womack, Glenn Edwin, 1 AgEd ......Bryan Womble, Wilbur Harold, 1 AgEng ..... Eagle Lake Woodfin, George Smiley, 4 AA ......Paris Woodruff, Charles William, 3 EE ..... es William, 3 EE ..... Fort Worth Worrell, Maurice Eugene, Jr., 1 CE, Austin Worthington, Robert Irwin, 1 AgEd Wray, Beswick, 1 CE ......San Antonio Wright, Alfred Philip, 2 LA .......Alice Wright, Ely William, 1 CE, San Angelo Wright, Fred Graves, 1 LA ...Red Rock Wright, Joe Sam, 1 Agr Yaeger, William Henry, IV, 2 VM Yarbrough, Durward Bundy, 1 Agr Yardley, James Thomas, 2 ChE ..... ..... Port Arthur

# SUMMARY OF ENROLLMENT, REGULAR SESSION 1935-36

(Excluding short courses and extension courses)

## By States and Foreign Countries

Texas	441	New York '	5
Alabama	2	North Dakota	1
Arizona	1	Ohio	3
Arkansas	12	Oklahoma	24
California	9	Pennsylvania	4
District of Columbia	1	Rhode Island	1
Georgia	1	South Carolina	1
Illinois	8	South Dakota	2
Indiana	2	Tennessee	1
Iowa	5	Utah	1
Kansas	4	Virginia	2
Louisiana	50	Wyoming	1
Maryland	1	China	8
Massachusetts	1	Cuba	1
Minnesota	1	India	2
Mississippi	7	Mexico	32
Missouri	6	Palestine	1
Nebraska	3	Puerto Rico	6
New Jersey	1	Spain	1
New Mexico	2	Total	654

## SUMMER SESSION, 1935

c -College

cc-Cotton Classing cc-Cotton Classing Acker, Voscoe, c. Freeport Adair, Dorothy Colmary, c. College Station Adair, Robert Edward, c. Crockett Adams, Joseph Bartholomew, c. Bryan Adams, Joseph Bartholomew, c. Bryan Adams, John Charles, c. Bryan Adams, Robert Soloman, c. College Station Adams, Robert Soloman, c. Crockett Addison, Mrs. Christine, c. Plantersville Addison, James Morris, c. Willis Anleison, L. D., c \_\_\_\_\_\_ San Antonio Amundson, Arthur J., c \_\_\_\_\_ Kopperl Anderson, Clair Jackson, c \_\_\_\_\_ Lawn Anderson, Ban James, c \_\_\_\_\_ Royse City Anderson, Bangle c Aschbacher, Charles Frederick, c Hallettsville Askins, Jack W., Jr., c Dallas Atkins, Benjamine Earl, c Bryan Atkins, Claude James, c Bryan Austin, Oren Lyle, c Houston Bacon, E. I., c San Saba Bacon, Hazel, c Bagley, Tom Bittle, c College Station Bailey, Andrea Pernie, c Ballinger Bailey, Andrea Pernie, c Ballinger Bailey, Edward Jack, c Cotulla Baker, Sloan, c Carendon Baldwin, Ben A., c Dallas Bathis, Russell, Jr., c Barthar, Russell, Jr., c Bargmann, George, c Gonzales Barham, James Carlton, c Moody Barham, James Carlton, c ...... Moody Barron, Genevieve, c \_\_\_\_\_\_ Dryan Barron, Iola, c \_\_\_\_\_\_ Bryan Barton, Ralph, c \_\_\_\_\_\_ Beaumont Bateson, Edwin Paul, c \_\_\_\_\_ Cleburne Batts, Joseph Woodyard, Jr., c \_\_\_\_ Bryan Baugh, Charles Robert, c \_\_\_ Pauls Valley Bayless, Robert Earle, c \_\_\_\_\_ Navasota Back Locarb Frank c \_\_\_\_\_ Wharton 

 Bayless, Robert Earle, c
 Navasota

 Beal, Joseph Frank. c
 Wharton

 Beall, Mrs. Katie E., c
 Easterly

 Beall, Midred Jean, c
 Franklin

 Beard, Le Roy, c
 Cross Plains

 Becka, John C., c
 Temple

 Becka, Mildred, c
 Temple

 Beckon, Edwin A., c
 Jacksonville

 Belden, Leonard, c
 College Station

 Bell, John Payne, c
 Houston

 Bell, Richard A., c ..... Tornillo Bender, Charles Robert, c ...... La Porte Bennett, William Hugh, c ..... Cleburne

Bennett, Mrs. Hugh, c ...... Cleburne Benson, Elmer Edward, c ..... El Campo Benson, Mrs. Kathleen Bradford, c..... Galveston Berndt, Walter Frey, c ...... Caldwell Bethany, Claude Melnotte, c ..... Bryan Blair, Philip Joseph, c ...... College Station Broach, Lois Gilstrap, c ...... Bryan Brod, Robert Nelson, c ...... Corpus Christi Brooks, Bernard Barney, c ......... Pioneer Brown, Clifford Harrison, c ........... Concord Brown, Charles Sumners, c ...... Mathis Brown, Ewing Ernest, c .... College Station Bruns, Stockton Donald, c ..... Louise Bryson, Charles Edward, c ........... Hamlin Buchanan, Robert James, c ...... Kurten

Buie, Davis Weaver, c ..... Gilmer Buileck, Oris Eugene, c Bryan Buillock, Thomas Albert, c Bryan Burch, George Riley, Jr., c Wichita Falls Burch, George Riley, Jr., c Wichita Falls Burda, Edward T., c San Antonio Burditt, Bucky Lee, c Del Rio Burgess, Mrs. Ethyl Walton, c College Station Burgin, Ervin David, c Mondow Burgess, Mrs. Ethyl Waiton, c College Station Burgin, Ervin David, c Burgin, Ervin David, c Hondo Burleson, Richard Earl, c Burton, Henry Edgar, c Burton, Henry Edgar, c Butler, Limmie R, c Butler, Limmie R, c Butler, Willia Ligon, c Butler, Willie Ligon, c Butler, Willie Ligon, c Butler, Willie Ligon, c Butler, Willie Ligon, c College Station Butler, Willie Ligon, c Byrd, Lynn L, c Cadenhead, Charles Lewis, c Calleye Station Calvin, Charles Burton, c College Station Campbell, Robert Hill, c Coleman Canada, John R, c Clifton Carroll, Thelston Burton, c Bryan Carroll, W. R., c Houston Carter, Finis Gayle, c Granbury Carter, Herman M., c Sylvester Carter, Marvin Newsome, c Poolville Cauthan, Weldon Davis, c ...... Trinity Cazell, Gabriel Francois, Jr., c, San Antonio Cely, Jack Clevland, c ...... Frankston Cely, Tom Rogers,c ...... Frankston Cely, William Hampton, c ...... Frankston Clinft, Carl Garnet, c \_\_\_\_\_ Amarillo Cline, Anne, c \_\_\_\_\_ Bryan Cloud, Roy Roosevelt, c \_\_\_\_\_ Roanoke Cobb, Aldrena Beatrix, c \_\_\_\_\_ Paducah Cobb, Hulen, c \_\_\_\_\_ New Baden Cochran, Woodrow Nash, c \_\_\_\_\_ Lufkin Cockrell, Joseph E., c \_\_\_\_\_ Dallas Coffin, William A., c \_\_\_\_\_ Mathis Coker, Robert Howard, c \_\_\_\_\_ San Antonio Cole Thomas E. c \_\_\_\_\_ Rruevilla Coker, Robert Howard, c .... San Antonio Cole, Thomas E., c ...... Bruceville Collingsworth, Chester Howard, c .. Winters Cook, Hollis Lee, c ..... Nacogdoches Cooper, James B., c ..... Sidney Cooper, Mrs. J. B., c ...... Sidney Corwin, Henry Lloyd, c ..... Corsicana

