

TWENTY-SEVENTH
ANNUAL CATALOGUE

SESSION 1902-1903.

Agricultural and Mechanical College
OF TEXAS.

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AND MONEY ORDER POSTOFFICE:

COLLEGE STATION, TEXAS.



AUSTIN:
VON BOECKMANN-JONES COMPANY, STATE PRINTERS,
1903.

CALENDAR.

1903.

JULY.

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COLLEGE CALENDAR.

1903.

Fall Term begins Wednesday, September 23.
Entrance Examinations, September 23, 24.
Anniversary Austin Society, November 15.
National Holiday, Thanksgiving Day.
Christmas Holiday, December 23 to January 3, 1904.

1904.

Winter Term begins Monday, January 4.
National Holiday, February 22.
State Holiday, March 2.
Spring Term begins Monday, March 21.
Anniversary Calliopean Society, March 16.
State Holiday, April 21.
Commencement Sunday, June 5.
Exhibition of Departments and of Work of Students, June 6.
Commencement Day, June 7.

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Chaplain.

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S. A. MCHENRY,
Superintendent State Station, Beeville.

E. P. STILES,
Superintendent State Station, Troupe.

HISTORICAL SKETCH.

ORIGIN.

The Agricultural and Mechanical College of Texas, like the land grant institutions in each of the other States of the Union, owes its origin to an act of Congress approved July 2, 1862. This act donated public lands to the several States and Territories which might provide Colleges for the benefit of Agriculture and the Mechanic Arts, and directed the Secretary of the Interior to issue land scrip to States in which there was not the requisite quantity of public land. The act further directed that the money derived from this source should constitute a perpetual fund, the principal of which should remain forever undiminished, and the interest of which should be inviolably appropriated by each State to the endowment, support and maintenance of at least one technological College, whose leading object should be, without excluding other scientific and classical studies, and including military tactics, to teach branches of learning pertaining to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life. It was further provided that the provisions of the act should be formally accepted by the State Legislature. By joint resolution approved November 1, 1871, the Legislature of Texas accepted the provisions of the Congressional legislation, and accordingly there was issued to Texas scrip for 180,000 acres of public land, which was sold for \$174,000. This amount was invested in Texas 7 per cent gold frontier bonds. At the time of the opening of the College there was an addition to the fund of accrued interest amounting to \$35,000, which was invested in 6 per cent State bonds.

In an act approved April 17, 1871, the Legislature provided for the establishment of the Agricultural and Mechanical College. By the terms of this and later acts, appropriations aggregating \$187,000 were made for buildings and equipment. A commission to locate the College was created by the Legislature. After a careful investigation, the commission accepted the propositions of the citizens of Brazos County and located the institution on a tract of 2416 acres of land in that county. Finally, the constitutional convention of 1876 constituted the College a branch of the University of Texas, and, in accordance with the terms of the federal legislation, designated it as an institution for instruction in agriculture and the mechanic arts and the natural sciences connected therewith. The convention further provided that the Legislature should

have the right to levy taxes for the maintenance and support of the Agricultural and Mechanical College.

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

GROWTH OF THE COLLEGE.

Since 1876, by means of financial aid voted by Congress and of appropriations made by the State Legislature, there has been developed a considerable foundation at the College for instruction, for investigation, and for experiment. In 1887 Congress voted the sum of \$15,000 to each State for the purpose of establishing Experiment Stations, to conduct original research on the physiology of plants and animals, the diseases of plants and animals, the chemical composition of useful plants, the advantages of rotation of crops, climatology, analyses of soils and waters, the composition of manures, the value of grasses and forage, 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 and experiments in agriculture as might be deemed advisable.

In 1890 Congress further appropriated the sum of \$15,000 with an annual increase of one thousand dollars for ten years, and provided that the amount appropriated should be equitably divided between the Agricultural and Mechanical College and an institution intended for the technical education of colored students.

In 1895 the Legislature made provision for an experiment station at Beeville, Texas, and in 1900 for a second experiment station at Troupe.

At the College proper there are five dormitories, a main building for offices and section rooms, an Agricultural and Horticultural Building, a Chemical-Veterinary Building, a Mechanical Engineering Building, a hospital, a natatorium, a water, ice and light plant; a laundry, a sewerage system, barns and out houses, and residences for instructors and officers, with a total valuation of approximately \$500,000.

GOVERNMENT.

The government of the College is vested in a Board of eight directors, appointed by the Governor for a term of two years. One of the directors is the Commissioner of Agriculture, Insurance, Statistics and History, who serves on the Board by virtue of the office which he holds.

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

DEPARTMENTS.

By action of the Board of Directors, the College now has the following departments in operation: Department of Agriculture, embracing

academic instruction in agriculture, the experiment stations, and the farm; Department of Botany, Department of Chemistry and Mineralogy, Department of Civil Engineering, Department of Drawing, Department of English, Department of Entomology, Department of History, Department of Horticulture and Mycology, Department of Languages, Department of Mathematics, Department of Mechanical Engineering, Department of Military Science, Department of Physics, and Department of Veterinary Science. The College also offers the foundation of courses in electric engineering, railway mechanical engineering and architecture, and provides short courses in agriculture for farmers and in manual training for teachers.

OBJECTS.

The objects of the College are indicated in the provisions of the laws of Congress and of the State Constitution and Statutes. Briefly stated, the College was established for the purpose of furnishing an opportunity to the young men of Texas to qualify themselves to do expert work in all industrial pursuits and professions; to furnish information of a scientific and practical character to the people of the State actually engaged in farming, in horticulture, in dairying, and in stock raising, and in every possible way to advance all industrial interests of the State. To meet the urgent demand for men of industrial skill, the work of the College has been so planned as to train men in the scientific principles of agriculture, horticulture, cattle raising and related pursuits, and in civil and mechanical engineering, drawing and architecture. As rapidly as the funds of the College will allow, provision will be made for expert industrial work in all other directions.

The work of the College in behalf of those actually engaged in industrial pursuits is carried on through the experiment stations, including the main station established at the College, and the two sub-stations at Beeville and Troupe, through the Departments of Entomology, Veterinary Science, Horticulture and Mycology, Agriculture and Chemistry. The Professor of Chemistry is State Chemist, and as such does a large amount of fertilizer, water and mineral analyzing for individuals throughout the State. Through the experiment stations information is furnished to farmers and others in the form of bulletins and through press notices and correspondence. At present there are 18,000 farmers whose names appear on the regular mailing list of the Agricultural Department. The Department desires to increase this list as rapidly as possible, and will probably within the next year or eighteen months add twenty or thirty thousand other names. Furthermore, as opportunity permits the members of the stations and agricultural staffs visit different sections of the State for the purpose of giving institute lectures to vari-

ous associations and gatherings of agriculturists. It will be seen that it is by no means the exclusive mission of the College to furnish instruction to the three or four hundred students who matriculate in the institution. Its constituency embraces, in addition to the student body, fifteen or twenty thousand men actively engaged in industry; and a much wider constituency than this is reached through the press, the correspondence and the lectures.

The law requires the President to see that every student takes an industrial course; care is taken, however, not to omit the more general forms of knowledge which are essential to a liberal education. Only by laying a strong foundation in the field of general science and literature can men be turned out with adequate preparation to take their proper places as directors in industrial advancement.

The military feature, made necessary by the acceptance of the federal grants, is an important adjunct to the other work of the College. It is conducive to health and to bodily grace and strength and cultivates habits of strict attention, and of obedience, punctuality, neatness and regularity.

DISCIPLINE.

By reason of its isolated location the College is able to exercise effective oversight over the student body. The authorities do not undertake to restrain the liberty of the student more than is necessary for the securing of good results in scholarship and conduct. Each student is expected at all times to conduct himself as a gentleman, and to attend promptly and faithfully to all his duties.

Students are not allowed to leave the College grounds either to visit neighboring towns for brief periods, or to visit home for longer periods, without first securing permits from the Commandant of Cadets or from the President. Whenever any student has reasonable grounds for his application such permits are granted.

The College is not a reformatory. It encourages the attendance of young men who have a serious purpose and who really wish to secure a thorough technological training. The Faculty will do everything in its power to assist every cadet, both in securing a sound education and in forming correct habits, but will not tolerate the presence of young men who evince a determination not to study and not to comply with reasonable regulations.

Students who fail to apply themselves or to conduct themselves properly will first be warned and may be put upon probation. In each case their parents will be notified of their shortcomings. If, after full warning to the cadet and to his parents, improvement does not take place,

the Faculty may suspend the cadet for a longer or shorter time, or may dismiss him at their discretion.

In order to keep parents systematically informed concerning the progress of their sons, reports, showing class standing and records of conduct, are sent out monthly from the President's office.

METHOD AND SCOPE OF INSTRUCTION.

The several courses of instruction are designed in accordance with the above outline of objects and policy. In all of them the fundamental idea is education in practical science, particularly in agriculture, in horticulture and in engineering. With this idea in view, instruction is given in English, history, economics, mathematics, foreign languages, physics, chemistry, and in other studies which lie at the foundation of a sound education and furnish the best preparation for the more technical studies of the several courses. Instruction is given by the use of text books, by lectures and recitations; also by practice in the shop, field, laboratory and drawing room. These practical exercises have a high educational value, and serve a useful purpose in fixing and rendering clear the ideas presented in the class room; and they have also a practical value, for they are, in great measure, examples of just such problems as the scientific agriculturist, or engineer, will encounter in the pursuit of his calling. For convenience of instruction, the classes are subdivided into sections of suitable size. Unannounced written exercises and examinations will be given at the discretion of instructors. Regular written examinations are held during the closing week of each term.

INFORMATION CONCERNING ADMISSION.

BEGINNING OF THE SESSION.

The twenty-eighth annual session will open Wednesday, September 23, 1903, and will close Tuesday, June 7, 1904.

Students should not arrive at the College earlier than Tuesday, September 22. Parents are requested to communicate with the President before sending their sons.

REQUIREMENTS FOR ADMISSION.

To enter the College, an applicant must be at least sixteen years old and physically able to perform the duties of a cadet. He must be free from contagious or infectious disease and may be required to furnish evidence that he has not been dismissed from another institution of learning, and that his moral character is good.

Candidates may be admitted to the Freshman class in one of three ways: (a) by examination, (b) on diploma from an affiliated school, (c) on special approval.

A. ADMISSION BY EXAMINATION.

Candidates will be examined in the subjects mentioned below. The treatment given in the text books indicated will suffice for the purpose of these examinations.

1. Arithmetic, complete. *Sutton and Kimbrough's Higher Arithmetic.*

2. Algebra to quadratics, including the fundamental operations, factoring, highest common factor, lowest common multiple, fractions, equations of the first degree with one or more unknown quantities, involution, evolution, theory of exponents, radicals, equations containing radicals. Higher Algebra, (*Wells.*)

3. Advanced English Grammar and Composition. (*Maxwell.*)

4. History of Texas. (*Mrs. Pennybacker.*)

5. History of the United States. (*Mrs. Lee.*)

6. Ancient History, as treated in *Meyers's General History.*

Special entrance examination questions may be found in the appendix.

B. ADMISSION ON DIPLOMA.

Graduates of affiliated schools are admitted to the Freshman class at the beginning of the session without examination. For list of affiliated schools see page 71.

C. ON SPECIAL APPROVAL.

Young men eighteen years old, or over, who have studied the required subjects may, with the consent of the President and professors concerned, be admitted without examination.

ADVANCED STANDING.

Applicants for advanced standing and those who come after the time set for the entrance examinations will be examined also upon the work already gone over by the class they propose to enter.

MATRICULATION.

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

EXPENSES FOR THE SESSION.

Trust fund, payable on entrance.....	\$ 5 00
Incidental fee, payable on entrance.....	5 00
Medical fee, payable on entrance.....	8 00
Maintenance, Fall Term, payable on entrance.....	44 00
Maintenance, Winter Term, payable January 4.....	44 00
Maintenance, Spring Term, payable March 21.....	44 00
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Total	\$150 00

The trust fund is to pay for property damaged or destroyed, and will be returned to the parent if there is no charge of this kind against the student.

Incidental and medical fees will in no case be refunded.

Maintenance includes board, fuel, washing, lights, room rent, single bedsteads, mattresses, pillows, tables, washstands, chairs, buckets, basins, and slop cans.

Each student is required to keep on hand a supply of bed clothing, towels, underwear, etc. For winter he should provide himself with an overcoat or mackintosh.

Students are required to take their meals at the Mess Hall.

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 a term, and having paid for that term,

or the balance of it, forfeits all claim to said payment in case of voluntary withdrawal from the College before the expiration of said term, except in case of sickness disqualifying him for the discharge of his duties for the rest of the term.

Expenses of a graduate student will be \$15 for material used in laboratories and practical work, and \$8 for medical fees, with charge for maintenance as above. Day students pay \$18, as trust fund, incidental fee, and medical fee, as above.

UNIFORM.

Each cadet will be required to provide himself with a regular cadet gray uniform consisting of a blouse, trousers and cap. In addition each cadet will be required to provide, for use during hot weather, a blue flannel shirt of approved pattern with belt, to be worn instead of blouse, and a campaign hat. Furthermore, each student must also have, for shop and field practice, a working suit of drilling, which costs from \$1.50 to \$2.50. Straight white standing collars that lap in front, black ties, white cuffs and black shoes are also parts of the required equipment.

With the exception of collars, cuffs, ties and shoes, these uniforms are made by contract, and students are required to purchase from the contractors, 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, and may secure the best material for the lowest price. All parts of the equipment are carefully inspected by the Commandant of cadets, in order that good fits and satisfactory materials may be secured.

By means of the contract system not only is there a saving effected, but there is also furnished a guarantee that the materials shall be of the requisite pattern and quality. For the efficient enforcement of the arrangements entered into, the College authorities require that each student shall make his purchases through the machinery provided at the College, and that a deposit sufficient to cover the purchase price of the equipment shall be placed in the hands of the Treasurer when the cadet matriculates. It is necessary that the students have the various uniforms at the earliest possible moment; and, therefore, it is absolutely essential that there be no delay in making the deposits. No suit will be ordered until such deposit has been made.

The regular uniform suit, including cap, trousers and blouse, will cost not less than \$15 and not more than \$18. The blue flannel shirt, which is the best army shirt, guaranteed to be all wool and fast color, will probably cost between \$1.85 and \$2. The campaign hat will cost from \$1.25 to \$1.50.

It should be distinctly realized that this clothing is not an additional expense, but that it is the cheapest clothing that cadets can wear. It is very neat in appearance and is serviceable and durable.

BOOKS.

The College runs a book store for the purpose of supplying books to students at the lowest cost. The books are bought direct from the leading houses and are sold to students at a price just sufficient to cover the bare cost. The approximate cost of text books for the Freshman class is \$9.50, for the Sophomore class \$11, for the Junior class \$15, for the Senior class \$18.

STUDENT LABOR.

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

The rate of pay is made to depend upon the character of the work, and the manner in which it is performed.

Every student, however, should bring with him money enough to defray his expenses for the first three months.

EXPULSIONS.

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

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

REGULAR COURSES OF STUDY.

There are four regular courses of study—in Agriculture, in Civil Engineering, in Mechanical Engineering, and in Textile Engineering.

These courses extend through four years and lead to the degree of Bachelor of Science, the particular course pursued being specified in the diploma.

ELECTIVE STUDIES in the regular courses are subject to the following provisions: They must be chosen in *conformity to the regular schedule*; the selection in each case to be subject to the approval of the Committee on Elective Courses and of the heads of departments concerned. Elective work in *practice* must conform to recitation work. The student must hand to the Chairman of the Committee on Elective Courses on *the first day of each term* a card, properly signed, containing a complete statement of his work. No elective study may be discontinued before completion.

In the curriculum which follows the description of each course, the figures under term indicate the number of hours per week; the figures immediately after the names of departments refer to the numbers of the courses as described in detail under the caption "Departments of Instruction," page 38.

COURSE IN AGRICULTURE.

It is the object of this course to give to young men a thoroughly practical and scientific training in those branches of science which relate to agriculture and horticulture. It is also intended that the student's general training shall not be neglected, and to this end he is given instruction in the English language, history and mathematics, in addition to the special instruction in the sciences of chemistry, physics, botany and animal anatomy and physiology.

The twenty-four hundred acres in the farm, one hundred and twenty milch cows (Jerseys, Holsteins and grades), hogs, work stock, tools and machinery, silos, etc., furnish illustrations of practical value to the student. The dairy is fitted with milk separators, pasteurizers, churns, butter-workers and milk testing machines. The greater part of the labor of the dairy is done by the students in the courses in agriculture; for this and other work they are paid at a maximum rate of twelve and one-half cents per hour.

The permanent location of the Texas Agricultural Experiment Station at the College makes it possible to give students the benefit of experiments conducted at the College, and the Experiment Station library forms a valuable adjunct to the regular College library by furnishing the results of valuable tests made along agricultural lines in other States. The library also receives the leading agricultural periodicals, which are available to students.

The studies in the agricultural courses are divided into two groups; group A giving prominence to Agriculture and group B to Horticulture.

The choice between the two groups must be made at the beginning of the Spring term in the Sophomore year, when the student will take Agriculture 1 or Horticulture 1, according as he desires to go on with group A or group B.

COURSE IN AGRICULTURE.

FRESHMAN YEAR.

	Fall.	Winter.	Spring.
Mathematics, 1, 2.....	6	6	6
English 1.....	3	3	3
English 2.....	3	3	3
History 2.....	3	3	3
Physics 1.....	3	3	3
Practice:			
<i>Drawing</i>	8	8	8
<i>English Composition</i>	2	2	2
<i>Physics</i>	2½	2½	2½
<i>Drill</i>	3	-	3

SOPHOMORE YEAR.

	Fall.	Winter,	Spring.
Agriculture 1.....	-	-	3
Or Horticulture 1.....	-	-	3
Mathematics 3.....	3	3	-
English 3, 4.....	3	3	3
Languages 1 or 3.....	3	3	3
Zoology	3	3	3
Chemistry 1.....	4	3	3
Botany 1, 2, 3.....	3	3	3
Practice:			
<i>Zoology</i>	2½	2½	-
<i>Chemistry</i>	2½	5	5
<i>Botany</i>	2½	5	5
<i>Carpentry</i>	2½	-	-
<i>Blacksmithing</i>	-	-	2½
<i>Drill</i>	3	-	3

COURSE IN AGRICULTURE.

JUNIOR YEAR.—GROUP A.

	Fall.	Winter.	Spring.
Agriculture 2, 3, 4.....	3	3	3
Agriculture 5, 6, 7.....	3	3	3
Veterinary Science 5, 6, 7, 8, 9.....	3	3	3
Military Science 1.....	—	3	—
Chemistry 3, 4.....	3	3	3
Languages 2 or 4.....	3	3	3
Entomology 1.....	—	3	—
Horticulture 3, 2.....	3	—	3
Practice:			
<i>Agriculture</i>	5	2½	5
<i>Chemistry</i>	2½	2½	2½
<i>Veterinary Medicine</i>	2½	5	2½
<i>Entomology</i>	—	2½	—
<i>Horticulture</i>	2½	—	2½
<i>Drill</i>	3	—	3

SENIOR YEAR.—GROUP A.

	Fall.	Winter.	Spring.
Agriculture 13 or 8.....	3	—	—
Agriculture 9 or 11.....	—	3	—
Agriculture 12 or 10.....	—	—	3
History 3, 4, 5.....	3	3	3
*Civil Engineering 1.....	—	3	—
Chemistry 5.....	—	3	3
Military Science 2.....	1	—	—
Elective.....	9	3	6
Thesis.....	2	2	2
Practice:			
<i>Agriculture</i>	2½	2½	2½
<i>Chemistry</i>	5	—	—
* <i>Surveying</i>	—	2½	—
<i>Elective</i>	5	5	5
<i>Drill</i>	3	—	3

* Not to be given in 1903-04.

COURSE IN AGRICULTURE.

JUNIOR YEAR—GROUP B.

	Fall.	Winter.	Spring.
Horticulture 2, 3, 4.....	3	2	3
Agriculture, 2, 3.....	3	3	-
Horticulture 5.....	-	-	2
Languages 3 or 4.....	3	3	3
Chemistry 3, 4.....	3	3	3
Military Science 1.....	-	3	-
Entomology 1.....	-	3	-
Mycology 1.....	-	-	2
Elective	6	3	4
Practice:			
<i>Horticulture</i>	5	2½	5
<i>Chemistry</i>	2½	2½	2½
<i>Entomology</i>	-	5	-
<i>Agriculture</i>	2½	2½	-
<i>Elective</i>	-	-	5
<i>Drill</i>	3	-	3

SENIOR YEAR.—GROUP B.

	Fall.	Winter.	Spring.
Horticulture 6, 7, 8.....	3	3	3
Agriculture 13.....	3	-	-
History 3, 4, 5.....	3	3	3
* Civil Engineering 1.....	-	3	-
Chemistry 5.....	-	3	3
Military Science 2.....	1	-	-
Elective	6	3	6
Thesis.....	2	2	2
Practice:			
<i>Horticulture</i>	2½	2½	-
<i>Agriculture</i>	2½	-	-
* <i>Surveying</i>	-	2½	-
<i>Elective</i>	7½	2½	7½

* Not to be given in 1903-04.

COURSE IN MECHANICAL ENGINEERING.

The object of the course in Mechanical Engineering is to educate the student not merely to become a mechanic, but also to enable him to take charge of men and tools, erect machinery, lay out plans, etc., with the minimum amount of further preparation. This necessitates a study not only of engineering problems, but also demands a broad foundation of useful knowledge, and a training which leads as much as possible to originality in thought and quick perception of the objects sought. With this in view, the subjects studied in this course are carefully selected.

COURSE IN MECHANICAL ENGINEERING.

FRESHMAN YEAR.

	Fall.	Winter.	Spring.
Mathematics 1, 2	6	6	6
English 1	3	3	3
English 2	3	3	3
History 1	6	6	6
Practice:			
<i>Shop</i>	5	5	5
<i>Drawing</i>	5	6	6
<i>Drill</i>	3	-	3

SOPHOMORE YEAR.

Mathematics 4, 5, 6.....	6	6	6
English 3, 4.....	3	3	3
Physics 3.....	-	6	3
Drawing 6.	6	-	-
Mechanical Engineering 1.....	3	3	3
Civil Engineering 1.....	-	-	3
Practice:			
<i>Shop</i>	5	2½	-
<i>Drawing</i>	5	2½	5
<i>Physics 4</i>	-	5	5*
<i>Surveying</i>	-	-	5*
<i>Drill</i>	3	-	3

JUNIOR YEAR.

Mathematics 7.....	3	3	3
Chemistry 6, 8.....	3	3	3
Physics 5.....	3	3	3
Military Science 1.....	-	3	-
Languages 1 or 3	3	3	3
Mechanical Engineering 2, 3, 4.....	6	3	6
Practice:			
<i>Drawing</i>	2½	2½	2½
<i>Physics 6</i>	-	2½	2½
<i>Chemistry</i>	2½	2½	2½
<i>Mechanical Engineering</i>	5	2½	2½
<i>Drill</i>	3	-	3

SENIOR YEAR.

Mathematics 8.....	3	-	-
History	3	3	3
Mechanical Engineering.....	9	12	12
Chemistry	3	3	-
Military Science 2	1	-	-
Practice:			
<i>Mechanical Engineering</i>	5	7½	5
<i>Drawing</i>	2½	2½	2½
<i>Drill</i>	3	-	3

* For one-half the term.

