# TEXAS TECHNOLOGICAL COLLEGE

## GENERAL INFORMATION

Established by Act of the Thirty-eighth Legislature of Texas.
Located at Lubbock, Texas.
Site, two thousand acres.
First session opens September, 1925.
For first year, freshman and sophomore classes only.
Junior classes in September, 1926; senior classes, September, 1927.
Co-educational.
Standard entrance requirements.
Entrance by examination, or by graduation from affiliated high school.
Students of twenty-one years or over admitted on individual approval.
Organized into four co-ordinate colleges:

(1) The College of Liberal Arts.
(2) The College of Home Economics.
(3) The College of Agriculture.
(4) The College of Engineering.

Standard four-year courses in each of these colleges.
For further information address the Registrar, Lubbock, Texas.

# BULLETIN

OF THE

# TEXAS TECHNOLOGICAL COLLEGE

LUBBOCK, TEXAS

VOL. 1 APRIL, 1925 NO. 2


# PRELIMINARY ANNOUNCEMENT

OF

# FIRST ANNUAL CATALOGUE

# 1925-1926


Entry applied for as second-class matter December, 1924, at the Postoffice at Lubbock, Texas, under the Act of August 24, 1912.

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INSCRIPTIONS OVER THE ENTRANCE TO ADMINISTRATION BUILDING TEXAS TECHNOLOGICAL COLLEGE

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Cultivated mind is the guardian genius of democracy. It is the only dictator that freemen acknowledge and the only security that freemen desire.

MIRABEAU B. LAMAR.

Righteousness exalteth a nation but sin is a reproach unto any people.

SOLOMON.

## COLLEGE CALENDAR

1925-26

Entrance examinations, September 28-29.

Registration, September 29-30.

Recitations begin October 1.

School work on six days in the week.

First quarter closes December 23.

Holidays November 11, November 26, December 24-January 3, inclusive, March 2, April 21.

Second quarter opens January 4, 1926.

Second quarter closes March 27, 1926.

Third quarter closes June 19, 1926.

## BOARD OF DIRECTORS.

Term Expires 1927.

AMON G. CARTER, Chairman ..... Fort Worth
R. A. UNDERWOOD, Vice-Chairman ..... Plainview
MRS. CHARLES DEGROFF ..... El Paso

Term Expires 1929.

C. W. MEADOWS, Secretary ..... Waco
MRS. F. N. DRANE ..... Corsicana
JOHN W. CARPENTER ..... Dallas

Term Expires 1931.

CLIFFORD B. JONES, Treasurer ..... Spur
H. T. KIMBRO ..... Lubbock
MOSE NEWMAN ..... Sweetwater

# FACULTY AND OFFICERS OF THE COLLEGE.

P. W. Horn, A. M., LL. D.,
*President.*

R. M. Chitwood,
*Business Manager.*

E. L. Dohoney, B. S.,
*Registrar.*

Elizabeth H. West, A. M.,
*Librarian.*

Loring Chick, Ph. D.,
*Dean of College of Liberal Arts and Professor of English.*

A. H. Leidigh, M. S.,
*Dean of Agriculture and Professor of Agronomy.*

William J. Miller, M. S.,
*Dean of Engineering.*

Miss Margaret Weeks, A. M.,
*Dean of Household Economics.*

Mrs. Mary Doak, A. B.,
*Dean of Women.*

W. L. Stengel, M. S.,
*Professor of Animal Husbandry.*

Charles H. Mahoney, M. S.,
*Associate Professor of Horticulture.*

Marvin T. Warlick, A. B.,
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Richard T. Studhalter, A. M.,
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W. T. Read, Ph. D.,
*Professor of Chemistry.*

