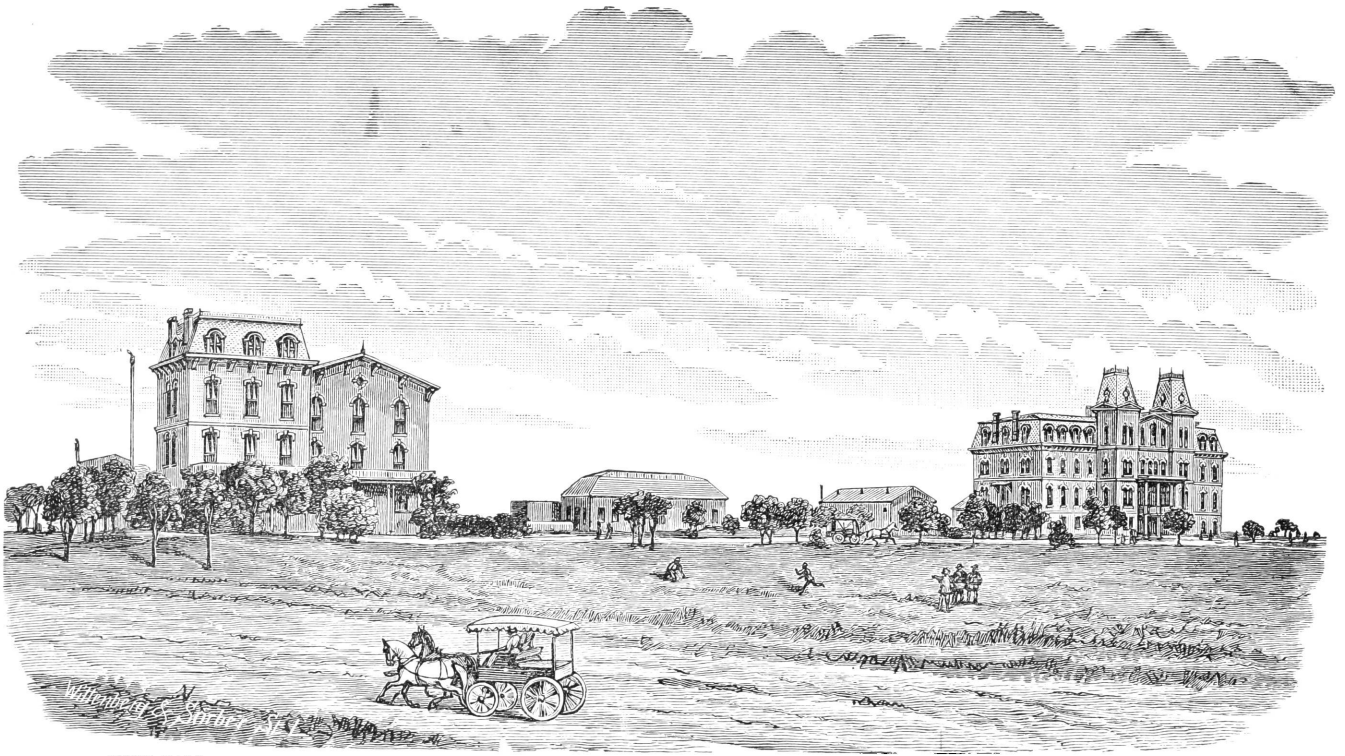

MESS HALL. MECHANICAL HALL. CARPENTER SHOP. MAIN BUILDING.

FOURTEENTH

ANNUAL CATALOGUE

OF THE

AGRICULTURAL AND MECHANICAL COLLEGE

OF TEXAS.

RAILROAD DEPOT, EXPRESS AND MONEY ORDER OFFICE:

COLLEGE STATION, TEXAS.

AUSTIN:
STATE PRINTING OFFICE.
1890

CALENDAR.

1890.

JANUARY.

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CALENDAR.

1891.

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DECEMBER.

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CALENDAR.

1890.

Fall Term begins Wednesday, September 10.
Anniversary Austin Society, November 15.
National Holiday, November 27.
Christmas Holiday, December 20 to January 2, 1891.

1891.

Winter Term begins Thursday, January 3, 1891.
National Holiday, February 22.
Spring Term begins March 10.
Anniversary Calliopean Society, March 16.
State Holiday, April 21.
Final Examinations begin June 1.
Commencement Sunday, June 7.
Exhibition of Departments and work of Students, June 8.
Commencement Day, June 9.

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS.

This College owes its origin to

An Act Donating Public Lands to the several States and Territories which may Provide Colleges for the Benefit of Agriculture and the Mechanic Arts.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That there be granted to the several States, for the purposes hereinafter mentioned, an amount of public land, to be apportioned to each State, a quantity equal to thirty thousand acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of eighteen hundred and sixty; provided, that no mineral lands shall be selected or purchased under the provisions of this act.

SEC. 2. And be it further enacted, That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections not less than one quarter of a section; and whenever there are public lands in a State subject to sale at private entry at one dollar and twenty-five cents per acre, the quantity to which said States shall be entitled shall be selected from such lands within the limits of such State; and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public lands subject to sale at private entry at one dollar and twenty-five cents per acre, to which said State may be entitled under the provisions of this act, land scrip to the amount in acres for the deficiency of its distributive share; said scrip to be sold by said States and the proceeds applied to the uses and purposes prescribed in this act, and for no other use or purpose whatsoever; provided, that in no case shall any State to which land scrip may thus be issued be allowed to locate the same within the limits of any other State, or of any Territory of the United States, but their assignees may thus locate said land scrip upon any of the unappropriated lands of the United States subject to sale at private entry at one dollar and twenty-five cents or less per acre; and, provided further, that not more than one million acres shall be located by such assignees in any one of the States; and, provided further, that no such location shall be made before one year from the passage of this act.

SEC. 3. And be it further enacted, That all the expenses of management, superintendence, and taxes from date of selection of said lands previous to their sales, and all expenses incurred in the management and disbursement of the moneys which may be received therefrom, shall be paid by the States to which they may belong, out of the treasury of said States, so that the entire proceeds of the sale of said lands shall be applied without any diminution whatever to the purposes hereinafter mentioned.

SEC. 4. And be it further enacted, That all moneys derived from the sale of the lands aforesaid, by the States to which the lands are apportioned, and from the sale of land scrip hereinbefore provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks, yielding not less than five per centum upon the par value of said stocks; and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished (except so far as may be provided in section fifth of this act), and the interest of which shall be inviolably appropriated by each State which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislature of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.

SEC. 5. And be it further enacted, That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts:

First. If any portion of the fund invested, as provided by the foregoing section, or any portion of the interest thereon, shall, by any action or contingency, be diminished or lost, it

shall be replaced by the State to which it belongs, so that the capital of the fund may remain undiminished; and the annual increase shall be regularly applied without diminution to the purposes mentioned in the fourth section of this act, except that a sum not exceeding ten per centum upon the amount received by any State, under the provisions of this act, may be expended for the purchase of lands for sites or experimental farms, wherever authorized by the respective Legislatures of said States.

Second. No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation, or repair of any building or buildings.

Third. Any State which may take and claim the benefit of the provisions of this act shall provide, within five years, at least not less than one college, as described in the fourth section of this act, or the grant to such State shall cease; and said State shall be bound to pay the United States the amount received of any lands previously sold, and that the title to purchasers under the State shall be valid.

Fourth. An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their costs and results, and such other matters, including State industrial and economical statistics, as may be supposed useful, one copy of which shall be transmitted by mail free by each to all the other colleges which may be endowed under the provisions of this act, and also one copy to the Secretary of the Interior.

Fifth. When lands shall be selected from those which have been raised to double the minimum price, in consequence of railroad grants, they shall be computed to the States at the maximum price, and the number of acres proportionately diminished.

Sixth. No State, while in a condition of rebellion or insurrection against the government of the United States shall be entitled to the benefits of this act.

Seventh. No State shall be entitled to the benefits of this act unless it shall express its acceptance thereof by its Legislature within two years from the date of its approval by the President.

SEC. 6. And be it further enacted, That land scrip issued under the provisions of this act shall not be subject to location until after the first day of January, one thousand eight hundred and sixty-three.

SEC. 7. And be it further enacted, That the land officers shall receive the same fees for locating land scrip issued under the provisions of this act as is now allowed for the location of military bounty land warrants under existing laws; provided, their minimum compensation shall not be thereby increased.

SEC. 8. And be it further enacted, That the Governors of the several States to which scrip shall be issued under this act shall be required to report annually to Congress all sales made of such scrip until the whole shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

Approved July 2, 1862.

And to the following amendment:

An act to amend the fifth section of act entitled "An act donating Public Lands to the several States and Territories which may provide Colleges for the benefit of Agriculture and the Mechanic Arts," approved July 2, eighteen hundred and sixty-two, so as to extend the time within which the provisions of said act shall be accepted and such Colleges established.

1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That the time in which the several States may comply with the provisions of the act of July two, eighteen hundred and sixty-two, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," is hereby extended so that the acceptance of the benefits of the said act may be expressed within three years from the passage of this act, and the colleges required by the said act may be provided within five years from the date of filing of such acceptance with the Commissioner of the General Land Office; provided, that when any Territory shall become a State and be admitted into the Union, such new State shall be entitled to the benefits of said act of July 2, eighteen hundred and sixty-two, by expressing acceptance therein required within three years from the date of its admission into the Union, and providing the college or colleges within five years after such acceptance, as prescribed in this act; provided further, that any State that has heretofore expressed its acceptance of the act herein referred to shall have the period of five years within which to provide at least one college, as described in the fourth section of this act, after the time for providing said college, according to the act of July 2, eighteen hundred and sixty-two, shall have expired.

Approved July 23, 1865.

By joint resolution, approved November 1, 1871, the Legislature of Texas formally accepted the provisions of the congressional acts, and the State received from the general government scrip for 180,000 acres of public land, the proceeds of which constitute the present permanent endowment fund of this College, and is in Texas seven per cent gold frontier defense bonds to the amount of $174,000.

The Legislature fulfilled its obligations by passing "An Act to provide for the establishment of an Agricultural and Mechanical College of Texas," approved April 17, 1871, and by making liberal successive appropriations—aggregating $187,000—for the buildings and equipments necessary for putting the institution in operation. And the county of Brazos secured its location within its limits by donating to the State the present College farm, a tract of 2416 acres, five miles south of the town of Bryan.

Finally, the Constitution of 1876, article VII, provided: "Section 13. The Agricultural and Mechanical College of Texas, established by the Act of the Legislature, passed April 17, 1871, located in the county of Brazos, is hereby made and constituted a branch of the University of Texas, for the instruction in agriculture, the mechanic arts, and the natural sciences connected therewith."

The College was formally opened for the reception of students October 4, 1876.

The Constitution of Texas provides that taxes may be raised for the maintenance and support of the College.

The following Act of the Legislature of Texas is now the law governing the College:

An Act Regulating the Government of the Agricultural and Mechanical College of Texas as approved March 9, 1875, and amended March 30, 1881.

I. The Board of Directors of said College shall consist of five members.

II. The Directors provided for in the preceding article shall be appointed by the Governor, to be selected from the different sections of the State, and shall hold office for six years, or during good behavior, and until their successors are qualified.

III. The Governor shall be authorized to call said Board together after their appointment, and said Board shall at their first meeting elect a President of the Board, who shall thereafter be authorized to call said Board together for the transaction of business whenever he deems it expedient, and a majority of said Board shall constitute a quorum for the transaction of business.

IV. Each of the said Directors shall receive their actual expenses incurred in attending the meeting of the Board, to be paid out of the interest of the University fund, on accounts certified by them respectively to be correct, and approved by the Governor.

V. The Secretary of State shall forward a certificate to each Director within ten days after his appointment, notifying him of the fact of such appointment; and should any Director so appointed and notified fail for ten days to give notice to the Governor of his acceptance, his appointment shall be deemed void and his place filled as in case of vacancy.

VI. The Board of Directors shall appoint the President and Professors of the College, and such other officers as they may think proper to put the College into successful operation, and shall make such by-laws, rules, and regulations for its government as they may deem meet and proper for that purpose, and shall regulate the course of study, rates of tuition, manner of performing labor, and the kind of labor to be performed by the students, together with the course of discipline necessary to enforce the faithful discharge of all the duties of all officers, professors, and students, and shall have same printed and circulated for the benefit of the people of the State and officers and students of the College.

VII. The Board of Directors shall elect a Secretary of the Board, whose duty it shall be to keep in a well bound book all the proceedings had by this Board, and he shall be allowed by said Board such compensation as they may allow; provided, that the same does not exceed five hundred dollars per annum.

VIII.[5] The interest on the amount of one hundred and seventy-four thousand dollars in seven per cent gold interest-bearing frontier bonds of Texas, now in the State Treasury to the credit of the College, being set apart for that purpose, shall be drawn by the Board of Directors on vouchers audited by the Board, or approved by the Governor and attested by

the Secretary, and on filing such vouchers the Comptroller shall draw his warrant on the State Treasury for the same, from time to time as they may be needed, to pay the Directors, officers, and professors of the College.

The following Joint Resolution was passed by the Sixteenth Legislature:

Joint Resolution authorizing the State Librarian to turn over to the Agricultural and Mechanical College of Texas Specimens of Minerals and other Geological Specimens in the Geological Department in said Library in certain cases, and copies of all Public Documents of the State, published for distribution, and all Apparatus belonging to the old Geological Survey.

SECTION 1. *Be it resolved by the Legislature of the State of Texas*, That the State Librarian be and he is hereby authorized and required to turn over to the Agricultural and Mechanical College of Texas the duplicate specimens in the hands of the agent of the International Railroad Company of all minerals and other geological specimens in the Geological Department in said Library, and copies of all public documents of the State published for distribution, and apparatus belonging to the old geological survey, for the use and benefit of said College.

SEC. 2. That said Librarian be required to take an inventory of all specimens thus turned over to said College by him, and file the same in his office.

SEC. 3. The near approach of the close of this session of the Legislature, and the pressing need of geological specimens at said College for the better instruction of its pupils, creates an imperative public necessity for the suspension of the constitutional rule requiring this resolution to be read on three several days; therefore, be it further resolved, that the constitutional rule be suspended and this resolution take effect and be in force from and after its passage.

Approved July 9, A. D. 1879.

BOARD OF DIRECTORS.

The government of this College is vested in a Board of Directors consisting of five members appointed by the Governor of the State. They are "selected from different sections of the State, and hold office for six years, or during good behavior, and until their successors are qualified."

HON. A. J. ROSE, President ..... Salado.
HON. W. R. CAVITT ..... Bryan.
HON. L. L. FOSTER, Commissioner of Insurance, Statistics, History, and Agriculture, *ex-officio* ..... Austin.
DR. J. D. FIELDS ..... Manor.
HON. JNO. ADRIANCE ..... Columbia.

FACULTY AND OTHER OFFICERS.

LOUIS M. McINNIS, A. M., CHAIRMAN,
Professor of Mathematics.

W. L. BRINGHURST, Ph. D., VICE-CHAIRMAN.
Professor of English and History.

RUD. WIPPRECHT,
Professor of Languages.

R. H. WHITLOCK, M. E.,
Professor of Mechanical Engineering.

GEO. W. CURTIS, M. S. A.,
Professor of Agriculture.

F. A. GULLEY, M. S.,
Professor of Experimental Agriculture.

H. H. HARRINGTON, M. S.,
Professor of Chemistry and Mineralogy.

THOMAS L. BRUNK, M. S.,
Professor of Horticulture and Botany.

LIEUT. WILLIAM S. SCOTT, 1ST CAVALRY, U. S. A.,
Instructor of Military Science and Commandant of Cadets.

MARK FRANCIS, D. V. M.,
Associate Professor of Veterinary Science.

F. E. GIESECKE,
Associate Professor of Drawing.

CHARLES PURYEAR, M. A., C. E.,
Associate Professor of Civil Engineering and Physics.

ROBT. F. SMITH,
Adjunct Professor of Mathematics.

W. B. PHILPOTT,
Assistant Professor of English and History.

D. ADRIANCE,
Assistant Professor of Chemistry and Physics.

PAUL BRAUN, B. M. E.,
Assistant Professor of Mechanical Engineering.

A. M. GUENTHER,
Instructor in Blacksmithing.

H. S. JENNINGS,
Assistant Professor of Horticulture and Botany.

J. M. CARSON.
Assistant Professor of Agriculture.

J. D. FEARHAKE, B. C. E.,
Instructor in Mathematics and Civil Engineering.

REV. C. P. FOUNTAIN,
Chaplain and Librarian.

PROFESSOR CURTIS,
Secretary of the Faculty.

*COL. T. M. SCOTT, Agent of the Board of Directors,
Business Manager.

PROF. L. L. McINNIS,
Ex Officio Secretary.

J. D. READ, M. D.,
Surgeon.

E. W. HUTCHINSON, B. C. E.,
Assistant Secretary.

B. SBISA,
Steward.

C. A. LEWIS,
Foreman of Carpenter Shop.

J. H. ALSWORTH,
Foreman of Farm.

H. NESS, B. S.,
Foreman Garden and Green House.

C. E. BARNETTE,
Foreman of Orchard and Vineyard.

J. S. FOWLKES,
Fiscal Agent.

* Resigned February 28, 1890.

CATALOGUE OF STUDENTS.

EXPLANATION.

M. S., Master of Science.
M. E., Mechanical Engineer.
B. S. A., Bachelor of Scientific Agriculture.
B. S. H., Bachelor of Scientific Horticulture.
B. M. E., Bachelor of Mechanical Engineering.
B. C. E., Bachelor of Civil Engineering.
M., Mechanical Course.
A., Agricultural Course.

POST-GRADUATE STUDENTS.

Names.	Course.	Postoffice.
ADRIANCE, DUNCAN	M. S.	College Station.
BANKS, A. L	B. S.	Bryan.
GIESECKE, F. E	M. E.	College Station.
LEGGETT, W. WIRT	M. S.	College Station.
MCCULLOCH, C. C., JR	B. C. E	Waco.
NESS, H	M. S.	College Station.
PHILPOTT, W. B	M. S.	College Station.
TILSON, P. S	M. S.	College Station.

UNDERGRADUATE STUDENTS.

FIRST CLASS.

Names.	Course.	Postoffice.
ANDERSON, WILLIAM DILWORTH	B. S. A.	Wichita Falls.
BRITTINGHAM, WILLIAM FRANK, JR.	B. C. E.	Houston.
BACKUS, ULYSSES	B. M. E.	Eagle Pass.
FLYNT, HENRY CALVIN	B. S. A.	Waelder.
HANSCHKE, ROBERT, JR	B. M. E.	San Antonio.
HERNSTADT, SIDNEY JOHNSON	B. C. E.	Sherman.
HOPKINS, SAM HOUSTON	B. S. A.	Waelder.
KYLE, JOSEPH ALLEN	B. S. A.	Nursery.
LUCKETT, JOHN HORACE	B. C. E.	Fort Worth.
MITCHELL, CHAS. SAMUEL	B. C. E.	Dallas.
RUDASILL, WILLIAM STONE	B. C. E.	Sherman.
RAGSDALE, JAMES WILLIAM	B. S. A.	Flatonia.
RADFORD, JOHN SETH	B. S. H.	La Grange.
SCHMIDT, CHAS. LOUIS	B. M. E.	Laredo.
VAN ZANDT, RICHARD LIPSCOMB	B. C. E.	Fort Worth.
WANGEMANN, ARTHUR EDWARD	B. S. A.	Brenham.

SECOND CLASS.

Names.	Course.	Postoffice.
AHRENBECK, WILLIAM THEODORE	B. M. E.	Navasota.
COLLETT, GUY ABRAM	B. C. E.	Austin.
CUSHING, DAN	B. M. E.	Houston.
COLE, JAMES READ	B. C. E.	Dallas.

Names.	Course.	Postoffice.
Doyle, Robert Edward	B. M. E.	Granbury.
Dowden, Frank McKendree	B. C. E.	San Antonio.
Dashiell, Walter Rogers	B. C. E.	San Antonio.
Douglass, John Alfred	B. M. E.	Denton.
Field, Herbert Yancy	B. S. A.	Dallas.
Henderson, Hal	B. S. A.	Paris.
Heuermann, Hermann	B. C. E.	San Antonio.
Jones, Thomas De Witt	B. S. A.	Gonzales.
Littlejohn, Robert Gibbs	B. C. E.	Fort Worth.
Luckett, William Henry	B. S. A.	Bastrop.
Middlebrook, Robert Moore	B. M. E.	Columbus.
Morrill, Clifford Reardon	B. C. E.	Austin.
McCormick, George, Jr.	B. M. E.	Columbus.
Merriwether, William Thomas	B. C. E.	Pearsall.
Nichols, William Lemmon	B. C. E.	Dallas.
Ortiz, Jose Angel	B. M. E.	Laredo.
Pfeuffer, Ulrich Septimus	B. C. E.	New Braunfels.
Philpott, Horatio	B. S. A.	Bryan.
*Prokisch, Charles	B. S. A.	Rockhouse.
Sauvignet, Edmund Henry	B. S. A.	Laredo.
Toliver, Eugene Asbury	B. C. E.	Columbus.
Whitener, Harry Lee	B. S. A.	Burton.
Welhausen. Charles Bismarck	B. M. E.	Flatonia.
Whealan, James Joseph	B. M. E.	College Station.

†Died December 12, 1889.

THIRD CLASS.