COURSE IN CIVIL ENGINEERING.

This course is intended to prepare young men for entrance upon professional practice and advanced study in some of the many branches included in the scope of Civil Engineering; to enable the graduate to survey and map areas; to locate, construct and maintain highways, railroads, streets, pavements, water-works systems, sewerage systems, canals, dams, irrigation ditches, bridges and other structures; to become draughtsmen; and, in fact, to enter upon the advanced study necessary for almost any one of the special lines embraced in the work of the Civil Engineer.

COURSE IN CIVIL ENGINEERING.

FRESHMAN YEAR.

	Fall.	Winter.	Spring.
Mathematics 1, 2.....	6	6	6
English 1.....	3	3	3
English 2.....	3	3	3
History 1.....	6	6	6
Practice:			
<i>Shop</i>	5	5	5
<i>Drawing</i>	5	6	6
<i>Drill</i>	3	-	3

SOPHOMORE YEAR.

Mathematics 4, 5, 6.....	6	6	6
English 3, 4.....	3	3	3
Physics 3.....	-	6	3
Drawing 6.....	6	-	-
Languages 1 or 3.....	3	3	3
Civil Engineering 1.....	-	-	3
Practice:			
<i>Shop</i>	5	-	-
<i>Drawing</i>	5	5	5
<i>Physics 4</i>	-	5	5*
<i>Surveying</i>	-	-	5*
<i>Drill</i>	3	-	3

JUNIOR YEAR.

Mathematics 7.....	3	3	3
Chemistry.....	3	3	3
Languages 2 or 4.....	3	3	3
Physics 5.....	3	3	3
Military Science 1.....	-	3	-
Civil Engineering 2, 3, 4.....	6	3	6
Practice:			
<i>Drawing</i>	2½	2½	2½
<i>Physics 6</i>	-	2½	2½
<i>Chemistry</i>	2½	2½	2½
<i>Civil Engineering</i>	5	2½	2½
<i>Drill</i>	3	-	3

SENIOR YEAR.

Mathematics 8.....	3	-	-
Chemistry.....	3	3	-
History.....	3	3	3
Civil Engineering.....	9	12	12
Military Science 2.....	1	-	-
Practice:			
<i>Civil Engineering</i>	5	7½	5
<i>Drawing</i>	2½	2½	2½
<i>Drill</i>	3	-	3

*For one-half the term.

COURSE IN TEXTILE ENGINEERING.

The Legislature has made provision for the establishment of a department of Textile Engineering. A building for this department will be erected and equipped with the necessary machinery. The object of the course will be to acquaint the student with the engineering principles involved in the manufacture of textiles, and to give him a practical insight into the details of the work. Instruction will be given in carding and spinning, weaving, dyeing, designing, and in mill engineering. For the freshmen and sophomore years, the course will be almost identical with the course in Mechanical Engineering. Students may, therefore, enter upon the four years' course leading to the degree of Bachelor of Science in Textile Engineering at the opening of the next session. A two years' practical course will also be given.

A provisional arrangement of the four years' course is given on the page following.

COURSE IN TEXTILE ENGINEERING.

FRESHMAN YEAR.

	Fall.	Winter.	Spring.
Mathematics 1, 2.....	6	6	6
English 1.....	3	3	3
English 2.....	3	3	3
History 1.....	6	6	6
Practice:			
<i>Shop</i>	5	5	5
<i>Drawing</i>	5	6	6
<i>Drill</i>	3	-	3

SOPHOMORE YEAR.

Mathematics 4, 5, 6.....	6	6	6
English 3, 4.....	3	3	3
Physics 3.....	-	6	3
Drawing 6.....	6	-	-
Chemistry.....	4	3	3
Mechanical Engineering 1.....	3	3	3
Civil Engineering 1.....	-	-	3
Practice:			
<i>Shop</i>	5	2½	-
<i>Drawing</i>	5	2½	5
<i>Physics 4</i>	-	5	5*
<i>Surveying</i>	-	-	5*
<i>Drill</i>	3	-	3

JUNIOR YEAR.

Mathematics.....	3	3	3
Chemistry.....	3	3	3
Physics.....	3	3	3
Military Science.....	-	3	-
Textile Engineering.....	3	3	3
Mechanical Engineering.....	6	3	6
Practice:			
<i>Drawing</i>	2½	2½	2½
<i>Physics</i>	-	2½	2½
<i>Chemistry</i>	2½	2½	2½
<i>Mechanical Engineering</i>	5	2½	2½
<i>Drill</i>	3	-	3

SENIOR YEAR.

Mathematics.....	3	-	-
History.....	3	3	3
Mechanical Engineering.....	3	-	-
Textile Engineering.....	6	12	12
Chemistry.....	3	3	-
Military Science.....	1	-	-
Practice:			
<i>Textile Engineering</i>	5	7½	5
<i>Drawing</i>	2½	2½	2½
<i>Drill</i>	3	-	3

* For one-half the term.

TEXT-BOOKS USED IN THE SEVERAL DEPARTMENTS.

FRESHMAN CLASS.

DRAWING: Drawing Books Nos. 5, 6, 7, *Webb, Ware and Zaner*; Mechanical Drawing, Parts I and II, *Giesecke*.

ENGLISH: Principles of Rhetoric, *Hill*; Practical Exercises in English, *Buehler*; English Literature, *Moody and Lovett*.

HISTORY: Mediæval and Modern History, *Myers*.

MATHEMATICS: Plane and Solid Geometry, *Wentworth*; Complete Secondary Algebra, *Fischer and Schwatt*.

MECHANICAL ENGINEERING: Bench Work in Wood, *Goss*.

PHYSICS: A Text Book of Physics, *Wentworth and Hill*.

SOPHOMORE CLASS.

AGRICULTURE: Principles of Agriculture, *Voorhees*.

BOTANY: A Text Book of Botany, *Strasburger, Noll, Schenk and Schimper*.

CHEMISTRY: Inorganic Chemistry, *Storer-Lindsay; Miller; Nason*.

CIVIL ENGINEERING: Plane Surveying, *Raymond*.

DRAWING: Descriptive Geometry, *Faunce*; Mechanical Drawing, Part II, *Giesecke*.

ENGLISH: Principles of Argumentation, *Baker*.

HORTICULTURAL AND MYCOLOGY: Plant Culture, *Goff*.

LANGUAGES: German Grammar, *Joynes-Meissner*, with *Stern's Studien und Plaudereien*, and Select Literature; Spanish Grammar, *De Tornos*; Readers, *Ramsey, Knapp*; French Grammar, *Whitney*, with Selected Readings; Latin Grammar, *Coy, Gildersleeve*, with Selected Readers and Literature.

MATHEMATICS: Higher Algebra, *Wells*; Solid Geometry, *Wentworth*; Plane and Spherical Trigonometry, *Taylor and Puryear*; Analytic Geometry, *Ashton*.

MECHANICAL ENGINEERING: Power and Power Transmission, *Kerr*.

JUNIOR CLASS.

AGRICULTURE: Agricultural Physics, *King*; Soils and Crops of the Farm, *Morrow and Hunt*; Breeds of Live Stock, *Shaw*; Stock Feeding, *Henry*.

CHEMISTRY: Elements of Organic Chemistry, *Remsen*; Agricultural Chemistry, Vol. II and III, *Storer; Miller; Nason*; Metallurgy, *Blount and Bloxam*.

CIVIL ENGINEERING: Plane Surveying, *Raymond*; Field Manual for Railroad Engineers, *Nagle*; Mechanics of Materials, *Merriman*; Hydraulics, *Merriman*; Irrigation and Land Drainage, —.

HORTICULTURE AND MYCOLOGY: Principles of Vegetable Growing, *Bailey*; Principles of Fruit Growing, *Bailey*; Plant Breeding, *Bailey*...

LANGUAGES: German Grammar, *Joynes-Meissner*, with *Stern's Studien und Plaudereien*, and Select Literature; Spanish Grammar, *De Tornos*; Readers, *Ramsey, Knapp*; French Grammar, *Whitney*, with Selected Readings; Latin Grammar, *Coy, Gildersleeve*, with Selected Readers and Literature.

MATHEMATICS: Analytical Geometry, *Ashton*; Differential and Integral Calculus, *Osborne*.

MECHANICAL ENGINEERING: Slide Valve Geers, *Halsey*; Roofs and Bridges, Part II, *Merriman*; Strength of Materials, *Mather*; Handbook for Apprenticed Machinists, *Brown and Sharpe Mfg. Co.*

MILITARY SCIENCE: U. S. Infantry Drill Regulations, Guard Manual, Small Arms Firing Regulations.

PHYSICS: Elementary Lessons in Electricity and Magnetism, *Thompson*; Laboratory Exercises in Elementary Physics, *Wentworth and Hill*.

VETERINARY SCIENCE: Comparative Anatomy of the Domestic Animals, *Chauveau*; Anatomy of the Horse, *McFadyean*; Anatomie des Pferdes, *Leisering*; Veterinary Medicine, Vol. IV, *Law*; Pathology, and Therapeutics of the Domestic Animals, *Friedberger and Frohner*; *Fleming's Translation of Neuman*.

SENIOR CLASS.

AGRICULTURE: Exterior of the horse, *Gobeaux and Barrier*; Milk and its Products, *Wing*; Irrigation and Drainage, *King*.

CHEMISTRY: Elements of Geology, *Le Conte*; ———, *Brigham*; Industrial Chemistry, *Sadtler*.

CIVIL ENGINEERING: Masonry Construction, *Barker*; Contracts and Specifications, *Johnson*.

HORTICULTURE AND MYCOLOGY: Greenhouse Construction, *Taft*; Survival of the Unlike, *Bailey*.

LANGUAGES: German Grammar, *Joynes-Meissner*; Select Literature; Spanish Grammar, *De Tornos*; Readers, *Ramsey, Knapp*; Latin Grammar, *Coy, Gildersleeve*, with Selected Readings and Literature; French Grammar, *Whitney*, with Selected Readings.

MATHEMATICS: Same as for Junior Class.

MECHANICAL ENGINEERING: Machine Drawing and Design, *Low and Bevis*; Engineering Laboratory Practice, *Smart*.

MILITARY SCIENCE: Military Hygiene, *Woodhull*; Organization and Tactics, *Wagner*; Service of Security and Information, *Wagner*.

MATHEMATICS: Analytical Geometry, *Ashton*; Calculus, *Osborne*.

MECHANICAL ENGINEERING: Machine Design, *Low and Bevis*; Indicator Practice and Steam Engine Economy, *Hemenway*.

MILITARY SCIENCE: *United States Army* Regulation Drill Books.

VETERINARY SCIENCE: Veterinary Surgery, *Williams, Liautard*; Veterinary Anatomy, *Chauveau*; Materia Medica, *Bartholow*; Horse-shoeing, *Fleming*; Veterinary Obstetrics, *Fleming*.

GRADUATE COURSES.

Graduate studies in the Agricultural Course lead to the Degree of Master of Science (in Agriculture); in the Mechanical and Civil Engineering Courses to the Degrees of Mechanical Engineer (M. E.) and Civil Engineer (C. E.), respectively.

It is required for admission to study for one of these degrees that the candidate be a graduate of this College, or of some other institution approved by the Faculty. He must select a major subject in the department in which his first degree was taken, and two minor subjects from allied departments, and one foreign language. The course of study will occupy two years, at least one of which must be spent in residence at the College. The student must give continued satisfaction in his studies, must pass satisfactory examinations upon the subjects of the course, and must submit an approved thesis.

The course of study must be selected from the following prescribed subjects. The selection must be submitted to the Faculty for approval.

AGRICULTURE.

Advanced work is offered to graduate students in the Department of Agriculture, as follows: Soils, farm crops, animal husbandry, dairying, irrigation and drainage, farm equipment and machinery, plant breeding, plant ecology, forestry, landscape gardening, botany of fruits and vegetables, and experiment station methods.

BOTANY.

Besides courses of reading, a thesis is required in one of the following subjects, or in an equivalent subject: Monographic study in Compositæ, Gramineæ, Leguminosæ, or any other family well represented in this vicinity; catalogue of the plants of this vicinity with ecological observa-

tions; morphological study of the development of the floral organs of any suitable family.

CHEMISTRY.

Quantitative analysis, physiological and industrial chemistry; theoretical and organic chemistry; agricultural chemistry; standard reference books; current chemical literature. Final thesis on original work.

CIVIL ENGINEERING.

Advanced work is offered in the following subjects: Hydrographic surveying; hydraulic and water supply engineering; masonry construction; stereotomy; geodesy; strains in drawbridges and other continuous structures; theory of the strength of materials; experimental work with testing machines; designing; detail and shop drawing; thesis.

DRAWING.

Advanced descriptive geometry, stereotomy, and such technical drawing as may be desired.

Shades and Shadows, *Lawrence*.

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

HISTORY.

A course in Economics is offered as follows:

1. *Transportation*: Canals; railways—competition, pools, consolidations, territorialization, State regulation, commissions, State control, State ownership.

2. *Industrial Legislation*: Tariff legislation; factory legislation; national, State and savings banks.

3. *Industrial Combinations*: Origin, organization, and powers of capitalistic combinations, corporations, trusts, monopolies; remedies for their evils, publicity, regulation, suppression; existing legislation; Federal limitations.

In addition to these courses, there will be conducted, if desired by competent students, original investigations of special economic problems of this State; such as the economic aspect of the rice, sugar, cotton, and cattle industries.

HORTICULTURE AND MYCOLOGY.

A. *Horticulture.*

Graduate work in horticulture will include studies of sciences relative to plant production and improvement. Advanced work is offered in plant

breeding, plant ecology, forestry, landscape gardening, botany of fruits and vegetables, and experiment station methods.

B. Mycology.

Systematic study of economic species of fungi; microscopical laboratory methods; spraying for plant diseases; original biological work, and thesis on some special work.

LANGUAGES.

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

MATHEMATICS.

Determinants and theory of equations; advanced analytical geometry; differential and integral calculus; analytical mechanics; least squares.

MECHANICAL ENGINEERING.

Continuation of fourth year's work and steam engine economy and design, with continuation of practice in the machine shop, and theory of tests.

In the second year special subjects and original designing; engine and boiler tests, with advanced shop practice.

PHYSICS.

Advanced work in this department has for its object the training of the student in handling instruments of precision, and in making delicate physical measurements. With this end in view, he is required to arrange and set up his own apparatus. Text-books will be selected to best fit the needs of the student, but he will be expected to make extensive use of the department library in studying the various methods of performing his experiments.

ELECTIVE COURSES.

Elective courses extending through two years are offered upon the following conditions:

1. A new student, in order to enter upon an elective course, must be able to pass the entrance examinations in English Grammar, Composition, Rhetoric, Arithmetic, Algebra through quadratic equations, Plane Geometry.
2. A regular student in order to transfer to an elective course must

have the consent of his parent or guardian and of the Faculty; he must also have passed on at least two subjects in the Sophomore or a higher class at the examinations held at the end of the spring term. No student in the Junior Class reported at the end of the session as deficient in more than two subjects will be allowed to take an elective course. The transfer to an elective course may be made only at the beginning of a term.

3. Every student upon receiving permission from the Faculty to take an elective course must elect, *in conformity to the regular schedule*, studies amounting to at least *eighteen* hours per week and practice amounting to at least *seven* hours per week, besides drill; the course must be largely industrial in character and must be submitted for approval to the Committee on Elective Courses and to the heads of departments in which his studies are chosen. In his second year all his work must be in classes above the Sophomore.

4. He must hand to the chairman of the committee on the *first day of each term* a list of his studies, properly signed.

5. A student in an elective course, upon the completion of two full years work, as defined above, will be entitled to a certificate signed by the President and the heads of the departments in which he studied.

6. Elective students shall be subject to all military duties and to the Rules and Regulations just as are regular students.

SHORT WINTER COURSES.

The Department of Agriculture offers two special short courses during the winter term of 1904, and the Horticultural Department offers one. These courses are designed to give a large amount of practical information during the ten weeks of the winter term to those men who can afford neither the time nor the money to take the four years course in Agriculture. They are open only to young men eighteen years of age or over; no entrance examinations are required. Short course students will not be entitled to the privileges of the student labor fund, nor will they drill or perform other military duties, but they will be responsible for good conduct while on the grounds.

STOCK FARMING COURSE.

The short course in stock farming offers a condensed form of scientific and practical work bearing upon stock breeding, stock feeding, and the cultivation of crops. Students taking this course will also take veterinary medicine and farm dairying or horticulture. The regular College equipment, including library, live stock, machinery, crops, etc., will be available for this work.

DAIRY COURSE.

The work of this course will consist of class-room instruction, in the theory of handling milk, separating cream, and making butter, combined with practice work with the separators, churns, milk-testers, and other equipment of the Dairy Department. Attention will be given to the proper selection, care, feeding, and management of the dairy herd and the judging of dairy animals. Students in this course will also receive instruction in veterinary medicine.

HORTICULTURAL COURSE.

This course is designed to meet the needs of those persons interested in horticulture who are unable to take a regular collegiate course. It is the special object of the course to fit men for practical work in the orchard, nursery, and garden. A thorough course is given in the construction and management of hot-beds and cold-frames, together with the forcing of early vegetables. Special attention is also given to the pruning, budding, grafting, and the cultivation and management of orchards.

MANUAL TRAINING.

A course in manual training especially designed for teachers is offered by the Department of Mechanical Engineering. The work may be taken up at any time of the session and will usually occupy about eight weeks. Those desiring to take this course should notify the President before coming to the College.

GRADES, REPORTS, EXAMINATIONS AND ADVANCEMENT.

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

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

Examinations are held at the end of each term.

The passing mark is 66 for the Freshman and Sophomore classes and 70 for the Junior and Senior classes; examination grade and term average being given equal weight; but if the examination grade is below 55 the student will not be passed. Special examinations will in no case be given without special Faculty action; but there will be examinations for deficient students at the opening of each session. Students who wish to be examined at that time must send to J. A. Baker, Secretary of the Col-

lege, at least three days before the first day of the session a statement of the subjects on which they wish to be examined.

GRADUATION.

A diploma of the College, with the degree corresponding to the course of study pursued, will be granted students who complete one of the prescribed courses and pass satisfactory examinations on all of the branches embraced therein. Each candidate for graduation is required to prepare a thesis upon a subject bearing upon his work in some scientific or practical department. The subject must be submitted to the Faculty for approval by March 1.

The thesis must be satisfactory to the head of the department in which it was written.

The diploma fee is five dollars.

HONORS.

The three students of the graduating class who have the best records for scholarship and deportment are known as honor men; but this rule may be modified if the number of students in any class or their scholarship shall not warrant such distinction.

In each of the lower classes the three students having the highest general average in all their studies, and also in each department the three students of the several classes whose final grades are highest, are announced at Commencement as "distinguished."

DEPARTMENTS OF INSTRUCTION.

DEPARTMENT OF AGRICULTURE.

DEAN GIBBS.

PROFESSOR JOHNSTON.

The course in Agriculture presupposes that the young man entering it has had that training in farm matters that must necessarily come to a young man who has lived upon a farm. The course is intended to add to this training but not to displace it. The business of farming requires that a man should be both able to do and to think. For this reason, training in the use of reason is largely dwelt upon in the Course in Agriculture, for experience has taught that the young men from the farms are usually much better prepared to do than to think.

A technical knowledge of those principles upon which depend the growth and management of the crops of the farm, the care of dairy herds, the production of beef, the planting and maintenance of orchards, vineyards and truck farms, is required. The student also gets a thorough training in matters relating to irrigation and drainage, and the manufacture of dairy products.

The courses are as follows:

1. Elements of Agriculture. Sophomore. Spring term, 3 hours a week.

Lectures and recitations upon the elementary principles of soil formation; upon the foods necessary to the growth of plants; and a study of how the plant gets its food from the soil, and in turn how the animal gets its food from the plant. Principles of Agriculture, *Voorhees*.

2. Farm Equipment. Junior. Fall term, 3 hours a week; Practice.

Lectures and recitations upon the selecting, planning, and equipping of farms; planning and erecting of farm buildings and fences; building roads; farm vehicles and machinery. Practice will be given in drawing plans of farms and farm buildings and in making tests of the draft required for different farm wagons and machinery.

3. Soils. Junior. Winter term, 3 hours a week; Practice.

Lectures and recitations upon the origin, formation, kinds, and physical properties of soils and their improvement by cultivation, fertilization, drainage, and irrigation. Laboratory practice will be given in testing physical properties of several soils; determining the relation of heat, moisture, air and fertilizers, to soils, and in making mechanical analyses of the different soils. Agricultural Physics, *King*.

4. Farm Crops. Juni Spring term, 3 hours per week; Practice.

Lectures and recitations upon the history, production, cultivation, harvesting, and marketing of farm crops. Practice will be given with growing and dried specimens of crops, including grasses, clovers, and other forage crops. Soils and Crops of the Farm, *Morrow* and *Hunt*.

5. Breeds of Live Stock. Junior. Fall term, 3 hours a week; Practice.

Lectures and recitations upon the history, characteristics, adaptations, care and management of the different breeds of domestic animals. Practice will be given in scoring and judging specimens of the various breeds of horses, cattle, sheep and swine. Breeds of Live Stock, *Shaw*.

6. Principles of Breeding. Junior. Winter term, 3 hours a week.

Lectures and recitations upon the laws of heredity and their application to actual practice. Practice in stock judging, and in writing and tracing pedigrees will be given.

7. Stock Feeding. Junior. Spring term, 3 hours a week; Practice.

Lectures and recitations upon nutrition, food stuffs, and methods of feeding the different classes of domestic animals. Practice is given in calculating digestibilities, nutritive ratios, and feeding standards. Stock Feeding, *Henry*.

8. Animal Mechanics. Senior. Fall term, 3 hours a week; Practice.

Lectures and recitations upon animal mechanics and proportions, and the relation of proportions to practical uses. Practice is given in measuring animals and in testing the value of given measures for a given purpose. Exterior of the Horse, *Gobeaux* and *Barrier*.

9. Farm Crops. Senior. Winter term, 3 hours a week; Practice.

Lectures and recitations on the effect of climate, soil and markets on the distribution and adaptation of farm crops in the United States; the best methods of crop production, including a careful study of the details of field experimentation as set forth in experiment station bulletins and reports and the publications of the United States Department of Agriculture; and the consumption of farm crops.

10. Animal Husbandry. Senior. Spring term, 3 hours per week; Practice.

Lectures and recitations upon the history, characteristics, adaptation, care and management of the different breeds of domestic animals. Practice in scoring and judging live stock.

11 Dairying.

Lectures and recitations on methods of creaming; factors which control the thoroughness of separation either by gravity or by centrifugal

force; explanation of the continuous separation of cream; of ripening cream and testing for acidity; on methods of churning; the effect of temperature, acidity and richness of cream on time and completeness of churning; on the salting, working and packing and marketing of butter. Lectures will also be given on the construction, operation, and management of creameries, cheese factories, dairies and milk depots. Milk and its Products, *Wing*.

12. Farm Machinery. Senior. Spring term, 3 hours a week; Practice.

Lectures and recitations on the construction and use of farm machinery, including the application of mechanical principles in its structure and operation. Practice will be given in making comparisons and tests of various makes and kinds of farm machinery.