 

 Couch, Imogene E., c
 Bryan

 Courtade, Arthur H., c
 Riesel

 Courtade, Melvin William, c
 Riesel

 Cowrade, Melvin William, c
 Riesel

 Cowrade, Melvin William, c
 San Antonio

 Cox, Daniel B., c
 Wichita Falls

 Crabree, E. R., c
 Beaumont

 Crain, William C., c
 College Station

 Cramer, Maurice Boyd, c
 Pharr

 Crawford, John Carroll, c
 Houston

 Crenshaw, Mrs. Willie, c
 Bryan

 Crews, Sim H., c
 Tyler

 Cross, Mary Eleanor, c
 El Paso

 Culapepr, James Seymour, c
 El Paso

 Cross, Mary Eleanor, c
 Bryan

 Culapepr, James Coleman, c
 Bremond

 Cuningham, Joe A., c
 Bryan

 Curlee, Onys Travis, c
 Prairie Hill

 Curlee, Onys Travis, c
 Dayton

 Dark, James Marion, c
 Waco

 Daughtrey, Jewel, c
 Colorado

 Davidson, John King, c
 Eagle Lake

 Davis, Will Howsley, c
 Throckmorton

 Davis, Charles Roy, cc ....... Wharton Davis, Will Howsley, c ...... Throckmorton 

 Durham, Sara Lee, c
 Bryan

 Dyer, Louise, c
 Bryan

 Eakin, Larkin Cloyes, c
 Moody

 Eakin, Larkin Cloyes, c
 Jasper

 Eckles, William Elam, c
 Bay City

 Ector, Walton H., c
 New Boston

 Eddins, Curtis R., c
 Marlin

 Edds, Glenn Cleveland, c.
 College Station

 Edge, Alfred A., c
 Bryan

 Edge, Milton Caryl, c
 Bryan

 Edwards, Oakes David, cc
 Kenedy

 Ehlert. Melvin H., c
 Brenham

 Ehlert, Melvin H., c ..... Brenham Ehlert, Mrs. Melvin H., c ..... Brenham

Eichblatt, Owen Hugh, Jr., c ...... Houston Eschenburg, Elwood Henry, c ...... Shiner Eschenburg, Elwood Henry, c ..... Shiller Estrada, Ramon Conrado, c ..... Bryan Eudaly, Paula, c ..... Bryan Evans, Joe E., c ..... Dallas Evans, Joe E., c ..... Bryan Evans, John Willis, c ..... Alice Ewing, John Donald, cc ..... Hidalgo Faber, Damon Charles, c .... West Columbia Evabor, Mrs Lens May, c Bryan Farquhar, James Thomas, c ...... Jonesboro Farris, Lewis Charles, c ...... Madisonville Ferguson, Henry Bismark. c College Station Ferguson, John Gilbert, c, Leesville, La. Ferguson, Jack Newton, Jr., c, El Paso Ferguson, Paul L., c Ferguson, Virginia L., c Fitzgerald, Mrs. H. L., c Caldwell Fitzgerald, James Linzie, c Flanary, Catherine Ann, c, College Station Flanary, W. D., c Flanary, W. D., c For Cameron Floore, Joe W., c Fort Worth Fooshee, Neill, c Ferguson, Henry Bismark. c ..... Fooshee, Neill, c ...... Longview Forrest, Caswell Underwood, c ...... Dallas Forrester, Herbert Lewis, c ...... Montalba 

 Fridkin, Frank Edwin, c
 Ayter

 Fridmann, Clarence John, c, Brownsville

 Frost, Jewel, c
 Franklin

 Fry, Gerald J., c
 Tyler

 Fridmm, Robert W., c
 Dallas

 Garcia, Anastasio Gonzales, c
 Laredo

 Gandy, Woodrow Wheeler, c
 Bryan

 Gardner, James E., c
 Stephenvilly

 Gardner, William Howard, c
 Carrizo Springs

 Garry, Travis L., c
 Jacksonville

 Gassert, Irby Frederick, c
 Yoakum

 Gayden, John H., c
 Greesbeek

 Gentry, Porter C., c
 Threil

 Gentry, William Elbert, c
 Bryan

 Gertoff, John Leland, c
 Belton

 Gerloff, Otto A., c ..... Moody Gibbs, D. W., c ..... Mabank

Gibson, Waylon Garvin, c .... Hugh Springs So. Hadley Falls, Massachusetts Gottwald, N. H., c. Harwood Graham, Daniel Woodrow, c. Wills Point Graham, Matt N., c. Haskell Grant, Guilford B., c. Dozier, Alabama Harper, Irvin Washington, c College Station Harper, Roy Earnest, c College Station Harrison, John Leslie, c ...... Shepherd Harrison, Luther A., c Cisco Hartt, D. D., c Crockett Harvin, Mrs. Ila Maris, c Nacogdoches Harzke. Albert Charles, c .... L'd'etter Hass, Arthur E., c .... Mission Hattox, James Zelna, c .... Bryan Hayes, Parker, Jr.. c .... Groesbeck Haynes, Hugh Ledgewood, c ..... Belton Heaton, Clarence Eldon, c ... Nacogdoches Heaton, Homer Lloyd, c .... College Station Hedges, Dorothy Majean, c, College Station Hedges, John Henry, c ..... College Station Helms, Hammond A., c .... Fort Worth Henderson, Elizabeth M., c ..... Calvert Henderson, Ruth, c ..... Calvert Harzke, Albert Charles, c ...... L'd'etter Henderson, Ruth, c ...... Calvert

Henry, Thomas J., c ..... Floresville Hewitt, Clarence Ben, c ..... Groesbeck Heye, Otto, c ...... Galveston Hibbetts, Marion Carlton, c .... North Zulch Holleman, De Witte Crowell, c, Normangee Holley, Vernon C., c \_\_\_\_\_\_ Aspermont Holloway, E. R., c \_\_\_\_\_\_ Galveston Holloway, Helen Jean, c \_\_\_\_\_\_ Fairlie Holmes, J. Wiley, c \_\_\_\_\_\_ Rally Holmes, Ralph Conlon, c \_\_\_\_\_ El Paso Holzmann, Mrs. C. B., c \_\_\_\_\_\_ Bryan Hood, M. O., c \_\_\_\_\_\_ Rising Star Hooker, Harry Rudyard, c \_\_\_\_\_\_ Carthage Horner, Paul Welton, c \_\_\_\_\_\_ Spur Horton, Ulrich G., c \_\_\_\_\_\_ Sabinal Hostrasser. Beverley, c \_\_\_\_\_\_\_ Hearne Hughes, Charles R., c \_\_\_\_\_ Long Branch Hughes, J. Lyndal, c \_\_\_\_\_ Benjamin Hulsey, J. W., c \_\_\_\_\_\_ Olton Humbert, John LeRoy, c, College Station Humbert, Robert D., c, College Station Hunt, James Robert, c \_\_\_\_\_ Houston Hunt, William J., c \_\_\_\_\_ College Station Hutchison, John Elton, c \_\_\_\_\_ Itasca Igo, Harry Clinton, c \_\_\_\_\_ Clarksville Irvin, Robert McNutt, c \_\_\_\_\_ Wallis Jacks, Onah, c \_\_\_\_\_ College Station Jackson, Berthold Zepler, c \_\_\_\_\_ Oltine Jackson, Harold De., c \_\_\_\_\_ Oltine Jackson, Robert Lee, c \_\_\_\_\_ Oltige Station Jalufka, Lawrence Alfonse, c, Halletsville James, Frances Harriett, c \_\_\_\_\_ Bryan Jameson, Charles Reuben, c \_\_\_\_\_ Tatum Janac, Edwin Joe, c \_\_\_\_\_\_ Snook 