Name.	Course.	Postoffice.
Altgelt, Ernest	M	Van Raub.
Adams, Frank	A	Stafford.
Allen, John Barton	M	Palestine.
Allen, William Watkins	M	Marlin.
Alexander, Angus Edward	A	Terrell.
Alexander, Charles Alfred	A	Terrell.
Arnim, Edward Julius	M	Moulton.
Brossmann, August	A	Bellville.
Beyer, Frederick Charles	M	Marion.
Buford, Frank Lee	M	Beaumont.
Bissell, Daniel Lawrence	M	Dallas.
Brown, Frederick Watts	M	Calvert.
Barton, Wellborn	M	Salado.
Boykin, Rufus Eugene	M	Paint Rock.
Bailey, Charles Claud	M	Salado.
Block, Isadore	M	Dallas.
Buhler, Chris	M	Victoria.
Brown, Frank Flynt	A	Groesbeck.
Bennett, Theodore James	A	Columbia.
Beesley, Walter Scott	M	Lancaster.
Bellah, John Lester	M	St. Jo.
Cook, Edward Alphus	M	Cresson.
Cabell, Lawrence Duval	M	Dallas.
Currie, John Browning	M	Paint Rock.
Cottingham, Wesley Poindexter	M	Thomaston.

Names.	Course.	Postoffice.
COGDELL, GASTON	A	Granbury.
DOKE, MAURICE	M	Kosse.
DUFF, HARRISON MCCONNICO	A	Columbia.
DUNCAN, WILLIAM THOMAS	M	Merrillton.
DEWITT, GEORGE PALMER	M	Paris.
ELLIS, BILLIE VARNER	A	Paris.
ELLIS, JERRY FRANK	M	Fort Worth.
FOUNTAIN, WILLIAM CLEVELAND	M	Bryan.
FLOYD, JOSEPH FLEMING	M	Texarkana.
GRUPE, GEORGE	M	Liverpool.
GAINER, CHARLES SALTER	A	Bryan.
GIRAND, JAMES BELL	M	Graham.
GIESECKE, WILLIAM EMIL	M	New Braunfels.
HANCOCK, HOLMAN KENDALL	M	Stranger.
HARKNESS, W. B	M	Pearsall.
IVEY, WYATT DAVIS	A	Beaumont.
JARMON, ELIHU PERCY	M	Ellinger.
JOHNSON, HOWARD LEE	A	Flatonia.
KYLE, THOMAS MCFARRELL	M	Nursery.
KEMP, SAMUEL BARNETT	M	Merrillton.
LOFTIN, JOHN DEWBERRY	A	Tyler.
LANCASTER, JAMES ROBERT	A	Thorp Springs.
LONG, JOHN	A	Muzquiz, Mexico.
MEYER, AUGUST OTTO	A	Ellinger.
MOSS, CLAUDE RUSSELL	A	Orange.
MCNUTT, JOSEPH YELL	A	Calvert.
MASSENGALE, PERRY SLAY	A	Maysfield.
MERRITT, RORERT CLARENCE	A	Melissa.
MCKENZIE, JAMES FRANKLIN	M	Prairie Lea.
MOUNTS, PROV	M	Denton.
MCCONNICO, FRANK WINKLER	A	Bryan.
MOORE, THOMAS EUGENE	A	Gonzales.
MALLICK, WILLIE ARTHUR	M	Hallettsville.
MORGAN, CHARLES A	M	Brownwood.
MOORE, ROBERT	A	Linden.
NEWNAM, JOSEPH FARR	M	San Antonio.
NEATHERY, DANIEL ELMORE	A	Farmersville.
NEATHERY, WILLIAM	A	Farmersville.
NEAL, WILLIAM	M	Temple.
OSMON, WILLIAM MILTON	M	San Antonio.
ORGAIN, HENRY KELLOGG	M	Salado.
PEERY, WILLIAM OSBORNE	A	Denton.
ROTHE, FREDERICK JOHN	A	Hondo City.
ROBERTS, EDWARD WALKER	M	Bremond.
ROSENTHAL, ALFRED JOHN	M	La Grange.
RATCHFORD, WILLIAM PRESTON	M	Paint Rock.
RIMES, FRANK	M	San Angelo.
RAGSDALE, CHARLES ANDREW	M	Flatonia.
ROGERS, JOHN UDOLPH	M	Galveston.
SCHMIDT, DIETRICH	M	Perry.
SLAUGHTER, LEWIS HANSON	M	Bremond.
SHEPARD, CHAUNCEY BERKELEY	M	Bryan.
SHIRLEY, THORNTON SAMUEL	M	Melissa.

Names.	Course.	Postoffice.
STONE, WILLIAM	A.	Eagle Pass.
SMITH, ROBERT LEE	A.	Dessau.
SCHUCHMACHER, HENRY CHARLES	M.	La Grange.
SEALE, TATE MCRACKEN	A.	Corsicana.
TRAYLOR, ROBERT HILL	A.	Dallas.
VEAZEY, JOHN LIPSCOMBE	A.	Luling.
WALKER, ADDISON PUTNAM	M.	Fort Worth.
WRIGHT, EDGAR	M.	Paris.
WATKINS, WILLIAM ATKINSON	M.	Prairieville.

FOURTH CLASS.

	Postoffice,
ASBECK, WILLIAM FREDERICK,	Kinneyville.
ANDERSON, GEORGE STUART	Thomaston.
ALDREDGE, WILLIE OSCAR	Waxahachie.
BRANTLEY, THOMAS WILSON	Bryan.
BATES, VIVIAN LEAVE	Bremond.
BLAKE, MACK	Dallas.
BURT, WILLIAM	Bryan.
BARRY, JOHN BUCKNEY	Walnut.
BRANTLEY, ROBERT AUGUSTUS	Bryan.
BURLESON, JEFFERSON BROWNING	Webberville.
BUCHANAN, JOSEPH RAPHAEL	Hallettsville.
BONNER, EUGENE BENTON	Houston.
BINGHAM, JOHN CALDWELL	Sandy Point.
BALLINGER, ROBERT GORDON	Columbia.
BURFORD, JEFFERSON MALLARD	Dallas.
BURLESON, LEMUEL RINGO	Bastrop.
BRYAN, WILLIAM JOEL	Velasco.
BUTLER, HENRY GEORGE	Clear Creek.
BOYCE, JOHN ELI	Gregg.
BARNETT, OSCAR NASH	Cedar Creek.
BARNETT, JUDGE	Cedar Creek.
CALDWELL, HALBERT WARNER	Gainesville.
CARTER, EUGENE WELLBORN	Waco.
CRENSHAW, ROBERT LEE	Oenaville.
DALTON, JAMES WARD	Taylor.
DUNN, HENRY LEE	Bastrop, La.
DOUGLASS, CHARLES BURTON	Melissa.
DENNIS, JOHN BURTON	Granbury.
DIRR, FRANK ARTHUR	Calvert.
EICHLITZ, CHARLES EDWARD	Victoria.
EICHLITZ, JOHN ROBERT	Victoria.
ELMORE, DENNIS S	Killeen.
EHRENWERTH, SIGMUND BERTRAND	Columbus.
EVANS, ANDREW DANIEL	Calvert.
EVANS, GEORGE AYLMER	Calvert.
FROBOESE, AUGUST	San Antonio.
FOLEY, JOE	Galveston.
FOWLER, MAYNARD WILLIAM	Bastrop.
FERGUSON, JAMES HENRY	Kosse.
FISHER, CHARLES FRANK	San Antonio.
FOSDICK, PLINY EDWARD	Fort Worth.

	Postoffice.
Fowler, Nathaniel Green	Bastrop.
Freeman, James Hill	Sandy Point.
Franklin, George Harrison	Willow Hole.
Foster, John Edward	Houston.
Foster, Walter	Walnut Springs.
Farrar, James Dallas	Ennis.
Garrett, James Thomas	Stranger.
Gentzen, William Washington	Fort Ringo.
Guinn, Marvin	New Braunfels.
Green, Miles Alexander	Linden.
Gee, George Walker	Gay Hill.
Harrison, Samuel Fisher	Alto.
Hassell, William Frederick	Bryan.
Hill, James Abram	Willow Hole.
Homuth, Louis	La Grange.
Henry, Hugo Charles	Corpus Christi.
Howard, Thomas Swanson	Palestine.
Harrison, George Burrl	Dallas.
Hancock, Robert Edmund Lee	Kelleyville.
Heard, John Bostick	San Antonio.
Hairston, Moses Boynton	Roans Prairie.
Hathaway, Alvin Kaye	Denison.
Hemphill, Stephen	Marlin.
Isaacs, Alan Con	Rockdale.
Jones, Monroe Walter	Dallas.
Jennings, George Darwin	Tonica, Ill.
Luckett, Alfred McLeod	Fort Worth.
Lake, Thomas Whittier	Fort Worth.
Luckett, Worth Moore	Bastrop.
Lynch, Richard Montgomery	Bryan.
Litten, George Stephenson	Austin.
Leach, Elmer	Fort Worth.
Lowry, William Franklin	Fort Worth.
McLaury, John De Witt	Fort Worth.
Metcalfe, Wallace Parker	Waxahachie.
Morris, Alonzo Eugene	Granbury.
Melton, Alphonse	Paint Rock.
McClanahan, James Harry	Cold Springs.
Moore, Woodie	Galveston.
Munson, George Poindexter	Oyster Creek.
Maddin, George Kane	Dallas.
Moseley, John Daniel	Willow Hole.
Miller, Marx Hammond	Navasota.
Moon, James Eugene	San Angelo.
McConnell, Walter Caruth	Dallas.
Moffitt, Coleman R.	Lancaster.
Murray, Hugh Crisp	Dallas.
Montgomery, Robert Reese	Galveston.
Nixon, Robert William	Manor.
Nicholson, George Young	Marlin.
Nall, John B	Temple.
Parr, Andrew Beriah	Ellinger.
Parsons, Bert Calias	Kerrville.

	Postoffice.
Rothe, Henry Charles	D'Hanis.
Rhome, Joseph Otto	Rhome.
Randle, Eugene Brown	Washington.
Rainey, Frank Meriwether	Waxahachie.
Rawley, Luther William	McGregor.
Ross, Thomas Benton	Cold Springs.
Rochelle, Jettie	Texarkana.
Sarvis, Ben Sears	Palestine.
Simon, Cain	Brenham.
Simons, Vemer Alfred	Taylor.
Santleben, Fred August	San Antonio.
Stratton, Joel Bryan	Phair.
Saathoff, August	D'Hanis.
Steedman, John Reuben	Steedman.
Stone, Griffith	Eagle Pass.
Smith, Junius Whitfield, Jr	Fort Worth.
Smith, Frank Byler	La Grange.
Sielski, Joseph Clinton	Laredo.
Taylor, Micajah Pickett	Jefferson.
Trimble, John Martin	Fort Worth.
Voelcker, Edgar	Uvalde.
Wyatt, Willie Whitfield	Gonzales.
Wade, Henry Burk	Beaukiss.
Weidle, Joseph	Hallettsville.
Watson, William De Port	Bryan.
Yearout, Jesse Love	Gay Hill.
Zadek, Goetzel Rufus	Calvert.

SPECIAL STUDENTS.

Bailey, Walter William	Dallas.
Capps, Charles Henry	Arlington.
Clayton, John Steele	Brookston.
Day, Lemuel Erastus	Fort Worth.
Faubion, E. M	Leander.
Fulp, James Thornton	Fulp.
Gundlach, Henry	San Francisco, Cal.
Hagemann, Paul Frederick	New Ulm.
Harrison, R. H.	Bedias.
Hill, T. W	Weimar.
Hassell, Stonewall Jackson	Bryan.
Harlan, Liff	Branchville.
McInnis, Frank Harmon	Llano.
Puckett, Joseph Manor	Manor.
Rainey, Edward Wiley	Manor.
Read, William Kemball	Texarkana.
Russell, Robert Henry	Orange.
Rhome, Byron Crandall	Rhome.
Wilkins, John Asa	Brenham.

SUMMARY.

Post-Graduate	8
First Class	16
Second Class	28
Third Class	87
Fourth Class	121
Special	19
Total	279

BATTALION ORGANIZATION.

WILLIAM S. SCOTT, *Second Lieutenant Second Cavalry, Commandant of Cadets.*

Commissioned Staff—C. L. Schmidt, First Lieutenant and Adjutant; C. S. Mitchell, First Lieutenant and Quartermaster.

Captains—S. H. Hopkins, W. D. Anderson, U. Backus, A. E. Wangemann.

Lieutenants—H. C. Flynt, S. J. Hernstadt, J. H. Luckett, W. F. Brittingham, R. L. Van Zandt, J. A. Kyle, W. S. Rudasill, R. Hanschke, J. W. Ragsdale, J. S. Radford.

Non-Commissioned Staff—W. H. Luckett, Sergeant Major; H. L. Whitener, Quartermaster Sergeant.

First Sergeants—George McCormick, R. E. Doyle, E. H. Sauvignet, W. L. Nichols, C. R. Morrill, R. G. Littlejohn.

Sergeants—C. B. Welhausen, F. M. Dowden, J. A. Douglass, U. S. Pfeuffer, R. M. Middlebrook, G. A. Collett, W. T. Ahrenbeck, H. Heuermann, E. M. Faubion, T. D. Jones, J. A. Wilkins, J. A. Ortiz, J. R. Cole, W. T. Merriwether.

Corporals—F. Adams, E. Wright, W. B. Harkness, E. P. Jarmon, C. A. Morgan, W. Stone, F. Buford, D. T. Schmidt, A. Brossman, T. Kyle, C. H. Capps, W. D. Ivey, E. A. Cook, W. E. Giesecke, W. C. Fountain, T. J. Bennett, E. Altgelt, O. A. Meyer, M. Y. Doke, T. E. Moore, T. S. Shirley, W. M. Osman, B. V. Ellis, W. W. Allen, R. E. Boykin, A. Alexander.

On Special Duty—W. F. Brittingham, First Lieutenant and Private Secretary to the Commandant.

DEGREES AND HONORS

CONFERRED AT COMMENCEMENT, JUNE, 1889.

DEGREE OF B. S. A.

F. L. Montgomary, W. B. Merritt, J. R. Nichols.

DEGREE OF B. M. E.

J. F. Kuehne, L. D. Amsler, M. W. Shirley.

DEGREE OF B. S.

J. F. Nichols, W. E. Drisdale, H. Ness.

DEGREE OF B. C. E.

J. D. Fearhake, W. M. Shirley, B. F. Rogers, W. W. K. Leggett, Robt. Mabry, W. T. Jones, L. B. Burck, E. W. Hutchinson, E. S. Middlebrook, C. A. Buckman.

GENERAL HONOR MEN BY CLASSES, 1888–89.

First Class—Montgomery, Fearhake, Nichols, F.
Second Class—Williams, Hernstadt, Schuchardt.
Third Class—Welhausen, Pfeuffer, Ahrenbeck.
Fourth Class—Giesecke, Schmidt, Adams, F.

HONOR MEN IN DEPARTMENTS.

First Class.

Mathematics—Shirley, W., Fearhake, Rogers.
English and History—Merritt, Leggett, Nichols, F.
Languages—Shirley, W., Kuehne, Nichols, F.
Mechanical Engineering—Kuehne, Shirley, M., Amsler.
Agriculture—Montgomery, Merritt, Nichols, R.
Experimental Agriculture—Montgomery, Merritt, Nichols, R.
Chemistry and Mineralogy—Merritt, Shirley, W., Ness.
Horticulture and Botany—Drisdale, Ness, Nichols, R.
Civil Engineering and Physics—Shirley, W., Fearhake, Rogers.
Veterinary Science—Montgomery, Merritt, Nichols, R.
Proficiency in use of Small Arms—Drisdale, Shirley, M., Shirley, W.
Drawing—Leggett, Kuehne, Shirley, M.
Conduct—Amsler, Drisdale, Fearhake, Hutchinson, Nichols, F., Nichols, R., Shirley, W., Shirley, M., Kuehne, Merritt, Montgomery, Ness.

Second Class.

Mathematics—Hernstadt, Schuchardt, Wangemann.
English and History—Wangemann, Williams, Schuchardt.
Languages—Brittingham, Backus, Hernstadt.
Mechanical Engineering—Backus, Williams, Schuchardt.
Agriculture—Wangemann, Kyle, Ragsdale.
Horticulture and Botany—Wangemann, Kyle, Ragsdale.

Civil Engineering and Physics—Williams, Hernstandt, Backus.
Veterinary Science—Wangemann, Hopkins, Anderson.
Chemistry and Mineralogy—Schuchardt, Hernstadt, Williams.
Drawing—Schmidt, Hernstadt, Williams.
Conduct—Backus, Brittingham, Flynt, Green, Hereford, Hopkins, Kyle, Mitchell, Ragsdale, Rudasill, Schmidt, Williams, Hernstadt, Anderson.

Third Class.

Mathematics—Welhausen, Whitener, Henderson, T.
English and History—Pfeuffer, Sauvignet, Henderson, T.
Mechanical Engineering—Welhausen, Ahrenbeck, Doyle.
Agriculture—Henderson, T., Sauvignet, Field.
Horticulture and Botany—Sauvignet, Field, Henderson, T.
Civil Engineering and Physics—Pfeuffer, Welhausen, Ahrenbeck.
Drawing—Morrill, Sauvignet, Ahrenbeck.
Conduct—Doyle, Douglass, Hassell, Littlejohn, McCormick, Morrill, Middlebrook, R., Mueller, Mix, Ortiz, Pfeuffer, Sauvignet, Welhausen, Whealen, Whitener, Toliver, Kleine.

Fourth Class.

Mathematics—Schmidt, Giesecke, Adams, F.
English and History—Adams, F., Schmidt, Ellis.
Mechanical Engineering—Cooke, Kyle, Giesecke.
Agriculture—(Altgelt, Haigh), Schmidt, Lingan.
Horticulture and Botany—Adams, F., (Giesecke, Schmidt), Ryburn.
Veterinary Science—Giesecke, Ellis, Westhoff.
Drawing—Giesecke, Kyle, Hildebrandt.
Conduct—Adams, F., Beyer, Capps, Cook, Faubion, Giesecke, Grupe, Jarmon, Kyle, Rothe, F., Ryburn, Haigh, Morgan, Johnson, Meyer, McInnis, Fountain.

COMMENCEMENT EXERCISES,

June 2d, 3d, and 4th, 1889.

PROGRAMME.

SUNDAY, JUNE 2, 11 A. M.

Commencement Sermon—By Rev. T. B. Lee, Austin.

MONDAY, JUNE 3.

9 to 11 A. M.—Inspection of Departments, including exhibition of Stock, Apparatus, and Appliances for Instruction, Display of Products of Students' Work. Students at work according to regular schedule.

11 A. M.—Annual Reunion of the Alumni.

3 P. M.—Business meeting of the Alumni.

5:30 P. M.—Infantry Drill, preceded by a Review of the Battalion by the Governor of the State.

8 P. M.—Joint Celebration of the Societies.

COMMENCEMENT DAY—TUESDAY, JUNE 4.

8 to 9 A. M.—Target Practice by members of the Graduating Class.

10 A. M.—COMMENCEMENT EXERCISES.

Prayer by Rev. T. B. Lee.

Reading of Technical Thesis by the student most distinguished in each of the Courses of Study.

Delivery of Medals.

Gold medal offered by *Texas Farm and Ranch* for the best Thesis—F. L. Montgomery, Sherman.

Gold medal given by Corps of Cadets as a mark of esteem—E. W. Hutchinson, Senior Captain, Denton.

Gold medal offered by Linz Bros., of Sherman, for the best debater in Austin or Calliopean Society—F. L. Montgomery, Sherman, Calliopean Society.

Gold medal offered by Lieut. Guy Carleton, Commandant, for best shot at target in First Class—W. E. Drisdale, Flatonia.

Gold medal offered by Prof. H. H. Harrington for best in Chemistry in Second Class—S. J. Hernstadt, Sherman.

Valedictory Address—J. F. Nichols, Smithville, Texas. (Elected by First Class.)

Response to the Valedictory—S. H. Hopkins, Waelder, Texas. (Elected by the Second Class.)

Conferring Degrees—Major A. J. Rose, President of the Board of Directors.

Announcement of those distinguised in the several Classes and Departments.

Benediction.

5:30 P. M.—Artillery Drill.

6:30 P. M.—Graduation Dress Parade.

GRADUATING CLASS, 1889,

WITH SUBJECTS OF THEIR GRADUATION THESES.

L. D. AMSLER, Hempstead.....Harrison Safety Boiler.
C A. BUCKMAN, Denison.....Strength of Woods.
L. B. BURCK, Galveston.....Geology of Salt.
W. E. DRISDALE, Flatonia.....Fungus and Insect Diseases of Greenhouse Plants.
J. D. FEARHAKE, Waco.....Culverts for Railroads.
E. W. HUTCHINSON, Denton.....Foundations.
W. T. JONES, Belton.....Plans and Specifications for Frame Buildings.
J. F. KUEHNE, Austin.....Slide Valve.
W. W. LEGGETT, Ripley, O.....Earth Work in Railroad Construction.
R. MABRY, Fort Worth.....Masonry.

W. B. MERRITT, Melissa.....Soils.
E. S. MIDDLEBROOK, Columbus.....Common Roads.
F. L. MONTGOMERY, Sherman.....Methods of Creaming Milk.
H. NESS, College Station.....Histology of the Grape Vine.
J. F. NICHOLS, Smithville.....Uredineæ of College Station.
J. R. NICHOLS, Smithville.....Petroleum and its Products.
B. F. ROGERS, Jefferson.....Cements.
W. M. SHIRLEY, Melissa.....Design of Roof Truss.
M. W. SHIRLEY, Anna.....Westinghouse Air Brake.

OBJECTS AND PRESENT POLICY.