W. L. RAY, PH. D.,
*Professor of Chemistry.*

F. D. GALBRAITH, A. M.,
*Associate Professor of Chemistry.*

E. W. CAMP, M. S.,
*Professor of Textile Engineering.*

R. C. HARRISON, A. M.,
*Professor of English.*

GEORGE SMALLWOOD, A. M.,
*Professor of English.*

W. S. GATES, A. M.,
*Associate Professor of English.*

MISS FLORENCE MCGEE, A. M.,
*Associate Professor of English.*

A. W. EVANS, A. M.,
*Professor of Education.*

L. A. PFLEUGER, Ph. D.,
*Professor of French and German.*

LEROY T. PATTON, PH. D.,
*Professor of Geology.*

JOHN C. GRANBERY, PH. D.,
*Professor of History.*

C. D. EAVES, A. M.,
*Professor of History.*

GUS L. FORD, A. M.,
*Professor of History.*

LALLA R. BOONE, A. M.,
*Associate Professor of History.*

MISS JOHNNIE MCCRERY, A. M.,
*Professor of Foods and Nutrition.*

MISS DOROTHY MCFARLANE, A. M.,
*Adjunct Professor of Clothing and Director of Cafeteria*

J. N. MICHIE, A. M.,
*Professor of Mathematics.*

DONALD A. FLANDERS, Ph. D.,
*Professor of Mathematics.*

W. M. WHYBURN, A. M.,
*Associate Professor of Mathematics.*

ELIZABETH S. STAFFORD, A. M.,
*Adjunct Professor of Mathematics.*

R. C. WAGHORNE,
*Professor of Music.*

E. F. GEORGE, Ph. D.,
*Professor of Physics.*

C. S. MAST, A. M.,
*Professor of Physics*

W. A. JACKSON, PH. D.,
*Professor of Economics.*

C. B. QUALIA, A. M.,
*Professor of Spanish.*

MISS FRANCES WHATLEY, A. M.,
*Associate Professor of Spanish.*

. . . . . .
*Professor of Physical Education and Head Coach.*

MISS OLIVIA HOBGOOD, A. B.,
*Professor of English and of Public Speaking.*
Graduate Boston School of Expression.

MISS JOHNNIE GILKERSON, A. B.,
*Instructor in Physical Education for Women.*

# TEXAS TECHNOLOGICAL COLLEGE

## GENERAL INFORMATION.

The Texas Technological College was established by act of the Thirty-eighth Legislature and is located at Lubbock, Texas, in the South Plains country of Texas. It is on the main line of the Santa Fe Railroad and has an elevation of approximately thirty-two hundred feet. The climate is healthful and invigorating.

The purposes of the School are set forth in the following sections of the act establishing it:

Section 1. There shall be established in this State a college for white students to be known as the Texas Technological College. Said college is to be located north of the twenty-ninth (29th) parallel, and west of the ninety-eighth (98th) meridian, and shall be a co-educational college giving thorough instruction in technology and textile engineering from which a student may reach the highest degree of education along the lines of manufacturing cotton, wool, leather and other raw materials produced in Texas, including all branches of textile engineering, the chemistry of materials, the technique of weaving, dyeing, tanning, and the doing of any and all other things necessary for the manufacturing of raw materials into finished products. Said college shall also have complete courses in the arts and sciences, physical, social, political, pure and applied, such as are taught in colleges of the first class leading to the degrees of Bachelor of Science, Bachelor of Literature, Bachelor of Technology, and any and all other degrees given by colleges of the first class; said college being designated to elevate the ideals, enrich the lives and increase the capacity of the people for democratic self-government and particularly to give instruction in technological, manufacturing, and agricultural pursuits and domestic husbandry and home economics so that the boys and girls of this State may attain their highest usefulness and greatest happiness and in so doing may prepare themselves for producing from the State its greatest possible wealth.