Jones, Jessie Ruth, c ....... Bryan Jones, Mrs. Leila Vada, c ....... Eastland Jones, Pearle K., c \_\_\_\_\_ Bryan Jones, W. Prentiss, c \_\_\_\_\_ Hamilton Jordan, Alton V., c \_\_\_\_\_ Alba Kallina, Henry Edward, c \_\_\_\_\_ Victoria Kittleband, Harold Fatton, c. Madisonville Klink, Robert John, c. McAllen Klossner, Roy Othello, c. Edinburg Knapp, Josephine, c. Calvert Knight, Harper L., c. Valley View Knight, John Wesley, c. Spurger Knox, Albert Sbelburne, c. Lamesa Koenig, Mrs. Mildred Cowan, c. Bryan Koenig, Perier Arnold, c. Bryan Koenig, Jerier Arnold, c. Bryan Kolodzey, Martin, c. Yorktown Krause, Alfred C. cc. Skidmore Krebs, Arno William, c. Fayetteville Krenek, Edward E., c ......... Dime Box Krenek, Gardenia V., c ......... Dime Box Krenek, Gardenia V., c ..... Dime Box Krenek, Stanley John, c ..... Bryan Krizek, Stanley John, c ..... Bort Kuhn, E. W., c ...... Burnet Kuhn, E. W., c ...... Carmine Lacy, Roane M., c ..... Waco Lain, Albert Eugene, c ..... Seymour Landon, Mexwell, c ..... College Station Landry, Milton John, c ...... Luling Lane, Leon M., c ....... Valley Mills 

Lewis, William E., Jr., c, College Station Lichte, Bess M., c Bryan Lichte, Bess M., c Bryan Lichtsey, Dorothy, c Caldwell Lightsey, Ruby, c Caldwell Liles, Kenneth Warren, c Throckmorton McClellan, William de Rouhlac, c San Antonio McClelland, William Henry, c McClung, Roy Lee, c McCollum, Jack Nord, c McCollum, Jack Nord, c McCracken, Harold Edmund, c McCulloch, George Robert, c McCullough, Mrs. M. L., c McCullough, Mrs. M. L., c McDonald, Willie James, c McDonald, Willie James, c McEvlany, R. L., c McEver, Clarence D., c McFarland, Carl Alexander, c McGehee, Tom M., c McG Pottsboro McHaney, John Grover, c \_\_\_\_\_\_ Bryan McIlhenny, Thomas H. F., c .... San Antonio McIlroy, Winfield W., c \_\_\_\_\_ Tolar McIntosh, William Proctor, c ..... Calvert McKay, Charlie Dewitt, cc .... Port Lavaca McKemie, Wesley Warren, c ...... Hearne McKendry, Norman Jarvis, c McKennon, Clem B., c ...... Schulenburg McKenzie, Kenneth, c ...... Miami McKim, Hoke c Makeever, Samuel Joseph, c .... Bellville Malone, Alfred Lincoln, c ..... Dallas

Marschall, Heroert William, c ...... Dallas Marshall, Cliff Benton, c ...... Silsbee Marshall, John Alton, c .... Heidenheimer Martin, F. W., c ....... Dublin Martin, John Don, c ....... Marquez Martin, J. H. a. Alacsandar Martin, J. H., c \_\_\_\_\_\_ Alarander Martin, J. W., Jr., c \_\_\_\_\_ Cotulla Martin, James W., c \_\_\_\_\_ Alta Loma Martin, Reuben Stone, c \_\_\_\_\_ Jasper Martin, Reuben Stone, c Jasper Martin, Vernon, c Crosbyton Martin, Wallace, c Lockney Martin, Zelda Clendenin, c Alexander Mason, Robert Houston, c Raymondville Matthews, William Henry, c Greenville Maxwell, Carl Eugene, c Strawn Maxwell, Stepp N., c Leonard May, Monroe Lipton, c Sherman Mayfield, D. M., c Nayasota 

 Mernman, Harold Frederick, c
 Throckmorton

 Mernman, Harold Frederick, c
 Pearsall

 Meyerson, David Wolford, c
 Pearsall

 Meyerson, David Wolford, c
 Houston

 Miller, E. E., c
 La Grange

 Miller, Jarvis C., c
 Winnsboro

 Miller, Marjorie Earle, c
 Bryan

 Miller, William Henry, c
 Bryan

 Miller, William M., c
 Bryan

 Miller, William M., c
 Crockett

 Minter, Mary Frances, c
 Midland

 Milter, Mary Frances, c
 Midland

 Mitchell, Robert Fugene, c
 Corsicana

 Mitchell, Walter H., c
 Franklin

 Moelman, Roger, c
 Bryan

 Mooford, John L., c
 Streeter

 Monk, Mrs. Mildred H., c
 Donna

 Mont, James William, c
 Donna

 Mont, James Beasley, c
 Cockett

 Monroe, James Beasley, c
 Swifton, Arkansas

 Moore, Archie Woods, Jr., c
 Galveston

 Moore, Charles Everett, c
 Rosebud

 Moore, C.H., c
 Pasadena

 Moore, Jaese David, c
 Troy

 Moore, Naoma, c ..... Rosebud Moore, Paul Morgan, c ...... Beeville Thomas Andrew, c ...... Pasadena Moore, Thomas Franklin, c ..... Dallas Moore, 

Morrow, Homer Nicholas, c... San Benito Morrow, Charles Gilbert, c.... De Leon Moses, James L, c..... North Zulch Mosley, Walter Oliver, c ..... North Zulch Moss, Louis Oliver, c .... Erath, Louisiana Muller, John G., c .... Commerce Muller, Westley Fedell, c .... Nacogdoches Mullins, Claude B., c ..... Victoria Munz, Carrol Philip, c ..... Brenham Murdock, Sidney Ozell, c ..... Austin Murphy, David, Jr., c ..... Mexia Murray, Grady Odell, c ..... Hico Muse, Tom Frank, c ..... Dallas Wares Onal c ..... Bryan Muses, Opal, c \_\_\_\_\_\_ Bryan Myers, Opal, c \_\_\_\_\_\_ Bryan Myers, Philip, c \_\_\_\_\_\_ Floresville Myrick, James Leonard, c \_\_\_\_\_ Mabank Myrick, Lois Corbin, c \_\_\_\_\_\_ Mabank Nabours, Mrs. Charlie, c \_\_\_\_\_\_ Cameron Nacol Cilbert - \_\_\_\_\_ Cameron O'Brien, Mildred Evelyn, c ...... Millican Ogg, Jimmie Rene, c ....... Hempstead Ogier, Alice Catherine, c ...... Bryan Oliver, John Eoff, c ...... Stephenville 