The act of Congress which established the State Agricultural and Mechanical Colleges defines their objects, but under that act there have been founded as many different schools as there are States. These institutions have presented a variety of educational schemes which have embraced nearly all gradations, from the classical and mathematical college to the manual labor industrial school. In view of this fact, it is proper to state as definitely as possible the interpretation given to the act of Congress by the authorities of this College, and the manner in which they are endeavoring to carry out its provisions.

The general object of this College is to excite and foster in the minds of our people an enthusiastic appreciation of the attractiveness and value of those pursuits by which the material development of the country is advanced.

It is the business of this College to turn the attention of our young men from the overcrowded "learned professions" to those occupations which have brought abundant wealth and power to other States, and which are beginning now to attract and well repay the services of trained young men in Texas.

These objects are sought to be attained—

By a thorough course of instruction in mathematics and natural science, with continual application of principles to work in the shops, fields, gardens, vineyard, orchard, pastures, dairies, and other laboratories.

By relying upon text books as little as possible and leading the students to seek information directly from observation and experiment.

By inculcating the dignity of intelligent labor—banishing the idea that the farmer or mechanic who is worthy of the name need be any less learned than the professional man.

By inducing in the mind of the student an enthusiastic love of nature and the study of natural laws, whereby agricultural and mechanical processes become invested with absorbing interest, and are pursued in a spirit which leads to progress and success.

It will thus be seen that the authorities of this school adhere to the interpretation of the act founding it which has been given by the author of this act, and which has been adopted by all the successful colleges of similar origin, namely, that this College is not a trade school, designed to take the place of the old apprenticeship system, but an institution where young men may receive broad and liberal training in all those sciences and arts which contribute to useful citizenship in the pursuit of all productive industries.

METHODS AND SCOPE OF INSTRUCTION.

The courses of instruction cover all that is comprised in the curricula of the best institutions of our times except the ancient languages. The time usually devoted to these is here given to the application of the principles in the fields, shops, and laboratories. Mere text book study is regarded as comparatively of little value unless supplemented by intelligent practice in applied science. This practice occupies from six to eight hours per week.

EXPERIMENTAL WORK.

This furnishes the chief means of training students in accordance with this view, and hence a most important subsidiary object of this institution is the discovery and dissemination of all sorts of informtaion with regard to industrial pursuits.

The recent action of Congress in setting aside $15,000 per annum for the establishment and maintenance of agricultural experimental stations in the several States will in a short time place at the disposal of the College the means for efficient experimental work, and offer to students the great advantages of observation and participation in researches which promise important results for the benefit of the whole country. The Agricultural Experimental Station has been established at the College as one of its departments, and students in the agricultural course will hereafter assist in the work of the Station.

MANUAL LABOR.

It is taken for granted that every farmer boy can learn at home such things as involve mere manual drudgery. It must therefore be understood that the student will not waste valuable time in labor which is not instructive.

The education here given to young men is not intended to make mere laborers of them in the ordinary sense of the word. A student who graduates here may begin life as a field hand; but it is expected that, by virtue of his superior training, he shall be able speedily to find a promotion and easily fill the highest position of honor to which his ability may lead him.

MILITARY INSTRUCTION.

This is embraced by law in the objects of the College, and will be given such attention as is necesrary for an honest compliance with the act of Congress.

MARKS AND EXAMINATIONS.

Records of the standing of each student are kept by the professors of the several departments. This standing is indicated by a system of marks based upon 100 as a maximum, with decimal gradations.

Examinations are held from time to time during the session as special subjects of study may be completed, and at the end of the session upon the general courses. The results of these, combined with the daily recitation marks, determine the final standing of the student.

A monthly report is mailed to the parent or guardian of each student, showing his class standing, conduct, and health.

GRADUATION.

A diploma of the College, together with the degree corresponding to the course of study pursued, will be conferred upon all students who complete either of the prescribed courses and pass satisfactory examinations on all the branches embraced therein.

Each candidate for graduation is required to submit to the professor in charge of the leading department of his course a graduation thesis; and he may be required to read this or some other essay approved by the Faculty on commencement day as a part of the public exercises.

To every student who completes satisfactorily any one of the optional studies —German, Spanish, Latin—a special diploma on that subject will be granted.

Each student receiving a diploma will be required to pay $5.00 therefor.

HONORS.

The three students most distinguished for scholarship and deportment in each of the classes, as determined by marks and examinations, are known as honor men, and their names appear at the head of their several classes in the catalogue, though this rule may be modified if the number of students in any class, or their scholarship, shall not warrant such distinction.

A valedictorian is elected by the members of the graduating class from their own number.

A member of the second class is chosen by his classmates to reply to the valedictorian.

Military promotion is an honor attainable by general good conduct and manly behavior, as well as excellence in studies.

No academic honor will be conferred upon any student who may be deficient in conduct for the session.

REGULAR COURSES OF STUDY.

There are two regular courses of study and practice leading to degrees and extending through four years each. They are identical for the first year, thus giving the student the advantage of elementary training in subjects that are of equal importance to every one, and affording opportunity for intelligent choice between the courses as continued separately through the three succeeding years. In the third year, or second class, there is a still further specialization by which the student may, in the agricultural course, vary his studies with reference to obtaining either of two degrees, that is, Bachelor of Science (B. S.) or Bachelor of Scientific Agriculture (B. S. A.) In the mechanical course a similar specialization is provided for by which the student is given choice between the degrees of Bachelor of Civil Engineering (B. C. E.) and Bachelor of Mechanical Engineering (B. M. E.)

All regular students must pursue either the agricultural or the mechanical course, and there is no course of instruction which is not industrial.

The Latin language is optional and may be studied by any student who may have time for such extra study. German and Spanish are also optional, except as shown in the curricula, and may be studied as subjects outside of the regular courses. There is no charge for any optional study.

In view of the great practical importance of the German and Spanish languages for business purposes in our State, special attention is given to these. A large number of the students are of German descent and speak the language fluently. By association with these, young men may have continual practice in conversation out of the class room as well as in it.

In the curricula of studies the numeral indicates the number of hours per week devoted to the subject.

AGRICULTURAL COURSE.

FIRST YEAR—FOURTH CLASS.

Fall Term—Arithmetic (5); English Grammar, Composition, and Declamation (5); Zoology (1); Domestic Animals (4). Practice: Carpentry Work (3); Free-hand Drawing and Penmanship (3); Infantry Drill (5).

Winter Term—Arithmetic (5); English Grammar, Composition, and Declamation (5); Botany (1); Elementary Agriculture (2); Zoology (2). Practice: Carpentry Work (3); Free-hand Drawing and Penmanship (3).

Spring Term—Algebra (5); History of Texas, Composition, and Declamation (5); Botany (3). Practice: Carpentry Work (3); Free-hand Drawing and Penmanship ($1\frac{1}{2}$); Field Work ($1\frac{1}{2}$;) Garden Work ($1\frac{1}{2}$); Infantry Drill (3).

SECOND YEAR—THIRD CLASS.

Fall Term—Algebra (5); Dairying (2); Large Fruit Culture, Lectures (2); Advanced Grammar, Elements of Rhetoric, Composition, and Declamation (4); Physiology (1); Elementary Physics (3). Practice: Large Fruits and Nursery (3); Free-hand Drawing ($1\frac{1}{2}$); Infantry Drill (5).

Winter Term—Algebra and Geometry (5); Selection of Dairy Stock (2); Large Fruit Culture, Lectures (2); Advanced Grammar, Elements of Rhetoric, United States History, Composition, and Declamation (4); Physiology (1); Elementary Physics (3). Practice: Creamery Work (3); Large Fruits and Nursery ($1\frac{1}{2}$); Free-hand Drawing ($1\frac{1}{2}$).

Spring Term—Algebra and Geometry (5); Stock Breeding, Lectures (2); United States History, Composition, and Declamation (4); Vegetable Culture (2); Physiology (1); Tactics (2). Practice: Creamery Work (3); Gardening ($1\frac{1}{2}$); Free-hand Drawing ($1\frac{1}{2}$); Infantry Drill (3).

THIRD YEAR—SECOND CLASS.
(For the Degree of Bachelor of Scientific Agriculture.)

Fall Term—Geometry and Higher Algebra (4); Inorganic Chemistry (4); Veterinary Medicine (1); Entomology (2); Feeding of Live Stock (3); Essentials of English and Essays (2). Practice: Creamery Work and Practical Feeding (5); Analytical Chemistry (2); Infantry Drill (3).

Winter Term—Inorganic Chemistry (4); Veterinary Medicine (1); Economic Botany (2); Geometry, and Higher Algebra (4); Feeding of Live Stock (2); Essentials of English, Outlines of General History (2); Bookkeeping (2). Practice: Cattle Feeding (2); Analytical Chemistry (5).

Spring Term—Trignometry and Mensuration (4); Organic Chemistry (4); Veterinary Medicine (1); Feeding of Live Stock (2); Outlines of General History and Essays (2); Surveying (2); Bookkeeping (1). Practice: Field Experiments and Veterinary Science (2); Analytical Chemistry (5); Field Work in Surveying ( ); Mechanical Drawing (2); Infantry and Artillery Drill (3).

FOURTH YEAR—FIRST CLASS.

Fall Term—Agricultural Chemistry (3); Geology (2); Farm Drainage (2); Forestry (2); English Literature and Essays (2); Veterinary Surgery and Anatomy and Materia Medica (3); Experimental Agriculture (2); Business Law (2). Practice: Analytical Chemistry (5); Veterinary Practice (2); Agricultural Experiments (2); Forestry ( ); Infantry Drill (3).

Winter Term—Elementary Mechanics (2); Geology (2); Plant Histology (2); Fertilizers (3); English Literature and Essays (2); Veterinary Surgery and Anatomy and Materia Medica (3); Experimental Agriculture (2); Lectures on Military Science (1). Practice: Analytical Chemistry (2½); Dissecting (2½); Microscopic Work in Histology (3).

Spring Term—Elementary Mechanics (3); Farm Management (3); Lectures on English Literature (1); Veterinary Surgery and Anatomy and Obstetrics (3); Astronomy (1); Experimental Agriculture (2); Civil Government (2). Practice: Analytical Chemistry (2½); Agricultural Experiments (4); Microscopic Work in Veterinary Laboratory (2½); Infantry Drill (3); Graduation Thesis.

THIRD YEAR—SECOND CLASS.
(For the Degree of Bachelor of Scientific Horticulture.)

Fall Term—Geometry and Higher Algebra (4); Inorganic Chemistry (4); Entomology (2); Systematic Botany (2); Essentials of English and Essays (2); German or Latin (2). Practice: Botanical Laboratory (5); Analytical Chemistry (2); Infantry Drill (3).

Winter Term—Geometry and Higher Algebra (4); Inorganic Chemistry (4); Systematic Botany (1); Economic Botany (2); Essentials of English, Outlines of General History, and Essays (2); German or Latin (2). Bookkeeping (2). Practice: Botanical Laboratory (2); Analytical Chemistry (5).

Spring Term—Trigonometry and Mensuration (4); Organic Chemistry (4); Viticulture and Small Fruits (2); Outlines of General History and Essays (2); Surveying (2); German or Latin (2); Bookkeeping (1). Practice: Vineyard (2); Analytical Chemistry (5); Mechanical Drawing (2); Infantry and Artillery Drill (3).

FOURTH YEAR—FIRST CLASS.

Fall Term—Agricultural Chemistry (3); Fungi and Plant Diseases (4); Forestry (2); Geology (2); English Literature and Essays (2); German or Latin (3). Practice: Analytical Chemistry (5); Microscopic Work in Fungi (3); Forestry (1); Infantry Drill (3).

Winter Term—Elementary Mechanics (2); Plant Histology (2); Plant Physiology (2); Horticultural Economy and Industries (1); Geology (2); English Literature and Essays (2); German or Latin (3); Experimental Agriculture (2); Lectures on Military Science (1). Practice: Analytical Chemistry (2½); Microscopic Work in Fungi and Plant Histology (5½).

Spring Term—Elementary Mechanics (3); Floriculture and Landscape Gardening (3); Horticultural Economy and Industries (2); Lectures on English Literature (1); Astronomy (1); German or Latin (3); Civil Goverment (2). Practice: Analytical Chemistry (2½); Experiments in Horticulture (4); Work in Green House (2½); Infantry and Artillery Drill (3); Graduation Thesis.

MECHANICAL COURSE.

FIRST YEAR—FOURTH CLASS.

Fall Term—Arithmetic (5); English Grammar, Composition, and Declamation (5); Zoology (1); Botany (1); Domestic Animals (2). Practice: Carpentry Work (3); Free-hand Drawing and Penmanship (3); Infantry Drill (5).

Winter Term—Arithmetic (5); English Grammar, Composition, and Declamation (5): Botany (1); Domestic Animals (2); Elementary Agriculture (1); Zoology (1). Practice: Carpentry Work (3); Free-hand Drawing and Penmanship (3).

Spring Term—Algebra (5); History of Texas, Composition, and Declamation (5); Zoology (1); Botany (2); Elementary Agriculture (1). Practice: Carpentry Work (3); Field Work (1½); Garden Work (1½); Free-hand Drawing and Penmanship (1½); Infantry Drill (3).

SECOND YEAR—THIRD CLASS.

Fall Term—Algebra (5); Mechanism (4); Advanced Grammar, Elements of Rhetoric, Composition, and Declamation (4); Elementary Physics (3). Practice: Wood-turning, Blacksmithing, Piping, Bench Work in Iron (3); Mechanical Drawing (2); Free-hand Drawing (1); Infantry Drill (5).

Winter Term—Algebra and Geometry (5); Mechanism (5); Advanced Grammar, Elements of Rhetoric, Composition, and Declamation (4); Elementary Physics (3). Practice: Wood-turning, Blacksmithing, Piping, Bench Work in Iron (3); Mechanical Drawing (3).

Spring Term—Algebra and Geometry (5); Steam Engine (5); United States History, Composition, and Declamation (4); Tactics (2). Practice: Wood-turning, Blacksmithing, Piping, Bench Work in Iron (3); Mechanical Drawing (3); Infantry Drill (3).

THIRD YEAR—SECOND CLASS.

(For the degree of Bachelor of Mechanical Engineering.)

Fall Term—Descriptive Geometry (2); Geometry and Higher Algebra (4); Inorganic Chemistry (4); Steam Engine (2); Essentials of English and Essays (2); Heat and Electricity (2). Practice: Machine Work in Iron, Higher Work in Blacksmithing (5); Mechanical Drawing (2); Infantry Drill (3).

Winter Term—Descriptive Geometry (2); Geometry and Higher Algebra (4); Inorganic Chemistry (4); Steam Engine (4); Outlines of General History and Essays (2); Electricity (2). Practice: Machine Work in Iron and Higher Work in Blacksmithing (5); Drawing (2).

Spring Term—Trigonometry and Mensuration (5); Water and Water Power (2); Organic Chemistry (4); Outlines of General History and Essays (2); Surveying (3). Practice: Machine Work in Iron and Higher Work in Blacksmithing (5); Drawing (4); Field Practice in Surveying (–); Infantry and Artillery Drill (3).

FOURTH YEAR—FIRST CLASS.

Fall Term—Analytical Geometry (5); Valve Motion and Link Work (5); Geology (2); Metallurgy (2); English Literature and Essays (2). Practice: Experimental Work with Steam Engines and Higher Machine Work (4); Metallurgy (2); Mechanical Drawing (4); Infantry Drill (3).

Winter Term—Analytical Geometry (3); Elementary Mechanics (2); Indicator Work and Experiments (5); Geology (2); Metallurgy (2); English Literature and Essays (2); Lectures on Military Science (1). Practice: Experimental Work with Steam Engine, Testing Machine (4); Metallurgy (2); Mechanical Drawing (4).

Spring Term—Elementary Mechanics (3); Experimental Work with Steam Engine, Lectures (5); Astronomy (1); Metallurgy (3); Civil Goverment (2); Lectures on English Literature (1). Practice: Experimental Work with Steam Engine and Higher Machine Work (5); Metallurgy (2); Mechanical Drawing (2½); Infantry Drill (3). Graduation Thesis.

THIRD YEAR—SECOND CLASS.
(For the Degree of Bachelor of Civil Engineering.)

Fall Term—Descriptive Geometry (2); Geometry and Higher Algebra (4); Inorganic Chemistry (4); Graphic Statistics (2); Essentials of English and Essays (2); German or Spanish (2). Practice: Machine Work in Iron and Higher Work in Blacksmithing (5); Drawing (2); Infantry Drill (3).

Winter Term—Descriptive Geometry (2); Geometry and Higher Algebra (4); Inorganic Chemistry (4); Electricity (2); Road Making (2); Outlines of General History and Essays (2); German or Spanish (2). Practice: Machine Work in Iron and Higher Work in Blacksmithing (5); Drawing (2).

Spring Term—Trigonometry and Mensuration (5); Organic Chemistry (4); Outlines of General History (2); Surveying (3); German or Spanish (2). Practice: Machine Work in Iron, Higher Work in Blacksmithing, and Field Work in Surveying (5); Mechanical Drawing (4); Infantry and Artillery Drill (3).

FOURTH YEAR—FIRST CLASS.

Fall Term—Analytical Geometry (5); Topographical Surveying and Railroad Engineering (4); Geology (2); German or Spanish (3); English Literature and Essays (2). Practice: Field Work (5); Mechanical Drawing (5); Infantry Drill (3).

Winter Term—Analytical Geometry (3); Elementary Mechanics (2); Stresses in Bridges and Roofs and Lectures on Strength of Material (5); Geology (2); German or Spanish (3); English Literature and Essays (2); Lectures on Military Science (1). Practice: Field Work and Use of Testing Machine (4); Mechanical Drawing (5).

Spring Term—Elementary Mechanics (3); Stresses in Bridges and Roofs, Designing (5); Civil Government (2); Astronomy (1); German or Spanish (3); Lectures on English Literature (1). Practice: Work with Testing Machine, Designing and Field Work (5); Mechanical Drawing (5); Infantry and Artillery Drill (3). Graduation Thesis.

TEXT BOOKS.

FOURTH CLASS.

Arithmetic, *Robinson;* Algebra, *Davies;* First Lessons in Agriculture, *Gulley;* Horses, Cattle, Sheep, and Swine, *Curtis;* Botany and Florist, *Wood;* Horticulture, Lectures; Elementary Grammar, *Patterson;* Composition, *Quackenbos;* Zoology, *Packard.*

THIRD CLASS.

Algebra, *Schuyler;* Geometry, *Schuyler;* Practical Butter Book, *Willard;* Milch Cows, *Guenon;* Stock-breeding, Lectures; Large Fruit Culture, Lectures; Truck Gardening South, *Oemler;* Advanced Grammar, *Patterson;* United States History, *Stephens;* Physiology, *Smith's Comparative;* Physics, *Peck's Ganot;* Mechanism and Machinery of Transmission, *Fairbairn;* Steam Engine, *Goodeve.*

SECOND CLASS.

Geometry, Trigonometry, and Mensuration, *Schuyler;* Inorganic and Organic Chemistry, *Remsen;* Blowpipe Analysis, *Nason;* Chemical Arithmetic, *Coit;* Steam Engine, *Goodeve;* Essentials of English, *Welsh;* General History, *Anderson;* Contracts and Specifications, *Haupt;* Surveying, *Schuyler;* Electricity, *Deschanel;* German Reader, *Deutsch;* German Grammar, *Sheldon;* Spanish Reader, *Tolon;* Spanish Grammar, *Schele de Vere;* Descriptive Geometry, *Church;* Grasses and Other Forage Plants, Lectures; Systematic and Economic Botany, Vinticulture, Lectures; Veterinary Medicine, *Williams;* Manual of Cattle Feeding, *Armsby;* Bookkeeping, *Mussleman;* Infantry Tactics, *Upton.*

FIRST CLASS.

Analytical Geometry, *Peck;* Elementary Mechanics, *Wood;* Governmental Class Book, *Young;* English Literature, *Meiklejohn;* Slide Valve, *McCord;* Geology, *Winchell;* Minerals, Mines, and Mining, *Osborn;* Stadia Surveying, *Winslow;* Field Engineer, *Shunk;* Bridges and Roofs, *Shreve;* New Spanish Reader, *Velasquez;* Spanish Grammar, *Schele de Vere;* German Prose, *Boisen;* German Grammar, *Sheldon;* Agricultural Chemistry, Lectures; Fungi and Plant Diseases, Lectures and *Bessey's* Botany; Forestry, *Hough;* Plant Histology, Lectures; Plant Physiology, *Goodale;* Horticultural Economy and Industries, Lectures; Practical Florist, *Henderson;* Experimental Agriculture, Lectures; Land Drainage, *Klippart;* Talks on Manures, *Harris;* Lectures on Farm Management; Business Law, *Parsons;* Astronomy, Lectures; Veterinary Surgery, *Williams;* Veterinary Anatomy, *Chauveau;* Materia Medica, *Bartholow;* Veterinary Obstetrics, *Fleming;* Horse-shoeing, *Fleming;* Military Science, Lectures; United States Army Regulations.

[NOTE.—As the text books are subject to change, students are advised not to purchase books before entering the College. The College keeps a supply of books and furnishes them at cost.]

SCHEDULE OF RECITATIONS.

In order to show definitely the manner in which the time of students is employed, the following schedule of daily work is appended.

Studies falling in the same hour are in different courses. Instructive work in the shops, fields, garden, laboratories, or creamery is in this schedule designated as "practice." The larger classes are, as necessity may arise, divided into sections which may recite or work in the several departments at the same time under different instructors.