13. Irrigation and Drainage. Senior. Fall term, 3 hours per week; Practice.

Lectures and recitations are given upon the several methods of irrigation in use; the amount of water necessary for the various crops, and the available water supply of the State are studied; the flow of water through soils and the proper methods of protecting lands from washing are also discussed. Practice is given in the laying out of efficient systems of open and tile drains. Irrigation and Drainage, *King*.

DEPARTMENT OF BOTANY.

PROFESSOR NESS.

It is the aim of this department to utilize the time allotted to it in giving such instruction as is most needful in the study of Agricultural subjects.

The instruction is given both by lectures and text-book. A Text-book of Botany by *Strasburger, Noll, Schenk and Schimper* being used throughout all three courses.

The courses are as follows:

1. Morphology. Sophomore. Fall term, 3 hours a week.

This course is intended to give both a brief introduction to the study of the evolution of the vascular plants and more especially a preparation for the Systematic Botany of the flowering plants and the higher sporophytes. The comparative embryology and morphology of these plants will, therefore, be the subject for investigation throughout this term.

In the laboratory work, which takes up $2\frac{1}{2}$ hours per week, the students are required to make drawings and descriptions of the various organs of representative plants. Each student will be required to provide himself

with a cheap set of dissecting instruments and a tripod lens, obtainable at the College book store.

2. Anatomy and Physiology of Plants. Sophomore. Winter term, 3 hours a week.

The character and structure of the protoplasm are first taken up; followed by study of the tissues and their arrangement into systems; finally, under the head of Physiology the functions of these various parts are studied.

In the laboratory work, which consumes 5 hours per week, the students are made familiar with the art of hardening, imbedding, staining and mounting specimens for microscopic examination. The students are required to submit drawings with notes on the various parts studied. Practical Botany by *Strasburger* is used as laboratory manual.

3. Systematic Botany. Sophomore. Spring term, 3 hours a week.

Lectures upon the relationship and the natural arrangement into groups of the aniospermous plants.

Laboratory work 5 hours per week, in which the students are required to collect and prepare a herbarium, to be submitted at the end of the term. Besides the flora of the vicinity, the students will have the advantage of the ornamental plants of the campus, which represent a wide range of taxonomic groups consisting of herbs, shrubs, and forest trees.

Manuals: Flora of Western Texas, *Coulter*; Southern Flora, *Chapman*; Manual of the Flora, *Britton*.

Graduate Work.—To students desiring further advancement in botany, the department offers instruction as outlined under the head of Graduate Courses.

EQUIPMENT.

The Department of Botany is supplied with good compound and dissecting microscopes, a new Reichert's microtome, as well as other necessities for pursuing microscopic investigation; a collection of standard reference books on all branches of botany, and a small but growing herbarium containing specimens from the various sections of the State, many of which were collected and presented to the department by Mr. J. Reverchon.

DEPARTMENT OF CHEMISTRY AND MINERALOGY.

PROFESSOR HARRINGTON.
ASSOCIATE PROFESSOR TILSON.
ASSISTANT FRAENKEL.
ASSISTANT HARGIS.

The work in Chemistry begins with the Sophomore Class, and extends over two years, with geology in the Senior year. Experimental and laboratory work supplements the class-room instruction.

The courses offered are described below.

Courses 1 to 5, inclusive, are required of Agricultural students; 6, 7, 8, 9, of Mechanical Engineering students; 6, 7, 10, of Civil Engineering students.

1. **Descriptive Inorganic Chemistry.** Sophomore. Fall term, 4 hours; Winter and Spring terms, 3 hours a week.

Recitations and laboratory experiments. The course deals with the principles of the science, and with a study in detail of the common elements and their compounds. The lectures are fully illustrated by experiments, specimens and charts. One or more laboratory periods are consumed by the student in preparation for the lectures the following day. Inorganic Chemistry, *Storer-Lindsay*.

2. **Analytical Chemistry.** Sophomore and Junior. Practice.

(a) Work begins with the use of the blowpipe, and the qualitative examination of suitable substances. This is followed by determinative mineralogy, wet analysis, and volumetric work, accompanies Course 1 in the Sophomore year, and is succeeded in the Junior year by quantitative work. *Miller, Nason*.

(b) Quantitative work. The laboratory work of this year is supplementary to the lectures and recitations on Organic Chemistry and Agricultural Chemistry. One afternoon each week for an entire term is devoted to this practice, and the work is individual in character. After the preparation of simple organic compounds, and the determination of characteristic organic radicals, the student is passed on to a review of his volumetric work of the previous year, and takes up gravimetric analysis. Agricultural products and feed stuffs are given preference. Special stress is laid upon the reasons for selecting the different schemes, and the attention of the student is called to the sources of errors, and the means of avoiding them. Notes; Reference Books.

3. **Organic Chemistry.** Junior.

Descriptive lectures in elementary Organic Chemistry, with special attention directed to the bearing the science has upon Agricultural

Chemistry. Some phases of the Chemistry of Foods and Dietetics will receive brief attention during the work in this course. Elements of Organic Chemistry. *Remsen*.

4. Agricultural Chemistry. Junior.

The chemical principles underlying agriculture and their special relation thereto, are studied in detail, with particular reference to the conditions in this State. The Chemistry of Soils, natural and artificial fertilizers, irrigation waters, and feed stuffs; the chemistry of plant growth, and changes that take place in the development of a crop, are some of the subjects which receive attention. Agricultural Chemistry, Vols. II and III, *Storer*.

5. Geology. Senior. Winter and Spring terms, 3 hours a week.

Geology has been assigned to the department, and is taught for three hours a week the last two terms of the Senior year. General Geology, with some special attention to economic Geology is discussed under its various divisions. The subject is illustrated by maps, models, charts, and hand specimens of rocks and fossils. Elements of Geology, *LeConte*.

6. Descriptive Inorganic Chemistry. Junior. Fall and Winter terms, 4 hours a week.

This course is required of all students in both the Mechanical and the Civil Engineering Courses. It is similar to Course 1 in the course in Agriculture, but is more advanced, and is not preceded by preparatory laboratory work. It is succeeded by Course 8 for the Mechanical Engineering students and by Course 10 for the Civil Engineering students. Inorganic Chemistry, *Storer-Lindsay*.

7. Qualitative Analysis. Senior.

This course is given to Seniors of the Engineering Course. Considering the time allowed, the student is carried as far as possible in qualitative analysis, and the students in Mechanical Engineering receive a practical course in assaying. *Miller, Nason*.

Not to be given in 1903-'04.

8. Metallurgy. Junior. Spring term, 6 hours a week.

Having finished Course 6, the Mechanical Engineering students are prepared to take up metallurgy. Special attention is given to the metallurgy of iron and steel. Attention is called to impurities occurring in ores, and the influence these impurities exert upon methods of work and upon the finished products. The different fuels, fluxes and refractory materials are carefully considered in their relative importance and adaptability. Metallurgy, *Blount and Bloxam*.

10. Geology. Senior. Fall and Winter terms, 3 hours a week.

This course is very similar to Course 5 in the course in Agriculture, but is briefer. More attention is given to Economic Geology, and special stress is laid upon the geology of this State. *Brigham.*

Not to be given in 1903-'04.

9. Industrial Chemistry. Senior. Fall and Winter terms, 3 hours a week.

This subject is given by text, supplemented with lectures. It is mainly Organic Industrial Chemistry, but processes considered particularly important, and of promise to the student, are selected from Inorganic Industrial Chemistry. It is given to Mechanical Engineering students only, and the subjects treated are those which are likely to prove of most aid to the future work of these students.

The manufacture and refining of sugar, of fats and fatty oils, of soaps, of petroleum, glucose, starch and related products; the tanning of leather, etc., are some of the subjects considered. It is the aim not only to make the student acquainted with the details of these manufacturing processes, but to broaden his view and conception of the general importance of manufacturing industries to the Southern people. Industrial Chemistry, *Sadtler.* Lectures.

EQUIPMENT.

The new chemical laboratory just completed affords proper room and protection for the new appliances for work and instruction. The building will be equipped as rapidly as possible with the best of material, and every facility needed for the advancement of the student will be considered. The department is building up a chemical museum, with special reference to the needs of the class in Industrial Chemistry. Both the raw material and the manufactured product that can serve for purposes of illustration will be secured.

LIBRARY.

A good reference library is accessible to the students of the department at all times. Current chemical literature, and papers and magazines of popular scientific character, are also available.

DEPARTMENT OF CIVIL ENGINEERING.

PROFESSOR NAGLE.

Good text-books, supplemented by explanations and lectures, when needed, form the basis of instruction in this department. Practice in the field, in the testing laboratory and designing room follows the instruction

in the class room and serves to impress upon the student's mind the principles and facts there taught him. An effort is made to develop an appreciation of the degree of precision required in different kinds of work and of the conditions under which approximate methods are admissible or desirable. Thoroughness in a few of the more important subjects which embody the basic principles of engineering is sought throughout the work, and many problems and exercises are assigned the student in order more clearly to illustrate the application of these principles.

The following courses of instruction are given:

1. **Plane Surveying and Leveling.** Sophomore. Spring term, 3 hours a week.

Recitations throughout the term, and field practice with compass, transit and level, five hours per week for about half the term. Civil and Mechanical Engineering students take this course in the spring term of the Third Class. Agricultural students take it in the winter term of the First Class. Plane Surveying, *Raymond*.

2. **City and Topographic Surveying, Railroad Engineering.** Junior. Fall and Winter terms, 3 hours a week.

Recitations throughout the term, and practice five hours per week in the fall and two and one-half hours per week in the winter and spring terms. Practice consists in applications of the transit and stadia method and the plane table in topographic work, and in curve problems, preliminary and location surveys of a short line in railroad engineering. Slope stakes are set on this line, and quantities computed. Plane Surveying, *Raymond*; Field Manual for Railroad Engineers, *Nagle*.

3. **Highway Construction and City Pavements.** Junior. Spring term, 3 hours a week.

Recitations.

4. **Mechanic of Materials.** Junior. Spring term; Senior, Fall term, 3 hours a week.

Recitations, supplemented by practice two and one-half hours a week in the fall term, Senior year. Mechanics of Materials, *Merriman*.

5. **Stresses in Roofs and Bridges, Bridge and Structural Design.** Senior. Fall term, 3 hours; Winter term, 6 hours; Spring term, 3 hours a week.

Recitations, supplemented by practice two and one-half hours a week in the fall term, and five hours a week in the winter and spring terms. Roofs and Bridges, *Merriman* and *Jacoby*.

6. **Hydraulics, Irrigation Engineering and Land Drainage.** Senior. Fall and Winter terms, 3 hours a week.

Recitations. Practice in hydraulics and other experimental engineer-

ing will occupy two and one-half hours a week in the winter term as soon as the necessary equipment can be obtained. Hydraulics, *Merriman*; Irrigation, Land Drainage.

7. Masonry Structures. Senior. Winter term, 3 hours a week.

Recitations. Masonry Construction, *Baker*.

8. Sanitary Engineering. Senior. Spring term, 6 hours a week.

This course will include the collection, pumping, storage, purification, and distribution of potable waters; the sewerage and drainage of cities, and the disposal of sewage.

9. Contracts and Specifications, General Engineering. Senior. Spring term, 3 hours a week.

Recitations. Contracts and Specifications, *Johnston*.

Courses 7, 8, and 9 will not be offered during the session of 1903-'04 because the graduating class for that year will be the last of those entering before the requirements for entrance were raised to their present standard. The class of 1903-'04 has had a portion of Course 8. Courses 4, 5, and 6 will be briefer than as outlined above, and will be given to that class as follows:

6a. Hydraulics.

Recitations two hours per week in the fall term and four hours per week in the winter term. Hydraulics, *Merriman*.

4a and 5a.

These courses will be carried on together through the latter half of the fall term and through the winter and spring terms. Recitations five hours per week in the fall and winter terms and six hours per week in the spring term. Practice in the testing laboratory and in bridge design will occupy seven and one-half hours per week in the spring term only. *Merriman* and *Jacoby*.

The class of 1904 will also complete during the fall term a portion of Course 2, which they began during the spring term of their work in the Junior year. The practice will be five hours per week throughout that term.

EQUIPMENT.

The department owns the following engineering, field and office instruments:

Two surveyor's transits, one of which has Gurley's solar attachment; one complete transit with Saegmuller solar attachment; one railroad transit; three engineer's eye levels; one dumpy level; one drainage level; one terracing level; two hand levels; one solar compass; four needle compasses; one sextant; one plane table; one aneroid barometer; one odom-

eter; one pedometer; one planimeter; one pantograph; one Thacher calculating instrument and several small slide rules; one Colby's topographical protractor and several small protractors; one Colby's stadia reduction slide rule; an assortment of drafting instruments and tables; an assortment of measuring chains, tapes, marking pins, flag poles, leveling rods, etc.

The department has two cement testing machines of 1000 pounds capacity each—one Fairbanks' and one Rhiele—together with such other apparatus as is needed in testing cements. Also a 20,000-pound capacity Rhiele testing machine arranged for making tension, compression and cross-breaking tests. Also a Boyden hook gauge and some large sized models of various types of bridge and roof trusses, together with blue prints, photographs, engravings, etc., of existing structures; also a hand camera and other photographic apparatus.

There is a fairly well assorted library of standard and current engineering literature in the department, to which the students have access.

Graduate Work.—Under the head of "Graduate Courses" will be found an outline of some of the subjects in which advanced work is offered in this department. The work assigned will be adapted, in so far as is practicable, to the needs of each particular student taking such work. Structural and bridge designing, the preparation of detail and shop drawings, the study of projects and the review of existing structures will constitute a feature of the course.

DEPARTMENT OF DRAWING.

PROFESSOR GIESECKE.

ASSISTANT PROFESSOR LOVE.

ASSISTANT PROFESSOR MITCHELL.

The instruction in this department is designed to give the student the mental and manual training and the technical information which will enable him to read and to construct the drawings used in other studies, and, upon graduation, to engage in technical work as a mechanical draftsman.

The courses offered are indicated below.

Courses 1 and 2 are required of Agricultural students. Courses 3 to 8, inclusive, are required of Engineering students.

1. Free-hand Drawing. Freshman. 4 hours a week throughout the year.

Free-hand drawing from models and still life in pencil, and pen and ink. Drawing Books Nos. 5, 6, 7, *Webb, Ware and Zaner*.

2. **Mechanical Drawing. Freshman. 4 hours a week throughout the year.**

Instrumental drawing, lettering, geometrical problems, projections, isometric drawing and working drawings of farm structures. Mechanical Drawing, Part I, *Giesecke*.

3. **Free-hand Drawing. Freshman. Fall term, 3 hours; Winter and Spring terms, 2 hours a week.**

Drawing Books Nos. 5, 6, 7, *Webb, Ware and Zaner*.

4. **Mechanical Drawing. Freshman. Fall term, 2 hours; Winter and Spring terms, 4 hours a week.**

Mechanical Drawing, Part II, *Giesecke*.

5. **Free-hand Drawing. Sophomore. 1 hour a week throughout the year.**

Free-hand drawing of tools, and structural details in pencil, and pen and ink.

6. **Descriptive Geometry. Sophomore. Fall term, 6 hours a week. Recitations.**

Descriptive Geometry, *Faunce*.

7. **Descriptive Geometry: Shades, Shadows and Perspective. Sophomore. 4 hours a week throughout the year. Practice.**

Mechanical Drawing, Part II, *Giesecke*.

8. **Working Drawings. Junior. 2½ hours a week throughout the year.**

Working drawings of details of machines and bridge construction; tinting, tracing, and blueprinting.

This course will also be given to the Senior Class in 1903-'04.

9. **Building Construction. Senior.**

Design of foundations, walls, floors, and roofs of buildings. Preparation of working drawings for a shop, factory, or other similar building.

Not to be given in 1903-'04.

EQUIPMENT.

The department is equipped with the necessary tables, boards, instruments, models, and reference books. The student purchases the drawing materials at the College book store.

DEPARTMENT OF ENGLISH.

PROFESSOR PHILPOTT.

ASSOCIATE PROFESSOR FOUNTAIN.

INSTRUCTOR TOWNES.

An effort is made, in this department, to teach the student to think logically, and to express himself with clearness, force, and ease.

Theory without practice is comparatively worthless, hence frequent exercises in writing are required throughout the different courses in order that the student may learn to apply the knowledge gained from the study of text-books.

Special attention is called to the entrance requirements, and to the examination schedule.

The courses are as follows :

1. **Rhetoric and Composition. Freshman. 3 hours a week throughout the year.**

Recitations, supplementary reading, weekly compositions. Principles of Rhetoric, *Hill*; Practical Exercises in English, *Buehler*.

2. **English Literature. Freshman. Fall, Winter, Spring; 3 hours a week.**

The instruction in literature is intended to supplement Course 1.

The works of the English masters of style are used to illustrate the principles taught in composition and rhetoric. English Literature, *Moody* and *Lovett*.

3. **Argumentation. Sophomore. Fall term, one-half the Winter term, 3 hours a week.**

Recitations; supplementary reading; practice in brief-drawing and in the preparation of forensics. Principles of Argumentation, *Baker*.

4. **English Masterpieces. Sophomore. One-half the Winter term; Spring term, 3 hours a week.**

A critical study of the masterpieces of English prose and poetry.

Courses 1, 2, 3, and 4 represent the required work in English.

ELECTIVE AND GRADUATE COURSES.

5. **Shakespeare.**

Three hours a week for one session. *Rolfe's* edition of the text read and *Dowden's* Shakespeare.

6. **Logic.**

Three hours a week for two terms.

7. **English Literature of the Eighteenth Century.**

Three hours a week for half session.

8. **English Literature of the Nineteenth Century.**

Three hours a week for half session.

9. **American Literature.**

Three hours a week for one term.

DEPARTMENT OF ENTOMOLOGY.

PROFESSOR SANDERSON.

ASSISTANT NEWELL.

It is the purpose of this department so to train the students that thereafter they may be able to investigate insect depredations as they occur, and determine what is the best remedy to apply or the best protective measure to provide.

A general outline of the structure and classification of insects, their metamorphoses and habits, will be given in the course in Zoology in the Sophomore year, preparatory to the work in Economic Entomology.

The courses in Entomology are as follows:

1. Economic Entomology. Junior. Winter, 3 hours a week; Practice.

Lectures upon the injurious and beneficial insects of plantation, orchard, and garden, their life histories and habits, and means of combating them. Special attention is given to the control of pests of staple crops by general methods of farm practice and of orchard and truck insects by insecticides. The use of insecticides, sprayers, and other machinery for combating insects is discussed and demonstrated.

In the laboratory and field the students examine specimens of the common injurious and beneficial insects so that they may recognize them, are introduced to the literature upon economic entomology, make observations upon the life histories and habits of insect pests, and learn to mix insecticides and apply them.

2. Apiculture. Elective. Senior.

A complete course in Bee Culture. A model apiary will afford the necessary practice.

3. Senior.

Advanced work in the structure and classification of insects, and special investigation of insect pests in the field and laboratory. The work of this course will be outlined for each individual student and is designed for those electing thesis work in Entomology or those intending to pursue graduate work in this department.

DEPARTMENT OF HISTORY.

PROFESSOR HUTSON.

ASSOCIATE PROFESSOR SOUTH.

INSTRUCTOR POTTS.

The study of history is made obligatory for students of the Freshman

Class. The hours for Engineering students are six times a week through the entire session; for Agricultural students, three times a week.

At present the insufficient knowledge of general history in the case of most applicants makes it necessary for the two courses in history to include only the study of mediæval and modern history. It is hoped that eventually they may both be devoted to a closer study of those nations whose influence on the course of modern progress has been most striking and continuous.

Constant endeavor is made to teach the young men that the history of the race is full of social, political and economic problems still applicable to modern life, in spite of many changed conditions; and that the welfare of humanity now and hereafter depends largely upon the proper correlation of the present and the future with the fund of experience won in the past; in other words, that there is vital meaning in the phrase "continuity of history."

The College library, which is emphatically the toolhouse of this department, contains many valuable histories, biographies, and memoirs; and students are urged and encouraged in every way to make use of collateral reading and to acquire the habit of independent investigation.

The courses are as follows:

1. **Mediæval and Modern History.** Freshman, 6 hours a week throughout the year.

Introduction to the Middle Ages, *Emerton*; History of the Middle Ages, *Munro*; Modern History, *West*; Recent European History, *Fellows*.

2. **Mediæval and Modern History.** Freshman, 3 hours a week throughout the year.

Mediæval and Modern History, *Myers*.

Course 1 is required of Engineering students; Course 2 of Agricultural students.

ECONOMICS.

3. **Industrial History and Political Economy.** Elective. Junior or Senior. Fall, 3 hours a week.

Recitations, discussions, lectures, reports.

The purpose of this course is to give the student a general view of the progress of English industry, commerce, navigation, and social conditions since the Middle Ages. Special attention will be given to the break up of the manorial and guild systems and to the growth of the present factory system and of modern methods of land tenure. Industrial and Social History of England, *Cheyney*.

4. **Industrial History of the United States.** Elective. Junior or Senior. Winter, 3 hours a week.

Beginnings, growth, and shifting of industry in this country; inven-

tions, navigation, canals, railways; labor and capital, trade unions, strikes; industrial development since the Civil War. *Wright's Industrial Evolution of the United States* will probably be used as the text-book.

5. Political Economy. Elective. Junior or Senior. Spring, 3 hours a week.

This course is designed to give a brief view of the fundamental principles of the subject. As far as practicable, special attention will be given to the theory of money, banking, taxation, free trade, and protection. Introduction to Economics, *Bullock*.

6. Economics. Elective. Junior or Senior. Fall, Winter, Spring, 3 hours a week.

This course is designed to give a broader general view of economics in theory and in practice. History 3 is pre-requisite. Principles of Economics, *Marshall*; Tariff History of the United States, *Tausig*; History and Theory of Banking, *Dunbar*; Money and Banking, *White*.

For 1903-'04 the engineering students in the Sophomore and Senior classes will also have prescribed work in this department.

DEPARTMENT OF HORTICULTURE AND MYCOLOGY.

INSTRUCTOR KYLE,

In charge of the Department.

INSTRUCTOR GREEN.

It is the object of this course to prepare young men for both practical and scientific work in horticulture. To accomplish this end, every effort is made to give the student a thoroughly practical course, and at the same time to inspire in him a spirit of investigation and research.

There are upon the horticultural grounds two peach orchards, a pear, an apple, a persimmon, a fig orchard, and a vineyard, in which students receive practice in pruning, grafting and orchard management in general. Plantings of strawberries, blackberries and dewberries are being made, so that students may become thoroughly acquainted with these fruits that are becoming of so much importance to Texas. A young nursery is being started for the purpose of giving instruction in budding, grafting and the minor details of nursery management.

On account of the rapid development in the State of truck farming, a great deal of attention is given to vegetable growing. Extensive variety tests are carried on, embracing nearly every species of vegetable grown in the South. The forcing-house, hot-beds, and cold-frames are used for the forcing of early truck crops.

The department is equipped for work in Mycology, having a number

of first-class microscopes, together with a supply of instruments, apparatus and reagents necessary for work in this line. A full discussion is given of all diseases common to vegetables, fruits and forests. During the Junior and Senior years, courses in forestry may be elected by horticultural students. The courses are designed to give the fundamental principles of forestry. A stereopticon is used in exhibiting lantern-slides in landscape gardening, methods of fruit and truck growing, etc. The department library contains a number of select horticultural books and periodicals and an almost complete file of the bulletins published by the different experiment stations in the United States.