 Parker, Eulus Alton, c
 San Antonio

 Parks, Hunter William, c
 Peniel

 Parks, Hunter William, c
 Terrell

 Parr, George W., c
 Sabinal

 Pate, Brantly Miller, c
 Galveston

 Patterson, Ned Houghton, c
 Temple

 Pavelka, Miro Arthur, c
 Ennis

 Payne, Alfred Henry, c
 Spyan

 Payne, Vestal Self, c
 Throckmorton

 Peale, Truman De Witt, c
 Palestine

 Pearce, Homer Lewis, Jr., c, Sterling City
 Pedigo, Edward Maurice, c

 

Poindexter, James Dee, cc ...... Corsicana Ramey, Lynn Robert, cc ...... Beaumont Rawls, R. D., c \_\_\_\_\_\_ Axtell Rawls, Sim Seth, c \_\_\_\_\_ Douglass Rea, Robert Howard, c \_\_\_\_\_ Houston Read, Woodrow W., c \_\_\_\_\_ Houston Reed, Woodley Wayne, c \_\_\_\_\_ Roby Reese, George Gordon, c \_\_\_\_\_ Roby Reese, George Gordon, c \_\_\_\_\_ Mexia Reinarz, Alvin Robert, c \_\_\_\_ San Antonio Renz, Tom Bernard, cc, Lake Charles, La. Reynolds, Elmo Love, c \_\_\_\_\_ Franklin Reynolds, Lelmer C., c \_\_\_\_ College Station Rhode, Carman Griffith, c \_\_\_\_ San Antonio Rich, George Clinton, c \_\_\_\_\_ El Campo Richards, George Howe, c \_\_\_\_\_ Grapeland 

Rogers, Ernest Ensley, c ..... Brenham 

 Rogers, Ernest Ensley, c
 Brenham

 Rogers, Rufus H., c
 Del Rio

 Rogers, Raymond Lewis, c, College Station
 Rogers, Raymond Lewis, c, College Station

 Rogers, W. J., c
 Douglass

 Roltins, Joseph Guy, Jr., c
 San Antonio

 Rosenberg, Sam E., c
 La Grange

 Rosprim, Joe Aluis, c
 Salmon

 Rubenstein, Abraham M., cc
 College Station

 Rubenstein, Mathews S., c
 Brenham

 Rucker, Ben Tarver, c
 Wheeler

 Scruggs, Ray, c \_\_\_\_\_\_ McGregor Sealy, Martin T., c \_\_\_\_\_\_ Houston Sears, Homer Lee, c \_\_\_\_\_\_ Houston Seay, Martin David, c \_\_\_\_\_\_ Otey See, John Bill, c \_\_\_\_\_\_ Uyons Shaw, B. B., c Killeen Shaw, R. A., c Woodville Shaw, Thad Graves, c Marlin Shell, Thomas Harold, c Georgetown Shelton, Ernest David, c Gatesville Shelton, Joe Robert, c Brownwood Shonerd Neal David. c Texon Slaughter, Joseph Coman, c ...... Bryan Slawson, Letha, c ...... Turkey

Smith, Will D., c ..... Iola Smyre, S. H., c. Caldwell Smyrt, Joe Grigsby, c. Uvalde Smyth, Leo L., c. Hillsboro Snavely, Fred L., c. Arlington Snodgrass, Joseph Barton, c. Danbury Spencer, Fred Davis, c ...... Temple Spiller, Lola C., c Brady Stark, James Albert, c \_\_\_\_\_\_ Sealy Stark, James Albert, c \_\_\_\_\_\_ Sealy Stark, William Joseph, c \_\_\_\_\_\_ Cisco Steen, Charles Alvin, c \_\_\_\_\_\_ Bryan Steen, Elwyn Winget, c \_\_\_\_\_\_ Bryan Stephen, Paul Lamar, c ...... Strawn Stinson, Joseph Nored, c..... Mt. vernon Stockton, William Nolan, c..... Kerens Stokes, Iley Edgar, c.... Hauma, Louisiana Stokes, William Luther, c..... Bartlett Stone, Fred, cc..... Raymondville Stone, H. L., c...... College Station Stone, Sidney Smith, c...... Mt. Vernon Stone, Sidney Smith, c...... Nacogdoches Stoneham, Mrs. Myrtle Barry, c... Stoneham Storme Stavmond Edwin, c..... Santonio Tarwater, Sidney, c ..... Caldwell Tate, Charles William, c ...... Giddings

Taylor, Noble James, c Tahoka Taylor, Norman Payne, c ...... Garden City Taylor, W. M., Jr., C. Dallas Teal, Edwin Trout, c. Dallas Teetes, Leeman W., c. Pineland Termini, James Thomas, c. Dickinson Terry, Homer Lee, c. Tyler Terry, Weldon Dwaine, c. Wortham Thaxton, J. M., c........ College Station Thedford, Welty O., c....... Littlefield Therrell, Grover Demar, c........ Marshall 

 Therrell, Grover Demar, c
 Marshall

 Thomas, Fred P., c
 Dallas

 Thomas, Marion Brown, c
 Anderson

 Thompson, John C., c
 Throckmorton

 Thompson, James Earl, c
 Amarillo

 Thompson, Nash O., c
 Fort Worth

 Thrompson, Nash O., c
 Waxahachie

 Threadgill, Walton Orville, c
 Bellevue

 Tice, John Wesley, c
 Dallas

 Tilp, Raymond C., c
 La Feria

 Tippet, Robert Ray, c
 Harper

 Till, Raymond C., c
 La Feria

 Tippet, Robert Ray, c
 Harper

 Tohline, Max B., e
 Fort Worth

 Toole, James Douglas, c
 Hemphill

 Traylor, Guy Kirby, c
 Mt. Pleasant

 Trot. J. E., c
 Yoakum

 Tunncil, B. F., c
 Matador

 Turman, Walter Wilburn, c
 Blossom

 Turner, Cullen Yates, c
 Fort Worth

 Turner, Silas L., c
 Brownsville

 Twaddell, Madge D., c
 Spur

 Underwood, C. W., c
 Denton

 Underwood, Layris, Jr., e
 Houston

 Underwood, Harris, Jr., c
 Cultuing

 Gonzales Gonzales Wakefield. Gerald Alan, c. Madisonville Walker, Jack K., c. Fort Worth Walker, Kirby Hamilton, c. Laredo Walker, Sam Geddes, c. Cedar Lane Walker, William Brown, c. Rockwall Wallin, Dan J., c. Bryan Walling, Herbert Merl, c. Gainevville Walston. Mabel Eurenia. c. Hearne ..... Waliton, Mabel Evgenia, c \_\_\_\_\_ Hearne Walton, Mabel Evgenia, c \_\_\_\_\_ Hearne Walton, Ernest Vernon, c \_\_\_\_ Stephenville Ward, Drue Simpson, c \_\_\_\_\_ Valley View Ward, Howard Clay, c \_\_\_\_\_ Lipan Ward, Jeremiah, III, c \_\_\_\_\_ Poteet Ward, Margaret Neal, c ...... Caldwell Warren, Lester Gervis, c ...... Center Watkins, Ruth D., c ....., College Station Watson, Carl Russell, c ...... Merkel