	Hou	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
FIRST CLASS.	9–10		Governmental Science.		Governmental Science.	
	10–11	Mathematics.	Mathematics.	Mathematics.	English.	Mathematics.
	11–12	Astronomy.	Physiology.	Astronomy.	Physiology.	Astronomy.
	12–1	Mechanic'l or Civil Eng'n'g		Mechanic'l or Civil Engin'g		Mechanic'l or Civil Engin'g
	12–1	Agric'lture or Hortic'lture.	Agriculture or Veterinary.	Agric'lture or Hortic'lture.	Agriculture or Veterinary.	Agriculure or Hortic'lture.
	2–3		Spanish.		Spanish.	
	3–4		German.		German.	
	2–5	Practice.		Practice.		Drawing or Practice.
	9–4					
	5			Drill.		Drill.
SECOND CLASS.	9–10	Mechanics.	German.	Mechanics.	German.	Mechanics.
	9–10		Business Law.		Business Law.	
	10–11	Chemistry.	Chemistry.	Chemistry.	Chemistry.	Chemistry.
	11–12	Agriculture.	Agriculture.	Engineering.	Agriculture.	Engineering.
	12–1	English.	Spanish.	English.	Spanish.	
	12–1		Horticulture.		Horticulture.	
	3–4		Bookkeeping.		Bookkeeping.	
	2–5	Practice.		Practice.		
	2–4					Drawing.
	5	Drill.		Drill.		Drill.
THIRD CLASS.	8–10	Mechanical Drawing.			Free hand Drawing.	
	10–11	Mechanics.	Mechanics.	Mechanics.	Mechanics.	Mechanics.
	11–12	Mathematics.	Mathematics.	Mathematics.	Mathematics.	Mathematics.
	12–1	Physics.			Physics.	Physics.
	2–3	Horticulture.	Agriculture.	Horticulture.	Horticulture.	Agriculture.
	2–3	English.	English.	English.		English.
	2–5		Practice.		Practice.	
	5	Drill.		Drill.		Drill.
FOURTH CLASS	8–10	Practice.	Drawing.		Practice.	Practice.
	9–10			Agriculture.		
	11–12	Horticulture.	Horticulture.		Horticulture.	Horticulture.
	12–1	Mathematics.	Mathematics.	Mathematics.	Mathematics.	Mathematics.
	3–4	English.	English.	English.	English.	English.
	5	Drill.		Drill.		Drill.

POST-GRADUATE COURSES.

The Post-Graduate Degree of M. S. (Master of Science) will be given to those who have pursued the Post-Graduate studies for two years and have passed satisfactory examinations thereon and submitted an approved thesis.

It is required for admission to study for this degree that the candidate be a graduate in one of the courses, or pass satisfactory examinations upon subjects embraced in them.

Students for this degree are under the general regulations of the College, but are not subjected to military discipline; they may, however, be required to assist in keeping order in the barracks.

A student desiring to enter for this degree must select his course of study from the following prescribed subjects. This selection must be submitted to and approved by the Faculty, and no change can be made without approval of Faculty.

The Faculty will require a sufficient number of subjects to give the students full employment.

AGRICULTURE.

Farm economy, drainage, and irrigation; studies in selection and cross-breeding to improve farm crops and forage plants; practical work in the management of farm and stock; original investigation by the student in any branch of agriculture.

MECHANICAL ENGINEERING.

Continuation of fourth year's work. and Steam Engine (by Rankine) begun in first year. Experimental work in the machine shop; Steam Engine (by Rankine) completed; special subjects, and original designing, in second year. Practice same as in fourth year.

HORTICULTURE.

Propagation and improvement of cultivated plants; fertilization and cross-fertilization; forestry; pomology; management of glass houses; entomology continued, including anatomy of types; laboratory work on classification; special study of insecticides and management of an apiary; experimental work throughout the two years in hybridizing, nursery work and management, and commercial gardening; assisting in other experimental work.

BOTANY AND ZOOLOGY.

Grasses continued, reading, laboratory work, and field experiments; mycology, thesis on special work, and original research with the microscope; microscopic work in plant history, including micro-chemistry and mounting; development of mosses and ferns; drawings and readings; collections of 100 plant specimens; vertebrate and invertebrate zoology; reading and microscopic work; animals and plants under domestication; economic botany.

EXPERIMENTAL AGRICULTURE.

Review of Laws and Gilbert's work at Rothamstead; review of French and German experiments; review of experimental work in the United States; practice in experimental feeding; practice in field work.

CIVIL ENGINEERING.

Strains in frame structures; arches; abutments and retaining walls; theory of the strength of materials and the calculation of the sizes of tie-rods, beams, and columns; water supply and pumping machinery; designing and drawing; architectural drawing.

PHYSICS.

Sound, light, heat, and electricity, and work in the laboratory.

MATHEMATICS.

Descriptive geometry, *Church;* Differential and Integral Calculus, *Church;* Analytical Mechanics, *Wood;* curve tracing.

CHEMISTRY.

Qualitative analysis, toxicology, and technology; theoretical and organic chemistry, agricultural chemistry, standard reference and text books; current chemical literature. Final thesis on original work.

GEOLOGY AND MINERALOGY.

Volumetric analysis, assaying, metallurgy; examination of slags and fluxes and furnace products; instruction and practical work in economic geology, prospecting, examination, and separation of ores.

The work in this department will be largely practical, but standard books and current literature will be constantly used.

MODERN LANGUAGES.

The course in this department will embrace such studies and exercises as will lead to a thorough and practical knowledge of either German or Spanish.

ENGLISH.

Advanced studies in English.

VETERINARY SCIENCE.

Comparative anatomy and physiology, embryology, histology, embedding by paraffine and celloiden processes, positive and negative staining, photo-micography.

DRAWING.

Descriptive Geometry, Shades and Shadows, *Church.*

Such advanced work in drawing as may be needed by the student for his special course.

SPECIAL COURSES.

Each of these courses is intended to be short and eminently practical, and is not open to any student who may wish to enter it merely as a means of getting through with his education in as short a time as possible. They are for mature young men who may desire instruction in the principles involved in the occupations to which these courses apply; young men who may have already received sufficient general elementary training to enable them to take up and pursue technical study in these occupations. Admission to the short courses will therefore be strictly at the discretion of the Faculty.

Those who may wish to take these courses should correspond with the Chairman of the Faculty.

Academic requirements for admission are same as for the fourth class, and the student must be eighteen years of age.

Students may apply for these courses at any time, but students taking special course in Chemistry or Horticulture will be admitted only during the Fall Term. Students in these courses will have the privilege of pursuing any studies in the regular courses, the selection of studies to be approved by the Faculty.

Special courses in the following subjects are provided: Agriculture, Horticulture, Dairying, Carpentry, Blacksmithing, Machinery, Chemistry, Drawing, Surveying.

INFORMATION CONCERNING ADMISSION.

REQUISITES OF ADMISSION.

To enter the College an applicant must be in his sixteenth year, or at least must have attained a degree of physical and mental advancement corresponding to that age. He must be free from contagious or infectious disease or any deformity that would unfit him for the performance of his duties as a student of this College. He may be required to furnish evidence that he has not been dismissed from another institution of learning and that his moral character is good.

The mental attainments necessary for entering upon the courses of study comprise a fair knowledge of arithmetic as far as proportion, of descriptive geography, and of elementary English grammar and composition.

The reputation of this College for good discipline has caused parents in some instances to apply for admission for boys that had proved unmanageable and thoroughly vicious at other institutions. It is desired that such applications be not in the future presented.

The proper time—that is, the BEST time—for entering the classes is at the beginning of the scholastic year. Students are admitted, however, at any other time in the year, but if not fully prepared in the previous work of the

class, they are then obliged to make up their deficiencies by *extra efforts* during the term.

MATRICULATION.

Upon arrival at the College young men intending to enter will report as soon as possible to the Chairman of the Faculty. From him they will go to the several professors for enrollment in classes, and to the Commandant for assignment to company and quarters.

Upon entering the College every student will be required to state upon honor that he has no firearms or other deadly weapons in his possession, or if he has such to deposit them with the Chairman of the Faculty.

As there is no hotel at the station, new students or other strangers would be saved much embarrassment by arriving on a day train.

Persons stopping in Bryan can readily obtain conveyance by carriage to the College, and there is a telephone by which messages can be sent.

Prepaid telegraphic dispatches are forwarded to the College by telephone.

EXPENSES FOR SESSION OF NINE MONTHS.

Incidental fee	$10 00
Physician's fee	5 00
Maintenance, Fall Term	50 00
Maintenance, Winter Term	35 00
Maintenance, Spring Term	40 00
Total	$140 00

Incidental and physician's fees are payable on entrance, whether at the beginning of or during the session, and can not be refunded.

Maintenance includes board, fuel, washing, lights, room rent, bedsteads, mattresses, pillows, tables, washstands, chairs, wardrobes, buckets, basins, and slop cans, all of which the College furnishes.

Each student is required to bring with him and keep himself constantly supplied with a sufficient supply of bed clothing for his comfort, towels, etc., and underclothing sufficient for one year's wear.

Students are required to take their meals at the Steward's Hall, and at each meal a professor will be present.

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

A student once entering for the term and having paid for that term or the balance of it, as required by the resolution of the Board of Directors, shall forfeit all claim to said payment in case of voluntary withdrawal from the College before the expiration of said term, except in case of sickness.

If on any account the prompt payment of the dues should be delayed, the Chairman will mail to the parent or guardian of the student the following notice:

NOTICE TO PARENTS AND GUARDIANS.

"Your attention is respectfully directed to the following resolution, passed by the Board of Directors of the Agricultural and Mechanical College of Texas:

"*Resolved*, That it shall be the duty of the Treasurer to notify parents and guardians ten days after the date upon which a term payment is due that if same is not paid within twenty days thereafter (thirty days from time the payment was due), the student so in arrears will be dismissed.

"Payment due.....18.. Notice sent..... .....18..

"Limit expires..... ..18.."

All communications in reference to accounts of students should be addressed to the Chairman of the Faculty.

UNIFORMS, BOOKS AND STATIONERY.

A neat uniform of cadet grey cloth is furnished here at a cost of from $15 to $20, depending on size.

These uniforms are made by contract, and students are required to purchase from the contract tailor in order that uniformity may be secured in the cut and quality of the clothing, and that parents may be protected from imposition by irresponsible persons. The contract suits are carefully inspected by the Commandant of Cadets, and thus the full value of money expended for them is secured.

Books and stationery may be obtained here. They will probably cost about $5 to $15 per session.

BEGINNING OF THE SESSION.

The fifteenth annual session will open Wednesday, September 10th, 1890, and will close on Tuesday, June 9th, 1891.

Students should not arrive at the College earlier than Monday, September 8th.

STUDENT LABOR.

The Board of Directors have provided for a limited number of details for work. Students holding these details can, by work, pay from one-fourth to one-third of the College expenses. Those desiring these details are requested to correspond with the Chairman of the Faculty.

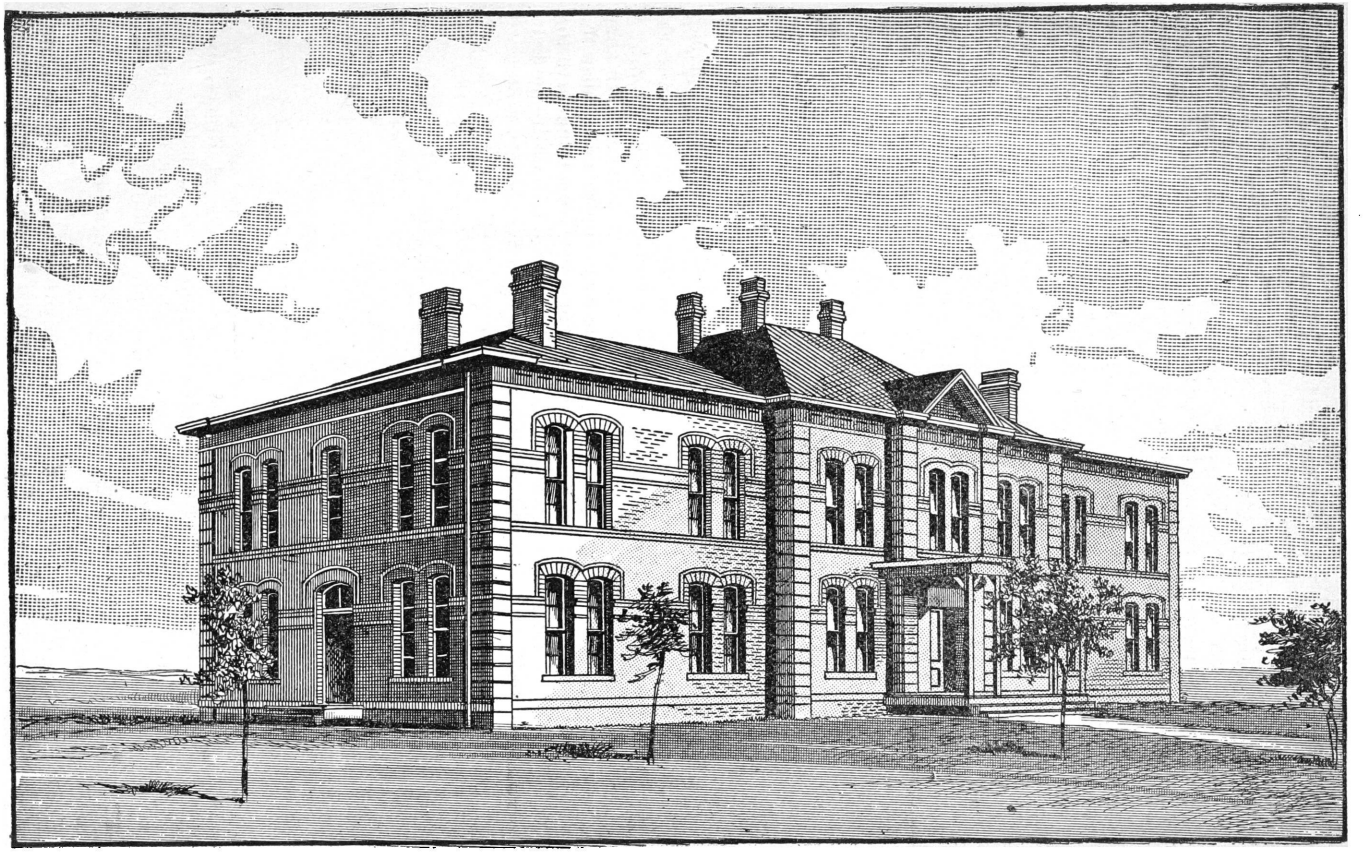
MISCELLANEOUS.

LOCATION.

The College is situated at College Station in the county of Brazos, five miles south of Bryan and ninety-five miles northwest of Houston. The Houston and Texas Central Railroad runs through the grounds, daily trains stopping at the station about 800 yards from the main building.

POSTOFFICE.

This is College Station, not Bryan. It is important that correspondents should observe this, since letters are often delayed by going to the latter place. College Station is a money order office, and there is an express office at this place.



PFEUFFER HALL.

MAIN BUILDING.

The main building stands on the highest point of the grounds. It is four stories high, made of brick, with mansard roof and towers. The rooms are all of high pitch and well ventilated. There are forty-five rooms in the building. On the fourth story nearly half the space is occupied by the large room assigned to the drawing department. Two society halls, the armory, the mechanical section room, and two small rooms are also on this floor. On the third floor are the section rooms of the departments of English, languages, and horticulture and botany, the library and reading room, and eight rooms occupied by officers of the College. On the second floor are the Chairman's office, the business office, the bookstore, the chemical laboratory and section room, the museum, the agricultural section room, English section room, the office of the Director of the Agricultural Experiment Station, and the janitor's room. On the fourth floor are chemical private laboratory, furnace room, section room and instrument room of the department of civil engineering and physics, store room, dark room, mathematical section room, guard room, commandant's office, and section room and laboratory of the department of veterinary science. There are broad halls running through each story at right angles to each other, and two sets of stairways, one in the middle, the other at the end of the building. The external appearance of the building is shown on the right of the frontispiece.

SHOPS.

Back of the main building (seen a little to the left of it in the picture) is the carpenter shop. It is of two stories, fitted with benches and wood-working tools in separate sets for students Power is supplied in this shop by a twelve-horse power vertical engine. The boiler house and blacksmith shop are in the rear of the building. The metal working shop is seen near the middle of the engraving. Its machinery is driven by a twenty-horse power engine. The building is of brick.

The blacksmith shop is furnished with six forges and necessary tools.

MESS HALL.

This is seen on the left of the other buildings. It is three stories high, and is attached to the house which was formerly the President's residence. The first floor is occupied by the hall, Steward's office, store rooms, kitchen, etc. The second and third floors are occupied by students' rooms, of which there are twenty in the building.

PFEUFFER HALL.

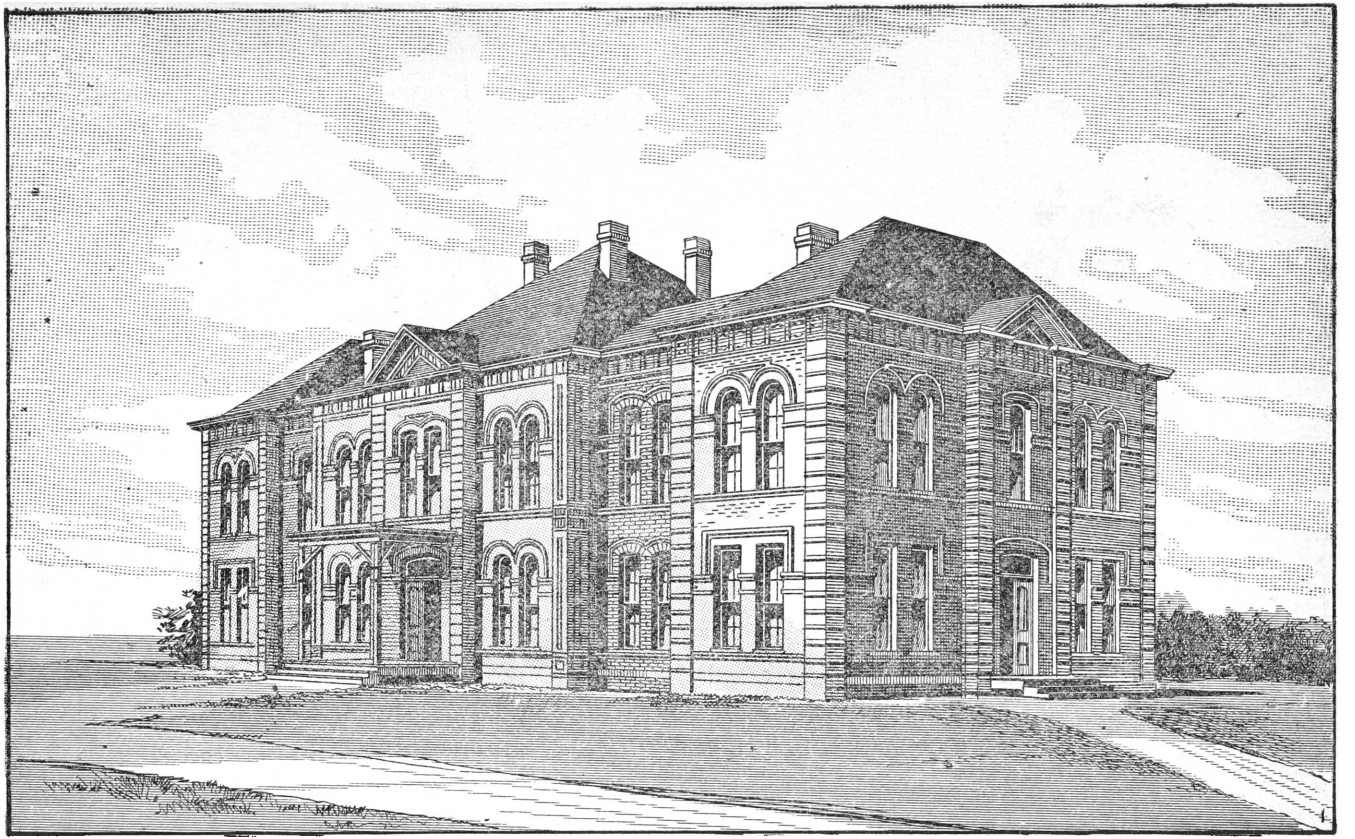
This new building, erected in 1887, is for a dormitory, and has capacity to accommodate seventy-five students. It is named in honor of Hon. George Pfeuffer, a former President of the Board of Directors.

AUSTIN HALL.

This is a new dormitory, erected in 1888, and has capacity to accommodate seventy-five students.

HOSPITAL.

A large and comfortable building has been erected as a hospital and surgeon's residence.



AUSTIN HALL.

The surgeon will give his attention to all students without charge other than the regular medical fee of five dollars paid by each student upon entrance.

CREAMERY.

There has recently been erected a building for the creamery. It is supplied with a complete outfit of the latest improved apparatus for making butter. The machinery is driven by a six-horse power engine. Practice in the creamery forms part of the agricultural course.

ASSEMBLY HALL.

This building has been completed and furnished with neat opera chairs. It is a two story brick stuccoed with Portland cement; has main floor and gallery. It is an ornament to the grounds.

FARM BUILDINGS.

These are situated several hundred yards in the rear of the main building. They consist of two large barns, a milking shed, and a piggery. One of the barns is new and is fittted with stalls for the thoroughbred cattle, and storage rooms for implements and food. These buildings are supplied with water from a large tank, which is kept filled by a wind mill.