The courses are as follows:

A. HORTICULTURE.

1. Elements of Horticulture. Sophomore. Spring, 3 hours a week.

This course is designed as an introduction to the general subjects of fruit and truck growing, gardening and forestry. Plant Culture, *Goff*. Lectures.

2. Truck Gardening. Junior. Spring, 3 hours a week; Practice.

Detailed instruction in planning, equipping and operating vegetable plantations for home or commercial purposes is given in the class-room, and practical demonstration and experience in the field are offered. Principles of Vegetable Growing, *Bailey*. Lectures, text and references. Two and one-half hours practice.

3. Orchards. Junior. Fall, 3 hours a week; Practice.

This course contemplates a comprehensive study of the various kinds of fruit orchards, embracing the problems of location and soils, protection from insects and diseases, pruning, cultivation, harvesting and marketing. Principles of Fruit Growing, *Bailey*. Lectures and references. Five hours practice.

4. Nursery Methods. Junior. Winter, 2 hours a week; Practice.

The principles involved in the different methods of propagation of plants are fully discussed in the class-room, this work being supplemented by practical operations in field and forcing-house, and at the grafting bench. The protection of plants and nursery stock from insects and disease is considered. Lectures and references. Two and one-half hours practice.

5. Plant Breeding. Junior. Spring, 2 hours a week; Practice.

This course is planned to prepare the student for Course 8, and to give a better understanding of the relation of horticultural varieties and hybrids to each other and to their parent species. The principles of

pollination, crossing and hybridization are discussed. Plant Breeding, *Bailey*. Lectures and references. Two and one-half hours practice.

6. Pomology. Senior. Fall, 3 hours a week; Practice.

A comprehensive study of pomaceous, drupaceous, citrous and other fruits. In regard to history, botany and relation of species and their varieties to soil and climatic conditions, the following are discussed: Apple, pear, quince, orange, lemon, persimmon, pomegranate, pomelo, guava, peach, plum, cherry, nectarine, apricot, olive, fig, pineapple and banana. Practice in systematic pomology is given with such fruits as can be obtained during the autumn. Lectures and references. Two and one-half hours practice. Open to students who have had Horticulture 3.

7. Greenhouses. Senior. Winter, 3 hours a week; Practice.

Special attention is given to growing early vegetable plants, cut flowers and palms. The course is especially designed to meet the needs of commercial truck growers and florists. Laboratory work in designing glasshouses and practice in the forcing-house are given. Greenhouse Construction. *Taft*. Two and one-half hours practice.

8. Evolution of Cultivated Plants. Senior. Spring, 3 hours a week.

A study of the modification of plants by cultivation. Lectures and text. Open to students who have had required Botany of regular course and Horticulture 5. Survival of the Unlike, *Bailey*.

9. Small Fruits. Elective. Junior. Fall, 2 hours a week.

This course consists of a study of small and bush fruits similar to that of the tree fruits outlined for Horticulture 4. Bush Fruits, *Carol*. Lectures and references.

10. Spraying. Elective. Junior. Spring, 1 hour a week; Practice.

Discussion of compounds and apparatus used in combating insects and diseases. Practice in making the various mixtures and applying them to plants. Spraying of Plants, *Lodeman*. Lectures. Two hours practice.

11. Viticulture and Nut Culture. Elective. Junior. Spring, 1 hour a week.

This course includes a study of the vine, its care, management, and products. The manufacture of jellies and the preservation of grape-must are considered. The native nuts and the development of commercial nut plantations are discussed. Lectures.

12. Landscape Gardening. Elective. Senior. Fall, 1 hour a week; Practice.

Lectures are given on the history and development of gardening. The

engineering and planting of parks, cemeteries and home grounds are discussed. Lectures. Occasional practice.

13. Floriculture. Elective. Senior. Winter, 2 hours a week; Practice.

A full discussion is given of methods in growing, bedding plants, cut flowers, orchards, palms, and cacti. This course is designed for florists. Lectures and references. Two and one-half hours practice.

14. Elementary Forestry. Elective. Junior. Fall, 2 hours a week.

A brief study of the history of forestry, means of propagation and development, and of the effects of forests on climate, etc. Lectures, references, and recitations.

15. Silviculture. Elective. Junior. Spring, 2 hours a week; Practice.

This course treats of the principles of arboriculture, nursery practice, and forest planting. Students specializing in landscape gardening are desired to take this course. Open to all students who have had Botany and Horticulture 6. Lectures, references, and recitations. Two hours laboratory and field practice.

16. Forest Protection. Elective. Senior. Fall, 2 hours a week.

Lectures on insects and diseases of timber, fires, erosion, and deterioration of soils are given and means of prevention discussed. Open to students who have had Entomology 1 and Mycology 4. Lectures, references, and recitations.

17. Forestry Statistics and History. Elective. Senior. Winter, 2 hours a week.

Management, rotations, and expenditures are discussed. Lectures are given on history of forestry at home and abroad, and the economic and technical features of modern forestry. Lectures, references, and recitations.

B. MYCOLOGY.

1. Comparative Morphology and Embryology. Junior. Fall, Winter, Spring, 2 hours a week.

This course is continuous through the year. In the fall term attention is given to laboratory technique and permanent mounting of specimens. Studies of the development and homologies of sporogenous or productive and embryological organs. The winter and spring terms will be devoted to the study of Bryophyta, Pteridophyta, the gymnosperms and angiosperms. Laboratory with occasional lectures.

2. Plant Pathology. Senior. Spring, 2 hours a week.

Studies of representative fungi with special reference to fruit and vegetable diseases of economic importance. Laboratory and field, with occasional lectures.

DEPARTMENT OF LANGUAGES.

PROFESSOR BITTLE.

ASSOCIATE PROFESSOR SOUTH.

It is the object of the department to furnish students of the Horticultural and Civil Engineering Courses, and others who may desire it, with a practical knowledge of German, Latin, French, or Spanish, such as will benefit them in the prosecution of a scientific career.

To this end, the text-books used and the method of imparting instruction are practical. Latin is taught as an essential to a thorough understanding of English, German and French, because neither the specialist nor the general student can afford to be ignorant of those literatures; Spanish, in view of the rapidly growing intercourse between us and the Latin republics south of us; all of them, because systematology and scientific nomenclature are unintelligible without a knowledge of foreign languages.

Students coming to us, therefore, from the high schools of the State find here the opportunity to continue their linguistic studies by the side of agricultural and mechanical branches, to which those studies lend effective aid.

The courses are as follows:

1. **French. Sophomore. Fall, Winter, Spring, 3 hours a week.**

Grammar, exercises, reading lessons.

2. **Junior. Fall, Winter, Spring, 3 hours a week.**

Continuation of Course 1.

3. **German. Sophomore. Fall, Winter, Spring, 3 hours a week.**

Grammar, exercises, reading lessons.

4. **Junior. Fall, Winter, Spring, 3 hours a week.**

Continuation of Course 3.

5. **Latin. Elective. Fall, Winter, Spring, 3 hours a week.**

Grammar, exercises, reading lessons.

6. **Elective. Fall, Winter, Spring, 3 hours a week.**

Continuation of Course 5.

7. **Spanish. Elective. Fall, Winter, Spring, 3 hours a week.**

8. **Elective. Fall, Winter Spring, 3 hours a week.**

Continuation of Course 7.

DEPARTMENT OF MATHEMATICS.

PROFESSOR PURYEAR.

ASSOCIATE PROFESSOR SMITH.

ASSOCIATE PROFESSOR BANKS.

Instruction in this department is given by the use of approved textbooks, supplemented by oral explanations and informal lectures. The student's knowledge of the subject is tested daily at the blackboard, and, in each course, written solutions of selected problems and review exercises involving the work of preceding courses are frequently assigned. Prominence is given to practical applications.

Of the courses named below, 1, 2, and 3 are required of Agricultural students; 1 to 8, inclusive, except 3, are required of Engineering students; 9, 10, 11, 12 are designed for graduate students.

1. Plane and Solid Geometry. Freshman. Fall and Winter, 6 hours a week.

The course will include definitions, rectilinear figures, the circle, similar polygons, areas of polygons, regular polygons, measurement of the circle, lines and planes in space, dihedral angles, polyhedral angles, polyhedrons, the cylinder, cone and sphere. Plane and Solid Geometry, *Wentworth*.

2. Algebra. Freshman. Spring, 6 hours a week.

The course will include quadratic equations, simultaneous quadratics, ratio, proportion, variation; arithmetical, geometrical and harmonical progressions; binomial theorem for positive integral exponents, permutations, combinations, limits. Complete Secondary Algebra, *Fischer* and *Schwatt*.

3. Plane Trigonometry. Sophomore. Fall, Winter, 3 hours a week.

Plane and Spherical Trigonometry, *Taylor* and *Puryear*.

Not to be given in 1903-'04.

4. Advanced Algebra. Sophomore. Fall, 6 hours a week.

The course will include series, undetermined coefficients, partial fractions, binomial theorem for any exponent, logarithms, logarithmic and exponential series, and such other topics as the time may allow. Complete Secondary Algebra, *Fischer* and *Schwatt*.

5. Plane and Spherical Trigonometry. Sophomore. Winter, 6 hours a week.

The course will include goniometry, review of logarithms, solution of right triangles, problems of heights and distances, properties of triangles, solution of oblique triangles, geometrical applications and a brief treat-

ment of spherical trigonometry. Plane and Spherical Trigonometry, *Taylor and Puryear.*

6. Analytic Geometry. Sophomore. Spring, 6 hours a week.

The course will include the straight line, transformation of coördinates, circle, ellipse, hyperbola, the general equation of the second degree, solid analytic geometry. Analytic Geometry, *Ashton.*

7. Differential and Integral Calculus. Junior. Fall, Winter, Spring, 3 hours a week.

The course will include differentiation, expansion of functions, indeterminate forms, functions of several variables, tangent and normal, curvature, evolute and involute, contact, maxima and minima; integration, lengths, areas, volumes, moment of inertia. Differential and Integral Calculus, *Osborne.*

8. Least Squares. Senior. Fall, 6 hours a week.

The course will include the fundamental principles of the subject, with applications to engineering problems. Text-Book of Least Squares, *Merriam.*

The following courses are for graduate students :

9. **Determinants and Theory of Equations.**
10. **Advanced Analytic Geometry.**
11. **Advanced Differential and Integral Calculus.**
12. **Analytic Mechanics.**

NOTE.—The work outlined above is designated for those who enter the college in 1903-'04 and after. On account of recent changes in the entrance requirements, the work of the classes that have already entered will be somewhat different. In particular, for 1903-'04, the Junior and Senior classes will both have about the equivalent of courses 6 and 7; for the Sophomore class a part of the algebra in the engineering courses will be replaced by solid geometry, while the agricultural students will take only plane geometry.

DEPARTMENT OF MECHANICAL ENGINEERING.

PROFESSOR WHITLOCK.
 ASSISTANT PROFESSOR KERR.
 INSTRUCTOR McNUTT.
 INSTRUCTOR BAVINGTON.

This department is intended so to combine theory and practice that, after deriving a theoretical knowledge of the subject from the text-books of standard writers, the student may 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 special attention is paid to shafting, belts, speed pulleys, gear wheels and kindred subjects; and a foundation of general knowledge is laid in which the student gets information concerning the various appliances in common use in boiler and engine rooms. This familiarizes him not only with their general character but also their value from a practical standpoint. Upon this foundation is built up a more particular and specific knowledge of the appliances in common use. The steam engine is given special attention and all of its parts carefully studied and discussed.

A short course in graphics is inserted in order that the student may be able not only to find the strains in the various parts of structures, but also to be able to show graphically the action of steam and other vapors and gases under various conditions.

The value of the courses in Strength of Materials and Machine Designs needs no explanation. The former shows the general applications and values of the different materials in general use, and the latter considers them as applied specifically to the construction of machinery.

In all these courses the theoretical points are illustrated as far as possible by reference to tools and appliances in use in the shops and steam plant of the College.

The work in practice begins in the carpenter shop, which is equipped with benches and sets of tools, consisting of those in common use among carpenters. Each student is taught, in the beginning of his work, not only the use of the tools, but also the importance of keeping them in good order and in their proper places. The work consists of exercises, embracing the principles of the ordinary joints met with in practice. Each of these exercises depends more or less on those preceding it, and becomes more and more difficult as it nears the end, thus carrying the student from "squaring" a piece of wood to the construction of a small bridge truss. The work is carried on from drawings similar to those found in any of our regular shops, and thus the student learns not only to read mechanical drawings, but to construct the article wanted with only such drawings for a guide.

Having finished the woodwork, and acquired a knowledge of edged tools, the student is transferred to the blacksmith shop.

Here, as in the carpenter shop, the exercises are at first very simple, becoming more and more difficult as they proceed; until, at the end, the student has made welds of different kinds, a chain with hook and swivel, and has forged out and tempered several tools, such as cold chisels, and punches.

After this, a move is made into the machine shop for woodturning,

and instruction is given in both inside and outside turning, everything being made from drawings furnished.

Then follows instruction in the use of iron working machinery, and here are taught the principles of cutting and shaping the metals in common use.

Throughout the course in the shops the student receives systematic instruction, and the work is so graded as to bring into use, as far as possible, those principles which might have been taught in the classroom.

The instruction throughout the course is made as practical as possible, and at the same time is of such a nature as to call for intelligent thought in connection with the manual labor.

In connection with certain courses offered by other departments, a student will be enabled to acquire a good foundation for a knowledge of railway mechanical engineering by taking courses numbered 1, 2, 3, 4, 6, and 7 to 12, inclusive; for electrical engineering by taking those numbered 1, 4, 6, and 7 to 12, inclusive.

Special attention is called to the fact that all work is made from drawings similar to those which are used in all of our first-class machine shops, thus compelling the workman to think for himself, and avoid becoming a mere automaton.

The courses are as follows:

1. **Power and Power Transmission. Sophomore. Fall, Winter, Spring, 3 hours a week.**

1. Power and Power Transmission. Sophomore. Fall, Winter, Spring, 3 hours a week.

Mechanical principles involved in the use of gear wheels, shafting, belting, levers, boilers, engines, water wheels and motors, pumping machinery and other mechanical appliances in general use.

Power and Power Transmission, *Kerr*.

2. **Slide Valve Gears. Junior. One-half Fall Term, 6 hours a week.**

The principles of existing valve mechanisms, and of the design and setting of valves.

Slide Valve Gears, *Halsey*.

3. **Graphics. Junior. One-half Fall Term, 6 hours a week.**

Principles for determining the stresses in roofs and bridges, and for graphic representations of problems in mechanical engineering.

Roofs and Bridges, Part II, *Merriman*.

4. **Strength of Materials. Junior. Winter, Spring, 3 hours a week.**

The Strength of Materials, *Mather*.

5. Machine Design. Senior.

Principles involved in calculating the stress in, and designing the parts of, various machines.

Six hours a week for two terms.

Machine Drawing and Design. *Low and Bevis.*

6. Thermodynamics of the Steam Engine. Senior.

Three hours a week for two terms.

Thermodynamics of Steam Engine, *Peabody.*

7. Carpentry. Freshman. Practice.

Instruction in bench work, using the tools in common use among carpenters, and illustrating the joints used in ordinary woodwork.

Five hours a week for two terms.

Bench Work in Wood, *Goss.*

8. Blacksmithing. Freshman and Sophomore, or Sophomore and Junior. Practice.

Instruction in forging iron and steel, welding and tempering.

Five hours a week for two terms.

9. Wood-turning. Freshman and Sophomore, or Sophomore and Junior. Practice.

Instruction in outside and inside turning.

Five hours a week for two terms.

10. Bench Work in Iron. Junior. Practice.

Chipping, filing and scraping.

Five hours a week for one-half term.

Handbook for Apprenticed Machinists, *Brown & Sharpe Mfg. Co.*

11. Machine Work in Iron. Junior. Practice.

Lathe, planer, shaper, milling machine, grinder, drill press.

Five hours a week for one term, and two and one-half hours a week for two terms.

Handbook for Apprenticed Machinists, *Brown & Sharpe Mfg. Co.*

12. Engineering Laboratory. Senior. Practice.

Engine and boiler tests, indicator work, testing gauges, thermometers, indicator springs, pumps, pipe coverings, blowers, water motors, etc. Tests of strength of wood, iron and steel.

In addition to the above, each student will be required to assume for a short time the duties of assistant engineer of the College steam plant under the directions of the regular engineers. This plant comprises one ten-ton ice plant with cold storage, one electric light plant, one laundry,

and with waterworks with standpipe, deep well and force pumps.
Engineering Laboratory Practice, *Smart*.

EQUIPMENT.

Carpenters' benches with vise and set of tools; the latter consisting of hammer, cross-cut and panel saws, try square, mallet, chisels, marking gauge, planes and dividers. Various small tools, as framing squares, braces, bits, circular plane, beading planes, etc.; blacksmiths' forges with power blast, anvils, hammers, tongs, hardies, etc.; sixteen light lathes for wood turning with necessary chisels and gauges; six engine lathes, one planer, one shaper, one milling machine, one drill press, one universal grinder, one drill grinder; grindstone, emery wheels, circular saw, jig saw, band saw, drills and reamers; small tools, including gauges, rules, cold chisels, punches, etc.; models of steam engines, parts of machines, valves, oilers, etc.; drawing tables, tee squares and instruments; indicators and planimeters; various appliances for use in the engineering laboratory, such as thermometers, pyrometer, draft gauges, etc.; books of reference, class-room furniture, blackboards, etc.

DEPARTMENT OF MILITARY SCIENCE.

PROFESSOR AVERY.

It is the aim of this department to send forth the graduates of this institution thoroughly fitted to perform the duties of a subaltern in the regular service. As the course is compulsory, graduates are entitled to the benefits of free instruction at the General Service and Staff College at Fort Leavenworth, Kansas, and of the Officer's Schools at the different military posts.

The students are organized into a battalion of four companies, band and necessary staff, which are under the immediate charge of the commandant.

The officers and non-commissioned officers are selected, for the most part, from the Senior and Junior classes. They are appointed by the President upon the recommendation of the commandant. Their appointments are dependent upon the active and soldierly performance of their duties, their sense of duty and responsibility, and their general good conduct and class standing.

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

The courses are as follows:

1. Drill Regulations. Junior. Winter, 3 hours a week.

This course includes infantry drill regulations through the schools of the soldier; company and battalion, both in close and extended order; reviews, inspections, parades, guard mounting, guard duty, articles of war, small arms firing regulations and instruction in making military records and property returns.

U. S. Infantry Drill Regulations, Guard Manual, Small Arms Firing Regulations, oral and written recitations.

2. Military Science. Senior. Winter Term, 1 hour a week.

This course includes a course of lectures on which the students are required to take notes and stand a written examination. The lectures cover organization, discipline, mobilization, advance and rear guards, out-posts, patrols, marches, camps, military hygiene, infantry attack.

Military Hygiene, *Woodhull*; Organization and Tactics, *Wagner*; Service of Security and Information, *Wagner*.

3. Drill. All classes. Fall, Spring, 3 hours a week.

Infantry drill through the schools of the soldier, company and battalion in close and extended order, advance and rear guard, out-posts and marches, battalion review, inspection, parade escort of the color, guard mounting, target practice for the Senior class, instruction in company reports, muster rolls, rosters, etc.

DEPARTMENT OF PHYSICS.**PROFESSOR SPENCE.**

The work in this department is designed to prepare students for the more technical studies of the advanced classes. The courses in general physics include the study of the general properties of matter, mechanics, pneumatics, hydrostatics, heat, light and sound. The course in electricity and magnetism is designed to give the engineering students such knowledge of the underlying principles of the subject as is required of the successful civil or mechanical engineer. In the class-room, the texts are fully illustrated by an extensive series of lecture table experiments, while the solution of numerous practical problems familiarizes the student with the principles and laws studied. The courses in the laboratory are designed to accompany and supplement the work in the class-room.

A dark-room has been fitted up for the use of those students who have their own cameras and developing outfits.

The department library is also open to students.

The courses are as follows:

1. **General Physics. Freshman. Fall, Winter, Spring, 3 hours a week.**

A Text-Book of Physics, *Wentworth and Hill*.

2. **Laboratory practice to accompany Course 1. 2 1-2 hours per week.**

3. **General Physics. Sophomore. Winter, 6 hours a week; spring, 3 hours a week.**

A Text-Book of Physics, *Wentworth and Hill*.

Owing to a change in the curriculum, this course is not offered for the session of 1903-'04.

4. **Laboratory Practice. Sophomore. Winter, one-half; Spring, 5 hours.**

5. **Electricity and Magnetism. Junior. Fall, Winter, Spring, 3 hours a week.**

Elementary Lessons in Electricity and Magnetism, *Thompson*.

6. **Laboratory Practice. Junion. Winter, 2 1-2 hours a week.**

Laboratory Exercises in Elementary Physics, *Wentworth and Hill*.

EQUIPMENT.

This department is well equipped with lecture table apparatus for illustrating the texts studied. There is on hand also a fair supply of laboratory apparatus.

DEPARTMENT OF VETERINARY SCIENCE.

PROFESSOR FRANCIS.

The instruction of students in veterinary science will be greatly facilitated by the use of rooms specially designed for this work. The lecture rooms are provided with terraced seats which permit every one to see the demonstrations. The dissecting room is convenient, well lighted, and floored with asphalt. The department is equipped with Azoux's model of the horse, some skeletons, charts, skulls, diseased bones, parasites, tumors, monstrosities, surgical instruments, etc. Apparatus for laboratory instruction has not yet been supplied.

The courses are as follows:

1. **Physiology of the Domestic Animals. Sophomore. Spring, 3 hours a week.**

A lecture course required of all agricultural students. Special attention is given to the functions of digestion, absorption, circulation, respiration and excretion that the student may be prepared to understand the problems in the economic production of beef, pork and dairy products. Students are advised to supplement the lectures by consulting text-books on the subject by *Smith, Mills* and others.

2. Comparative Anatomy of the Vertebrates. Elective.

An elective laboratory course, with weekly quiz, on the structure of fishes, batrachia, reptiles, birds and mammals. Open only to those who have had Course 1 or to those who have become familiar with laboratory methods, and are able to work without an instructor constantly at their elbows. The course may be offered or withdrawn at any time without notice or explanation.

3. Anatomy of the Horse. Junior. Fall, Winter, 1 hour a week.

A lecture course required of all agricultural students. It embraces a critical study of the bones, joints, muscles, organs of nutrition and the nervous system. Students are required to make one entire practical dissection of the horse.

Comparative Anatomy of the Domestic Animals, *Chauveau*; Anatomy of the Horse, *McFadyean*; Anatomie des Pferdes, *Leisering*.

4. Vertebrate Histology. Elective.

A laboratory course open only to those who have had Courses 1 and 3. It will embrace practical laboratory work in "blood-work" and the preparation of tissues from the animal through all stages of fixing, hardening, sectioning, staining and mounting. The student must do all of the work. The department will supply all material and requires that note books be submitted once a month. A laboratory guide by *Gage* and *Kingsbury* will be used.

5. Contagious and Infectious Diseases of Animals. Junior. Fall, 2 hours a week.

A lecture course required of all agricultural students. It will embrace a discussion of the causes of disease, the methods of infection, the symptoms, cause, duration, mortality, treatment, etc. During the lectures points on immunity, tolerance, phagocytosis, toxines, antitoxines, and diagnosis by injections of the products of organisms will be presented. The lectures cannot be understood by those having no training in chemistry, physics or biology.