Watts, E. J., c Bryan Watts, Mary Elizabeth, c Bryan Weatherby, Hurshel H., c Whitney Weaver, T. V., c Miami Webb, Joseph Alan, cc East Prairie, Missouri Weber, Alan George, cc...... La Grange Weeks, Wesley Dale, c ......... Amarillo Welhausen, Jack Randolph. c, Kingsville Wendtland, William Wolters, c .... Shiner West, George William, c Anna West, Lucille, c Anna West, Mary B., c Calvert Westbrok, James Harrison, c Waco Westmoreland, William Peck, c. Lockhart Wheeler, Simmie, c ...... College Station Williams, Charles Adolphus, c ..... San Antonio Williams, George Harvey, c .... San Antonio Williams, Hugh Lawson, c .... Richmond Williams, Wilton Edward, c ...... Cotulla Wilson, Findley P., c ..... Archer City Wilson, Thomas Fred, c ..... Bryan Winn, Theophilus Newton, c ...... Winters Winslow, Arthur Banister, c ...... Long Beach, Mississippi Womack, Glenn Edwin, c Bryan Wood, Jim Quinn, c Navasota Wood, Joe Talmage, c Tolar Woodard, J. A., c Slidell Woodyard, Jack, c Bryan Woyke, Einar E., c Brooklyn, New York, N. Y. Yarborough, James Buchanan, c ... Moody Yates, Mrs. Ruth, c ...... San Marcos Yeager, Carmen, c ..... Marquez Yeager, Fred Henry, c ..... Alief

Yeager, Jim Rice, c	Zemanek, Antone P., c
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# SUMMARY OF ENROLLMENT, SESSION 1935-36

## (June 1, 1935 to May 1, 1936)

COURSE	Grad-	5th	Sen-	Jun-	Sopho-	Fresh-	Spe-	Total
	uate	Year	ior	ior	more	man	cial	
	<i>a</i>							
Regular Session 1935-3 Agriculture		_	67	100	154	274	5	639
Agri. Administration		_	52	62	122	189	6	441
Agricultural Education			32	34	46	56	2	171
Agri. Engineering		_	21	12	26	43	2	107
Liberal Arts			21	38	74	139	4	276
Rural Education				3	14	10	_	40
Science		_	22	34	58	73	-	212
Architecture	1	8	9	7	16	30	_	71
Arch. Engineering		_	1	3	5	18	-	<b>27</b>
Chemical Engineering		_	26	35	66	101	_	229
Civil Engineering	9	_	32	35	49	78		203
Elec. Engineering	9		44	44	68	101	~	266
Geol. Engineering		-	4	6	12	21	-	<b>43</b>
Industrial Education	3	-	11	4	7	7	-	32
Mech. Engineering	8	-	36	39	<b>74</b>	163	1	321
Petroleum Produc-								
tion Engineering	1	~~	<b>25</b>	50	100	168	1	345
Textile Engineering	–	-	<b>5</b>	3	1	7	-	16
Cotton Marketing		-	-	-	17	19		<b>36</b>
Veterinary Medicine		-	14	30	50	83	2	179
TOTAL	115		430	539	959	1580	23	3654
IUIAL	110	0	400	000	505	1990	20	9094
Extension Courses in I	Educat	tion		•••••		· ····		84
Total Regular Sess	sion, 1	.935-3	6					3738
Summer Sessi								•
Summer Sebst	, 10							
		2	2. Coti	ton Cla	ussing	31		
Total Summer Ses	aion	1095						1101
Total Summer Ses	sion,	1999	••••••					
Grand Total				-				
Less Names Repeated 594						594		
Net Total Regular Ses								

## SHORT COURSES

## Short Courses

Summer Session, 1935 and Regular Session, 1935-36:
County Superintendent's Conference
(July 29 to August 2, 1935)
√ Dairy Manufacturing Short Course (February 10-14, 1936) 45
√Dairy Herdsman and Cow Tester Short Course
(Februry 17-21, 1936)
×Fireman's Short Course (July 15-19, 1935)
×Farmers' Short Course (July 29 to August 3, 1935)
√Highway Short Course (April 23-25, 1936)
√ Horse and Mule Breeders' Short Course (February 22-23, 1936) 234
√Laundry Owners' Short Course (November 12-14, 1935) 36
×Oil Mill Operators' Short Course (June 17-22, 1935) 43
×Peace Officers' Short Course (July 8-18, 1935)
× Physical Education Short Course (August 18-24, 1935) 125
√Poultry Short Course (December 28, 1935 to January 2, 1936) 250
/Poultry Inspectors' Short Course
(November 17, 1935 and November 22, 1935) 42
×Texas School Administration Conference (June 10-13, 1935) 105
Vocational Teachers Short Course for General
Professional Men (June 4-22, 1935) 103
imesVocational Teachers Short Course for Landscape Art
(June 24 to July 13, 1935) 103
√ Water Works Short Course (February 10-15, 1936) 120
Total, Short Courses

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## **DEGREES CONFERRED FEBRUARY 2, 1935**

## Master of Science (3)

Lewis McDowell Haupt, B. S., A. & M. College of Texas, 1927 Major Study-Electrical Engineering

Thesis: "A Study of the Effect of Different Ground Resistances on the Various Schemes of Lightning Arrester Connections." With honor.

Thomas Hardy Powell, B. S., \*A. & M. College of Texas, 1934 Major Study-Municipal Administration

Thesis: "Rate Structures for the Bryan Light and Power Plant." With honor.

Henry Ross, B. S., A. & M. College of Texas, 1926 ' Major Study-Agricultural Education

*Thesis*: "A Comparative Study of the Scholastic Performance of Freshmen in the Agricultural and Mechanical College of Texas Who Offer or do not Offer Vocational Agriculture for Entrance Credit."

With honor.

## BACHELOR OF SCIENCE

In Agricultural Administration (2) John William Herring, Jr. Charles Henry Meyer
In Agricultural Education (2)
William Grady Godwin Dock Luther Hatcher
In Agricultural Engineering (1)
Weldon George Perrin
In Agriculture (1)
Theodore McGregor
In Civil Engineering (1)
Millard Shaw
In Industrial Education (1)
Benjamin Bryant Ramsey
In Mechanical Engineering (1)
Edward Pace Weatherby, Jr.
In Petroleum Production Engineering (1)
Joe Edelman
In Rural Education (1)
Bert Ray McCorkle
In Science (2)
Ross D. Margraves Clyde Purvis Myers

### DEGREES CONFERRED

## DEGREES CONFERRED AT THE FIFTY-NINTH ANNUAL COMMENCEMENT May 31, 1935

## Master of Science (14)

William Lafayette Barrett, Jr., B. S., A. & M. College of Texas, 1934. Major Study—Entomology

Thesis: "A Study of the Efficiency of Various Emulsifiers of Petroleum Oils."

With high honor.

Foy Oscar Cook, B. S., A. & M. College of Texas, 1934.

Major Study-Agricultural Economics

Thesis: "An Economic Study of Regional Trends of Tenant Farming in Texas."

Alfred Ingram Davies, B. S., A. & M. College of Texas, 1935.

Major Study-Agricultural Economics

Thesis: "Rural Cooperative Risk Bearing."

Daniel Rowland Davis, B. S., A. & M. College of Texas, 1932.

Major Study-Rural Sociology

Thesis: "A Study of the State Division of Child Welfare." With honor.

Rollin Lafayette Elkins, B. A., A. & M. College of Texas, 1933.

Major Study-Economics

Thesis: "A Study of the Development and Present Status of Workmen's Compensation Insurance in the United States." With honor.

Graham McFie Hatch, Jr., B. S., A. & M. College of Texas, 1933.

Major Study-Municipal and Sanitary Engineering

Thesis: "A Study of Mosquitoes at College Station with Reference to their Control."

With honor.