There has recently been erected three large silos in connection with the Agricultural Experiment Station, and students will have the advantage of practical instruction in the construction of silos and the best method of preparing ensilage.

PERMANENT FUND.

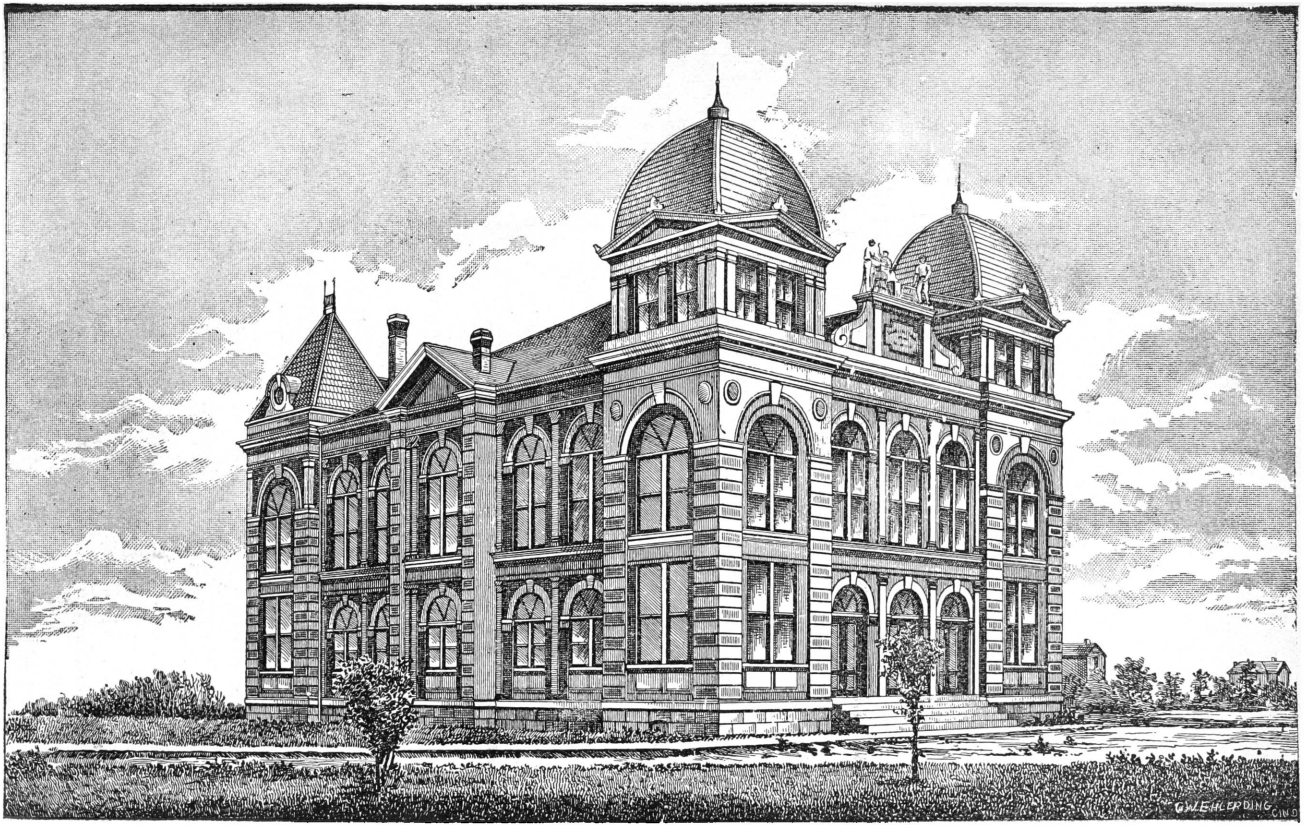
In November, 1871, the Legislature formally accepted from Congress the gift of one hundred and eighty thousand acres of public land for the endowment of an agricultural and mechanical college. This land was sold for $174,000, which sum was invested in seven per cent State bonds. As under the act of Congress neither principal nor interest of this money could be used for other purposes than the payment of officers' salaries, at the time of the opening of the College there was an addition to the fund from accumulated interest of $35,000. This was invested in six per cent bonds of the State, thus furnishing an annual income of $14,280.

LAND.

The county of Brazos donated to the College two thousand four hundred and sixteen acres of land lying on each side of the Houston and Texas Central Railroad, five miles from Bryan and ninety-five from Houston.

GROUNDS, FARM, AND STOCK.

The farm, garden, orchard, barnyards, and campus are included in the inclosures to the east of the station. The farm comprises about two hundred acres. This is devoted solely to experimental culture and the production of forage for stock. The orchard of eighty acres contains a large variety of young fruit trees more or less adapted to this climate. The garden affords experimental work to students and furnishes an abundance of vegetables to the mess hall. A young vineyard has been started; many of the vines are already bearing well. Back of these are the piggery, calf lots, barns, and pastures of about four hundred acres.



ASSEMBLY HALL.

The College now owns registered cattle, Dutch Frisians, Galloways, and Jerseys, besides a number of high grade short horns and common cows for the present milk supply. The swine include Essex and Berkshires. On the west side of the railroad two pastures of eight hundred acres each have been enclosed.

APPARATUS.

All departments of instruction are well supplied with implements and instruments of the latest and best forms. The agricultural department is equipped with hand tools, machinery, and mules for farm work. The machine shops are well furnished with wood and metal working machinery and tools. The chemical and physical laboratories have recently received important accessions of apparatus.

The department of civil engineering is supplied with a full set of surveying and engineering instruments.

MILITARY ORGANIZATION AND DISCIPLINE.

For the purpose of maintaining good order and discipline, as well as for the proper execution of the law of Congress requiring military instruction of the students, they are organized into a battalion of two or more companies. The battalion is under the immediate command of the Commandant. The officers, commissioned and non-commissioned, are students taken for the most part from the first and second classes. They are appointed by the Chairman of the Faculty upon the recommendation of the Commandant, and their appointment and rank is made to depend upon the active and soldierly performance of their duties, their sense of duty and responsibility, and their general good conduct and class standing.

These officers, not merely at drill, but at all times when on duty, assist in keeping good order in and around the buildings. In their various positions of graduated responsibility they not only aid most efficiently in maintaining discipline, but continually practice and are trained in the exercises of the highest qualities involved in obedience and command.

GENERAL REGULATIONS.

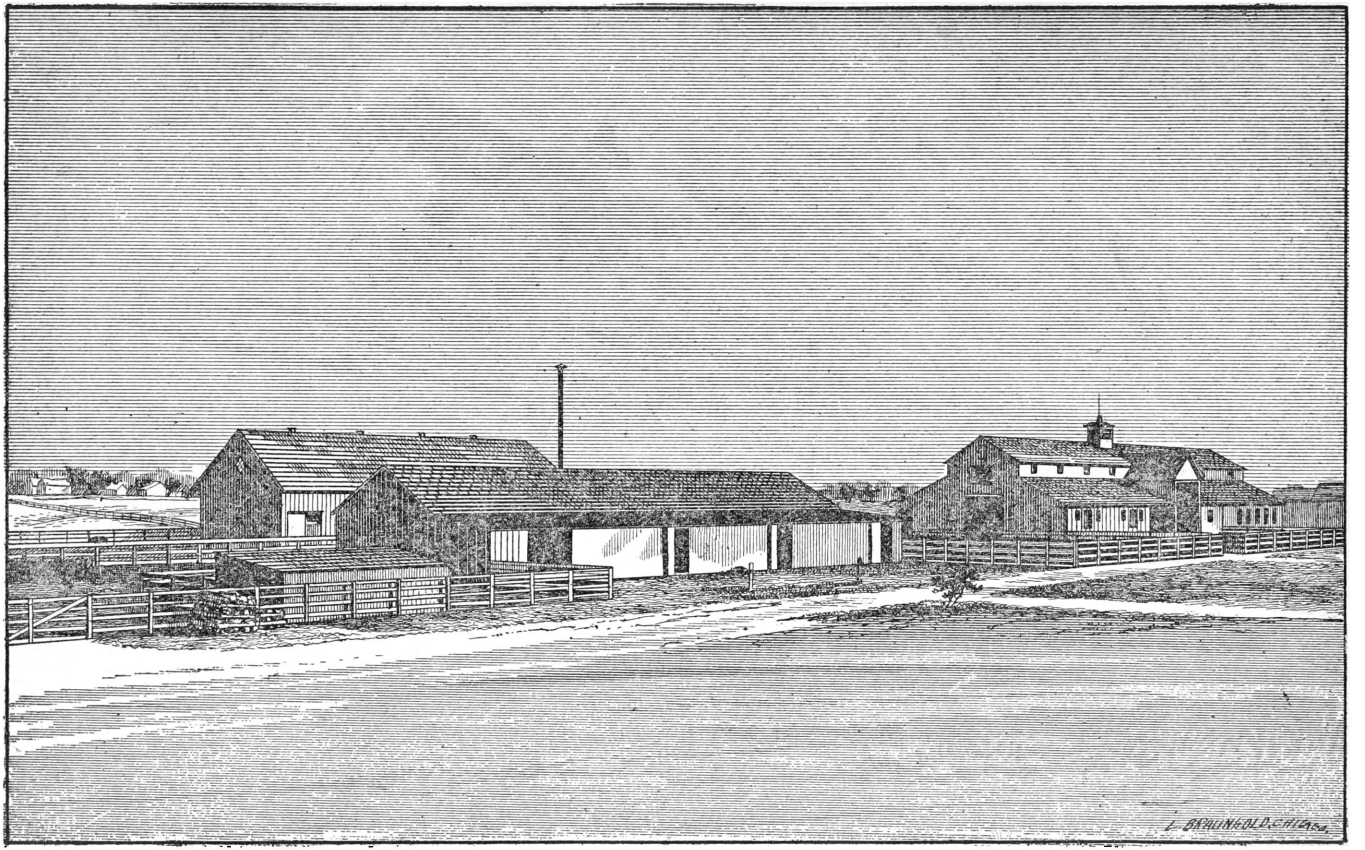
It is understood that every student upon entering the College pledges himself to an honest effort to observe the regulations and sustain the authorities in the maintenance of discipline.

The strictest attention to study, and the most exact punctuality in attendance on recitations and other duties, will be made the condition of every student's continuance at the College; and any student who without authority absents himself from recitation or any other duty, deserts his class, or refuses to attend when warned, shall be dismissed, or less severely punished, at the discretion of the Faculty.

Students are forbidden to enter into combinations under any pretext whatever. One who shall begin, excite, cause, or join in any boisterous or riotous conduct, or become a party to any agreement to avoid or violate any regulation, to hold no intercourse with a comrade, or to do any act to the prejudice of good order and military discipline, shall be dismissed.

Students are prohibited, under penalty of dismission, from having in their possession ammunition, weapons, or arms not issued for the performance of military duty; nor shall these be retained loaded in quarters under any pretext.

A student who shall drink, or bring, or cause to be brought within the ca-



FARM BUILDINGS.

dets' limits, or have in his room, or otherwise in his possession, any fermented or intoxicating liquor, or fruits or viands preserved in intoxicating liquor, shall be dismissed or otherwise punished, at the discretion of the Faculty.

No student shall have in his possession or play at cards or games of chance, engage in a raffle, or in any manner wager money or other things, on penalty of dismission.

Permission to attend private parties or places of public amusement will not be granted during the term.

No cadet can be granted a leave of absence during a term without an urgent necessity.

No student is allowed to leave the College during the session without permission of the Chairman of the Faculty, on application through the Commandant.

A student who shall cut, mark, or otherwise injure or deface the buildings, furniture, or appurtenances; the trees, shrubbery, green sward, grounds, fences, stables, or outhouses; or who shall lose, injure, destroy, or improperly dispose of the arms, accoutrements, or other property of the College, shall make good all damage, and be dismissed or otherwise punished according to the nature of the offense.

When the responsibility for the destruction of State property can not be fixed upon any one, the amount of the damage will be assessed against the occupants of a room or division or the entire body of students, as the case may require.

Students receive the admonition and counsel of the Chairman of the Faculty before being subjected to any penalty, except in case of flagrant offenses. Those who are habitually neglectful of their duties, or who do not regularly attend their classes, will be required to withdraw from the College.

To each recorded delinquency a number of from one to ten, proportional to the degree of the offense in a moral and military view, is assigned to express demerit.

Any student receiving demerits as follows shall be declared deficient in conduct and subject to dismissal: In the first class one hundred in a session or thirty-four in a term; in the second class one hundred and fifty in a session or fifty in a term; in the third class two hundred in a session or sixty-six in a term; in the fourth class two hundred and fifty in a session or eighty-four in a term.

TO PARENTS AND GUARDIANS.

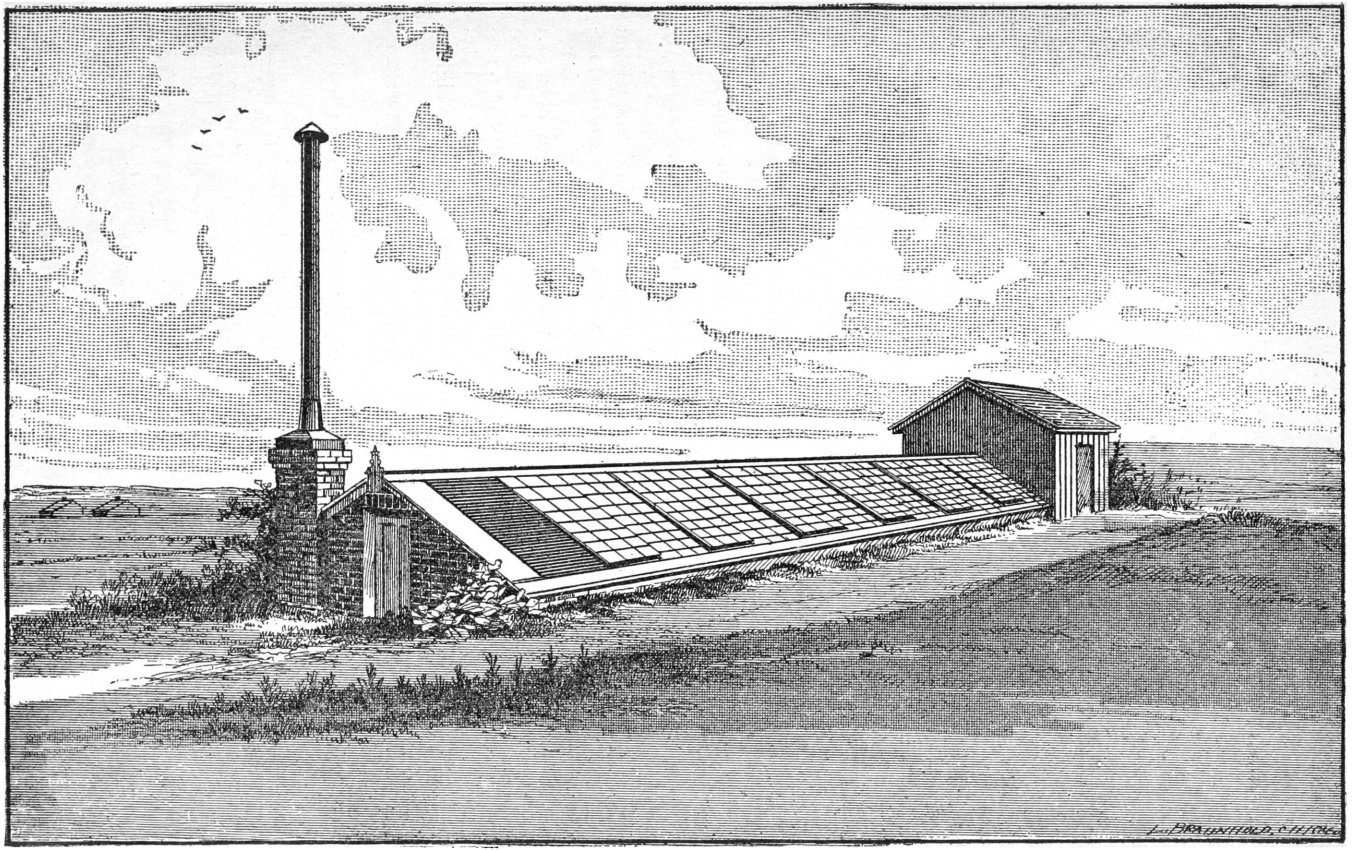
The necessity for uninterrupted attention to their studies on the part of students can not be too strongly urged. It is impossible for a young man to become interested in his work here if he is permitted to leave the College whenever any special amusement is advertised in our neighboring towns and cities. It is therefore respectfully asked that those who send their sons or wards here do not, except in the most pressing emergencies, request permission for them to leave their studies for any purpose whatever.

Whenever the parent or guardian shall leave the application for special permits to the discretion of the son or ward, the College authorities will judge of the propriety of granting such permits.

HYGIENE.

The buildings of the College stand upon the crest of a "divide," from which there is sufficient slope to carry off all drainage.

The soil is sandy, and mud and water disappear within a few hours after



GREEN HOUSE

rain. An extensive open prairie surrounds the College on all sides. There is a constant breeze—usually very strong. The water used by students is obtained from cisterns, supplied from high, clean roofs.

The rooms of the students are inspected at least twice a day, and are required to be kept neat and well ventilated.

Students have the use of bath rooms supplied with cistern water.

There is in the vicinity of the College apparently nothing to produce malarial sickness, and as a matter of fact there is very little of it here. All serious sickness has been in the form of pneumonia and measles, which do not depend on local causes.

The food served in the mess hall is admitted by all to be abundant, palatable, and wholesome. It is therefore very desirable that parents should refrain from sending boxes of delicacies to their sons. The practice of eating from these between meals is undoubtedly very injurious to the health of the young men, and the surgeon has traced more sickness and consequent loss of time to this one cause than to any other.

The drill, farm, and shop practice and athletic sports furnish abundant and wholesome exercise for the students.

RELIGIOUS AND MORAL CULTURE.

Every Sunday there will be service in the chapel, and all students must be present unless excused by special request of parents or guardians. The faculty will try by all the means in their power to protect and develop good morals in those committed to their charge.

The situation of the College is peculiarly favorable for the preservation of the morals of the students. The nearest town is distant five miles, and it is almost impossible for any student to go to Bryan, even for a short time, without his absence becoming known to the authorities. All the temptations that beset young men in cities are entirely absent here. No student is ever permitted to visit Bryan at night except by request of his parent or guardian.

LITERARY SOCIETIES.

There are two literary societies in the College—the Austin and the Calliopean. They meet weekly in their respective halls for practice in debate, literary composition, and declamation. Public debates are held frequently during the session, and speakers are invited to deliver addresses.

LIBRARY AND READING ROOM.

A valuable library and reading room have been provided for the use of students, and additions will be annually made.

The library now comprises standard works of history, biography, agriculture, mechanics, engineering, mathematics, natural science, law, and political economy, mental and moral philosophy, poetry, general literature, and reference.

Gifts of books and magazines will be thankfully received. Back numbers of literary and scientific periodicals will be especially useful in completing files.

LIST OF PERIODICALS AND PAPERS IN THE READING ROOM.

The following papers have been contributed to the reading room by the publishers:

AGRICULTURAL.

Stock-Grower, Las Vegas, N. M.
Southern Planter, Richmond, Va.
Farm, Field and Stockman, Chicago, Ill.
Orange Judd Farmer, Chicago, Ill.
Western Farmer, Madison, Wis.
Farmers' Review, Chicago, Ill.
Farmers' Call, Quincy, Ill.
New England Farmer, Boston, Mass.
Western Rural and American Stockman, Chicago, Ill.
National Stockman and Farmer, Pittsburg, Pa.
American Florist, Chicago, Ill.
Texas Stockman and Farmer, San Antonio, Tex.
Hoard's Dairyman, Fort Atkinson, Wis.
Live Stock Indicator, Kansas City, Mo.
Indiana Farmer, Indianapolis, Ind.
Southern Live Stock Journal, Starkville, Miss.
Dixie, Atlanta, Ga.
Farm and Fireside, Philadelphia, Pa.
Farm and Home, Springfield, Mass.
Holstein-Fresian Register.
Western Resources, Lincoln, Neb.
Texas Farm and Ranch, Dallas, Tex.
Texas Live Stock Journal, Fort Worth, Tex.
Southern Farm, Atlanta, Ga.
Kansas Farmer, Topeka, Kas.
Rural Workman, Little Rock, Ark.
Acker und Gartenbau Zeitung, Milwaukee, Wis.
Pacific Rural Press, San Francisco, Cal.
Mirror and Farmer, Manchester, N. H.
Iowa Homestead, Des Moines, Ia.
Farm and Fireside, Springfield, O.

The following have been subscribed for:

AGRICULTURAL.

Agricultural Science, Knoxville, Tenn.
Country Gentleman, Albany, N. Y.
The Horseman, Chicago, Ill.
Popular Gardening, Buffalo, N. Y.
American Agriculturist, New York, N. Y.
Southern Cultivator and Dixie Farmer, Atlanta, Ga.
American Garden, New York, N. Y.
Veterinary Journal, London, England.

MECHANICAL.

American Machinist, New York, N. Y.
Iron Age, New York, N. Y.
Age of Steel, St. Louis, Mo.

SCIENTIFIC.