Veterinary Medicine, Vol. IV, *Law*; Pathology and Therapeutics of the Domestic Animals, *Friedberger* and *Frohner*.

6. Non-Contagious Diseases of Animals. Junior. Winter, 2 hours a week.

This usually follows Course 5. It must be preceded or accompanied by Course 3. It will embrace diseases of the digestive, respiratory, circulatory, excretory organs and the nervous system. Required of all agricultural students.

7. Surgical Diseases and Operations. Junior. Spring, 1 hour a week.

A lecture course followed by a course in operative surgery. Open only to those who have taken Courses 1 and 3 or their equivalents.

Operative Veterinary Surgery, *Moller*.

8. Parasites and Parasite Diseases. Junior. Spring, 1 hour a week.

This will embrace the description and the life history of those parasites which have an economic importance to the live stock interests of Texas.

Fleming's Translations of *Neuman*.

9. Pharmacology. Junior. Spring, 1 hour a week.

A lecture course embracing a description of those substances used as medicines for animals, and their curative properties. Special demonstrations of narcosis and anesthesia will be given.

GENERAL INFORMATION.

LOCATION.

The College is situated at College Station, in the county of Brazos, and is 350 feet above sea level. The Houston and Texas Central and the International and Great Northern railroads run through the grounds, daily trains stopping at the Station, about 650 yards from the main building. Students and visitors are advised to take trains arriving in the daytime.

POSTOFFICE.

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

MAIN BUILDING.

The main building, erected in 1876, stands on the highest point on the grounds. It is four stories high, and contains about forty rooms, used for offices, section rooms, library, book store, society halls, drawing rooms, etc.

MECHANICAL ENGINEERING BUILDING.

North of the main building is the building occupied by the Department of Mechanical Engineering. It consists of two distinct parts; first, the one containing the carpenter shop, class rooms and model room; second, that containing the machine and blacksmith shops. The carpenter shop is fitted up with benches and tools for the accommodation of sixty pupils, while above it, on the second floor, are two class rooms and a model and designing room. Back of this are the other shops mentioned, in a building of one story. Power for the machine shop is furnished by an eighteen horse power engine, which was built and set up by the graduating class of 1888. The machine shop is equipped with sixteen wood turning laths, circular, band, and jig saws, emory wheels stand, six engine lathes, planer, shaper, drill, and milling machine. The blacksmith shop has twenty-one forges, with necessary tools, power blast, and exhaust fan.

AGRICULTURAL AND HORTICULTURAL BUILDING.

This building was planned to accommodate the agricultural and horticultural departments of the College and Experiment Station by furnishing rooms for class instruction, laboratory investigations, muesum

purposes, butter and cheese making, pasteurizing milk, seed store room, photographic room, and the necessary offices for the accommodation of these departments. The building is 160 feet long and 77 feet wide, two stories high, and covered with slate. It contains twenty-seven rooms, fitted with apparatus and machinery for the instruction of students in the several branches of agriculture and horticulture.

THE CHEMICAL AND VETERINARY LABORATORY.

This building, erected in 1902, is of classical design, and is 138 feet long and 130 feet deep. It is built of brick and contains two stories and a basement. On the first floor the Veterinary Department has its office, veterinary laboratory, students' laboratory, dissecting room, operating room, museum, lecture room, and apparatus room. The Chemical Department has on the same floor two store rooms, an assay room, and a laboratory for State chemical work.

The second floor comprises the chemical museum, office and private laboratory of the professor of chemistry, office of the associate professor of chemistry, laboratory of the Experiment Station, general lecture room, balance room, and two laboratories for students.

The building is ventilated by a fan operated by an engine in the basement. The fan room is connected by pipes with all hoods in the laboratories, by which the entire volume of air in the building can be changed every two and one-half minutes. The building is wired for electric lighting, and piped for water and gas.

GATHRIGHT HALL.

This building was erected in 1876, and is named in honor of Thomas L. Gathright, the first President of the College. Twenty-five of the rooms in it are occupied by students; the others are used as section-rooms, instrument rooms and laboratories of the Department of Physics.

PFEUFFER HALL.

This is a dormitory erected in 1887, and contains twenty-five rooms. It is named in honor of George Pfeuffer, a former President of the Board of Directors.

AUSTIN HALL.

This is a dormitory, erected in 1888, and contains twenty-five rooms. It is named in honor of Stephen F. Austin.

ROSS HALL.

This is another and more commodious dormitory, erected in 1892,

three stories high, with forty-one rooms. It is named in honor of former President L. S. Ross.

FOSTER HALL.

This building was erected in 1899, and is named in honor of the late President L. L. Foster. It is a dormitory, and consists of three separate parts; the central part is four stories high and contains nineteen rooms; the two ends are three stories high and contain eighteen rooms each.

ASSEMBLY HALL.

This is a two-story brick building, erected in 1889, having a main floor and a gallery. In it are held the public exercises of the College, and examinations for large classes.

MESS HALL.

This building was erected in 1897. Its dining hall has capacity for over five hundred students.

NATATORIUM.

The natatorium, erected in 1894, is a frame building containing swimming pool 25x50 feet, varying in depth from three and one-half to seven feet.

The water is supplied from a deep well, and is what is known as "white sulphur" water. All students have access to the natatorium at times fixed by schedule for the different classes.

FARM BUILDINGS.

The buildings of the Farm Department of the College and Station are situated to the rear of the main building, and consist of a mule barn, a general farm barn, a milking shed, and a piggery. In connection with the main barn the Experiment Station has four silos.

OTHER IMPROVEMENTS.

Other improvements comprise a laundry; an ice plant with a daily capacity of ten tons; system of water works; a sewerage system; an electric light and cold storage plant.

GROUNDS, FARM AND GARDEN.

The garden, orchard, barn yards, and campus are included in the enclosure to the east of the railroad station. The campus, which consists of some twenty-five acres of lawn, shrubbery, and flowers, surrounds the College buildings.

The orchard, vineyard, nursery, and garden are located north and east of main College building. About fifty acres are devoted to this work.

FARM.

The farm proper comprises about three hundred and fifty acres, not including pasture lands. The pastures contain in the neighborhood of two thousand acres, and furnish grazing for the College herds.

LIBRARY.

The library now contains about 4000 volumes, including standard works of history, biography, agriculture, mechanics, engineering, mathematics, natural science, political economy, mental and moral philosophy, poetry, general literature, and reference. There are also about 3500 volumes of public documents; standard technical and general periodicals, and some of the leading daily papers are subscribed for.

LITERARY SOCIETIES.

There are two literary societies at the College—the Austin and the Calliopean. They meet weekly in their respective halls for practice in debate, literary composition, and declamation.

RELIGIOUS AND MORAL CULTURE.

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

ATHLETICS.

The usual forms of athletic sports are permitted, but they are not allowed to interfere with the regular College duties. No student is allowed to represent the College in any athletic contest if he is deficient in his studies. The College athletic association is a member of the Southwestern Intercollegiate Athletic Association.

HEALTH.

The buildings of the College are situated on an eminence with a sufficient slope in every direction to insure the drainage of the campus. As to the hygienic aspect of the location, there is not anything connected with the site which might be regarded as prejudicial to health or act as a causative element in the production of disease.

In order that the students may be assured of the purest and best possible supply of water for drinking purposes, the College furnishes carefully collected cistern water filtered through charcoal before entering the cisterns.

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

Drill, shop and field practice, work, and out-door athletic sports furnish sufficient and varied exercise. Furthermore, they contribute very much to the maintenance of health and proper physical development.

The health of the student body is a very important factor in the amount and efficiency of the work done. There is no endemic disease at the College. Most of the sickness is the result of indiscretion on the part of the student, or is due to the introduction of some mild epidemic disease such as measles or mumps. The medical fee paid by each student upon entrance secures the prompt attendance of the College physician in all cases of sickness.

The infirmary is a two-story frame structure. There are four large wards with bath, toilet rooms, etc., capable of accommodating about thirty-five patients. A competent trained nurse is employed, thus securing the best of care for the sick. The diet of sick students is a matter of no little concern, and great care is taken to supply such nourishment as is best adapted to the condition of each patient.

SEWERAGE SYSTEM.

The College is now provided with an efficient system of sewers, to which are connected the various barracks, the main building, the agricultural and horticultural hall, the steam plant, the infirmary, the mess hall and several of the residences. The outfall of the system is three-fourths of a mile from the nearest College building and nine-tenths of a mile from the nearest recitation hall or barrack building.

BAND.

An attractive feature is a regularly organized cadet band. Under the direction of a leader employed by the College, it furnishes music for occasions of social and military importance, gives open air concerts in season, leads the battalion in marching to dinner, and plays at guard mounting and dress parade.

AFFILIATED SCHOOLS.

The Faculty desires to bring the College into closer relations with the schools of the State, by providing that graduates of approved schools may be admitted to the College on diploma or certificate *at the beginning of the session* without examination. Superintendents who desire to have their schools enrolled among affiliated schools are invited to examine the requirements for admission, and the specimen examination questions in the appendix.

The offer of affiliation is made upon the following terms: The superintendent of a school desiring affiliation should obtain from the president of the college a form of application to be filled out and returned. If the application should be approved by the faculty, the superintendent will be notified and the name of the school and those of the superintendent and the principal enrolled in the catalogue. The diploma of an affiliated school will admit the candidate to the freshman class. The privilege of affiliation will be withdrawn from any school whose graduates show a lack of thoroughness in their preparation for the work of the college.

Catalogues of the college will be sent regularly to the principals of affiliated schools, and they in turn will be expected to send the president copies of their reports or catalogues.

LIST OF AFFILIATED SCHOOLS.

NAME.	SUPT. OR PRIN.	LOCATION.
Albany Public School.....	Geo. D. Beason.....	Albany.
Allen Academy	J. H. & R. O. Allen..	Bryan.
Alvin Public School.....	R. E. Shirley.....	Alvin.
Anson High School.....	Luther B. Giles....	Anson.
Atlanta City School.....	M. G. Bates.....	Atlanta.
Austin Academy	J. Stanley Ford....	Austin.
Bastrop Public School.....	J. C. Edmonds.....	Bastrop.
Beaumont High School.....	B. F. Pettus.....	Beaumont.
Beeville High School.....	W. E. Madderra....	Beeville.
Bellville High School.....	C. W. Feuge.....	Bellville.
Belton High School.....	J. B. Hubbard.....	Belton.
Big Springs High School.....	S. E. Thompson....	Big Springs.
Bonham High School.....	I. W. Evans.....	Bonham.
Bowie High School.....	Geo. C. Carpenter..	Bowie.
Brackett High School.....	A. H. Horn.....	Brackettville.
Brenham Central School.....	E. W. Tarrant.....	Brenham.
Brownwood High School.....	W. S. Fleming.....	Brownwood.
Bruce Academy	Athens.
Bryan High School.....	T. S. Minter.....	Bryan.
Calvert Public School.....	I. N. Stephens.....	Calvert.
Cameron High School.....	Wm. J. Sims.....	Cameron.
Central Texas Institute.....	W. J. Lewis.....	Moody.
Clarksville High School.....	A. J. Street.....	Clarksville.

Cleburne Academy	K. A. Barry.....	Cleburne.
Cleburne High School.....	V. M. Fulton.....	Cleburne.
Cole's Classical and Military School.....	J. R. Cole.....	Dallas.
Columbus High School.....	C. K. Quinn.....	Columbus.
Comanche High School.....	A. W. Evans.....	Comanche.
Copperas Cove High School.....	J. L. Hicks.....	Copperas Grove.
Corpus Christi High School.....	C. W. Crossley.....	Corpus Christi.
Corsicana High School.....	J. W. Cantwell.....	Corsicana.
Coryell City School.....	A. M. Sams.....	Coryell City.
Crawford High School.....	J. F. Ellis.....	Crawford.
Cuero Public School.....	T. P. Junkin.....	Cuero.
Dallas High School.....	J. L. Long.....	Dallas.
De Leon High School.....	J. S. Donaldson..	De Leon.
Del Rio Incorporated School.....	T. C. Hickman.....	Del Rio.
Denison High School.....	J. E. Blair.....	Denison.
Devine High School.....	C. C. Harris.....	Devine.
The Douglas-Schuler School.....	S. A. Douglas.....	Waco.
Dublin High School.....	E. I. Hall.....	Dublin.
Elgin High School.....	A. D. Ellis.....	Elgin.
Ennis High School.....	H. F. Tripplett...	Ennis.
Evant High School.....	R. L. Bewley.....	Evant.
Flatonia High School.....	D. C. Lake.....	Flatonia.
Fort Worth High School.....	Alex. Hogg.....	Fort Worth.
Gainesville High School.....	E. F. Comegys.....	Gainesville.
Gatesville Public School.....	B. B. Cobb.....	Gatesville.
Georgetown High School.....	A. N. W. Smith...	Georgetown.
Gladewater High School.....	J. H. Smith.....	Gladewater.
Glen Rose High School.....	J. M. Templeton..	Glenrose.
Goldthwaite High School.....	R. G. Hollingsworth.	Goldthwaite.
Gonzales Public School.....	T. L. Toland.....	Gonzales.
Graham High School.....	J. N. Johnson.....	Graham.
Granger High School.....	R. H. Long.....	Granger.
Greenville High School.....	J. H. VanAmburg.	Greenville.
Hamilton High School.....	J. J. McCallum...	Hamilton.
Henderson High School.....	T. R. Day.....	Henderson.
Hico Graded School.....	J. N. Davis.....	Hico.
Hillsboro High School.....	W. D. Butler.....	Hillsboro.
Honey Grove High School.....	F. M. Bralley.....	Honey Grove.
Houston High School.....	W. W. Barnett.....	Houston.
Huntsville Public School.....	R. R. Sebring.....	Huntsville.
Hutto High School.....	W. H. Emert.....	Hutto.
Jacksboro High School.....	J. K. Webster.....	Jacksboro.
Karnes City High School.....	A. S. J. Steele.....	Karnes City.
Kaufman Public School.....	C. J. Maxwell.....	Kaufman.
Kenedy High School.....	Dan Smith.....	Kenedy.
Kosse High School.....	W. H. Pendergraft.	Kosse.
Kyle High School.....	W. A. Laughlin...	Kyle.
Lampasas High School.....	P. H. McInnis.....	Lampasas.
Laredo High School.....	L. J. Christian...	Laredo.
Ledbetter Public School.....	Oliver C. York...	Ledbetter.
Lewis Academy.....	E. C. Lewis.....	Forney.
Lewisville Academy.....	P. D. Kennamer...	Lewisville.
Liberty Normal and Business College...	J. N. Bigbee.....	Liberty.

Lindale High School.....	O. P. Norman.....	Lindale.
Luling High School.....	R. E. L. Adams.....	Luling.
Marfa High School.....	H. B. Griffin.....	Marfa.
Marlin High School.....	C. P. Hudson.....	Marlin.
Marshall High School.....	W. H. Attebery.....	Marshall.
Madison Academy.....	J. J. Joplin.....	Madisonville.
Mexia High School.....	R. B. Cousins.....	Mexia.
Mineral Springs Institute.....	T. R. Howard.....	Garrison.
McGregor High School.....	H. T. Clark.....	McGregor.
McKinney Public School.....	F. D. Shepherd.....	McKinney.
Mt. Pleasant High School.....	L. C. Libby.....	Mt. Pleasant.
Navasota High School.....	B. H. Brown.....	Navasota.
New Braunfels Academy.....	J. G. Neuss.....	New Braunfels.
Orange High School.....	S. B. Foster.....	Orange.
Palestine High School.....	W. F. Wilson.....	Palestine.
Paris High School.....	J. G. Wooten.....	Paris.
Peacock's School for Boys.....	Wesley Peacock.....	San Antonio.
Plano High School.....	J. T. Johnson.....	Plano.
Port Lavaca High School.....	W. F. Hollamon.....	Port Lavaca.
Quanah High School.....	K. A. Berry.....	Quanah.
Richland Grammar School.....	J. W. Miller.....	Richland.
Rock Island High School.....	J. T. Alderton.....	Rock Island.
Rock Springs High School.....	D. C. Baylis.....	Rock Springs.
Rosenberg High School.....	W. D. Majors.....	Rosenberg.
Runge High School.....	J. H. Naff.....	Runge.
San Antonio Academy.....	Wm. B. Sealey.....	San Antonio.
San Antonio High School.....	L. E. Wolfe.....	San Antonio.
San Diego High School.....	J. H. Hufford.....	San Diego.
San Saba Pubile School.....	G. H. Hagan.....	San Saba.
Santa Anna High School.....	W. Z. Champion.....	Santa Anna.
Seymour Public School.....	J. W. Curtis.....	Seymour.
Sherman High School.....	P. W. Horn.....	Sherman.
State Institute for Blind.....	H. L. Piner.....	Austin.
Taylor High School.....	W. M. Williams.....	Taylor.
Temple High School.....	J. E. Binkley.....	Temple.
Tenaha Public School.....	W. B. Brown.....	Tenaha.
Terrell High School.....	S. M. N. Marrs.....	Terrell .
Texarkana High School.....	W. Owens.....	Texarkana.
Tivy High School.....	W. T. Noblitt.....	Kerrville.
Troupe High School.....	M. M. Dupree.....	Troupe.
Tyler High School.....	J. L. Henderson.....	Tyler.
University Military School.....	J. B. Dodson.....	Dallas.
Valley Mills High School.....	J. D. Cox.....	Valley Mills.
Velasco Public School.....	C. P. Jessup.....	Velasco.
Victoria High School.....	Felix E. Smith.....	Victoria.
Waco High School.....	J. C. Lattimore.....	Waco.
Waxahachie High School.....	W. L. Acker.....	Waxahachie.
Weatherford High School.....	H. G. Reed.....	Weatherford.
West Paris High School.....	L. G. Allen.....	West Paris.
Wichita Falls High School.....	W. F. Jordan.....	Wichita Falls.
Wortham High School.....	C. M. Thornell.....	Wortham.
Yoakum High School.....	J. J. Kirkpatrick.....	Yoakum.

CATALOGUE OF STUDENTS.

EXPLANATION.

Degrees: B. S., Bachelor of Science; M. S., Master of Science; M. E., Mechanical Engineer; C. E., Civil Engineer.

Courses: Agr., Agriculture; Mech. Eng., Mechanical Engineering; Civ. Eng., Civil Engineering.

POST GRADUATES.

M. M. Carpenter, B. S.....	Sour Lake.
J. J. Hooper, B. S.....	M. S.....College Station.
F. Moore, B. S.....	Edna.
B. Youngblood, B. S.....	M. S.....College Station.

SENIORS.

Abrahams, Morris L.....	Mech. Eng.....	New Braunfels.
Baum, John A.....	Civ. Eng.....	Corsicana.
Beeman, T. Rupe.....	Civ. Eng.....	Comanche.
Beilharz, Wm. E.....	Mech. Eng.....	Dallas.
Davis, James M.....	Civ. Eng.....	Forney.

(Lewis Academy.)

Erhard, Earl C.....	Mech. Eng.....	Bastrop.
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(Bastrop Public School.)

Gleason, Harry.....	Civ. Eng.....	Hico.
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(Hico High School.)

Graves, D. R.....	Mech. Eng.....	Waxahachie.
Jobson, Theran S.....	Mech. Eng.....	Mesquite.
Kinsloe, Ralph H.....	Mech. Eng.....	Corsicana.
Lindemann, Chas. E.....	Mech. Eng.....	Austin.
Lockett, Napoleon.....	Civ. Eng.....	Houston.
Mansfield, Richard H.....	Civ. Eng.....	Tyler.
Mathews, H. F.....	Civ. Eng.....	College Station.
Moore, Guy G.....	Civ. Eng.....	DeKalb.
McCall, Hawley S.....	Civ. Eng.....	Sabine Pass.
McGregor, Flint.....	Civ. Eng.....	Weimar.
Neff, Asa Judson.....	Mech. Eng.....	Lone Oak.
Oliphint, John W.....	Civ. Eng.....	Huntsville.

(Huntsville High School.)

Sterns, Jas. B.....	Civ. Eng.....	Houston.
Wallace, Lawrence W.....	Mech. Eng.....	Garfield.

(Bastrop Public School.)

Warden, Thos. B.....	Civ. Eng.....	McKinnev.
Williams, Ira L.....	Mech. Eng.....	Houston.
Worthing, Evan E.....	Mech. Eng.....	Tipton, Mo.

JUNIORS.

Aguayo, Adrian N.	Mech. Eng.	Parras, Mexico.
Altgelt, Ernest S.	Civ. Eng.	San Antonio.
Bauer, Felix	Mech. Eng.	Burton.
Benjamin, Joseph W.	Civ. Eng.	Cuero.
Bernay, Camp Lee.	Civ. Eng.	Brownwood.
Blake, Thos. W., Jr.	Agr.	Sherman.
Bunnell, Arthur	Civ. Eng.	Taylor.
Burns, John C.	Agr.	Cuero.
Carter, James W.	Civ. Eng.	Celeste.
Clonts, Thos. P.	Civ. Eng.	Mart.
Cobbs, Thos. D.	Mech. Eng.	San Antonio.
Cochran, Jerome	Agr.	Houston.
Conner, Arthur	Civ. Eng.	Rosebud.
Cruse, Thos. L.	Civ. Eng.	Woodville.
Dahme, A. F.	Mech. Eng.	Yorktown.
Davenport, Henry S.	Agr.	Palestine.
Dibrell, James F.	Mech. Eng.	Seguin.
Dunn, Ralph B.	Mech. Eng.	Wheelock.
Fountain, Thos. D.	Civ. Eng.	Reagan.
Glass, Robt. H.	Mech. Eng.	Franklin.
Greer, H. I.	Mech. Eng.	Beaumont.
Häner, Ernest, Jr.	Civ. Eng.	San Antonio.
Hill, John Edgar, Jr.	Mech. Eng.	Manor.
Hoffer, Temple B.	Civ. Eng.	Balinger.
Horton, Chas. B.	Mech. Eng.	Hamilton.
Hull, Burt E.	Civ. Eng.	Houston.
Japhet, Wm. Ernest.	Civ. Eng.	Houston.
Kaulbach, Albert H.	Civ. Eng.	LaGrange.
Kirkpatrick, LeRoy	Mech. Eng.	McKinney.

(McKinney Public School.)

Korff, Walter A.	Agr.	Shelby.
Lillard, Wm. Watson	Civ. Eng.	Fairfield.
Maxwell, Jesse Worth	Mech. Eng.	Austin.
Meek, Robt. W.	Mech. Eng.	Arcadia.
Moser, Christopher O.	Agr.	Dallas.
McCutcheon, J. W.	Civ. Eng.	Rice's Crossing.
McFaddin, Wm. Val.	Agr.	Beaumont.
Pape, Gus Herman	Civ. Eng.	Marlin.
Peden, Leo. T.	Civ. Eng.	Timpson.
Pirie, Jas. E.	Civ. Eng.	Parita.
Rees, Samuel E.	Civ. Eng.	Kerrville.
Rubenkoenig, H.	Mech. Eng.	Graham.
Sattler, A. G.	Civ. Eng.	Cuero.
Stalleup, Jas. F.	Civ. Eng.	Cleburne.
Stapp, Wm. E.	Civ. Eng.	Sentinel, O. T.
Stinson, Varner L.	Civ. Eng.	Durant, I. T.
Tarver, Thos. C.	Civ. Eng.	Houston.
Taylor, Paschal C.	Civ. Eng.	Austin.
Vick, John C.	Mech. Eng.	Bryan.
Yocom, Jay	Agr.	Denison.