Jesse Jackson, B. S., Southwestern Louisiana University, 1932.

Major Study—Dairy Husbandry

Thesis: "A Study of Some Factors and Conditions Influencing the Calcium and Phosphorus Retention by Dairy Cows."

With honor.

Wilbur Mortrude Jackson, B. S., A. & M. College of Texas, 1933.

Major Study-Electrical Engineering

Thesis: "An Improved Method of Separating Transformer Leakage Impedances."

With high honor.

Ronald Earl McAdams, B. S., A. & M. College of Texas, 1932.

Major Study-Geology

Thesis: "The Accessory Minerals of the Wolf Mountain Granite, Llano County, Texas."

With high honor.

Frank Witcher Medley, B. S., East Texas State Teachers College, 1930. Major Study—Industrial Education

Thesis: "Industrial Arts in the Junior High Schools."

James Hugh Nelson, B. S., Arkansas, 1932.

Major Study-Physics

Thesis: "An Investigation of Heat Radiation from a Finished Concrete Surface."

With high honor.

Frank Averyt Rix, B. A., Sam Houston State Teachers College, 1933. Major Study—Accounting and Statistics

Thesis: "A Method of Planning for Profits."

With honor.

William Jones Spicer, B. S., Mississippi State College, 1933.

Major Study-Entomology

Thesis: "A Study of Oil Emulsion for Insecticidial Purposes." With high honor.

Sang Won Yun, B. S., A. & M. College of Texas, 1934.

Major Study-Animal Husbandry

## Thesis: "Rice Bran as a Feed for Fattening Cattle." Professional Degree of Civil Engineer (1)

### Frotessional Degree of Civil Engineer (1)

Cyril Samuel Adams, B. S., A. & M. College of Texas, 1930.

M. S., A. & M. College of Texas, 1933.

Thesis: "Annual Rainfall and Run-Off Relations on the Trinity River Watershed above Dallas, Texas."

## **Professional Degree of Electrical Engineer (2)**

Albert Dow Martin, Jr., B. S., A. & M. College of Texas, 1929.

Thesis: "Frequency Multiplication with Thermionic Vacuum Tubes." Douglas Vass Thomas, B. S., A. & M. College of Texas, 1921.

Thesis: "The Allocation of Transmission and Transformation Losses Between Three Companies Being Served From a 33,000 Volt Power Line."

## Bachelor of Arts

In Liberal Arts (11)

Philip Hall Crigler Harrold Willis Davidson Eugene Truett Harris, Jr. Richard Woodward Hutson Samuel Firth Langley Joe Cornelius McHaney Aubrey Meador, Jr. Raymond Leroy Murray Walter Martin Skripka I dward Steves D. L. Tisinger

## **Bachelor of Science**

In Agricultural Administration (28)

Joseph Herndon Kelly Francis H. Lacy, Jr. Wallace Randolph Langston Gregory Mount Leuty Jack Robert Martin Jacob Metzger Lucian Minor Morgan Curtis Scott Pegues William Dikeman Percy Roland Hugo Prove Charles Earl Reed Oscar Edward Schier Cecil Ray Searcy George Jordan Stengel Lea Roy Aldwell Richard Alexander Harold Thomas Bailey Gardner Sales Broad Odell Maurice Conoley Alfred Ingram Davies William Jackson Douglas, Jr. Robert Fisher Draper George Harrison Gaither James William Gibson Wayne Mered.th Harris Hugo Cullen Heldenfels Floyd Hamilton Helm, Jr.

#### DEGREES CONFERRED

#### In Agricultural Education (12)

Benjamin Archie Barber Julian Clarence Green Archie Ray Hatcher Jake C. Hattox Curtis Eugene Hill Grady Forbes Keath

Harry Wilson Aldredge Sam T. Cooper Thomas Dooley George Alva Ralls, Jr.

William Benjamin Allen Verne Cook Andrews John Thomas Bean Frank Bednarek Robert Weldon Berrong Walter L. Boothe, Jr. Charles Woodrow Bridges George William Brockman Richard Earl Burleson Elton Keith Crouch Richard E. Evers Joe Cade Frobese Francisco Cruz Fuentes Carl August Giesen William Gerald Greak Le Bron Hardie Melvin Bernard Hill Robert Jefferson Hodge, Jr. Robert Logan, Jr. James Morris McFatridge Norbert Arthur McNiel Roland Curtis Madeley

William Gordon Bradford, Jr. Jack Franklin Doyle Raymond Lawrence Kerr

Richard H. Angus Theodore Frank Boriskie George Demetrie Comnas Alan Campbell Cramer Charles Martin Dempwolf Ralph Jordan Dodson M. F. Fincke James Claude Fortenberry Joe Benjamin Gershovitz Francis M. Graves Ray Chap Harben William G. Hard

John R. Allen, Jr. Charles Henry Brewster Vernon Y. Cain Odis Carter George Walter Cox Sam Norris Davidson Karl Finley Elliott Robert William Fuller Sydney Robert Greer Andrew Lee Harbin Clifford Graves Haynes Boyce F. Heil Jasper Reginald Hendrick Arthur Leon Hill George Clint Moore Guy William Snively Milton Burns Templeton Courtney A. Tidwell Henry W. Turney Benton A. Zorns

### In Agricultural Engineering (7)

William Dan Scoates Jerome Wallace Sorenson, Jr. Malcolm Lee Wilson

#### In Agriculture (46)

Howe Franklin Mayse Edward Lamar Mevas Wilson Thomas Moon William A. Moseley, Jr. Edward Moore Neal Arthur Ludlow Pendery, Jr. Darwin Kirk Pettit Oscar Maurice Pribble Glenn Aerl Richardson Jason Logan Richmond James Bunyan Roach George Earl Roesner Lawrence August Rothe Percy Clinton Shands Rodney Francis Shelton Richard Rains Simpson Lawrence D. Smith Morrell Bishop Smith Ellis Frederick Stensel Louis Milton Thompson Kenneth Tucker Don Roy Wertz Walter Morris Young

#### In Architecture (6)

Max D. Lovett William Henry Seeman, Jr. John Aaron Worley

In Chemical Engineering (24)

James Alvin Johnston John Preston Kleber Ramsey Allen Lasseter Ernest Andrew McClendon Jerry William Marek Jonathan Thomas May James Anderson Muller James Earl Pittinger George Edward Roberts, Jr. Herman Schneeman, Jr. Charles Joe Slovak I. Lee Solovey

### In Civil Engineering (27)

Robert Henry Klossner Patrick I. Lynn Virgil Jones McGee LaRue D. Myers John C. Nelson James Randolph Oppenheim Robert Wilson Russi Rudolph Randall Spellman Emil Stuter John Robert Taylor, Jr. Frank Joseph Vanek Weldon Ferdinand Walker Alfred Harvey Zimmerman

### In Electrical Engineering (32)

Ramchand Khushaldas Adwany William Preston Alexander John Pinkney Barron Robert A. Bell George Myron Brady Morris Sheppard Burton Marion Cook Albert Lewis David Johnnie M. Davis George Hofford Fairbanks Roy Russell Ford Karl S. Hagius Glen D. Hallmark Laurance Meade Hubby John William Hull Luther Elman Johnson Andrew Pat Jones Anthony Mark Knouse Alvin Landus Parrack Virgil Peacock Perkins Gardner Post Richard Roderick Alfonso F. Rodriguez John William Runyon, Jr. Oscar William Schucany George Edward Schultis Guilford Cunningham Shepherd Charles Halm Sinex, Jr. Alexander Gerrett Sutton, Jr. Frederick W. H. Wehner, Jr. Carlton G. White Adam Davis Winters, Jr.