Scientific American and Supplement, New York, N. Y.
Electrical World, New York, N. Y.
School of Mines Quarterly, New York, N. Y.
Engineering News, New York, N. Y.
Nature, New York, N. Y.
Science, New York, N. Y.
American Meteorologist Journal, Ann Arbor, Mich.
Engineering and Mining Journal, New York, N. Y.
Druggist Circular, New York, N. Y.
American Journal of Science, New Haven, Conn.
London Analyst, London, Eng.
American Geologist, Minneapolis, Minn.
Journal of Chemical Society, London, Eng.
Breeders' Gazette, Chicago, Ill.
Sorghum Growers' Guide and Farm Journal, Madison, Wis.
Jersey Bulletin, Indianapolis, Ind.
Wisconsin Agriculturist, Racine, Wis.
Western Farm and Stockman, Sioux City, Ia.
Journal of Mycology, Washington, D. C.
Massachusetts Ploughman, Boston, Mass.
Industrial News, Manhattan, Kas.
Southern Horticultural Journal, Dallas, Tex.
Dairy World, Chicago, Ill.

MECHANICAL.

Architecture and Building, New York, N.Y.
Mechanics, Philadelphia, Pa.
Mechanical News, New York, N. Y
Building, New York, N. Y.
Architectural Designer and Publisher, New York, N. Y.

RELIGIOUS.

Texas Christian Advocate, Dallas, Tex.
Living Church, Chicago, Ill.
Christian Messenger, Dallas, Tex.
Texas Baptist and Herald, Dallas, Tex.
Western Recorder, Louisville, Ky.
Christian Observer.

GENERAL NEWS.

Uvalde News, Uvalde, Tex.
Semi-Weekly Express, San Antonio, Tex.
Austin County Times, Bellville, Tex.
Family Herald and Weekly Star, Montreal, Canada.
Brazos Pilot, Bryan, Tex.
Paris News, Paris, Tex.
Freie Presse für Texas, San Antonio, Tex.
The Industrialist, Manhattan, Kas.
Abilene Reporter, Abilene, Tex.
Journal of the Society of Chemical Industry, London, Eng.
Popular Science News, Boston, Mass.
Popular Science Monthly, New York, N. Y.

ILLUSTRATED.

Puck, New York, N. Y.
Ueber Land und Meer, Berlin, Germany.

MILITARY.

Army and Navy Journal, New York, N. Y.

JUVENILE.

Youth's Companion, Boston, Mass.

LITERARY.

Forum, New York, N. Y.
North American Review, New York, N. Y.
The Century, New York, N. Y.
Magazine of American History, New York, N. Y.

Scribner's Magazine, New York, N. Y.
Atlantic Monthly, Boston, Mass.
Fortnightly Review, London, Eng.
Contemporary Review, London, Eng.
Nineteenth Century, London, Eng.

GENERAL NEWS.

Dallas News (Daily), Dallas, Tex.
Fort Worth Gazette (Daily), Fort Worth, Tex.
Houston Post (Daily), Houston, Tex.
New York World (Weekly), New York, N.Y.
St. Louis Globe-Democrat (Weekly), St. Louis, Mo.
Atlanta Constitution (Weekly), Atlanta, Ga.
The Picayune (Weekly), New Orleans, La.
Courier-Journal (Weekly), Louisville, Ky.

TEXAS FARM AND RANCH MEDAL.

The Texas Farm and Ranch offers a gold medal for the best thesis presented by a member of the graduating class each year.

MUSEUM.

A room has been fitted up for a museum. Donations to the museum will be thankfully received and credit given to the donors on labels to the specimens.

Minerals from all parts of the State will be received and their composition determined by chemical analysis.

LIST OF DONATIONS TO THE MUSEUM OF THE A. AND M. COLLEGE OF TEXAS.

The following are the accessions to the College museum during the past year:

100 woods of Florida.
57 minerals from Smithsonian Institute.
91 mineral of Texas. E. T. Dumble, State Geologist.
Chemicals manufactured by students, chemical department.
By-products of analytical work, chemical department.
Students' work, iron and wood, mechanical department.
Students' work, drawing, drawing department.
1 mounted white crane. Capt. M. T. Scott.
1 mounted blue crane. Capt. T. M. Scott.
1 curlew. Capt. T. M. Scott.
1 snake skin. Cadet Sarvis.
1 beak of sawfish. Cadet Henry.
1 large centipede.
1 mounted skeleton of man, monkey, seal, wolf, kangaroo, salmon, perch.
1 skull of beaver, cat, dog, and ox.
1 mounted skeleton of stork, vulture, turkey, paroquet.
1 skeleton of snake.
1 mounted alligator.
Various small reptiles in alcohol.

Correspondence in regard to the museum should be addressed to Dr. M. Francis, Curator.

SPECIMEN EXAMINATION PAPERS.

The following are specimen examinations given to candidates for the fourth and third classes.

ENTRANCE EXAMINATION FOR FOURTH CLASS.

Arithmetic.

Define arithmetic, compound number, composite number, and notation.

Name and illustrate the signs of operation.

What characters are used to express numbers in the Roman system of notation?

Define least common multiple.
Find the least common multiple of 16, 140, 210.
Find the prime factors of 2445.
What is a fraction?
Add $1\frac{1}{2}$, $2\frac{2}{3}$, $3\frac{3}{4}$, $4\frac{4}{5}$.
From $25\frac{7}{10}$ take $14\frac{13}{15}$.
What effect has annexing cyphers to a decimal fraction? What prefixing?
Change to a common fraction and reduce to its lowest terms .5625.
Find the value of $12\frac{5}{8}$ cords of wood @4.37\frac{1}{2}$ per cord.
From $11\frac{3}{40}$ lbs. Troy wt. take 10 lbs. 8 oz. 8 pwt.
Reduce 4 oz. 3 pwt. 19.8 gr. to grains.

Grammar.

Name the parts of speech.
What is a collective noun?
Decline *he.*
Compare *graceful.*
What is a regular verb?
Give principal parts of *know.*
What is the subject of a sentence? What is the predicate of a sentence?

Geography.

What is latitude?
What is longitude?
Name the oceans.
Bound Texas.
Bound the United States.
Name the European countries and their capitals.
Name the South American countries and their capitals.
Name the principal rivers in North America, South America, Europe, Asia, and Africa.

ENTRANCE EXAMINATION FOR THIRD CLASS.

Arithmetic.

Define: (1) Arithmetic, (2) Abstract number, (3) Fraction, (4) Decimal fraction.
What does the numerator and what the denominator of a fraction show?
Write, decimally, one thousand and fifty hundred thousandths.
Find the value of $8\frac{1}{9}+5\frac{1}{5}-2\frac{5}{6}-3\frac{1}{10}+3\frac{1}{12}$.
Find the value of $\frac{7\frac{4}{11}-5\frac{1}{10}}{4\frac{1}{3}\text{ of }2\frac{1}{5}}$
Find the greatest common divisor of 2572 and 396, and explain fully.
To $\frac{7}{9}$ of a mile add $\frac{3}{16}$ of a yard.
From $2\frac{4}{7}$ take $1\frac{7}{8}$.
Find the discount and the present worth of a note for $275, payable in $5\frac{1}{2}$ months, discounted at 10% per annum.
Find the interest at 8% on $425 for 2 years 5 months 18 days. What is the amount?
Change to decimals and add 1, $\frac{1}{2}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$.
A wine merchant sells wine at $1.20 per gallon, thereby losing 20%; at what price must he sell in order to gain 10%?
How much carpet 1 yard wide will be required for a room 16 feet by 18 feet, and what would be the cost at 1.37\frac{1}{2}$ per yard?

What is the unit of measure in the French system, and how was it determined?

Define Interest, Commission, Stocks, and Alligation.

Algebra.

Define Quantity, Coefficient, Term, Binomial, Polynomial, and Algebra.

What is the numerical value of an algebraic expression?

When is a quantity said to be measured?

What is a literal term, and what determines the degree?

When are terms homogeneous?

Mention the symbols used in Algebra.

What is a formula?

Find the numerical value of $\{[(a+b)c-d]x+y\}y$, when $y=6$, $x=8$, $a=2$, $b=3$, $c=4$, $d=5$.

B has \$10 more than four times as much as A, and together they have \$90; how much money has each?

Divide $x^4-4x^3y+6x^2y^2-4xy^3+y^4$ by $x^2-2xy+y^2$.

Demonstrate and apply the theorems for the square of the sum and the product of the sum and difference of any two quantities.

Find the factors, the greatest common divisor, and the least common multiple of a^4-b^4 and $a^2+2a^2b+ab^2$; also, of x^2+2x-3 and x^3+8x^2+15x. Explain each operation fully.

Divide $\frac{x^4-y^4}{x^2y}$ by $\frac{x}{y}+\frac{y}{x}$

Given $\frac{4x}{5-x}-\frac{4(5-x)}{x}=\frac{15}{x}$ find value of x.

Given $\frac{a}{b+y}=\frac{b}{3a+x}$ and $ax+2by=d$, find values of x and y.

English.

What is a logical subject? Logical predicate?

What is an abstract noun?

What is a clause?

Correct this sentence: I do not like those sort of houses.

Name the tenses of the potential mood.

Analyze and parse the following sentence:

Man wants but little here below,
Nor wants that little long.

Write a short composition (subject to be given).

DEPARTMENTS OF INSTRUCTION.

DEPARTMENT OF MATHEMATICS.

Professor, L. L. McINNIS, A. M.

Adjunct Professor, R. F. SMITH.

Instructors, LT. W. S. SCOTT, JNO. D. FEARHAKE, B. C. E.

Instruction in this department will have for its aim, to lead the student into the habit of thoroughly analyzing every subject. He will be taught to accept nothing as true in mathematical science, unless rigidly demonstrated, and he will be required so to demonstrate all rules and principles before applying them to the solution of problems. He will be made to realize the importance of this science in the practical affairs of life, as well as its value in strengthening and disciplining the intellectual powers, by carefully selected and original problems throughout the course, involving the application of its principles to the arts, industries, and applied sciences of to-day.

The principles enunciated and established in the texts will be constantly supplemented by oral and written lectures tending to show their application.

In the application of mathematics to mechanics the student will be taught the doctrine of forces—their composition and resolution, laws of gravity, laws of motion, etc. A series of lectures on the history, utility, and philosophy of mathematics will be given.

For instruction in geometry, plane, solid, spherical, descriptive, and analytical, the department is supplied with a complete set of Schrœder's mathematical models, imported from Germany for this institution.

TEXT AND REFERENCE BOOKS.—Arithmetic, *Venable* and *Robinson*, *Brooks' Philosophy of Arithmetic;* Algebra, *Schuyler*, *Wentworth*, *Davies;* Geometry, *Schuyler*, *Wentworth*, *Venable;* Trigonometry and Mensuration, *Schuyler* and *Davies;* Surveying, *Schuyler*, *Wentworth*, *Davies*, and *Gillespie;* Analytical Geometry, *Church*, *Peck*, *Bowser*, *Howison*, and *Wood;* Calculus, *Church*, *Bowser*, *Byerly*, and *Peck;* Mechanics, *Wood*, *Peck*, *Smith*, and *Bartlett;* Descriptive Geometry, *Church and Warren;* Davies' Dictionary of Mathematics, Bledsoe's Philosophy of Mathematics.

GOVERNMENTAL SCIENCE.—Students of the first class have two recitations per week during the Spring Term in Governmental Science.

TEXT AND REFERENCE BOOKS.—Governmental Science, *Young*, *Andrews*, *Townsend*, *Nordhoff*. Lectures.

DEPARTMENT OF ENGLISH AND HISTORY.

Professor, W. L. BRINGHURST, A. M., PH. D.

Assistant, W. B. PHILPOTT.

Instructor, C. P. FOUNTAIN.

The general aim of instruction in this department is to make thorough, practical English scholars.

The following subjects are taught:

I. ENGLISH LANGUAGE AND LITERATURE.

Embracing the grammatical and rhetorical structure of the language, its history and development, synonyms, and comparative philology. That the student may thoroughly master the principles of his mother tongue, daily recitations are accompanied with practical exercises on the blackboard in writing, spelling, analyzing, and criticising. Constant practice in declamation and composition is required.

The historical development of English literature is carefully traced, and the student is made as familiar with the works of our great authors in poetry, history, philosophy, fiction, science, etc., as the time allotted will permit. Lectures are delivered to the classes, and original reviews, essays, and compositions are required.

TEXT BOOKS—Patterson's Elements of Grammar, Patterson's Advanced Grammar and Rhetoric, Welsh's Essentials of English, Meiklejohn's English Literature.

II. HISTORY.

The object of this course is to give the student a thorough knowledge of the history of his own country and of England, and an outline of the world's history, ancient and modern. Special attention is given to the history of the people, and of the gradual development of the civilization, power, laws, constitution, and political system of our republic. The department is well supplied with wall maps, globes, etc.

TEXT BOOKS—Barnes' History of the United States, Meyer's General History.

For reference and private reading the College library supplies an admirable collection of histories, dictionaries, biographies, and encyclopedias, besides works of poetry and general literature.

DEPARTMENT OF LANGUAGES.

Professor, RUDOLPH WIPPRECHT.

This department comprises both the German and the Spanish languages as elective or optional studies, respectively, and Latin as optional only, as shown in the curricula.

The aim of instruction consists in teaching the student to read either of the above named modern languages understandingly, chiefly by his own mental effort, and with a minimum of assistance from the dictionary or grammar. The English idiom, as a compound chiefly of the Germanic and the Latin languages, is particularly well adapted for a line of study of that kind, owing to the similarity in form and meaning to the German and to the Spanish words with those of the English. This relation is so striking that the intelligent student can, with some reflection, safely proceed from the English word already known to him to the foreign one yet unknown. Besides, this kind of study is not only the best method for training the mind to think, by forcing the student to constantly compare ideas and draw conclusions therefrom, but, in later years, when settled to business, the student may also derive from his linguistic studies not only a great deal of intellectual pleasure but material advantages in addition, by being enabled to read in the original such foreign books or papers bearing upon his profession as are not published in English translations. Reading foreign language is the preliminary step to speaking whenever opportunity offers.

With regard to the English language may be stated that this method of studying foreign language is at the same time a valuable critical study of the English language itself, inasmuch as by the comparing of the various idioms a great deal of etymological knowledge is derived which can not be well acquired in any other way.

The short time generally allotted to the study of modern languages in technical schools does not allow of a wider scope in describing a plan for linguistic study than this, but if the instruction can be carried on through several classes the result will yet be quite satisfactory.

DEPARTMENT OF MECHANICAL ENGINEERING.

Professor, R. H. WHITLOCK, M. E.

Assistant, PAUL BRAUN, B. M. E.

This department is intended so to combine theory and practice that, after deriving a theoretical knowledge of a subject from the text books of standard writers, the student may go into the shop and apply that knowledge in a thoroughly practical manner. With this theoretical preparation the mind grasps the salient points and avoids the difficulties of the more practical part of the work. The work is carried on by aid of practice in the shops and drawing room, and by text books and lectures.

First the machinery of transmission is taken up and discussed, and especial attention paid to shafting, belts, speed pulleys, gear wheels, and kindred subjects. These lead the way to the higher forms of mechanism, and later the steam engine in its general principles and various forms is studied and discussed.

As stated above, the work in the class room is supplemented in every possible way by showing the student the practical application of these principles in the machinery used at the College and neighboring places.

Before graduating from this department, each student must place in the hands of the professor in charge a thesis which treats of some mechanical subject, which shall be declared satisfactory by him.

SHOPS AND SHOP WORK.

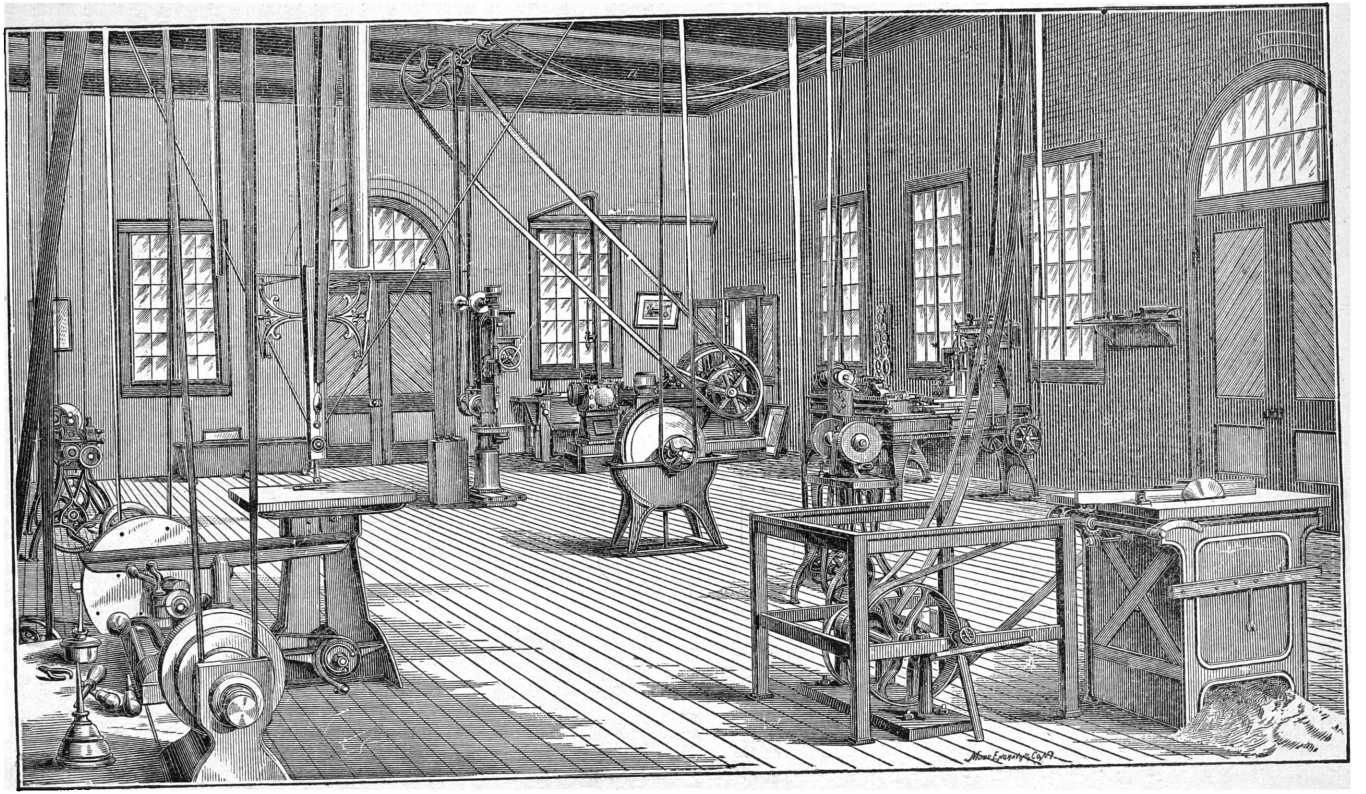
Superintendent, PROFESSOR R. H. WHITLOCK.

Foreman of Machine and Blacksmith Shops, A. M. GUENTHER.

Foreman of Carpenter Shop, C. A. LEWIS.

The carpenter shop is situated in a two story frame building, 83x34 feet. Here each student has his own set of tools to care for, use, and keep in order. The machine shop is a one story brick building, 80x35 feet, and in connection with it is the blacksmith shop, 20x35 feet

Here the student receives practical and systematic instruction, beginning with the simplest exercises and gradually working up to those of a more difficult character which involve greater skill. Each of these, when finished, must reach a certain standard of perfection before the learner can pass on to the next, thus insuring a knowledge of the principles by which the work is accomplished. The wood-working department is subject to the same requirements, and here, as in iron-working, the first exercises are of the simplest character, while the later ones demand increased skill on the part of the workman. All tools are furnished by the College, but the student should furnish a two-foot rule and a pair of overalls, both of which may be obtained in Bryan.



INTERIOR OF MACHINE SHOP.

DEPARTMENT OF AGRICULTURE.

Professor, GEO. W. CURTIS, M. S. A.

Assistant, J. M. CARSON.

Foreman of Farm, J. H. ALSWORTH.

The design of the course in agriculture is to furnish not only close, practical instruction in all branches of progressive farming and stockraising, but also a broad and liberal education, fitting the student for the higher demands of agricultural industry and the full responsibilities of educated citizenship. For a complete outline of studies pursued, see curricula on preceding pages; the more important branches are briefly noted below.

In the study of domestic animals, careful attention is given to the merits and demerits of different breeds, origin, description, and characteristics being discussed specifically for each breed, with general notes on care, management, etc., pertaining to all.

Dairying is given considerable prominence. The creamery building is thoroughly furnished and fitted with the latest improved machinery and apparatus for the practical instruction of students, who perform the entire work, so far as their time will allow, under the immediate supervision of the professor or his assistant.

The aim is to thoroughly fit our students for taking charge of and operating creameries, as well as managing dairy farms, in any portion of the State.

In stockbreeding the aim is to acquire familiarity with the principles of selection, feeding, etc.; to change or perpetuate characters, and the laws governing the transmission of qualities. Especial attention is given to the breeding, selection, and management of dairy stock.

The study of cattle feeding is pursued in the natural order of topics discussed, taking up first, the general laws of animal nutrition; second, the chemical composition of feeding stuffs; third, the feeding of farm animals. In this way a thorough knowledge is acquired of the principles and reasons upon which profitable cattle feeding is based, either upon the range or in the yard.

Practical work is required of each student in the feeding of animals for different purposes, and comparison of different fodders for the same purpose.

The senior class devote the year to the study of drainage and irrigation, fertilizers, and farm management. The latter includes comparison of the different branches of agriculture, rotative and successive cropping, management and economy of labor, selection and care of machinery, care of stock, planting and harvesting cotton, grain, and forage crops, and general suggestions as to profit and loss in farming.

Practice is given regularly from four to eight hours per week throughout the course.

The fourth class conduct field tests with different crops and fertilizers, performing the entire work, so far as time will permit, of planting, fertilizing, cultivating, and harvesting in a field set apart for this purpose.