Section 3. In addition to the courses provided in technology and textile engineering, the said Texas Technological College shall offer the usual college courses given in standard senior colleges of the first class and shall be empowered to confer appropriate degrees to be determined by the board of directors and shall offer four-year courses, two-year courses, or short-term courses in farm and ranch husbandry and economics and the chemistry of soils and the adaptation of farm crops to the peculiar soil, climate and condition of that portion of the State in which the college is located, and such other courses and degrees as the board of directors may see fit to provide as a means of supplying the educational facilities necessary for this section of the State; and it shall be the duty of the board of directors to furnish such assistance to the faculty and students of said college as will enable them to do original research work and to apply the latest and most approved method of manufacturing and, in general, to afford the facilities of the college for the purpose of originating, developing, supporting, and maintaining

all of those agencies (physical, mental and moral) for the development of the physical, mental and moral welfare of the students who attend the college and for the further purpose of developing the material resources of the State to their highest point of value and usefulness by teaching the arts of commerce and manufacturing. All male students attending this college shall be required to receive such instruction in military science and tactics as the board of directors may prescribe which shall, at all times, comply in full with the requirements of the United States Government now given as a prerequisite to any aid now extended or hereafter to be extended by the Government of the United States to State institutions of this character. All such white male students shall, during their attendance at such college, be subject to such military discipline and control as the board of directors may prescribe.

Section 9. The fact that Texas is producing annually millions of dollars worth of raw materials, which are being shipped to distant factories to be made into finished products, together with the fact that Texas has no adequate institution for teaching technology and the art of textile manufacturing and the fact that the needs of that portion of the State where this College shall be located are inadequately supplied with educational institutions, create an emergency and an imperative public necessity for this act to take effect at once and for the suspension of the constitutional rule requiring bills to be read on three several days; it is therefore enacted that said rule be suspended and this act take effect and be in force on and after its passage.

By the opening of the fall term of 1925 the following buildings are expected to be ready for occupancy:

The first unit of the Administration Building.
The first unit of the Home Economics Building.
The first unit of the Engineering Building.
The Cafeteria.
The Stock Judging Pavilion.
The Dairy Barn.
The Poultry Plant.
The President's Residence.

A system for heating, for water, and for sewerage will also be ready. There is a well with a pumping capacity of five hundred gallons per minute, thus insuring water for all practical purposes, including that of fire protection.

The College site includes two thousand acres, thus affording abundance of room for buildings and also for farming purposes.

The College site adjoins the townsite of Lubbock on the west. Boarding houses for students are to be found in Lubbock closely adjoining the College site. By a common consent it has been agreed that boarding houses north of Broadway are to be for the benefit of the men of the College and those to the south of Broadway are to be for the women. All boarding houses will be carefully supervised. Those for women will be under the special supervision of the Dean of Women. Those for the men will be under the special supervision of the Dean of the College of Liberal Arts.

Prices for board and room will range from $30.00 to $37.50 per month.

In order to carry out the purposes for which the Texas Technological

College was established, the institution has been organized into four separate but co-ordinate colleges, each with its own dean, namely:

(A) The College of Liberal Arts.
(B) The College of Agriculture.
(C) The College of Engineering.
(D) The College of Household Economics.

Each one of these colleges will provide for a standard course of four years, leading to an appropriate degree. The standard degree of the College of Liberal Arts will be A. B. In other colleges it will be B. S., with an indication of a special subject in which the degree is taken.

The College of Agriculture will include courses in agronomy, animal husbandry, and horticulture. Work in dairying and in poultry raising will be stressed. Special attention will be given to arid and semi-arid farming, and such subjects as are especially adapted to the work of that portion of Texas in which the College is located.

The College of Engineering will provide work leading to degrees in Civil, Electrical and Mechanical Engineering and in Architecture. Highway engineering and hydraulic engineering will be among the subjects stressed.

Textile engineering is deemed to be of so much importance that in the organization of the Texas Technological College, there will be not only a standard four-year course leading to a degree in Textile Engineering, but also a two-year course, not leading to a degree.

The Legislature of Texas has made a special appropriation of $100,000 for purchasing textile machinery. This has been supplemented by the gifts of manufacturers of machinery until the total value is almost double that amount.