In Industrial Education (5)

Bruno Arthur Hochmuth Harvey Sinclair Williams

In Landscape Art (5)

John Connor Blasingame Kenneth St. Clair Buchanan Norman William Craig

William Griffin Breazeale John William Crow Walter Samuel Glenney

> Gordon Huston Lambert Raymond Francis Mosty

#### In Mechanical Engineering (23)

Ramchand Khushaldas Adwany Delbert Hamilton Barton Roland Harrison Burks John J. Clasner, Jr. William Benjamin Cochran Marion Cook Robert Paul Cotter William Edward Fitzgerald Kurt A. J. Monier Charles E. Moore George Nagai Francis Robert O'Brien William Cawthon Rodgers Charles Hutson Rollins Oscar William Schucany William Stanley Sinclair, Jr. Jack Clinton Stringfellow Edwin Trout Teal Wonderful Agib Trembly Roy McMahan Vick, Jr. Charles William Warren Karl Karey White, Jr. James Woodrow Wilson

#### In Petroleum Production Engineering (14)

Aubrey Roy Biggs James George Coultrup Mike Callahan Dillingham Ross James Fugates Julius George Glenney Lewis Benton Howard Thomas Frank Hunter

Louis Albert Kaczmarek

William Robert Brown

Denis John May Corbett

Sidney T. Martin Malcolm Laurance Peterson Thomas A. Price Warren Douglas Sorrels Richard Sinclair Stephens Donald Dexter Varnell John Morris Wilson

#### In Rural Education (2)

Travis Traugott Voelkel

In Science (11)

Mont Granderson Calvert, Jr. Jack Newton Ferguson Josiah Smith Harlan, Jr. Harry Wilton Johnston, Jr. Noel Thomas Langham Robert L. Lewis Allan Brantley Moore Harold Adolph Mueller Jesse Granville Parker Francis William Wilson George E. Wyse

#### In Textile Engineering (3)

Gus Herman Froebel

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### GRADUATE STUDENTS

#### Doctor of Veterinary Medicine (13)

Robert Jewell Anderson, Jr. Cesar Clavell Weldon Morris Couch Henry Fisherman Valentin Martyn Elden Carrol Nicholl Absalom Berry Rich, Jr. Emmett Thomas Riley William M. Thompson Jackson Owen Whitehead James David Williams, Jr. Walter Ernest Wupperman Andrew Mose Zubl

Certificate in Two Year Course, Cotton Marketing and Classing (1) William Jackson Douglas, Jr.

## **DEGREES CONFERRED AUGUST 24, 1935**

## Master of Science (21)

Stafford Morgan Blackham, B. S., Utah State Agricultural College, 1931. Major Study—Animal Husbandry

Thesis: "A Study of Methods of Sampling and Factors which Influence Clean Yield of Fine Wool Fleeces."

With honor.

Aubrey Lee Crossland, B. S., Sam Houston State Teachers College, 1931. Major Study—Poultry Husbandry

Thesis: "The Effect of the Age of the Hen on Fertility and Hatchability of Eggs and on the Livability and Growth of Chicks."

With honor.

Phares Decker, B. S., Kansas State College, 1934.

Major Study-Biology

Thesis: "Laboratory and Field Studies of the Fungicidal Properties of Sulphur and of Sulphur combined with Other Materials."

Alexander Dickie, B. S., A. & M. College of Texas, 1916.

Major Study-Rural Education

Thesis: "A Study of the Practices in the Teaching of the Superior Child in the Junior High School."

William Elam Echols, B. A., A. & M. College of Texas, 1928.

Major Study-Rural Education

Thesis: "A Study to Determine the Practicability of Organizing a Junior High School in Cuero."

George Lee Fling, B. S., East Texas State Teachers College, 1929.

Major Study-Industrial Education

Thesis: "The Relation of Industrial Arts Grades to the I. Q. of Sixth Grade Pupils of San Antonio during 1933-34."

With honor.

Donald George Gentry, B. S., Kansas State College of Agriculture and Applied Sciences, 1934.

Major Study-Civil Engineering

Thesis: "Investigation of the Distribution of Stresses in Riveted and Welded Joints."

With honor.

John Leland Gerloff, B. S., Sam Houston State Teachers College, 1928. Major Study-Agricultural Economics Thesis: "A Study of Land Utilization in the Elm Creek Watershed." John Rollin Gillham, B. S., West Texas State Teachers College, 1931. Major Study-Rural Education Thesis: "A Survey of Commercial Education in Twenty-Six Selected Counties of Texas." John Henry Heise, B. S., Oklahoma A. & M. College, 1934. Major Study-Animal Husbandry "Body Measurements of Feeder Steers as Related to their Thesis: gains in Weight." Newel Ancil Hogan, B. S., Stephen F. Austin State Teachers College, 1934. Major Study-Biology "A Study of the Hormones in Pregnancy with Special Reference Thesis: to Chemical Tests. With high honor. Joseph Lee Johnson, B. A., Sam Houston State Teachers College, 1928. Major Study-Rural Education Thesis: "Comparative Educational Costs of Twenty Towns Affected by the Oil Industry. With honor. Herschel T. Lester, B. S., Sam Houston State Teachers College, 1930. Major Study-Poultry Husbandry Thesis: "Use of Soy Bean Oil Meal as a Protein Concentrate for Feeding Baby Chicks." William Falconer Luce, B. S., Texas Technological College, 1934. Major Study-Civil Engineering Thesis: "A Comparison of Measured and Calculated Stresses in a Reinforced Concrete Pavement." David McBee Mayfield, B. S., Southwest Texas State Teachers College, 1926. Major Study-Rural Education "A Study of the Correlation Between the Teachers' Marks and Thesis: the Pupils' Intelligence Ouotients for Pupils of Navasota High School. William Henry Meyers, B. S., A. & M. College of Texas, 1927. Major Study-Rural Education Thesis: "A Study of Recent Trends in the Accredited Offerings of The High Schools on the Southern Association List in Texas." James Beasley Monroe, B. S., Clemson Agricultural College, 1915. Major Study-Agricultural Education Thesis: "An Analysis of Texas Experiment Station Investigations on Cotton." With honor. James Luther Moses, B. S., Sam Houston State Teachers College, 1928. Major Study-Agricultural Education "The Per Capita Cost of Instruction in High School Classes Thesis: of Vocational Agriculture in Certain Type-of-Farming Areas in Texas."

Carl Cameron Palmer, B. S., Purdue University, 1926.

Major Study—Electrical Engineering

Thesis: "A Remote Control for the Simultaneous Reading of Watthour Meters."

With honor.

Iley Edgar Stokes, B. S., Louisiana State University, 1929.

Major Study—Genetics

Thesis: "Biometrical Analysis of Certain Characters of Saccharum Officinarum."

Troy Vernon Weaver, B. S., Texas Technological College, 1929. Major Study—Agricultural Education

Thesis: "A Study of Transportation Costs for Teachers of Vocational Agriculture in Texas."