SOPHOMORES.

Abney, Carlestone C.	Civ. Eng.	Lampasas.
Acker, Earl	Agr.	Lampasas.
Bailey, Aubrey M.	Agr.	Karnes City.
Ballard, L. L.	Agr.	Luling.
Barth, Frederick W.	Mech. Eng.	Corsicana.
Becker, A. E.	Agr.	Brenham.
Beeman, Del	Civ. Eng.	Comanche.
Blount, Albert P.	Agr.	Nacogdoches.
Booth, Ellison S.	Agr.	Austin.
Born, Thos. C.	Agr.	Corpus Christi.
Boyce, Chas. Ward.	Agr.	Charco.
Buehring, Albert F.	Agr.	Welcome.
Carmichael, John F.	Mech. Eng.	Sanderson.
Carruth, Walter Lee	Mech. Eng.	Austin.
Church, Marion S.	Agr.	McKinney.
Clark, Alvin F.	Mech. Eng.	Lebanon.
Clark, Gilbert H.	Agr.	Dallas.
Cocke, Shelby	Agr.	Buda.
Cruse, John T.	Agr.	Woodville.
David, Doyle	Agr.	Mexia.

(Mexia High School.)

Dudley, Addison	Agr.	Alvin.
Durst, Bruno Lee.	Civ. Eng.	Leona.
Ehlers, Victor	Civ. Eng.	LaGrange.
Evans, Elmo C.	Agr.	Kildare.
Farmer, Henry B.	Civ. Eng.	Columbus.
Farrier, Rufus Scott.	Agr.	Dalby Springs.
Forsgard, Oscar Lee.	Civ. Eng.	Houston.
Glass, Will V.	Agr.	Franklin.
Golston, Roy D.	Agr.	Acme.
Hackney, Jas. G.	Mech. Eng.	Burleson.
Hailes, Wm. J.	Mech. Eng.	Buckholts.
Hamner, Stayton W.	Mech. Eng.	Colorado City.
Hanna, Howard E.	Agr.	Denison.
Hauck, Charlie F.	Mech. Eng.	Denison.
Holzman, Waldeman R.	Agr.	Industry.
Johnson, Dick Dowling.	Mech. Eng.	Sabine Pass.
Johnson, Harris	Agr.	Atlanta.
Jones, Joe A.	Agr.	Richmond.
Joyce, Clem	Civ. Eng.	Franklin.
Knolle, K. C.	Agr.	Industry.
Kowalski, Bernard	Civ. Eng.	Brownsville.
Kroulik, Hugo J.	Agr.	Industry.
Lindemann, James E.	Mech. Eng.	Austin.
Marburger, Bernard	Civ. Eng.	Cistern.
Masterson, Neil T.	Agr.	Houston.
Minear, Sylvester A.	Agr.	Gonzales.
Morriss, Wm. Wade.	Agr.	Lampasas.
McCombs, Melvorne J.	Agr.	Dallas.
McFarland, Arthur	Mech. Eng.	Rockwood.

McKenzie, Tom N.....	Agr.....	Fort Worth.
McLennan, Lamar	Agr.....	Bonham.
Newton, Walter O.....	Agr.....	Milano.
Nicholson, Rufus F.....	Agr.....	Brenham.

(Brenham High School.)

Oliver, Gale	Civ. Eng.....	Lampasas.
Pendleton, David E.....	Civ. Eng.....	Amarillo.
Penn, Marcus R.....	Agr.....	Penn.
Price, Willie A.....	Agr.....	Stranger.
Rainey, Jefferson R.....	Agr.....	Bonham.
Reese, Hubert Wm.....	Agr.....	Comanche.
Robinson, John	Agr.....	Pittsburg.
Rothe, A. A.....	Agr.....	Hondo.
Routt, Milton Lee.....	Agr.....	Chappell Hill.
Russell, McLean	Agr.....	Pittsburg.
Sammons, Tom	Agr.....	Alvin.
Schroeder, E. F.....	Agr.....	Industry.
Seybold, John N.....	Mech. Eng.....	Heidenheimer.
Sternenberg, Paul	Mech. Eng.....	Rockdale.
Stevens, Wm. M.....	Agr.....	Rusk.
Street, Gustavus C.....	Agr.....	Houston.
Stubbs, Van Hook.....	Agr.....	Wortham.
Thweatt, Robt. E.....	Agr.....	Rogers.
Walden, Clinton	Agr.....	Dickinson.
Walden, Herbert M.....	Agr.....	Denton.
Washburn, John Ely.....	Mech. Eng.....	Houston.
Webb, Tom C.....	Civ. Eng.....	Vernal.
Welhausen, Peck H.....	Mech. Eng.....	Shiner.
Wharton, Earl	Agr.....	Houston.
Wheeler, Lucius R.....	Agr.....	Stockdale.
Wickes, John E.....	Mech. Eng.....	Bryan.
Wilson, Ashley F.....	Civ. Eng.....	Houston.
Wilson, Joseph E.....	Civ. Eng.....	Houston.
Witte, K. L.....	Agr.....	Shelby.
Woodall, Howard	Mech. Eng.....	San Marcos.
Woods, Henry S.....	Mech. Eng.....	Corsicana.
Wyse, John T., Jr.....	Agr.....	Dallas.
Young, B. T.....	Agr.....	Moody.
Youngblood, Thomas, Jr.....	Agr.....	Rockdale.

FRESHMEN.

Adkisson, Wm. E.....	Agr.....	Sulphur Springs.
Adkisson, Thos. B.....	Eng.....	Sulphur Springs.
Andrews, Taylor F.....	Agr.....	Beaumont.
Ansell, Wallace S.....	Eng.....	Galveston.
Armstrong, John F.....	Eng.....	San Antonio.
Arnold, Ed C.....	Eng.....	Graham.

(Graham School.)

Atkins, Temple	Agr.....	Bowie.
Baines, Huffman	Eng.....	Blanco.
Bartley, Arthur N.....	Agr.....	Cleburne.

Beaton, Will F.	Eng.	Corsicana.
Beckham, Wm. L.	Agr.	Greenville.
Bishop, Milton J.	Agr.	Smithville.
Black, Alexander G.	Agr.	Fort McKavitt.
Blount, Edw. S.	Agr.	Nacogdoches.
Bomar, Edmond E.	Eng.	Sherman.
Boone, Ray	Eng.	Higgins.
Bostick, Newton C.	Agr.	Kimball.
Bowyer, John	Agr.	Abilene.
Boyett, Claude E.	Agr.	College Station.
Boyett, Wirt L.	Agr.	College Station.
Brandt, Richard L.	Eng.	San Diego.

(San Diego High School.)

Brinkmann, Herbert	Eng.	Comfort.
Bryan, Gordon H.	Eng.	Houston.
Burney, Robt. L.	Eng.	Amphion.
Burns, Howard	Eng.	Houston.
Burrirt, Wilbur P.	Eng.	San Diego, Tex.
Burton, Ralph M.	Eng.	Hope.
Buttner, Rudolph H.	Eng.	Mexico City, Mex.
Carlyle, Elmer	Agr.	Dallas.
Caruthers, Blount Van H.	Agr.	Alpine.
Chaney, Charles	Agr.	Mesa.
Cobolini, Julius A.	Eng.	Rockport.
Cobolini, Joseph L.	Eng.	Rockport.
Collier, Vernon W.	Agr.	San Marcos.
Comer, Edward	Agr.	Tampico, Mexico.
Coulter, Wm. W.	Agr.	Texarkana.
Cover, Robert J.	Agr.	Parita.
Craig, John F.	Agr.	El Campo.
Crawford, Len B.	Agr.	Dickinson.
Crittenden, Gloster	Agr.	Palestine.
Crockett, Chelcie	Eng.	Prosper.
Crockett, Otto	Eng.	Prosper.
Cupp, Leander A.	Agr.	Monterey, Mexico.
Darter, Thos. H.	Agr.	Neal.
Davis, Charlie F.	Eng.	Marfa.
Davis, John E.	Eng.	Reagan.
Dean, Jas. S.	Eng.	Killeen.
Dixon, Sam H., Jr.	Eng.	Houston.
Dobbins, Ray H.	Eng.	Jefferson.
Donaldson, I. B.	Eng.	Kyle.
Downs, P. L., Jr.	Agr.	Temple.
Duke, Elvis E.	Agr.	Stamford.
Duncan, Eugene D.	Agr.	Oak Cliff.
Dunn, Geo. H.	Eng.	Benchley.
Duvall, Hugh H.	Eng.	Bastrop.
Eberspacher, Fred	Eng.	Angleton.
Ehlers, Paul	Agr.	Smithville.
Ehlinger, Leo	Eng.	LaGrange.
Elder, Herbert W.	Eng.	Cheapside.
Ellsworth, Hallet T.	Agr.	San Antonio.

Faires, Richard O.....	Agr.....	Flatonio.
Foster, Edmund J.....	Eng.....	Laredo.
Frank, Clarence.....	Eng.....	San Antonio.
Gano, Richard M.....	Eng.....	Dallas.
Garza, Celedonio M.....	Eng.....	Brownsville.
Gilliam, Minyard M.....	Eng.....	Temple.
Golladay, James H.....	Eng.....	Foreston.
Gooch, Chas. D.....	Eng.....	Navasota.
Griffith, J. L.....	Agr.....	Montgomery.
Grigg, Ewdie.....	Agr.....	Ad Hall.
Gugenheim, Louis Y.....	Eng.....	Mason.
Guinn, Wallace.....	Agr.....	Rusk.
Guyler, Wm. L.....	Eng.....	Wallis Station.
Haltom, Guy T.....	Eng.....	San Antonio.
Hanson, M. C.....	Eng.....	Brownsville.
Hays, Ernest D.....	Agr.....	Reagan.
Henderson, Roy L.....	Agr.....	Dallas.
Higgins, Walter S.....	Eng.....	Bastrop.
Hinkle, Jas. T.....	Eng.....	Hinkle's Ferry.
Hofmann, Robt. W.....	Eng.....	Mason.
Houe, Geo. N.....	Eng.....	Sherman.
Hoyo, Geo. C. A.....	Agr.....	Weimar.
James, Robt. B.....	Eng.....	Belton.
Jeffries, John C.....	Agr.....	Laredo.
Johnson, Tiffin E.....	Eng.....	Houston.
Johnson, Vilas.....	Eng.....	Atlanta.
Johnston, John R.....	Agr.....	Ashtabula, Ohio.
Jones, Hugh H.....	Agr.....	Benjamin.
Kaulbach, Edwin A.....	Eng.....	LaGrange.
Kendrick, Herbert V.....	Agr.....	Moody.
Kendrick, Robert T.....	Agr.....	Waco.
Kerr, Frederick H.....	Agr.....	Houston.
Kloss, Otto.....	Eng.....	Millheim.
Krompas, O. A.....	Agr.....	Austin.
Kurth, Roy W.....	Eng.....	Kelty's.
League, Benton.....	Eng.....	Waco.
Lee, Carrol V.....	Eng.....	Morris Ranch.
Lee, Gabriel J.....	Eng.....	Austin.
Lenert, Louva G.....	Eng.....	LaGrange.
Lenox, Chas. D.....	Eng.....	Detroit.
Lewis, Orville O.....	Agr.....	Forney.
Lichte, Fritz.....	Eng.....	Graham.

(Graham School.)

Lindsey, James E.....	Agr.....	Abilene.
Lipscomb, Willoughby.....	Agr.....	San Antonio.
Lockett, Roy.....	Agr.....	Pittsburg.
Loftin, Sawnie R.....	Eng.....	Tyler.
Loving, James W.....	Agr.....	Jacksboro.
Low, Clem A.....	Agr.....	Caddo, I. T.
Lusk, Leon A.....	Agr.....	Houston.
Manning, Joseph C.....	Agr.....	Franklin.
Martin, Thos. A.....	Eng.....	Rhea Mills.

Martin, W. A.....	Eng.....	San Saba.
Matthews, Roy R.....	Eng.....	Athens.

(Bruce Academy.)

Mayer, Max Fred.....	Eng.....	San Antonio.
Meyers, Edna Lu.....	Eng.....	Cameron.
Mulray, Wm.....	Agr.....	San Antonio.
Muzquiz, Rafael E.....	Eng.....	Houston.
McGhee, Edwin W.....	Eng.....	Brownwood.
McKinley, Roy.....	Agr.....	Fort Worth.
McNeely, Ira L.....	Agr.....	College Station.
Nichols, Robt. W.....	Agr.....	Smithville.
Noble, Albert D.....	Eng.....	Port Lavaca.
Norvell, Wm. E.....	Eng.....	Henderson.
O'Neal, Hardy E.....	Eng.....	Atlanta.
Orr, Robt. W.....	Eng.....	Perez, Vera Cruz, Mex.
Orr, Warren E.....	Agr.....	Alvin.
Owen, Hazard T.....	Agr.....	Reagan.
Partlow, Roy M.....	Agr.....	Liberty.
Patten, Julian C.....	Agr.....	Waco.
Penner, Wm. A.....	Eng.....	Zulu.

(Wichita Falls High School.)

Petty, Frank W.....	Eng.....	Henderson.
Pirie, John Henry.....	Eng.....	Parita.
Poindexter, Jas. W.....	Agr.....	Kosse.
Ramsay, Joseph W.....	Eng.....	Houston.
Rauh, Leo Isaac.....	Agr.....	Columbus.
Reese, G. Laurens.....	Eng.....	Austin.
Reese, Hoffmann L.....	Agr.....	Sempronius.
Rhodes, Jas. Allen, Jr.....	Agr.....	Dallas.
Robertson, Morris.....	Agr.....	Winsboro.
Robinson, Ralph W.....	Eng.....	Oak Cliff.
Rodriguez, David.....	Agr.....	Mexico City, Mex.
Rogers, Dudley.....	Agr.....	McKinney.
Rogers, Wm. F.....	Eng.....	Comanche.
Rollins, Andrew.....	Eng.....	Farmersville.
Scherer, Samuel S.....	Agr.....	Eagle Pass.
Schiller, Robt. E.....	Eng.....	Cyclone.
Schwarz, Harry.....	Agr.....	Hempstead.
Shanklin, Robt. W.....	Eng.....	Prairie Lea.
Sheckles, Loyd W.....	Agr.....	Rockdale.
Sime, Edwin S.....	Eng.....	Memphis.
Smith, Owen E.....	Eng.....	Port Lavaca.
Smith, Ota M.....	Agr.....	Morris Ranch.
Stavinoha, Henry.....	Agr.....	I.aGrange.
Steedman, S. D., Jr.....	Agr.....	Steedman.
Stevens, F. M.....	Agr.....	Liberty.
Storrs, Arthur.....	Agr.....	Granger.
Stovall, L. T.....	Agr.....	Robinson.
Street, LeRoy R.....	Eng.....	Houston.
Suber, J. H., Jr.....	Agr.....	College Station.

Tabor, John R.	Eng.	Houston.
Tally, Jake	Agr.	Smithville.
Thornton, John E.	Eng.	Austin.
Thurman, Zan	Agr.	Jefferson.
Timmons, Geo. C.	Agr.	Graham.
Trefry, Willard H.	Eng.	Aldine.
Turner, Frank W., Jr.	Agr.	Bonney.
Turner, Sam	Agr.	Leesburg.
Turner, Wallace W.	Eng.	Bastrop.
Walker, Wm. Thos.	Eng.	San Saba.

(San Saba High School.)

Washburn, Harvey A.	Eng.	Hallettsville.
Weaver, Leslie L.	Agr.	Abilene.
Welboan, Joe S.	Agr.	Alvin.
Westbrook, Vivian	Agr.	Waco.
Whatley, Wm. H.	Agr.	Greenville.
Wickes, Walter M.	Eng.	Bryan.
Wilkins, Horace M.	Agr.	Brenham.
Williams, A. J.	Eng.	Oak Cliff.
Williamson, Albert V.	Agr.	Cleburne.
Willig, Herbert	Eng.	Temple.
Willoughby, James	Agr.	Brady.
Wise, Elbert Allen	Agr.	Jefferson.
Witte, B. O.	Agr.	Shelby.
Woodul, James R.	Eng.	Laredo.
Zambrano, Augustin	Eng.	Monterey, Mexico.

ELECTIVE STUDENTS.

Barham, Robt. E.		Nacogdoches.
Dewart, Robt. R.		Jefferson.
Dahlgren, J. A.		Velardena, Mexico.
Harral, Arthur		Dudley.
Heidelberg, H. A.		Marshall.
Heldenfels, C. A.		Beeville.
Holman, Forest B.		Weimar.
Houchins, John F.		Hallettsville.
Houchins, Warren A.		Hallettsville.
Isbell, Jonas M.		Pankey.
Leary, Edgar M.		Corpus Christi.
Maedgen, Chas. E.		Troy.
McCormick, Alexis		Weimar.
McKay, Guy		Longview.
McKnight, O. J.		Marlin.
McLavy, R. B.		Bastrop.
Puckett, John W.		Buda.
Risien, Geo. W.		Oak Cliff.
Ridenhower, Ray R.		Hico.
Sanders, Phillip L.		Nacogdoches.
Simonds, Fred H.		Austin.
Tilson, Wm. H.		Plainview.
Weatherby, Ed. P.		Waco.
Wheeler, A. C.		Anchorage.

SPECIAL STUDENTS.

Cottingham, J U.....	Opelousas, La.
Hampton, B. Wade.....	Hillsboro.
Love Jas T.....	Franklin.
Simpson, John V.....	Field Creek.
Williamson, J. H.....	Lockhart.
Young, Harold	Lytle.

STUDENTS IN SHORT COURSES.

STOCK FARMING.

Adles, W. F.....	Taylor.
Allman, John	Brittain.
Bruton, A. B.....	Haynesville, La.
Chaney, Chas.....	Mesa.
Fisher, R. L.....	Durango, Mexico.
Johnson, Harris	Atlanta.
Iglehart, N. E.....	Valley Mills.
Pumphrey, D. S.....	Taylor.
Thompson, T. A.....	Dallas.
Taylor, Massie	Richland Springs.
Wilkinson, Lamar	Menardville.
Wall, T. M.....	Annona.

STOCK FARMING AND HORTICULTURE.

Mason, O. K.....	Jefferson.
Wise, E. A.....	Jefferson.
Young, J. H.....	Lytle.

HORTICULTURE.

Ford, D. W.....	Madisonville.
Peck, H.....	Sulphur Springs.
McFaddin, W. V.....	Beaumont.

DAIRYING.

Elliott, F.....	Troy.
Hoefling, R.....	San Antonio.
Skrivanek, Joseph	Caldwell.
Telfer, A. D.....	Hutto.

SUMMARY.

Post Graduates	4
Senior Class	24
Junior Class	49
Sophomore Class	87
Freshman Class	184
Students in Elective Courses.....	24
Students in Special Courses.....	6
Students in Short Courses.....	22
Total	400
Deduct names counted twice.....	4
Total	396

BATTALION ORGANIZATION FOR 1902-'03.**F. P. Avery, Captain U. S. A. Commandant.**

Staff	{	Oliphant, J. W., First Lieutenant and Adjutant.
		Erhard, E. C. First Lieutenant and Quartermaster.
		Hill, J. E., Sergeant Major.
		Maxwell, J. W., Quartermaster Sergeant.
		Cobbs, T. D., Color Sergeant.
	{	Williamson, L. B., Postmaster.

CAPTAINS.

<i>Co. A.</i>	<i>Co. B.</i>	<i>Co. C.</i>	<i>Co. D.</i>
Wallace, L. W.	Mansfield, R. H.	Bellharz, W. E.	Abrahams, M. L.

FIRST LIEUTENANTS.

Baum, J. A.	Heidelberg, H. A.	Warden, T. B.	Kinsloe, R. H.
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SECOND LIEUTENANTS.

Davis, J. M.	McKnight, O. J. McCall, H. S.	Sanders, P. L.	Williams, I. L.
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FIRST SERGEANTS.

Pirie, J. E.	Moser, C. O.	Pape, G. H.	Carter, J. W.
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SERGEANTS.

Dahme, A. F. Vick, J. C. Rees, S. E. Glass, R.	Yocom, Jay. Horton, C. B. Cruse, T. Kaulbach, A.	Clonts, T. N. Fountain, T. D. Peden, L. T. Rubenkoening, H.	Conner, A. Stinson, V. L. Benjamin, J. W.
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CORPORALS.

Carmichael, J. F. Clark, G. H. Minear, S. Farrier, R. S. Wilson, A. Sammons, T. Glass, V.	Hauck, C. Morriss, W. Farmer, H. B. Wickes, J. Wyse, J. T.	McCombs, M. Ehlers, V. Rothe, A. A. Webb, T. T.	Seybold, J. E. Pendleton, D. E. Cruse, J. Hackney, J. G. Ballard, L. L. McKinzie, T. Walden, C.
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Artillery.

Second Lieutenant, Worthing, E. E.

Band.

Sergeants, Bauer, F., Burns, J. C.,
Blake, T. W.

Corporals, Evans, E. C., Kroulik, H. J.
Marburger, B.

DEGREES AND HONORS.

Conferred at Commencement, June, 1902.

DEGREE OF B. S. (IN AGRICULTURE).

M. M. Carpenter, C. B. Harrington, F. R. Holzman, L. P. Lawley, Jr., W. H. McDonald, F. Moore, B. Youngblood.

DEGREE OF B. S. (IN CIVIL ENGINEERING).

L. Acker, M. E. Akers, R. L. Alexander, T. R. Batte, Jr., R. Holcomb, H. Jacot, E. L. Markham, E. F. Mittman, T. H. Olds, J. L. Ross, R. Ross, L. Samusch.

DEGREE OF B. S. (IN MECHANICAL ENGINEERING).

G. S. Barham, P. Dross, F. G. Eppright, V. H. Foy, Jerome Harrison, E. Kloss, E. R. Rice, D. K. Robertson, C. A. Strieber.

HONOR GRADUATES—SESSION 1901-'02

Moore, Carpenter, Foy.

HONOR MEN BY CLASSES.

First Class—Moore, Carpenter, Rice.

Second Class—Lindemann, Mansfield, Oliphint.

Third Class—Elder, Rees, Burns.

Fourth Class—Pendleton, Routt, Brinkmann.

DISTINGUISHED STUDENTS BY DEPARTMENTS.**FIRST CLASS.**

Agriculture—Carpenter, Moore.

Botany—Moore, Harrington, Carpenter.

Chemistry—Moore, Harrington, Youngblood.

Civil Engineering—Olds, Batte, Ross, R.

Drawing—(a) Civil Engineering Course: Olds, Batte. (b) Mechanical Engineering Course: Strieber, Foy.

English—Carpenter, Robertson, Moore.

History—Eppright, Foy, Kerr.

Languages—Carpenter, Ross, Moore.

Mathematics—Foy, Strieber, Samusch.

Mechanical Engineering—Foy, Strieber, Barham.

Military Science—Carpenter, Rice, Moore.

Veterinary Science—Carpenter, Youngblood, Harrington.

Horticulture—McDonald, Harrington, Lawley.

Entomology—Holzman.

SECOND CLASS.

Agriculture—McKee, Heldenfels.

Botany—McKee.

Chemistry—Mansfield, Lindemann, Baum.

Civil Engineering—Oliphint, Mansfield, Tilson.