The third and second classes perform all work in connection with the creamery, as previously stated.

The first class practice consists in the conduct of field and feeding experiments, laboratory microscopic, and such other work as will best fit them for agricultural pursuits.

In addition to the above regular practice all students are permitted and

encouraged to work one or two afternoons each week—at a maximum rate of ten cents per hour—at whatever work may be found to do. Students avail themselves of this opportunity to defray a portion of legitimate College expenses without detriment to their studies.

The library is well supplied with standard works of reference on all branches, which students may consult at any time in addition to the regular text books used in the course.

DEPARTMENT OF EXPERIMENTAL AGRICULTURE.

Professor, F. A. GULLEY, M. S.

The work in this department will embrace lectures on the development of the application of science to practical agriculture and experimental agriculture.

The Reports of the Agricultural Experiment Stations will be used for reference.

Students will have regular practice in the Experiment Station.

The general aim of the instruction and practice in this department is to familiarize the student with the knowledge gained through experimental work in agriculture, and to fit him to make investigations in a practical way after he leaves college.

The work in progress in the Agricultural Experiment Station connected with the College will enable students to become thoroughly posted in the management and in the details of station work.

DEPARTMENT OF CHEMISTRY AND MINERALOGY.

Professor, H. H. HARRINGTON, M. S.

Assistant, DUNCAN ADRIANCE.

CHEMISTRY.

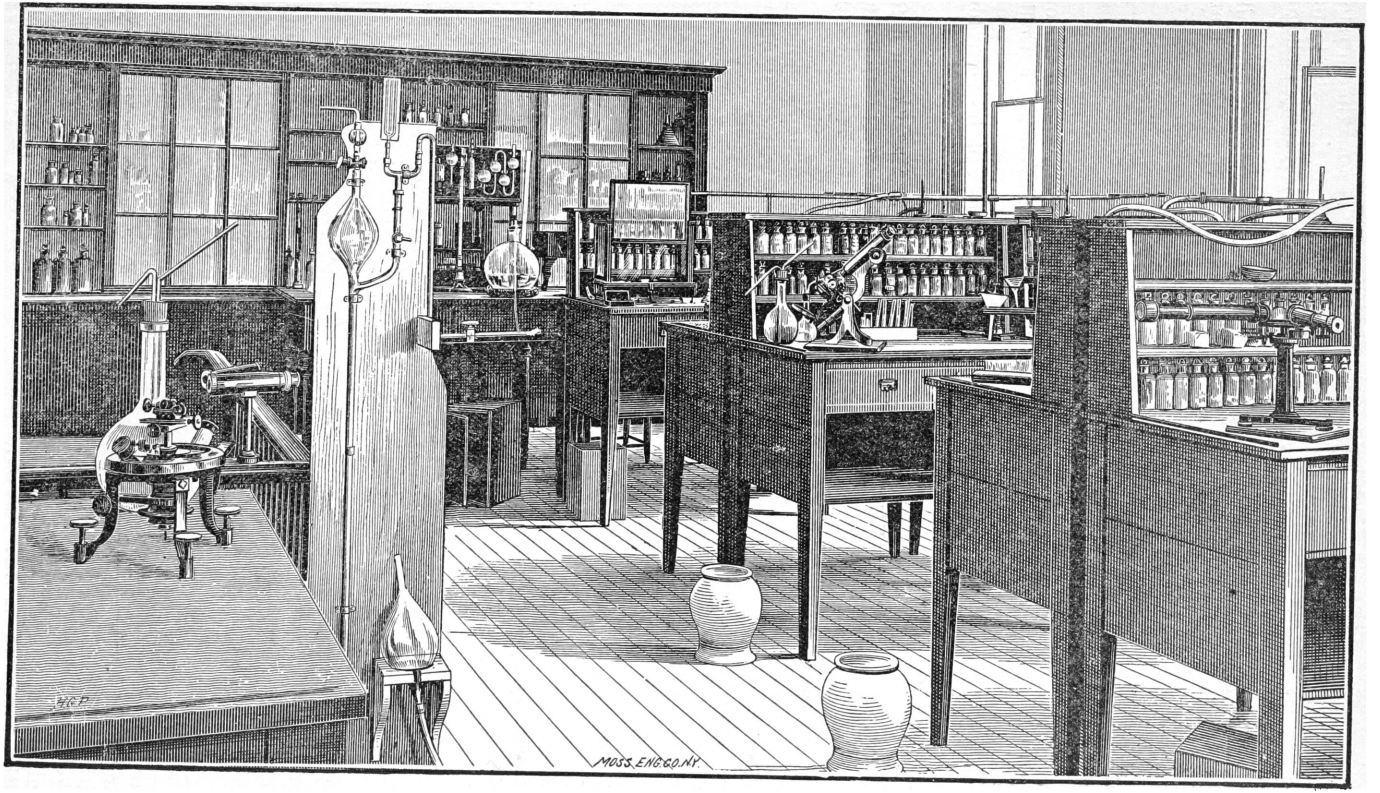
The subject of chemistry will be introduced by the study of inorganic chemistry, passing into a brief course of organic chemistry. The attention of the students will be directed to the historical development of the science, and to the phases of chemical theory as at present understood by chemists.

During this part of the course there will be constant practice in the use of symbols and chemical calculations. When possible, students will make illustrative experiments for themselves. Special attention will be given to technical processes and to the construction and working of apparatus for the manufacture of chemicals.

After the general principles of chemistry are understood, the study will be supplemented by practical work in the laboratory. This work will commence with the use of the blow-pipe, simple glass-working and fitting up of apparatus, continuing into qualitative analysis, wet and dry, quantitative analysis, both gravimetric and volumetric.

Advanced students will be required to investigate special subjects in original work and present their results to the professor.

Agricultural students will spend their time mainly in agricultural analysis, consisting of examination of soils, fertilizers, manures, feed stuffs, marls, ashes, etc. Advanced mechanical students will be given subjects in manufacturing chemistry.



INTERIOR OF QUALITATIVE CHEMICAL LABORATORY.

MINERALOGY AND METALLURGY.

The course in mineralogy will be made as thorough as time will allow. Work in this department will commence in the second class, during which time much attention will be given to the systematic examination of minerals. The study is continued in the first class in connection with geology and metallurgy, special attention being given to the economic aspect of geology and to the metallurgy of iron and copper. The manufacture of charcoal and collecting the by-products, together with the use of charcoal furnaces in smelting iron ore, will be thoroughly discussed. Assaying, as practiced in connection with mines and metallurgy, will be taught to the students of the B. M. E. course.

It is the object of the department of chemistry and mineralogy to make the course of study thorough and practical, and, as far as possible, to equip the students with information that will be at once available on leaving College.

MEANS OF ILLUSTRATION AND WORK.

The laboratory is well supplied with chemicals, minerals, glass, porcelain, and platinum ware, gas holders and generators, filter pumps, including Geissler's, Sprengle's, Johnson's, with assay furnaces, muffles, crucibles, etc.; combustion furnaces, arrangement for Kjeldahl's nitrogen determinations; Hempels' and Elliott's gas apparatus; a soliel-laurent saccharimeter, colorimeter, reflecting goniometer, Crouch's best binocular microscope, with fittings, etc. In short, the laboratory is well supplied with the latest improved apparatus needed in well established methods of analytical work and original investigation. Our balance room contains new and improved analytical balances of the finest quality.

Remsen's chemistries are used as text books in chemistry, and Winchell's and Nason's works as text books on geology and mineralogy. There is a small library of standard books of reference constantly accessible to students working in the laboratory. Hiorns and Bloxam will be used as text books in metallurgy.

DEPARTMENT OF HORTICULTURE AND BOTANY.

Professor, THOS. L. BRUNK, B. S.

Assistant, H. S. JENNINGS.

This department aims to teach the cultivation, propagation, and improvement of plants, based upon botanical science. The student applies his knowledge of related science to the various operations of the nursery, orchard, and garden.

HORTICULTURE.

The study of horticulture is pursued by lectures and recitations in the class room, supplemented by observations and practice in the orchards and gardens. It is treated as an art, based upon science. The instruction begins with a course of lectures and recitations during the second year devoted to *Large Fruit Culture* and *Vegetable Culture*. The course in large fruit culture embraces a careful and detailed study of the pear, apple, peach, and plum, with some notes on other less important fruits. With each fruit is given its origin, history, development, methods of propagation, pruning and training,

harvesting and marketing, insect enemies, and fungus diseases. Incidental topics discussed are, implements, fertilizers, draining and irrigation, and many other minor subjects.

Class room instruction is supplemented by practical lessons in budding, grafting, pruning, training, transplanting, cross-fertilizing, care and transplanting of a small nursery, etc., such that the full course will fit young men well for the nursery or fruit farm.

Instruction in VEGETABLE CULTURE includes family and market gardening and seed growing. Among the subjects considered are locations of gardens, laying out for special purposes, special preparation of soil, irrigation, composts, fertilizers, implements, selection of seed, construction and management of forcing houses, cultivation of the different vegetables, how to start and manage a market garden, growing seed for market, etc. Students are required to aid in performing all instructive operations in the gardens and hot-beds during the winter and spring terms.

This course is designed to show the student the advantages of the southern climate over the northern for vegetable growing, and how to manage to compete for northern fancy prices and supply more fully home market demands.

A course in VITICULTURE AND SMALL FRUITS given in the spring term of the third year was added to the work of this department to meet the demands for men to care for the great vineyards that are springing up in nearly every part of Texas, and to encourage the culture of the neglected small fruits in this State. This course gives due attention to the history, classification of wild species, hybridization, the selection of varieties for economic purposes, the comparative value of about sixty of the most important varieties; methods of pruning, training, and cultivating best adapted to the several varieties; fungus diseases and insect enemies; picking and marketing, and wine and raisin making. Also, the propagation, selection, and discussion of varieties, planting, pruning, and picking of small fruits.

In connection with the lectures students are required to plant, prune, train, and hybridize the grape; make trellises, cuttings, and grafts, and take a set of notes on careful observations in the vineyard here of over a hundred and thirty varieties.

A course in FORESTRY AND ARBORICULTURE is given in the fall term of the fourth year. In this course special attention is given to the value of forests, the history of forestry, European methods of forestry management, ornamental planting, seasoning and preservation of wood, hedges, screens, and shelter belts, best methods of propagating and planting different varieties of trees, etc. Students are required to propagate young stock, do instructive work in the tree nursery and arboretum.

The last term of the fourth year is devoted to PRACTICAL FLORICULTURE AND LANDSCAPE GARDENING. This subject includes management of plants for winter blooming, out-door flower gardening, commercial flower gardening, management of green houses, lawns, walks, and drives, etc. The course requires work in the green house, and the whole subject is intended to fit young men for the growing business of floriculture and stimulate the adornment of our Texas homes.

A brief course of one hour per week during the winter and spring terms of the fourth year is given in HORTICULTURAL ECONOMY AND INDUSTRIES. The course is intended to go more into the business details of the fruit farm, nursery, and market garden, and to give a young man an insight into the management of hired help, business operations and transactions, preserving,

canning, and evaporating fruits and vegetables, and hints on starting in horticultural pursuits.

BOTANY.

The instruction in botany begins with the spring term of the first year. This term is devoted to INTRODUCTORY BOTANY, in which the student studies the gross anatomy and the terminology of the parts of plants and their classification. Each student is required to mount thirty-five dried specimens which he has determined.

During the third and fourth years further instruction is given in each of the following subjects: Economic and Systematic Botany, Vegetable Histology and Physiology, Fungi and Plant Diseases.

In the courses in ECONOMIC AND SYSTEMATIC BOTANY the characteristics, geographical distribution, properties, and economic value of the most important natural orders of plants are studied.

Special attention is given to the order of grasses that students may become better prepared to cope more easily with the forage question in Texas. The histories, uses, cultivation, and preparation for market of all the most important economic products of plants of the world are considered and illustrated by a small collection of such products in the museum.

In the field the student takes notes on the cultivated forage plants grown on the farm, and collects and mounts fifty plants of special value. In the laboratory the student makes drawings of typical plants of the most important orders, and studies their characters in connection with several works on economic and systematic botany.

The subject of VEGETABLE HISTOLOGY AND PHYSIOLOGY considers the fine anatomy and the functions of the organs of plants. It shows the student the development of the organs and products of the plant. The work is connected with laboratory work, where the student searches out under instructions the parts and products of plants and their structure as seen under the microscope.

In the course of FUNGI AND PLANT DISEASES special study is made of those low forms of plants which produce mildew, blight, rust, smut, and of those forms of plants which produce destructive contagious diseases in animals and plants. Many of the prominent species are drawn and studied in the laboratory while under the microscope.

The following is a brief summary of the means of illustrating the instruction in this department:

1. A collection of over a thousand specimens of plants, fairly representing the flora of Texas, besides many from parts of the United States.
2. A small collection of economic products of plants from various parts of the world.
3. A small collection of insects.
4. Orchards of peaches, pears, plums, crab apples, cherries, apples, figs, apricots, persimmons, and pomegranates of many and well selected varieties.
5. A vineyard of one hundred and thirty varieties of grapes, including the most important varieties of the five great families,
6. A good collection of small fruits. Eighty-eight varieties strawberries, several blackberries and raspberries.
7. A vegetable garden with hot beds, cold frames, and experimental plots. In this are cultivated and tested all vegetables commonly cultivated in market gardens. The garden illustrates a fair sized commercial garden, as its

capacity is great enough to supply the mess hall with vegetables the year round.

8. A well built and equipped green house, furnished with a good collection of exotic plants and proper means of propagation.

9. Nursery and forest tree plantation, with practice rows for budding, grafting, etc.

10. A laboratory supplied with five large microscopes, stains, mounting media, and modern appliances to study plant diseases, plant histology, etc.

DEPARTMENT OF VETERINARY SCIENCE.

Associate Professor, M. FRANCIS, D. V. M.

The work of this department will begin with a study of comparative physiology, a definite understanding of the subject being absolutely essential before entering the study of diseases. The principles of physiology are taught by lectures, recitations, and actual demonstration by a living subject, thus enabling the students to thoroughly acquaint themselves with normal appearances.

Members of the second class will begin the study of Veterinary Medicine, embracing both didactic and clinical lectures on equine, bovine, and canine pathology.

The instruction to the first class will embrace six grades of work:

1. Comparative Anatomy will occupy one hour per week, the horse being the subject of special study. The lectures will be illustrated by actual dissection of the cadaver.

2. Veterinary Surgery will be taught by lectures, and students will be required to perform minor operations, both on living subjects and cadaver.

3. Materia Medica will be taught by a thorough discussion of drugs used by the Veterinarian. These lectures are illustrated by specimens both crude and refined, and the mode of compounding and administering the same.

4. OBSTETRICS.—This important subject will be thoroughly taught, embracing a discussion of the various modes of reproduction, the natural methods by which it is accomplished, and all abnormalities incident to parent and offspring. The lectures will be illustrated by drawings, natural and artificial preparations.

5. Horseshoeing will be presented by a few lectures on physiological, orthopedic, and surgical shoeing.

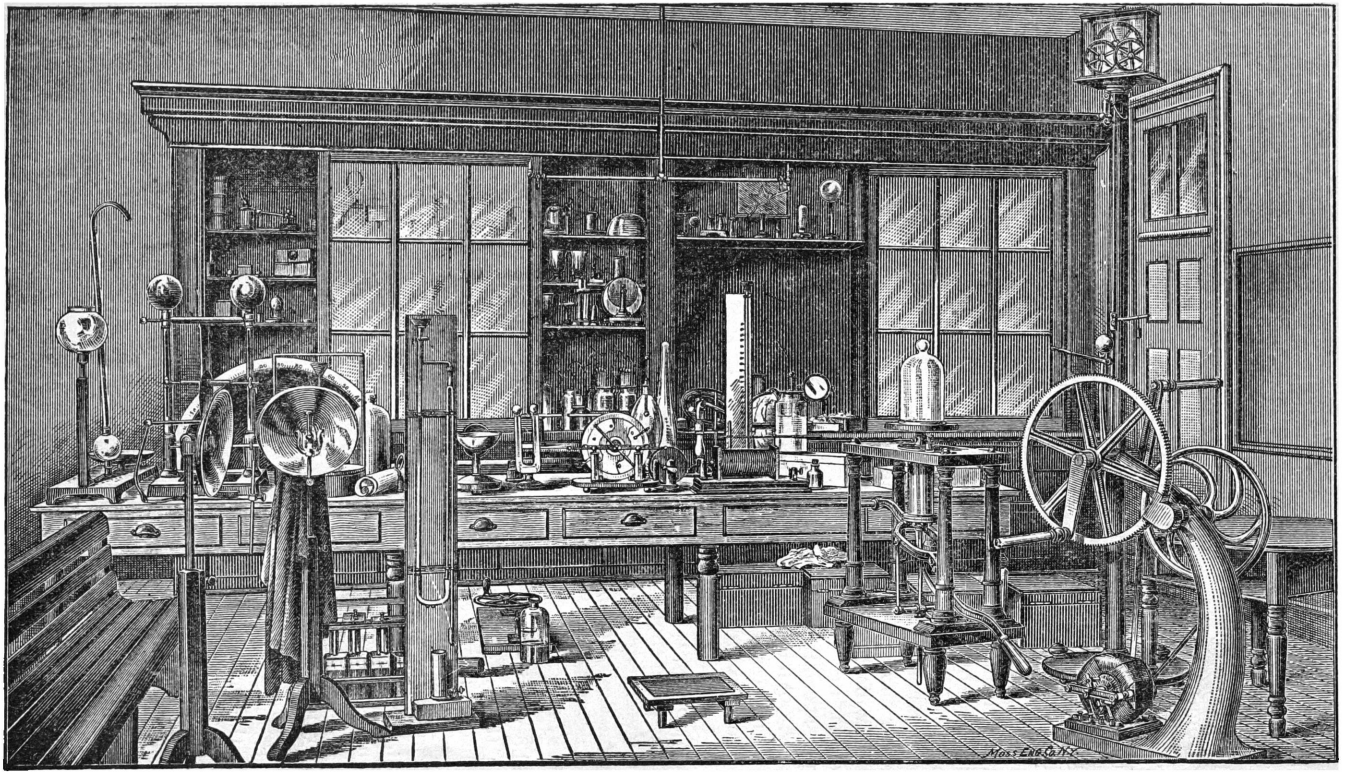
6. Laboratory work will consist of the microscopical study of the tissues of the body, their mode of hardening, sectioning, staining, and mounting, both by the paraffin and celloidin processes. Each student is provided with a first-class compound microscope, ranging from 50 to 400 diameters, and all necessary requisites to prosecute the work.

DEPARTMENT OF DRAWING.

Associate Professor, F. E. GIESECKE.

The instruction given in this department is principally in Mechanical Drawing, as needed by engineers and mechanics. Considerable attention, however, is also given to Free-hand Drawing, since the latter is of great value to mechanical draughtsmen and to all students in general. The following is an outline of the work done in the different classes:

FOURTH CLASS.—All students receive instruction in free-hand drawing and penmanship. The course in drawing is designed to be a training for both hand and eye. It begins with general exercises from the blackboard, which



INTERIOR OF PHYSICAL LABORATORY.

are followed by drawing from models, in outline and perspective, by the study of light and shade, and later by a short course in lettering. The lessons in penmanship aim to teach the student to write a plain and rapid business hand with the muscular movement.

THIRD CLASS.—Students in the agricultural course study free-hand drawing from model, cast, and still life. Students in the mechanical course are taught the use and care of the drawing instruments, but at the same time are required to keep up their practice of free-hand drawing. The drawings made in this class consist principally of geometrical problems, simple curves, and lettering.

SECOND CLASS.—Students in the agricultural course receive a short course in mechanical drawing during the spring term as an aid to their study of surveying. Students in the mechanical course study descriptive geometry during the fall and winter terms. As soon as they have acquired some knowledge of this subject they begin drawing from actual machines, which is continued during the entire session. Fannce's Descriptive Geometry is used as a text book for this class.

FIRST CLASS.—Students who apply for the degree of B. M. E. make working drawings, general and detail, from measurement of machines or parts of machines in the College shops. Students who apply for the degree of B. C. E. pay special attention to topographical drawing and to bridge and roof trusses. All students are instructed in tinting, tracing, and blue-printing.

All necessary drawing instruments and materials can be obtained at the College book store.

DEPARTMENT OF CIVIL ENGINEERING AND PHYSICS.

Associate Professor, CHARLES PURYEAR, M. A., C. E.

Instructor, JNO. D. FEARHAKE, B. C. E.

CIVIL ENGINEERING.

The studies of this department extend through two sessions, beginning with the third year in the regular College course. Instruction is given by the use of approved text books, supplemented by oral explanations and lectures. The student is constantly required to apply his knowledge to the solu tion of practical problems relating to the subject under consideration. The studies are taken up in the following order:

During the first term of the third year all students pursuing the mechanical course take a series of lectures on graphic states.

During the winter term of the third year all students pursuing the mechanical course study the subject of the making and maintenance of common roads.

In the third term of their third year all students take up the study of surveying. The course embraces the usual problems to be solved by the surveyor, such as running lines, computing areas, dividing land, etc. The instruments employed are first described and studied in the class room and then taken to the field, where the members of the class do actual work in surveying, afterwards plotting their work and making the necessary computations.

The equipment of the College in surveying and engineering instruments is unusually complete, and includes the following:

One sextant.

One transit, with solar attachment.

Two transits.
Three levels.
One Burt's solar compass.
Four compasses.
One plane table.
One farmer's level.
Chains, rods, pins, etc.