## **Bachelor of Science**

In Agricultural Administration (3) Charles Edgar Struwe

Warren Linton Collins Joseph Earl Evans

In Agricultural Education (6)

Henry Goodson Barber Byron Franklin Hall James Z. Hattox

C. J. Anderson

In Agricultural Engineering (1) In Agriculture (6)

W. R. Kimbrough Leon Maxwell Lane J. B. Luker George Howe Richards F. C. Shillingburg Leeman Wesley Teetes

Harper L. Knight Jeremiah Huss Merka Westley Fedell Muller

Stanley John Krenek

In Architectural Engineering (2)

In Architecture (1)

James Watt Askins, Jr.

Ernest Ogden Eikel John Hertel Frick

Gordon Travis Hill C. Gradie King

Henry B. Ferguson

Ralph Barton

alph Darton

Cecil Edward Gunter John G. Muller James Young Orms Charles Ray Pierce James O. Stephens Chester R. Wiedeman

### In Petroleum Production Engineering (2)

Stockton Donald Bruns

Robert Morton Rutledge, Jr.

Engineering (2)

Clifton A. Rechenthin

In Chemical Engineering (3)

David Wolford Meyerson

In Civil Engineering (3)

J. M. McMillan

In Electrical Engineering (1)

In Industrial Education (1)

In Rural Education (4)

Edwin Odell Fowler Clifford Gregory

In Science (2)

Ted Morgan Goedeke

Frank Aunsky Levin

W. Prentiss Jones Stapp N. Maxwell

Certificate in Two-Year Course in Cotton Marketing and Classing (1) Warren Linton Collins

## SUMMARY OF DEGREES CONFERRED

	1935	GRAND TOTAL
Advanced Degrees:	<u></u>	
	(Feb. 2, 1935 to Aug. 24, 1935)	(1876-1935)
M. S	0	389~
A. E		1
Ch. E		5
C. E		14
Е. Е		14
M. E		12
Baccalaureate Degrees:		
School of Agriculture:		
B. S. A		45
B. S. H	_	. 5
B. S. in Horticulture		17
B. S. (Agriculture)		1,370
B. S. (Agri. Administration)		509
B. S. (Agri. Engineering)		61
B. S. (Landscape Art)		31
Graduates (No Degree)	—	9
School of Arts and Sciences:		
B. A	. 11	204
B. S	. 15	126
Graduates (No Degree)		32
School of Engineering:		
B. C. E		71
B. M. E		40
B. S. (Architecture)		223
B. S. (Architectural Eng.)		35
B. S. (Chemical Engineering)	27	357

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B. S. (Civil Engineering)	31	822
B. S. (Electrical Engineering) _	33	- 831
B. S. (General Engineering)	_	1
B. S. (Mechanical Engineering)	30	612
B. S. (Petroleum Prod. Eng.) _	17	84
B. S. (Textile Engineering)	3	102
Graduates (No Degree)		57
School of Veterinary Medicine:		
D. V. M	13	69
School of Vocational Teaching:		
B. S. (Agricultural Education)	20	212
B. S. (Industrial Arts Ed.)	<u> </u>	36
B. S. (Industrial Education)	7	102
B. S. (Rural Education)	7	62
Honorary Degrees:		
LL.D		1
		• ·
TOTAL	364	6,561

### DISTINGUISHED STUDENTS

## Session 1934-35

At the end of each session, students who have no grade below a C and who have accumulated not less than 81 grade points during the session are designated as "Distinguished Students".

#### **Freshman Class**

Aiken, William Hambler Altick, Frank Joseph Anderson, Dan James Armistead, Willia William Butler, Elwin DeWitt Carpenter, Robert William, Jr. Colienan, Paul Henderson Collie, Robert Monroe Cook, Truman Frederick Dieb, John Mitchell Duke, Burnie Galbraith Edmonds, John Robert Eriksen, Merrill Kiellin Gentry, Frank Ross Gerdes, Walter Frederick Grasso, Warren Alvin Griffin, James Christopher Hartman, Robert Henry Hartman, Robert Henry Hartman, William Thomas High, John William Holloway, Rufus Hardy Itz, Medford Felix

Allen, Richard Kirk Barton, Ralph Bass, Sam Dennis Conolly, Richard Noble Cramer, Maurice Boyd Crichton, Jack Alston Egger, Samuel Levi Frederick, Daniel Cecil Gruy, Henry Jones Howard, Jesse Caldwell

Appelt, Weldon Ferdinand Bailey, Woodrow Wilson Blackwood, James Cosby Boots, James Earl Caruthers, Carlton Beauford Coleman, Charles Leonard Edds, George Tyson Gallman, Donald Poole Hall, Byron Franklin Halter, Richard Carlisle Harper, Ira Lee Ingraham, Chester Weston Joiner, James Robert Lane, Leon Maxwell Large, William Robert, Jr. Lay, Daniel Wayne Lewis, Dudley Joe Lock, Howard Harley Loving, Robert Olin Maxwell, Robert William, Jr. Mayfield, Silas A. Jones, Noble David Kaplan Monte Kirby, John Tom Levine, Sam Mills, Charles Wright Murrah, Tom Armstrong Robinson, John Henry Sakamoto, Seiichi Saldana, Miquel Garcia San Miguel, Rudolph Robert Sembera, Thomas Ervin Skaggs, Jack Allen Skripka, Charley Frank Smith, Kenneth Darwin Statum, Charles Douglas, Jr. Van Atten, James Leroy Vance, John Thomas, Jr. Vieman, Lewis Dowe White, Joseph Reeves White, Joseph Reeves White, Joseph Reeves Whitey, Jim Barclay Widney, Harvey Shearer Wood, Jim Quinn

#### Sophomore Class

Huffhines, Grover Howard Koehler, Buford Ray Ludwig, Raymond Nathan Peers, Harry Lawrence Power, James Aubrey Pustejovsky, Edwin Roy Reser, Wayne Allan Scholle, Carl Henry Shea, Harry Neale Vestal, Donald McKee

#### **Junior** Class

Milliff, John Henry Moser, Norman Nagle Mosesman, Max Abe Nash, William Elton Peterson, Leland Fred Pletcher, George Henry, Jr. Rechenthin, Clifton Allen Roberts, Lewis Melvin Scales, Ernest F. Sherwood, Robert Spencer Silvey, John Oscar Simmang, Clifford Max Sims, Ellis Marcus Steeger, Charles Joseph Sudheimer, Robert Leslie Upchurch, Melvin Louis Walker, Alfred Hewlett Whatley, James Arnold Wiley, Bruce Foster Wiley, William Henry Woodfin, George Smiley

### DISTINGUISHED STUDENTS

#### Senior Class

Barron, John Pinkney Bednarek, Frank Blasingame, John Conner Buchanan, Kenneth St. Clair Clavell, Cesar Crouch, Elton Keith Davidson, Harold Willis Doyle, Jack Franklin Ferguson, Jack Newton, Jr. Hagius, Karl S. Hattox, Jake C. Hesdorffer, Mose Benjamin Hill, Arthur Leon Hochmuth, Bruno Arthur Hubby, Laurence Meade Johnston, James Alvin Logan, George Albert Lynn, Patrick Ignatius McHaney, Joe Cornelius McNeil, Norbert Arthur Mattingly, Edward, Jr. Mears, Edward Lamar, Jr. Murray, Ray Leroy Peacock, Virgil Reed, Charles Earl Richmond, Jason Logan Rodgers, William Cawthon Rodriguez, Alfonso Francisco Roesner, George Earl Shelton, Rodney Francis Stringfellow, Jack Clinton Turney, Henry Wilson White, Karl Karey Williams, Harvey Sinclair Williams, James David

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PHIL S. GROGINSKI, '16	
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MARCUS GIST, '22	
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