Drawing—(a) Civil Engineering Course—Oliphint, Risien. (b) Mechanical Engineering Course—Lindemann, Abrahams.

English—Mansfield, McKee, Oliphint.
 History—Lindemann, Mathews, Mansfield.
 Languages—Mansfield, Oliphint, McGregor.
 Mathematics—Mansfield, Lindemann, Wallace.
 Mechanical Engineering—Lindemann, Beilharz, Worthing.
 Veterinary Science—Williamson, Polk, Heldenfels.
 Military Science—Mansfield, Warden, Heidelberg.

THIRD CLASS.

Agriculture—Moser, Burns, Corder.
 Botany—Burns, Jackson, Corder.
 Civil Engineering—Lillard, Hull, Elder.
 Drawing—(a) Agricultural Course—Burns, Corder, E. (b) Engineering Course—Hull, Elder.
 English—Elder, Rees, Maxwell.
 History—McFaddin, Lillard, Bellinger.
 Horticulture—Moser, Corder, E.; Korff.
 Languages—Elder, E.; Hull, Bernay.
 Mathematics—Rees, Elder, Burns.
 Mechanical Engineering—Bauer, Maxwell, Elam.
 Physics—Elder, Rees, Elam.
 Veterinary Science—Knolle, Moser, Korff.

FOURTH CLASS.

Agriculture—Routt, Jackson, Millard.
 Botany—Routt, Minear, Glass.
 Drawing—(a) Engineering Course—Russell, Wickes, Keef. (b) Agricultural Course—Wilson, E.; McCombs, Zambrano.
 English—(a) Engineering Course—Marburger, Pendleton, Wickes. (b) Agricultural Course—Brinkmann, Ernst, Lee.
 History—Russell, G.; Marburger, Pendleton.
 Mathematics—(a) Engineering Course—Marburger, McFarland, Pendleton.
 (b) Agricultural Course—Hawkins, Schaer, Wilson, E.
 Mechanical Engineering—Keefe, Washburn, Russell, G.
 Horticulture—Wilson, E.; Schaer, Brinkmann.

GRADUATING CLASS.

(With Subjects of their Theses.)

AGRICULTURAL COURSE.

M. M. Carpenter, Sour Lake, "Rice Bran, Rice Polish and Prairie Hay for Fattening Steers."
 C. B. Harrington, West Point, Miss., and F. Moore, Edna, "The Chemistry of the Pecan Nut."
 F. R. Holzman, Industry, "Insect Enemies of Cotton."
 L. P. Lawley, Jr., Oakville, and W. H. McDonald, Palestine, "The Cross-pollinization of the Peach and the Strawberry."
 B. Youngblood, Milano, "The Influence of Lime on the Soil."

CIVIL ENGINEERING COURSE.

L. Acker, Lampasas, and E. L. Markham, Paragould, Ark., "Location of the True Meridian at College Station."

M. E. Akers, Aurora, and J. L. Ross, Cooper, La., "Plans for a Railway Spur Track at the A. and M. College."

R. L. Alexander, Manchaca, and T. H. Olds, Purcell, I. T., "Design for a Building for the Departments of Civil Engineering and Drawing."

T. R. Batte, Jr., Bryan, and E. F. Mittmann, Galveston, "Design for a Highway Bridge Across the Brazos River."

R. Holcomb, Cisco, and H. Jacot, Colombier, Switzerland, "Design for Supplying the A. and M. College with Brazos River Water."

A. W. Klingelhofer, Fredericksburg, and R. Ridenhower, Hico, "The Improvement of Brazos County Roads with Special Estimates for those on the A. and M. College Grounds."

R. Ross, Rossville, and L. Samusch, Hallettsville, "The Effect of Fineness of Sand Grains on the Strength of Cement Mortar."

MECHANICAL ENGINEERING COURSE.

G. S. Barham, Nacogdoches, and V. H. Foy, Baird, "Plans and Specifications for a Fuel Oil Plant at the A. and M. College."

P. Dross, Bellville, "Freight and Passenger Elevators."

F. G. Eppright, Manor, and E. Kloss, Millheim, "Test of the Boilers of the A. and M. College."

S. E. Gillespie, Duncanville, and E. R. Rice, Beaumont, "Plans for Enlarging the Shops of the A. and M. College and the Use of Electricity as Motive Power in Same."

Jerome Harrison, College Station, "Plans and Specifications for a Stand-pipe."

D. K. Robertson, Dallas, and C. A. Strieber, Yorktown, "Plans and Specifications for a Modern Five-stand Gin Plant."

ALUMNI.

Alumni Association.

(Organized 1886.)

ORGANIZATION FOR 1902-1903.

L. E. Allen, '87, President.....	Marlin.
S. E. Rhodes, '96, Vice-President.....	Houston.
W. A. Wurzbach, '88, Vice-President.....	San Antonio.
B. V. Ellis, '92, Vice-President.....	Paris.
W. B. Philpott, '84, Vice-President.....	College Station.
E. W. Kerr, '96, Secretary and Treasurer.....	College Station.
A. L. Banks, '79, Member Executive Committee.....	College Station.

EXECUTIVE COMMITTEE.

L. E. Allen, '87.	A. L. Banks, '79.	E. W. Kerr, '96.
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On the following pages are given the names of all graduates of the College, with the courses of study pursued and the degrees obtained; their occupations and residences are also given as far as known. The alumni are requested to aid the President of the association in making the roll as accurate as possible.

From the opening of the College in 1876 to its reorganization in 1880, the studies were elective, and led to appropriate degrees. Degrees received in this interval are noted in the list of names.

From 1881 to 1887, there were two prescribed courses, the Agricultural and the Mechanical, but no degrees were given.

From 1888 to 1895, there were four prescribed courses, leading to the degrees of Bachelor of Scientific Agriculture (B. S. A.); Bachelor of Civil Engineering (B. C. E.); Bachelor of Scientific Horticulture (B. S. H.), Bachelor of Mechanical Engineering (B. M. E.).

From 1895 to 1901 the four prescribed courses remained the same, but the degree in each was Bachelor of Science (B. S.), the particular course being specified in the diploma.

Since 1901 the Horticultural course has been merged with the Agricultural, leaving three regular courses leading to the degree of Bachelor of Science (B. S.) in Agriculture, in Civil Engineering, and in Mechanical Engineering, respectively.

The courses of study are indicated by the use of Roman numerals, as follows:

- I. Agriculture.
- II. Horticulture.
- III. Mechanical or Mechanical Engineering.
- IV. Civil Engineering.

Names of deceased alumni are marked with a star.

- ABBOTT, E. G., 1894, IV, First Lieutenant United States Army, Fort Baker, Col.
 ABBOTT, H. T., 1898, II, Horticulturist, Weatherford.
 ABRAMS, J. E., 1900, III, Machinist, International and Great Northern Railway Shops, Palestine.
 ACKER, L., 1902, IV.
 ADAMS, A. S., 1895, IV, Assistant Engineer, International and Great Northern Railway, Palestine.
 ADAMS, F. L., 1892, I, Physician, Stafford.
 *ADRIANCE, D., 1886, I.
 AHRENBECK, W. T., 1891, III, Minister, Cuero.
 AKERS, M. E., 1902, IV, Civil Engineer, Boyd.
 ALEXANDER, D. E., 1880.
 ALEXANDER, R. L., 1902, IV, Civil Engineer, Mexico City, Mex.
 ALLEN, L. E., 1881, M, Manager for Nash, Robinson & Co., Marlin.
 ALLEN, W. H., 1888, I, Druggist, Marlin.
 ALTGELT, E. J., 1892, IV, Merchant, Alpine.
 AMSLER, L. D., 1889, III, Cashier Farmer's National Bank, Hempstead.
 AMTHOR, A. W., 1895, IV, Civil Engineer, St. L. B. and M. Ry., Waco.
 ANDERSON, W. D., 1890, I, Manager Ice Works, Waxahachie.
 ANDREWS, V., 1884, M, Physician, Valley View.
 ARMSTRONG, M. F., 1882, M, Farmer and Merchant, Chappell Hill.
 ASTIN, E. H., 1899, III, Planter, Mumford.
 BACKUS, U. J., 1890, III, Chief Clerk, Eagle Pass Coal and Coke Works, Eagle Pass.
 BAILEY, C. C., 1892, IV, Cashier First National Bank, Bartlett.
 BAKER, J. J., 1879, Merchant, Homer, La.
 BAKER, SEARCY, 1882, M, Superintendent Texas Penitentiaries, Huntsville.
 BANKS, A. L., 1879, German, M. S., '94, Associate Professor of Mathematics, College Station.
 BARCLAY, R. L., 1889, III, Farmer, Crenshaw.
 BARHAM, G. S., 1902, III, Medical Student University of Texas, Galveston.
 BARNES, R. M., 1898, III, General Merchant, Abilene.
 BARNES, S. E., 1899, I, Instructor in Dairying, University of Tennessee, Knoxville, Tenn.
 BATTE, T. R., 1902, IV, Assistant Engineer, Prescott, Ariz.
 BEESLEY, W. S., 1892, IV, Salesman, Lancaster.
 BEYER, F. C., 1892, III, Ginner, Marion.
 *BIBERSTEIN, F. R., 1882, M.
 BIERING, S. R., 1900, IV, Clerk, Gulf, Colorado and Santa Fe Railway, Galveston.
 BITTLE, T. C., Jr., 1900, IV, Mining Engineer, Mexico City, Mex.
 BITTLE, P. B., 1896, I, Teacher, Henderson.
 BITTLE, W. A., 1894, I, Teacher, Washington, La.
 BLACK, M., 1879, Minister, Sterling City.
 *BLAKEMORE, T. E., 1880.
 BLANK, L. F., 1899, I, Medical Student University of Texas, Galveston.
 BLEDSOE, F. F., 1880, Teacher, Mabank.
 BLOOR, A. W., 1895, I, Manor.
 BLOUNT, S. L., 1896, I, Veterinary Surgeon, Temple.
 BOCOCK, J. H., 1894, I, Traveling Salesman, Salem, Va.
 BOETTCHER, R. B., 1900, III, Planter, Columbia.
 BOYKIN, R. E., 1892, M, Teacher.
 BRAUN, P., 1888, M, San Antonio.
 *BRITTFIGHAM, W. F., Jr., 1890, IV.
 BRETTSCHEIDER, W., 1898, IV, Assistant Engineer, Houston East and West Texas Railway, Houston.
 BREWER, H. A., 1889, III, Planter, Lytton Springs.
 BROGDON, S. T., 1898, III, Architectural Draftsman, Beaumont.
 BROWN, R. M., 1901, IV, Rodman, Couchatta, La.
 BROWN, T. H., 1879, Sugar Planter, Houston.
 BROWN, W. H., 1880, IV, Planter, Navasota.
 BRUCE, E. L., 1894, IV, Lawyer, Orange.
 BRYAN, B. F., 1897, I.
 BRYAN, W. I., 1900, III, Superintendent, Elevator Machinery, Celina.
 BUCKMAN, C. A., 1889, IV, Clerk, Denison.
 BUFORD, F. L., 1892, IV, Assistant Engineer Gulf, Colorado and Santa Fe Railway, Silsbee.
 BUHLER, C. M., 1897, III.
 BUHLER, C. W., 1892, IV, Chief of Car Department, San Antonio and Aransas Pass Railway, San Antonio.

- BUHLER, W. A., 1900, III, Draftsman, San Antonio and Aransas Pass Railway, San Antonio.
 BULLARD, T. O., 1899, III, Trackman, Oklahoma City.
 BURCK, L. B., 1889, IV, Importer Tea, Coffee and Spices, Galveston.
 BURFORD, J. M., 1882, M., Physician and Surgeon, Independence.
 BURGHARD, C. L., 1886, M., Cashier Bank of Goliad, Goliad.
 BURGOON, C. E., 1895, III, Signal Foreman, Southern Pacific Railway, Houston.
 BURLESON, R. W., 1895, III, Fire Insurance Agent, San Saba.
 BURNEY, J. W., 1896, III, Stockman, Kerrville.
 *CALDWELL, J. C., 1883, M.
 CAMPBELL, D., 1879, Stockman, Alpine.
 CAMPBELL, R. W., 1899, III, Bookkeeper, Railroad Construction Company, Marshall.
 CARSON, A. B., 1897, IV, Office Engineer, S. S. and N. R'y, Durant, I. T.
 CARSON, J. M., 1886, I, Superintendent Alta Vista Creamery Company, Fort Worth.
 CARSON, J. W., 1886, I, Farm Superintendent, College Station.
 CARSON, R. C., 1899, III, Machinist, Palestine.
 CARTER, J. D., 1900, IV, Assistant Engineer, Missouri Pacific Railway, Morrilton, Ark.
 CARTER, W. T., Jr., 1898, I, Assistant in Bureau of Soils, Washington, D. C.
 CARUTHERS, F., 1885, I, Cashier United States Land Office, Oklahoma, O. T.
 CAVEN, G. P., 1897, I, Stenographer, Texas and Pacific Railway, Dallas.
 CAVITT, W. H., 1897, III, with Cartwright Oil Company, Beaumont.
 CHAMBERS, M. L., 1879, Real Estate and Loans, Fort Worth.
 CLARK, H., 1895, I, Physician, Crowell.
 CLAYTON, W. D., M. S., 1897, I, Farmer, Wakefield, La.
 CLEMENT, T. H., Jr., 1900, IV, Student, Ithica, N. Y.
 COBBS, S. A., 1896, IV, Civil Engineer, Muskogee, I. T.
 COCHRAN, E. G., 1879, Druggist and Surgeon, Royse.
 COHN, S. L., 1897, IV, Advertising Manager Sherman Oil and Cotton Company, Sherman.
 COOK, E. A., 1892, III, Cleburne.
 COTTINGHAM, I. A., 1886, M., Division Engineer, Southern Pacific Railway, El Paso.
 COTTINGHAM, W. P., 1892, IV, Draftsman, Southern Pacific Railway, Houston.
 COTTON, H., 1897, IV, Insurance, Austin.
 COUCH, E., 1897, III, Draftsman, Dallas.
 COULTER, H. T., 1895, II, Physician, Rockdale.
 COULTER, W. J., 1895, III, Merchant, Bryan.
 COULTER, R. E., 1901, III, Foreman Fuel Department, Texas and Pacific Ry, Texarkana.
 COUSINS, R. W., 1899, III, Electrician, General Electric Company, Schenectady, N. Y.
 COX, D. W. S., 1892, IV, Bookkeeper, Cotton Seed Oil Mill, Temple.
 CRAVENS, J. R., 1882, M., General Agent, Fire Insurance, Dallas.
 CROW, W. E., 1898, II, Physician, Dallas.
 CUNNINGHAM, A., 1879, Railroad Postal Clerk, Denver, Col.
 CUSHING, E. B., 1880, M., C. E., '99, Chief Engineer Southern Pacific Railroad, Houston.
 CUSHING, D., 1891, III, Pharmacist, Columbus, Miss.
 DASHIELL, W. R., 1891, IV, Physician, San Antonio.
 DAVIS, J. N., 1885, M., Superintendent Public Schools, Hico.
 DAWSON, N. A., 1884, M., Lawyer, Austin.
 DAZEY, W. L., 1894, IV, Dentist, Hillsboro.
 DIETERT, R. H., 1888, III, Car Foreman Houston and Texas Central Railway, Houston.
 DONALSON, C. B., 1898, III, Agent, International and Great Northern Ry, College Station.
 DOWNES, J. R., 1879, Lawyer, Waco.
 DOWES, P. L., 1879, Cashier, First National Bank, Temple.
 DRISDALE, W. E., 1889, II, Physician, Santa Fe, N. M.
 DROSS, Ph., 1902, III, Student Georgia School of Technology, Atlanta, Ga.
 DUDLEY, F. E., 1885, M, Stockman, Banning, Cal.
 *DUGAN, G. H., 1881.
 DUGGAN, A. P., 1895, IV, Attorney at Law, Stamford.
 DWYER, W. F., 1899, I, Car Clerk, Atcheson, Topeka and Santa Fe Railway, Deming, N. M.
 EDWARDS, J. F., 1883, M., Merchant, Denton.
 EBERSPACHER, G., 1896, III, Machinist, Houston.
 EBERSPACHER, R., 1901, III, Assistant Engineer, College Station.
 *ELDRIDGE, H. M., 1897, IV.
 ELLIS, B. V., 1892, I, Physician, Paris.
 ELLIS, Fort O., 1894, IV, Manager Commissary, Southern States Lumber Co., Millview, Fla.
 ELROD, H. E., 1901, III, Travelling Salesman, Bartlett Steel Co., Joplin, Mo.
 EPPRIGHT, F. G., 1902, III, Machinist, International and Great Northern Shops, Palestine.
 EVANS, C. D., 1899, IV, Engineering Department, Southern Pacific Railway, Algiers, La.

- FARMER, A. G., 1895, III, Stockman, Roosevelt.
 FAUST, H., 1900, III.
 FAUST, W., 1897, IV, Assistant Cashier of First National Bank, New Braunfels.
 FEARHAKE, J. D., 1889, IV, Attorney, New York City.
 FEHRENKAMP, E. B., 1901, IV, Rodman, Missouri Pacific Railroad, Galena, Mo.
 FERGUSON, A. M., 1894, II, Instructor in Botany, University of Texas, Austin.
 FIELD, H. Y., 1891, I, Clerk of Justice Court, Dallas.
 FINNEY, C. B., 1896, IV.
 FITZGERALD, A. H., 1895, I, Druggist, Gonzales.
 FITZGERALD, L., 1900, III, Chemist in Gas Works, Cleveland, Ohio.
 FITZHUGH, E. E., 1880, Fire Insurance, Waco.
 FLOYD, J. F., Jr., 1892, III, Merchant, Ada.
 FLYNT, H. C., 1890, I, Wood and Coal, San Antonio.
 FORT, F. W., 1879, Wholesale Grain, Waco.
 FORDTRAN, F. L., 1887, I, Physician, Kerrville.
 FOWLER, E. G. R., 1894, IV, Lawyer and Member of the Legislature, Palestine.
 FOUNTAIN, S. J., 1901, IV, Architectural Draftsman, Manila, P. I.
 FOUNTAIN, T. L., 1901, IV, Maintenance of Way Department, Southern Pacific Railway, Houston.
 FOURTREL, G. F., 1898, III, Machinist, San Antonio.
 FOY, V. H., 1902, III, Machinist, International and Great Northern Railway, Palestine.
 FREEMAN, J. H., 1887, M., Insurance Agent, Austin.
 * FULLER, T. A., 1879.
 GARBADÉ, W. T., 1901, I, Medical Student of University of Texas, Galveston.
 GARNETT, R. M., 1902, IV, Chainman, N. Y., T. and M. Ry., Bay City.
 GARRETT, T. H., Jr., 1901, IV, Engineering Corps, Texas and New Orleans Railway, Rusk.
 GIESECKE, F. E., 1886, M., Professor of Drawing, A. and M. College, College Station.
 GIESECKE, G., 1884, M., Merchant Miller, San Antonio.
 GIESECKE, W. E., 1892, III, Civil Engineer and Architect, Gomez Palacio, Durango, Mexico.
 GILBERT, J., 1894, I, Surgeon, Confederate Home, Austin.
 GILMORE, H. C., 1896, III, Electrician, Lakeside.
 GLOVER, W. F. H., 1898, I, Planter, Yemassee, S. C.
 GOLDBERG, I. L., 1896, II, Merchant, Jefferson.
 * GRAVES, C. S., 1882, M.
 GRAY, J. L., 1884, M., Civil Engineer.
 GREEN, R. B., 1884, M., Judge, San Antonio.
 * GREENWOOD, F. J., 1898, IV.
 GRIFFITHS, T. W., Jr., 1900, III, Lumber Dealer, Dallas.
 GRUENE, E., 1887, M., Teacher, New Braunfels.
 GRUPE, G., 1892, III, Superintendent Steam Plant, College Station.
 GURLEY, D. R., Jr., 1892, IV, Farmer, Waco.
 HANSCKE, R., Jr., 1890, III, Secretary Freie Presse fuer Texas Publishing Co., San Antonio.
 * HARE, H. C., 1887, M., Sherman.
 HARE, S. C., 1882, M., Lawyer, Sherman.
 HARRINGTON, C. B., 1902, I, Student Vanderbilt University, Nashville.
 HARRISON, C. O., 1899, II.
 HARRISON, J., 1902, III, Pump and Boiler Inspector, Southern Pacific Railway, Houston.
 * HARRISON, W. A., 1898, III.
 HAWKINS, J. W., 1893, I, Lawyer, Hallettsville.
 HADEN, J. H., 1879, Farmer, Blooming Grove.
 HENDERSON, H. W., 1891, I, Cotton Buyer, Ladonia.
 HEREFORD, J. B., 1887, M., Fire Insurance, Special Agent and Adjuster, Dallas.
 HERNSTADT, S. J., 1890, IV, Stockman, Groesbeeck.
 HILDEBRANDT, A. M., 1896, II, Associate Editor, San Antonio.
 HOFFMAN, F. C., 1888, III, Jeweler, New Braunfels.
 HOMANN, A. C., 1898, III, Bank Bookkeeper, Yukon, O. T.
 HOLCOMB, B., 1902, IV, Engineering Corps Gulf, Colorado and Santa Fe Railway, Cleburne.
 HOLMAN, J. R., 1895, IV, Assistant Engineer Southern Pacific Railway, Rusk.
 HOLZMAN, F. R., 1902, I, Employ United States Department of Agriculture, New Hope.
 HOOPER, J. J., 1901, I, Post Graduate Student, College Station.
 HOPKINS, S. H., 1890, I, Attorney, Gonzales.
 HORN, T. L., 1899, III, International and Great Northern Shops, Palestine.
 HOUGH, S. C., 1885, M., Lawyer and County Judge, Rock Springs.
 HOUSTON, F. N., 1894, IV, Rodman Houston and Texas Central Railway.
 HOWELL, J. W., 1894, I, Merchant, Bryan.