In the fourth year or first class students applying for the degree of B. C. E. take during the first term a course in topographical surveying and railroad work. They are taught how to lay out a road, run in single, compound, and reversed curves, and to set slope stakes. They discuss earthwork problems, the computation of "cuts" and "fills," and such problems as are likely to occur in railroad work. Their field practice consists of railroad and topographical work during the fall term and work with the second class during the spring term. The winter and spring terms are devoted to the study of the stresses in roofs and bridges; with notes on the strength of materials used in engineering construction. During the winter term the practice consists in making experiments with the two testing machines owned by the department, to determine the strength of various building materials. The department is well supplied with apparatus for conducting such experiments. It owns one 20,000-pound Rilhle Bros'. testing machine, adapted for tension, compression, and cross-heating; also, one cement testing machine, with all the additional apparatus necessary for testing cements and mortars.

PHYSICS.

This study is taken up by all members of the fourth class during the spring term. During this term the class studies the general properties of matter, the laws of motion, laws of falling bodies, the simple machines, etc. The study is continued during the first two terms of the second year, beginning with a rapid review of general principles and then taking up in order the subjects of Acoustics, Optics, Electricity, and Magnetism. The department is well supplied with apparatus for illustrating and verifying laws enunciated in the text. During the third year students in the mechanical course take a more advanced course in heat and electricity.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS.

Professor, WILLIAM S. SCOTT, *Lieut. First Cavalry, U. S. A.*

The instruction in this department is in conformity with the act of Congress which, in endowing this and similar institutions, stipulates that military tactics shall be taught.

An officer of the regular army is detailed by direction of the President of the United States to carry out this requirement of the act in question, and the necessary arms, accoutrements, and ammunition are furnished by the general government without cost to the College.

During the fall and spring terms practical military instruction is given in infantry and artillery drills, rifle firing, and the duties of guards and sentinels. During the winter term all military exercises are suspended except the necessary guard. A course of lectures is delivered to the first class, embracing the duties of guards and sentinels, military signaling and engineering, military law, the preparation of the usual returns and reports pertaining to a company, the organization and administration of the United States Army, and the elements of the art and science of war.

During this term the second class receives instruction in the section room, in infantry tactics.

While the instruction in this department is as thorough as practicable in the limited time allowed, in liberal compliance with the requirements of the act of Congress endowing the College, it is not proposed to graduate soldiers. Practical military exercises are held at such hours as not to conflict with academic duties of students. The physical training of such exercises has the effect of straightening and strengthening the students, giving them an erect carriage and graceful bearing.

The military system is the means of enforcing discipline and securing regularity in the performance of academic duties, and tends to inculcate in the students that habit of truthfulness and manliness of character which characterize young men as gentlemen.

COMMERCIAL DEPARTMENT.

In this department will be taught the science of single and double entry bookkeeping, the laws governing commercial transactions, and the philosophy and morals of business.

The method of instruction will be by lectures and recitations, with exercises in opening, conducting, and closing books, and in the preparation of accounts current and all other business forms.

ALUMNI.

ALUMNI ASSOCIATION.

Organization for 1889–90.

J. W. CARSON, 1886 ..... President.
F. L. MONTGOMERY, 1889 ..... First Vice-President.
Z. M. SHIRLY, 1888 ..... Second Vice-President.
W. WIPPRECHT, 1884 ..... Secretary and Treasurer.

EXECUTIVE COMMITTEE.

J. W. CARSON, 1886. W. WIPPRECHT, 1884.
J. M. WESSON, 1883.

From the opening of the College in 1876 to its reorganization in 1880, the studies were elective. There were many graduates during that period in one or more departments.

Names of deceased alumni are marked †.

The present occupations of the alumni are given so far as known, but information as to these are not readily accessible, and errors may be found in that given here. The alumni are requested to aid the chairman in making their roll as complete as possible, as a means of conveying to each trustworthy intelligence of all the others.

1878.

GERMAN—R. A. Rogers, W. A. F. Trenckman.
LATIN—R. A. Rogers.

1879.

LATIN—A. Cunningham, P. L. Downs, F. W. Fort, J. R. Downs, D. M. Jack, E. Y. Mullins, R. A. Rogers, W. M. Sleeper.

GREEK—A. Cunningham, P. L. Downs, F. W. Fort, R. A. Rogers, W. M. Sleeper.

GERMAN—S. Baker, A. L. Banks, W. H. Brown, M. L. Chambers, A. Cunningham, P. L. Downs, J. R. Downs, F. W. Fort, T. A. Fuller, D. M. Jack, L. J. Kopke, E. Y. Mullins, F. A. Reichardt, Chas. Rogan, R. A. Rogers, W. M. Sleeper, H. G. Smythe, W. A. F. Trenckman, K. M. Vanzandt.

FRENCH—J. J. Baker, E G. Cochran, W. A. F. Trenckman.

SPANISH—J. J. Baker, T. H. Brown, D. Campbell, J. H. Haden, W. A. F. Trenckman.

MENTAL AND MORAL SCIENCE—J. J. Baker, M. Black, E. G. Cochran, W. A. F. Trenckman, D. M. Jack, R. A. Rogers.

ENGLISH LANGUAGE AND LITERATURE—M. Black, E. G. Cochran, J. J. Baker, D. M. Jack, Chas. Rogan, R. A. Rogers, W. A. F. Trenckman.

MATHEMATICS—A. Cunningham, L. J. Kopke, W. M. Sleeper.

CHEMISTRY AND NATURAL SCIENCE—Chas. Rogan, A. Cunningham, W. A. F. Trenckman.

1880.

ENGLISH—C. S. Miller, F. F. Bledsoe, D. E. Alexander, E. E. Fitzhugh, T. E. Blakemore.†

GREEK—F. F. Bledsoe.

LATIN—D. E. Alexander, C. S. Miller, E. E. Fitzhugh.

MATHEMATICS—E. E. Fitzhugh, D. E. Alexander, Thomas E. Blakemore.†

1880.

L. J. COPKE, C. E.....Engineer
W. H. BROWN, C. E.....Lawyer

1881.

G. H. DUGAN.....Stockraiser

1882.

	Course.	
M. F. ARMSTRONG	Mechanical	Farmer, Pro. C. H. F. C.
SEARCY BAKER	Mechanical	Merchant.
J. M. BURFORD	Mechanical	Druggist, Physician.
F. R. VON BIBERSTEIN†	Mechanical.	
J. R. CRAVENS	Mechanical	Civil Engineer.
C. S. GRAVES	Mechanical	Civil Engineer.
S. A. HARE	Mechanical	Lawyer.
R. S. LIPSCOMB	Mechanical	Physician.
DAVID RICE	Mechanical	Lumber Manufacturer.
ROBERT SAWYER	Mechanical	Lumber Dealer.
AARON TALBOT	Mechanical	Farmer.
D. H. WATSON	Mechanical	Horticulturist.

1883.

	Course.	
J. C. CALDWELL†	Mechanical	Civil Engineer.
J. F. EDWARDS	Mechanical	Civil Engineer.
OSBORNE KENNEDY	Mechanical	Lawyer.

	Course.	
H. J. Miller	Mechanical	Merchant.
W. E. Mosely†	Mechanical.	
A. T. Patrick	Mechanical	Lawyer.
W. L. Tuller	Mechanical	Real Estate Agent.
J. M. Wesson	Mechanical	Lawyer.

1884.

	Course.	
G. W. Roach	Mechanical	Supt. City Schools.
W. Wipprecht	Agricultural	Asst. Chemist Agl. Ex. Sta.
J. L. Gray	Mechanical	Civil Engineer.
T. B. McQueen	Mechanical	Merchant.
N. A. Dawson	Mechanical	Lawyer.
F. C. Von Rosenberg	Mechanical	Lawyer.
B. C. Mackensen	Mechanical	Architect.
A. L. Shirley	Agricultural	Railroad Agent, Farmer.
R. E. Pennington	Agricultural	Lawyer.
G. Giesecke	Mechanical	Sec. and Gen. Man. San Antonio Gas Works.
R. B. Green	Mechanical	Merchant.
W. B. Philpott	Mechanical	Asst. Prof. A. & M. C.
B. E. Knolle	Mechanical	Physician.
V. Andrews	Mechanical	Teacher.

1885.

	Course.	
W. Wipprecht		Asst. Chem. Agl. Exp. Sta.
J. N. Davis	Mechanical	Supt. City Schools.
F. L. Pfeuffer	Mechanical	Merchant.
W. Whitaker	Mechanical	Contractor.
T. D. Rowell	Agricultural	Lawyer.
F. Caruthers	Agricultural	Teacher.
F. E. Dudley	Mechanical	Druggist.
L. Mackensen	Mechanical	Watchmaker.
C. H. Pescay	Mechanical	Clerk.
S. Hough	Mechanical.	
E. W. Spann†	Mechanical.	

1886.

	Course.	
D. Adriance	Agricultural	Asst. Prof. A. & M. C.
F. E. Giesecke	Mechanical	Asst. Prof. A. & M. C.
M. D. Tilson	Mechanical	Civil Engineer.
H. L. Wright	Mechanical	Civil Engineer.
I. A. Cottingham	Mechanical	Farmer.
E. H. Whitlock	Mechanical	Student.
J. W. Carson	Agricultural	Asst., Agl. Exp. Sta.
C. L. Burchard	Mechanical	Assistant Postmaster.
J. M. Carson	Agricultural	Asst. Prof. Agr., A. & M. College.
W. F. Woodward	Mechanical	Clerk.
C. C. McCulloch	Mechanical	Asst. State Geol. Survey.

1887.

	Course.	
G. A. Rogers	Mechanical	Bookkeeper.
F. L. Fordtran	Agricultural	Physician.
J. H. Freeman	Mechanical	Railroad Office.
H. J. McNair	Mechanical	
T. B. West	Mechanical	
L. E. Allen	Mechanical	Clerk.
E. R. Knolle	Mechanical	Merchant.
J. B. Hereford	Mechanical	Insurance Agent.
H. C. Hare	Mechanical	Lawyer.
E. Gruene	Mechanical	Merchant.

1888.

	Course.	
W. H. Allen	B. S. A.	Druggist.
Paul Braun	B. M. E.	Asst. Prof. Mech., A. & M. College.
R. H. Dietert	B. M. E.	Draughtsman.
F. C. Hoffman	B. M. E.	Druggist.
H. F. Jonas	B. C. E.	Civil Engineer.
N. L. Josey	B. S. A.	Merchant.
A. P. Knolle		Student.
W. H. Knolle	B. C. E.	Merchant.
W. O. R. Pfeuffer	B. S. A.	Farmer.
F. Rennert	B. S. A.	
Z. M. Shirley	B. M. E.	Student.
E. J. Smith	B. S. A.	Stockraiser.
W. W. Steward	B. M. E.	Miller.
M. S. Swain	B. S.	
P. S. Tilson	B. S. A.	Asst. Chem., State Geol. Survey.
W. M. Wood	B. C. E.	Civil Engineer.
W. A. Wurzbach	B. C. E.	Student.

1889.

	Course.	Postoffice.
Louis Daniel Amsler	B. M. E.	Hempstead.
Charles A. Buckman	B. C. E.	Denison.
Lawrence Burroughs Burck	B. C. E.	Galveston.
William Elizabeth Drisdale	B. S.	Flatonia.
John D. Fearhake	B. C. E.	Waco.
Edward Walthall Hutchinson	B. C. E.	Denton.
Walter Toole Jones	B. C. E.	Belton.
John Frank Kuehne	B. M. E.	Austin.
William Wirt K. Leggett	B. C. E.	Ripley, Ohio.
Robert Mabry	B. C. E.	Fort Worth.
William Brady Merritt	B. S. A.	Melissa.
Earl Sloan Middlebrook	B. C. E.	Columbus.
Frank Lillard Montgomery	B. S. A.	Sherman.
Helge Ness	B. S.	College Station.
Joseph Francis Nichols	B. S.	Smithville.
James Routte Nichols	B. S. A.	Smithville.
Benjamin Freeman Rogers	B. C. E.	Jefferson.
Merideth William Shirley	B. M. E.	Anna.
William Morton Shirley	B. C. E.	Melissa.

TEXAS AGRICULTURAL EXPERIMENT STATION.

OFFICERS.

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MAJ. A. J. ROSE, President..... Salado.
HON. L. L. FOSTER, State Com. Agriculture..Austin.
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DR. J. D. FIELDS.....Manor.
J. ADRIANCE .....Columbia.
PROF. L. L. MCINNIS, Secretary.....College Station.

EXPERIMENT STATION COUNCIL.

L. L. MCINNIS. .....Chairman of Faculty.
*T. M. SCOTT..... .....Agent of the Board.
F. A. GULLEY .....Director of the Station.

STATION STAFF.

F. A. GULLEY, M. Sc.....Director.
G. W. CURTIS, M. S. A.....Agriculturist.
H. H. HARRINGTON, M. Sc.....Chemist.
T. L. BRUNK, B. Sc.....Horticulturist.
M. FRANCIS, D. V. M.....Veterinarian.
W. WIPPRECHT, B. S. A.....Assistant Chemist.
J. W. CARSON ....Assistant to Director.
J. M. CARSON.....Assistant to Agriculturist.
D. ADRIANCE .....Asst. Chemist and Meteorologist.
C. K. FUQUA, B. S. C.....Sugar Chemist.

*Resigned February 28, 1890.

TEXAS AGRICULTURAL EXPERIMENT STATION.

ORIGIN.

The Agricultural Experimental Station has been established by the Congress of the United States, as shown by the following bill. This will be of great benefit to the agricultural course:

Full Text of the Experiment Station Bill as enacted by Congress and approved by the President.

An Act to establish Agricultural Experiment Stations in connection with the Colleges established in the several States under the provisions of an Act approved July 2, 1862, and of the acts supplementary thereto.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of the college or colleges, or agricultural department of colleges, in each State or Territory, established, or which may be hereafter established, in accordance with the provisions of an act approved July 2, 1862, entitled "An Act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," or any of the supplements to said act, a department to be known and designated as an "Agricultural Experiment Station;" *Provided,* That in any State or Territory in which two such colleges have been or may be so established, the appropriation hereinafter made to such State or Territory shall be equally divided between such colleges, unless the Legislature of said State or Territory shall otherwise direct.

SEC. 2. That it shall be the object and duty of said experiment stations to conduct original researches to verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analyses of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States or Territories.

SEC. 3. That in order to secure, as far as practicable, uniformity of methods and results in the work of said stations, it shall be the duty of the United States Commissioner of Agriculture to furnish forms, as far as practicable, for the tabulation of results of investigation or experiments; to indicate, from time to time, such lines of inquiry as to him shall seem most important, and in general to furnish such advice and assistance as will best promote the purposes of this act. It shall be the duty of each of said stations, annually, on or before the first day of February, to make to the Governor of the State or Territory in which it is located, a full and detailed report of its operations, including a statement of receipts and expenditures, a copy of which report shall be sent to each of said stations, to the said Commissioner of Agriculture, and to the Secretary of the Treasury of the United States.

SEC. 4. That bulletins or reports of progress shall be published at said stations at least once in three months; one copy of each shall be sent to each newspaper in the States or Territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins, or reports, and the annual reports of said stations shall be transmitted in the mails of the United States free of charge of postage, under such regulations as the Postmaster-General may from time to time prescribe.

SEC. 5. That for the purpose of paying the necessary expenses of conducting investiga-

tions and experiments and printing and distributing the results as hereinbefore prescribed, the sum of $15,000 is hereby appropriated to each State, to be specially provided for by Congress in the appropriations from year to year, and to each Territory entitled under the provisions of section 2 of this Act, out of any money in the Treasury proceeding from the sales of public lands, to be paid in equal quarterly payments on the first day of January, April, July, and October of each year, to the treasurer or other officer duly appointed by the governing boards of said colleges to receive the same, the first payment to be made on the first day of October, 1887; *Provided, however*, That out of the first annual appropriation so received by any station an amount not exceeding one-fifth may be expended in the erection, enlargement, or repair of a building or buildings necessary for carrying on the work of such Station; and thereafter an amount not exceeding five (5) per centum of such annual appropriations may be so expended.

SEC. 6. That whenever it shall appear to the Secretary of the Treasury, from the annual statement of receipts and expenditures of any of said Stations, that a portion of the preceding annual appropriation remains unexpended, such amount shall be deducted from the next succeeding annual appropriation to such Station, in order that the amount of money appropriated to any station shall not exceed the amount actually and necessarily required for its maintenance and support.

SEC. 7. That nothing in this Act shall be construed to impair or modify the legal relation existing between any of the said colleges and the governments of the States and Territories in which they are respectively located.

SEC. 8. That in States having colleges entitled under this section to the benefits of this Act, and having also Agricultural Experiment Stations established by law separate from said colleges, such States shall be authorized to apply such benefits to experiments at Stations so established by such States; and in case any State shall have established, under the provisions of said Act of July 2d, aforesaid, an agricultural department or experimental station in connection with any university, college, or institution not distinctively an agricultural college or school, and such State shall have established, or shall hereafter establish a separate agricultural school, which shall have connected therewith an experimental farm or station, the Legislature of such State may apply, in whole or in part, the appropriation by this Act made to such separate agricultural college or school; and no Legislature shall, by contract, expressed or implied, disable itself from so doing.

SEC. 9. That the grants of moneys authorized by this Act are made subject to the legislative assent of the several States and Territories to the purpose of said grants; *Provided*, That payments of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of its Legislature meeting next after the passage of this Act shall be made upon the assent of the Governor thereof duly certified to the Secretary of the Treasury.

SEC. 10. Nothing in this Act shall be held or construed as binding the United States to continue any payments from the treasury to any or all of the States or institutions mentioned in this Act, but Congress may, at any time, amend, suspend or repeal any or all of the provisions of this Act.

ORGANIZATION.

In 1887 Congress made provision for establishing, equipping, and supporting agricultural experiment stations in the several States, the stations to be placed under the supervision of the Boards of Directors of the State Agricultural and Mechanical Colleges, where such colleges have been established.

The Act of Congress appropriates $15,000 per annum from the United States treasury, to each State, to equip and support the stations. Owing to some technical defect in the bill as passed, additional legislation was required to make the fund available. By recent enactment the appropriation is placed at the disposal of the several States, and the stations are being organized.

OBJECT OF THE STATIONS.

The purpose for which the agricultural experiment station bill was passed is clearly set forth in section 2 of the act, which reads as follows:

"It shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages

of growth; the comparative advantages of rotative cropping as furnished under a varying series of crops; the capacity of new plants or trees for acclimation; the analyses of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effect on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese, and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable."

The bill further provides that reports of the progress made in experiments shall be published from time to time, one copy of which shall be sent to each newspaper published in the State where such station is located, and one to each individual actually engaged in farming who may request the same, as far as the means of the station will permit; all such reports to be carried in the mails free.

The experiment stations were placed under the supervision of the Boards of Directors of the Agricultural and Mechanical Colleges, not for the purpose of assisting the colleges, but because it was thought the fund would be most judiciously expended under such control, and it was believed that a portion of the equipment of said colleges, in the way of land, stock, implements, etc., might, without detriment to the work of the colleges, be used to some extent in experimental work. It was thought also that men employed at the colleges, many of whom have become skilled in experimental work, would be able to give part of their time to the station.

EXPENDITURE OF THE STATION FUND.

The bill expressly provides that no part of the fund appropriated shall be used for any purpose other than equipping and supporting an establishment for carrying on experimental work. While the stations may be attached to the agricultural colleges and be made departments of the same, no part of this fund may be used in support of the colleges, except in experimental work.

ADVANTAGE TO THE COLLEGE.

Financially, the Station will not be of direct benefit to the College. To compensate the College, however, for the use of property assigned to the work of the station, such work will add largely to the ability of the College to impart more thorough instruction in scientific and practical agriculture. College students will be employed in the work of the Station to as great an extent as may be found practicable, and the plant of the Station, and experimental work in progress, will increase the means of illustration of the College and be of special advantage to the students in providing practice and training in agricultural work, under skilled instructors. The Station will not add to the expenses of the College in any way, as such time as may be given by professors or other employes in experimental work will be paid for from the Station fund, and the value of the time lost to the College deducted from the salary that would be paid by the College if the entire time was given to college work; and in order not to impair the efficiency of instruction the board has provided for additional instruction to relieve the professors of a portion of their class work.

The Board of Directors of the College desire to make the work of the Station of as much value to the agricultural interests of the State as may be

possible. The work will be conducted at all times with special reference to giving information of value that may be of some practical use to the farmer. To enable them to carry out this policy, all associations having the advancement of agriculture in view—the Grange, Alliance, Stockbreeders, Fruitgrowers, and other organizations—will be invited from time to time to appoint delegates to meet with the Board of Directors and the Council, and consult and advise with them in regard to the work of the Station. Suggestions will be gladly received at all times from any one who is interested in advancing the agricultural interests of the State.

ORGANIZATION.

In accordance with the act of Congress, the Board of Directors of the Agricultural and Mechanical College of Texas, at a meeting held January 25, 1888, established the Experiment Station as a department of the College. Provision was made for assigning to the Station department such part of the College farm, buildings, and other equipment of the College as would be found necessary to prosecute the work, in addition to the outfit supplied from the funds of the Station.

The Station will be conducted as a department of the College, but under the control of the Experiment Station Council, consisting of the Chairman of the Faculty, the Agent of the Board, and the Director of the Station.

The Director of the Station will have general supervision of all experimental work, correspondence, and publication of bulletins and reports.

The professors of Agriculture, Chemistry, Horticulture, Physics, and Veterinary Science will have charge of work in their several departments.