- MEAD, J., 1897, IV, Division Engineer, International and Great Northern Ry., Anderson.
 * MERRITT, W. B., 1889, I.
 MERRIWETHER, W. T., 1891, IV, Civil Engineer, Eagle Lake.
 MIDDLEBROOK, E. S., 1889, IV, Civil Engineer, Columbus.
 MIDDLEBROOK, R. M., 1891, III, Bookkeeper, Bay City.
 MILEY, J. H., 1896, IV, Attorney at Law, Smithville.
 MILLER, C. S., 1880, Lawyer and Land Agent, Ballinger.
 MILLER, H. J., 1883, M., Merchant, Bellville.
 MITCHELL, A., 1894, IV, Assistant Professor of Drawing, College Station.
 MITCHELL, W. H., 1893, IV, Druggist, Holland.
 MITTMAN, E. F., 1902, IV, Field Draftsman, with C. O. and G. Ry., San Antonio.
 MONROE, J. S., 1900, IV, Assistant Engineer, Mexican Central Railway, Mexico City.
 MONTGOMERY, F. L., 1889, I, Lawyer, Sherman.
 MOORE, F., 1902, I, Post Graduate Student of the Agricultural and Mechanical College, College Station.
 MOORE, R., 1892, I, Druggist, Tilden.
 MOORE, T. E., 1892, I, Physician, San Antonio.
 MOORE, W. M., 1895, IV, Cotton Factor, McKinney.
 MORRILL, C. R., 1891, IV, Division Engineer, Southern Pacific Railroad Co., San Antonio.
 *MOSELY, W. E., 1883, M.
 MOURSUND, A. F., 1895, IV, Roadmaster Southern Pacific Railway, Algiers, La.
 MOURSUND, E. M., 1897, IV, Roadmaster M. L. & T., La Fayette, La.
 MOUSER, E. B., 1895, I, Physician, Electra.
 MULLINS, E. Y., 1879, President Southern Baptist Theological Seminary, Louisville, Ky.
 MYERS, O. W., 1900, III, Machinist, International and Great Northern Shops, Palestine.
 MYERS, W. G., 1894, III, Mining, Parral, Chih., Mex.
 MCCORMICK, GEO., Jr., 1891, III, Chief Draftsman Motive Power Department Southern Pacific Railway, Houston.
 MCCULLOCH, C. C., 1886, C.E., '90., Surgeon United States Army, Manila, Philippine Islands.
 McDONALD, H. F., 1895, III, Mechanical Engineer, St. Louis, Mo.
 McDONALD, W. H., 1902, I, Truckgrower and Stockman, Palestine.
 McGINNIS, F. K., 1900, II, Nurseryman, Terrell.
 McMILLAN, M., 1895, M., Physician and Surgeon, Puerto Principe, Cuba.
 MacNAIR, H. J., 1887, M., Civil Engineer, Cleveland, Ohio.
 McNEIL, J. C., 1896, IV, Surveyor, Brazoria.
 McQUEEN, T. B., 1884, M., Bookkeeper, Marlin.
 NEATHERY, D. E., 1892, I, County Treasurer of Collin County, McKinney.
 NESS, H., 1889, II, Professor of Botany, College Station.
 NEWTON, G., 1898, I, Bookkeeper, Thorndale.
 NICHOLS, J. F., 1898, II, Attorney, Greenville.
 NICHOLS, J. R., I, First Assistant Surgeon, North Texas Insane Asylum, Terrell.
 NICHOLS, W. L., 1891, IV, Chief Engineer S. L. and P., Dallas.
 O'BAR, J. H., 1893, I, Medical Student, Warrenton.
 OGLESBY, G. B., 1894, IV, Assistant in Construction of the Shannon Manufacturing Co., Clifton, Arizona.
 OLDS, T. H., 1902, IV, Assistant Division Engineer, Mexican Central Railroad, Pocatello, Mexico.
 ORTIZ, J. A., 1892, IV, Stockman, Laredo.
 OVERSHINER, E. M., 1897, IV, Lawyer, Abilene.
 PARK, C. M., 1896, IV, Publisher, Dallas.
 PARSONS, B. C., 1893, II, Deputy Collector of Customs, Terlingua.
 PATRICK, A. T., 1883, M.
 PEARSON, H. A., 1893, IV, Planter, Troy.
 PENNINGTON, R. E., 1884, I, Lawyer, Brenham.
 PERLITZ, W. E., 1893, IV, Merchant, Schulenburg.
 PESCOY, C. H., 1885, M., Special Insurance Agent and Adjuster, New Orleans.
 PETERS, R. F., 1894, III, Bookkeeper, Texarkana.
 PFEUFFER, F. L., 1885, M., Merchant, San Antonio.
 *PFEUFFER, W. O. R., I.
 PFEUFFER, U. S., 1891, IV, Lumber Merchant, New Braunfels.
 PHILPOT, W. B., 1884, M., M. S., '90, Professor of English, College Station.
 PITLUCK, B. C., 1894, I, Agriculturist, Texas Experiment Station, College Station.
 POLK, W. A., Jr., 1895, IV, Salesman Wholesale Grocery Company, Corsicana.
 POULTER, R. J., 1899, II, Merchant, Porters Bluff.

- HOWELL, R. W., 1896, I, Merchant, Bryan.
 HUDGINS, F. D., 1897, IV, Resident Engineer A. and C. Railway.
 HUTCHINSON, E. W., 1889, IV, Merchant, Houston.
 HUTCHINSON, A. D., 1893, I, Farmer and Stockman, Waldron.
 HUTCHINSON, W. F., 1897, IV, Hardware Clerk, Denton.
 HUTSON, A. C., 1900, IV, Engineering Department, Gulf, Colorado and Santa Fe Railway, Temple.
 HUTSON, H. L., 1896, III, Mechanical Engineer, New Orleans.
 HUTSON, W. F., 1895, I, Engineering Department, Southern Pacific Railway, Houston.
 * JACK, D. M., 1879.
 JACOT, H., 1902, IV, Assistant Engineer, Mexican Central Railway, Mexico City.
 JAHN, F. C., 1894, II, Horticulturist, Gonzales.
 JAPHET, G., 1894, III, Wholesale Butter, Cheese and Eggs, Houston.
 JONAS, E. C., 1894, IV, Draftsman, Resident Engineer's Office of the Galveston, Houston and San Antonio Railway, San Antonio.
 JONAS, H. F., 1888, IV, Chief Draftsman, Maintenance of Way Department, Southern Pacific Railway, Houston.
 * JONES, W. F., 1889, IV.
 JORDAN, H. P., 1895, IV, Lawyer, Waco.
 JOSEY, N. L., 1888, I, Merchant, San Antonio.
 KAHN, M. S., 1900, II, Medical Student, Tulane University, New Orleans.
 KELL, E., 1894, III, Mechanical Engineer, New Orleans.
 KENEDY, O., 1883, M., Attorney at Law, Groesbeeck.
 KERR, E. W., 1896, III, Assistant Professor of Mechanical Engineering, College Station.
 KERR, J. G., 1898, I, Farmer, Vineland.
 KLEINSMITH, M. L., 1901, IV, Engineering Department, Santa Fe Railway, Cleburne.
 KLINGELHOFER, W. A., 1902, IV, Draftsman, Southern Pacific Railway, Houston.
 KLOSS, E., 1902, III, Machinist, International and Great Northern Shops, Palestine.
 KNOLLE, A. P., 1888, IV, Physician, Ellinger.
 KNOLLE, B. E., 1884, M., Physician, Industry.
 KNOLLE, E. R., 1887, M., Physician, Wesley.
 KNOLLE, O. J., 1897, I, Physician, Industry.
 KNOLLE, W. H., 1888, IV, Physician and Surgeon, New Orleans.
 KOPKE, L. J., 1880, IV, Civil Engineer and Real Estate Agent, Beaumont.
 KUEHNE, J. F., 1889, III, Manufacturing and Commission Agent, Mexico City.
 KYLE, A. J., 1897, I, Stockman, Bovina.
 KYLE, E. J., 1899, II, Professor of Horticulture, College Station.
 KYLE, H. C., 1896, I, Stock Farmer, Nursery.
 KYLE, J. A., 1890, I, Physician and Surgeon, Houston.
 * KYLE, T. M., 1892, III.
 LAW, F. M., 1895, I, Bank Bookkeeper, Bryan.
 LAWLEY, L. P., 1902, I, Truck and Fruit Grower, Palestine.
 LEGGETT, W. K., 1889, IV, Infantry United States Army, Manila.
 LEWIS, F., 1894, IV, United States Surveyor, Muskogee, I. T.
 LEWIS, J., 1900, I, Student Chicago Veterinary College, Chicago.
 LEWIS, L. L., 1893, I, Professor of Zoology and Veterinary Science, Oklahoma A. and M. College, Stillwater, O. T.
 LEWIS, M., 1899, III, Mechanical Engineer, Olwein, Ia.
 LIPSCOMB, R. S., 1882, M., Physician, Grapevine.
 LITTLEJOHN, R. G., 1891, IV, Fire Insurance Special Agent, Fort Worth.
 LOVE, A. C., 1899, IV, Assistant Professor of Drawing, College Station.
 LUCKETT, W. H., 1891, I, Physician and Surgeon, New York.
 * LUCKETT, W. M., 1894, III.
 * LUHRSEN, C. W., 1900, IV.
 MABRY, R., 1889, IV.
 MACKENSON, B. C., 1884, M., Teacher, San Antonio.
 MACKENSON, L., 1885, M., Poultry Breeder, Houston.
 MARKHAM, E. L., 1902, IV, Rodman, St. Louis and Southwestern Railway, Texarkana.
 MARTIN, E. L., 1899, IV, Assistant Engineer, Kansas City Southern Railway, Pittsburg, Kan.
 MARTIN, H. B., 1895, III, Construction Department, Missouri Pacific Railway, Aurora, Mo.
 MARTIN, W. C., 1898, II, Student Massachusetts Institute of Technology, Boston.
 MASSENBERG, W. G., 1894, IV, Engineering Department, Atchison, Topeka and Santa Fe Railway.
 MCCONNICO, S. F., 1901, I, Insurance Agent, Bryan.

- RADFORDS, J. S., 1890, II, Manufacturer, Houston.
 RAGSDALE, J. W., 1890, I, Lawyer, Hallettsville.
 RATCHFORD, W. P., 1892, III, County Surveyor and Land Agent, Fort Stockton.
 RAWLINS, H. E., 1898, III, Superintendent Quarries Supply Company, Campo Florida, Cuba.
 REICHARDT, F. A., 1879, Cashier Planters and Merchants Bank, Houston.
 RENNERT, F., 1888, I, Secretary and Treasurer Cotton and Compress Company, San Antonio.
 RHODES, S. E., 1896, III, Bookkeeper, Houston.
 RHOME, R. J., 1901, I, Law Student, Austin.
 RICE, D., 1882, M., Public Weigher, Houston.
 RICE, E. R., 1902, III, Electrician, Pocatello, Id.
 RIKE, H. M., 1893, IV, Surveyor, Haskell.
 ROACH, G. W., 1884, M., Teacher, El Paso.
 ROBSON, C. G., 1898, II, Manager Southwestern Telephone and Telegraph Company, La Grange.
 RODERIGUEZ, D., 1896, IV, Civil Engineer and Planter, Porfirio Diaz, Mex.
 ROGAN, CHAS., 1879, Lawyer, Austin.
 ROGERS, B. F., 1889, IV, Banker, Jefferson.
 ROGERS, C. P., 1900, II, Attorney at Law, Lockhart.
 ROGERS, G. A., 1887, M, Merchant, Longview.
 ROGERS, R. A., 1878, Cotton Factor and Commission Merchant, Galveston.
 ROLLINS, C. W., 1893, IV, Civil Engineer for Treadway Canal, Beaumont.
 ROLLINS, H. M., 1897, III, Foreman Texas and New Orleans Wood Preserving Works, Houston.
 ROSE, W. F., 1894, III, Draftsman, Oregon Railroad and Navigation Co., Portland, O.
 ROSENTHAL, H. H., 1896, IV, with California Underwear Company, San Francisco.
 ROSS, F. R., 1894, I, Physician, State Lunatic Asylum, Austin.
 ROSS, J. G., 1894, IV, County Attorney, Cole Springs.
 ROSS, R., 1902, IV, Civil Engineer, Mexico Central, Mexico City.
 ROUNTREE, T. D., 1898, IV, Physician, Grant, I. T.
 ROWELL, T. D., 1885, I, Attorney at Law and County Judge, Jefferson.
 RUDASILL, W. S., 1890, IV, Stockman, Sherman.
 RUST, W. M., Jr., 1901, III, Superintendent Cotton Oil Mill, Seguin.
 SAMUSCH, L., 1902, IV, Engineering Department, Gulf, Colorado and Santa Fe, Temple.
 SANDERS, W. O., 1896, II, Wholesale Provisions, Bryan.
 SAUVIGNET, E. H., 1892, I, Physician, Laredo.
 SA WYER, R., 1882, M, Lumber Merchant, Clarendon.
 SCHERER, C. L., 1896, IV, Civil Engineer, Beaumont.
 SCHERER, W. A., 1898, II, Stockman, Anahuac.
 SCHMIDT, C. L., 1890, III, Machinist, Laredo.
 SCHMIDT, D. T. C., 1894, IV, Assistant Foreman, Southern Pacific Railway, Morgan City, La.
 SCHUMACHER, H. C., 1892, IV, Wholesale Grocer, La Grange.
 SEWELL, M. S., 1894, IV, Bookkeeper, McGregor.
 *SHIRES, F. N., 1897, III.
 SHIRES, G. M., 1897, III, Chief Engineer Houston Post, Houston.
 SHIRLEY, A. L., 1884, I, Farmer and Merchant, Anna.
 *SHIRLEY, M. W., 1889, III.
 SHIRLEY, W. M., 1889, IV, Clerk of Collin County, McKinney.
 *SHIRLEY, Z. M., 1888, III.
 SHORT, A. K., 1900, I, Herdmaster for B. C. Rhome's stock herd, Rhome.
 SHORT, J. L., 1893, I, Physician and Surgeon, Houston.
 SIMPSON, J. H., 1901, IV, Columbus.
 SIMPSON, O. M., 1900, IV, Civil Engineer for Nelson & White, Beaumont.
 SIMPSON, S. H., 1900, IV, Assistant Engineer, Houston and Texas Central Railway, Houston.
 SLEEPER, W. M., 1879, M., Lawyer, Waco.
 SLOSS, A. M., 1899, I, Assayer, El Paso.
 SMITH, A. U., 1895, III, Assistant City Engineer, Dallas.
 SMITH, E. J., 1888, I, Attorney at Law, Denison.
 SMITH, T. L., Jr., 1898, IV, Chief Engineer Brazos Canal Company, Fulsher.
 SMITH, T. M., 1901, I, Bookkeeper, Columbia.
 SMITHER, R., 1894, III, Grocer, Huntsville.
 *SMYTHE, H. G., 1879.
 SNEED, G. L., 1898, I, Theological Student, Trinity University, Waxahachie.
 SOLES, C. B., 1899, III, Machinist, International and Great Northern Shops, Palestine.
 *SPANN, E. W., 1885, M.

- SPEER, R. H., 1894, IV, Stockman, Qunah.
- STERNENBERG, E. H., 1897, IV, Teacher, Buckholt.
- STEWART, W. W., 1888, III, Mill and Gin Owner, and County Surveyor, Stewart's Mill.
- STRIEBER, C. A., 1902, III, Machinist, International and Great Northern Shops, Palestine.
- SWAIN, M. S., 1888, II, Stock and Bond Broker, Austin.
- TALBOT, A., 1882, M., Planter, Calvert.
- THANHEISER, C. A., 1901, IV, Assistant Engineer, Southern Pacific Railway, El Paso.
- THOMAS, M. F., 1901, III, Assistant Professor of Mechanical Engineering, Oklahoma A. and M. College, Stillwater, O. T.
- THROWER, J. D., 1900, I, Student Ohio State University, Columbus, O.
- TILSON, M. D., 1886, M., Manufacturer and Merchant, Texarkana.
- TILSON, P. S., 1888, I, Associate Professor of Chemistry, College Station.
- TODD, A. M., 1894, IV, United States Superintendent of Construction, Greenville, Miss.
- TODD, C. C., 1897, II, First Lieutenant United States Army, retired, Little Rock, Ark.
- TRACY, H. H., 1898, IV, Stock Farming, Tulia.
- TRENCKMAN, W. A., 1878, Newspaper Publisher, Bellville.
- *TULLER, W. L., 1883, M.
- UECKERT, H. H., 1897, IV, Draftsman, Southern Pacific Railway, Houston.
- VAN ZANDT, K. M., Jr., 1879, Commissary Agent United States, Manzanillo, Mex.
- VAN ZANT, R. L., 1890, IV, Bank Bookkeeper, Fort Worth.
- VINTHER, F., 1897, III, Machinist and Draftsman, Pine Bluff, Ark.
- VON ROSENBERG, F. C., 1884, M., Attorney at law, Austin.
- WALDEN, W. J., 1900, I, Loading Clerk Southern Pacific Railway Company, Galveston.
- WANGEMANN, A. E., 1890, I, Wholesale Grocer, Brenham.
- WATKINS, R. C., 1895, IV, Assistant Civil Engineer, Southern Pacific Railway, Houston.
- WATKINS, W. A., 1892, IV, Agent Northwestern Life Insurance Co., Bryan.
- *WATSON, D. H., 1882, M.
- WATSON, W. D., 1893, I.
- WEIDEL, J., 1893, IV.
- WELHAUSER, C. B., 1891, III, Merchant, Shiner.
- WELLS, D. D., 1895, I, Physician, Hazen, Ark.
- *WESSEN, J. M., 1883, M.
- WEST, T. B., 1887, M., Agent Southern Pacific Railway at Glidden, Columbus.
- WHELAN, J. J., 1891, III, Machinist, Houston and Texas Central Railway, Houston.
- WHEAT, N., 1897, IV, Student Massachusetts Institute of Technology, Boston.
- WHISENANT, 1899, II, Pharmacist, San Antonio.
- WHITAKER, W., 1885, M., Oil Broker, Beaumont.
- WHITE, G. R., 1895, IV, Stockman, Brady.
- WHITENER, H. L., 1891, I, Physician, St. Louis.
- WHITLOCK, E. H., 1886, M., First Assistant Superintendent and Expert Mechanical Engineer of the National Carbon Works, Cleveland, Ohio.
- WHITTLE, C. T., 1899, III, Mining, Pueblo, Col.
- WINKLER, A., 1900, I, Farmer, The Grove.
- WIGHT, A. T., 1895, IV, General Merchandise, Roxton.
- WILLIAMS, L. D., 1897, IV, Clerk Austin National Bank, Austin.
- WILSON, W., 1893, IV, Attorney at Law and Vice-President of First National Bank, Port Lavaca.
- WIPPRECHT, W., 1884, I, President Mexia Compress Company and Manager of the Bryan Press Company, Bryan.
- WISDOM, F. L., 1896, IV, Timekeeper Shops St. Louis Southwestern Railway, Tyler.
- WOOD, W. M., 1888, IV, Clerk United States Treasury Department, Tokoma, D. C.
- WRIGHT, E., 1892, IV, Lawyer, Paris.
- WRIGHT, H. L., 1886, M., Superintendent Sewer System, Palestine.
- WOODWARD, W. F., 1886, M., Stockman, Antelope.
- WURZBACH, W. A., 1888, IV, Lawyer, San Antonio.
- WYSE, IRA O., 1901, I, Dallas.
- YARBROUGH, R. W., 1901, III, with J. L. Means Machinery Co., Shreveport, La.
- YOUNGBLOOD, B., 1902, I, Graduate Student, Agricultural and Mechanical College, College Station.

AGRICULTURAL EXPERIMENT STATIONS.

The Texas Agricultural Experiment Station, established by Congress and supported by an annual appropriation of \$15,000 from the Federal government, is permanently located at the College as one of its departments. The objects of the station are set forth in Section 2 of the congressional act as follows:

"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 rotary 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 and Territories."

Bulletins, published from time to time containing the results of experiments, are sent free of charge to persons engaged in farming in the State who may request them. It is desired that applicants for bulletins indicate in which of the following lists they are interested: (1) Farm Crops, (2) Horticulture, and (3) Live Stock.

The Governing Board of the Station desires to make this work of as much value to the agricultural and horticultural interests of the State as may be possible, and to this end the investigations will be conducted at all times with special reference to giving information that may be of practical use to the farmer.

STATE STATIONS.

The State Agricultural Experiment Stations, under control of the Board of Directors of the College, are established and maintained by legislative appropriations.

The Beeville Station, established at Beeville, Bee county, in 1895, has given much attention to fruit and vegetable growing and irrigation.

The Troupe Station, established at Troupe, Smith county, in 1902, is located in the heart of the fruit section of East Texas.

APPENDIX.

SPECIMEN ENTRANCE EXAMINATIONS.

(For the beginning of the session.)

Special attention is called to the following specimen entrance examinations. Young men intending to apply for admission are urged to satisfy themselves by actual trial before coming to College that they can answer such questions.

Algebra.

- Factor: $x^3 + y^3$, $x^6 - y^6$, $x^2 + 4x - 96$.
- Simplify: $\left(\frac{a+b}{a-b} + \frac{a^2+b^2}{a^2-b^2}\right) \div \left(\frac{a-b}{a+b} - \frac{a^3-b^3}{a^3+b^3}\right)$.
- Given: $\frac{x-5}{4} - \frac{2x-y-1}{3} = \frac{2y-2}{5}$ and $\frac{2y+x-1}{9} = \frac{x+y}{4}$, find the values of x and y .
- Find the square root of $10x^2 - 4x^3 + 9 - 12x + x^4$.
- Simplify: $3a^2 \times a^{-\frac{1}{3}}$, $6a^{-2} \div 3a^{-5}$, $(a^2)^7$
- Simplify: $\sqrt[3]{50}$, $4\sqrt[3]{320}$, $\sqrt{\frac{2}{3}}$.
- Reduce: $\frac{3\sqrt{5}+2\sqrt{2}}{3\sqrt{5}-2\sqrt{2}}$ to an equivalent fraction having a rational denominator.
- Solve: $\sqrt{2x-7} + \sqrt{2x+9} = 8$.

Advanced Grammar.

Mention the four principal uses or constructions of the noun.

In the sentence "We footed it through the woods," explain the use of *it*.

In the sentence "Now I lay me down to sleep," explain the use of *me*.

In the sentence "I love such as love me," parse *as*.

Write a sentence containing an indirect object.

What is a phrase? What is a participle?

Write a sentence containing the infinitives and participles of the following verbs: sing, play, shoot, pass, stand.

Write a synopsis of the active forms of the verb *do*.

Write a synopsis of the passive forms of the verb *see*.

What is the difference between prepositions and conjunctions?

What is the difference between analysis and parsing?

Write a sentence containing a noun clause.

Write a sentence containing a phrase used as an adverb.

In the following sentences, parse the italicized words:

The pole is ten *feet* long.

Who made him *umpire*?

He giveth his *beloved* sleep.

Flee from the wrath to *come*.

The wind goes *whistling* through the trees.

Analyze the following sentences:

Who steals my purse steals trash.

Winter coming on, the troops were disbanded.

The fact that he said it, needs no proof.

Love thy neighbor as thyself.

The sun shines bright.

I slept and dreamed that life was Beauty,

I woke and found that life was Duty.

History.

1. State what parts of North America were held by the French at the time of Braddock's march. By the English at the same time.

2. State what parts of North America were held by the English at the time of the passing of the Stamp Act.

3. What was the significance to the Americans of the surrender of Burgoyne's army?

4. Under what form of government did the colonists make their struggle with Great Britain?

5. State how the United States acquired the territory lying along the Mississippi.

6. How was the territory along the Pacific acquired?

7. What causes brought on the war between the States?

8. Give an account of Lee's two campaigns north of the Potomac.

9. How was Alaska acquired?

10. What lands beyond the seas are now subject to the United States? State how they were acquired?

11. Describe the advantages of the basin of the Nile, the Tigris, and the Euphrates for the beginnings of civilization.

12. What race had most to do with disseminating the civilization of these early empires; and what commercial wares tempted them farther and farther westward and northward?

13. Describe how the Persian empire came into collision with the Greeks.

14. Contrast the Athenian with the Spartan state.

15. Describe the extent of Hellenic colonization before the time of Alexander.
16. Describe the wide extension of Hellenic civilization in the time of the Ptolemies and the Seleucids.
17. Describe the first struggle of the Romans with Greek troops.
18. State the successive steps in the Roman conquest of the Mediterranean area.
19. Sketch rapidly Rome's struggles with her slaves, and with her gladiators, and her civil wars before the establishment of the empire.
20. State how there came to be an Eastern and a Western Roman Empire.

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