The College of Household Economics centers its work around the home to the fullest extent. Work in foods, clothing, and child study is the specialty of this college.

During the year 1925-1926, only freshmen and sophomore classes will be provided for in any of the departments of the Texas Technological College. The junior class will be provided for in 1926-1927 and the senior class in 1927-1928.

It is expected that a unit of the Reserve Officers Training Corps will be established at the College. This will provide military training for all male students who desire it. Those taking this training will be excused from the further physical training which is required of other men students.

There will be physical training also for the young women.

Athletics will be encouraged for the young men and also for the young women.

## ADMISSION.

Candidates for admission to the Texas Technological College must be of good moral character and at least sixteen years of age. They must be free from contagious or infectious diseases and must present certificates of successful vaccination, or be vaccinated when entering the College.

Admission to the College may be by any one of the three methods following:

(A) Upon presentation of a certificate of graduation from an accredited secondary school.

(B) Upon successful examination in the entrance subjects.

(C) Upon individual approval.

Fifteen units are required for admission to full freshman standing.

For admission to the College of Agriculture or of Engineering or of Home Economics the following units are prescribed:

| | |
|---|---|
| English | 3 units |
| Algebra | 2 units |
| Plane Geometry | 1 unit |

For admission to the College of Liberal Arts the same units are prescribed with two additional units in some foreign language.

Engineering students are urged also to present for entrance one-half unit in solid geometry. If they do not present this for admission they will be required to take it during the freshman year without receiving college credit for it.

Those desiring to enter by examinations may take the examinations given under the supervision of the State Department of Education in the month of May each year. Fall entrance examinations will be held at the College on September 28-29, 1925.

A candidate over twenty-one years of age, who has not recently attended school, and who cannot satisfy the entrance requirements in full may be admitted to the freshman class without examination, provided he can satisfy the Dean of the College which he proposes to enter that he can profit by the instruction to be given in the freshman class of that College.

Candidates for admission to the two-year course in Textile Engineering may be admitted on individual approval by the Dean of Engineering.

Work done in other accredited colleges will be recognized as entitling a student to advanced standing in the Texas Technological College; but applicants for such standing must present certificates of honorable dismissal from the Colleges which they have been attending.

In addition to the required number of units for admission to the various colleges, enough units to make fifteen must be selected and presented from the following list of elective units:

| | | | |
|---|---|---|---|
| English (4th unit) | 1 unit | Foreign Languages: | |
| Mathematics: | | Latin | 2 to 4 units |
| Solid Geometry | ½ unit | French | 2 to 4 units |
| Trigonometry | ½ unit | German | 2 to 4 units |
| Advanced Arithmetic | ½ unit | Spanish | 2 to 4 units |
| Social Sciences: | | Natural Sciences: | |
| Ancient History | 1 unit | Biology | 1 unit |
| Modern History | 1 unit | Botany | 1 unit |
| English History | ½ or 1 unit | Chemistry | 1 unit |
| American History | ½ or 1 unit | General Science | 1 unit |
| Civics | ½ or 1 unit | Physics | 1 unit |
| Economics | ½ unit | Physiography | ½ unit |

Natural Sciences:
Physiology .....½ or 1 unit
Zoology .....1 unit
Vocational Subjects:
Agriculture .....1 to 4 units
Bookkeeping .....1 unit
Drawing .....1 to 4 units
Commercial Arithmetic.½ unit
Vocational Subjects:
Commercial Law .....½ unit
Commercial Geography.½ unit
Manual Training..1 to 4 units
Stenography and
Typewriting ...1 or 2 units
Public Speaking..½ or 1 unit

Not more than four units of Vocational work will be accepted for admission.

The list of accredited schools issued by the State Department of Education is accepted as official by the Texas Technological College in deciding what subjects are accredited to the various high schools of the State. The College will also admit without examination, graduates of schools fully accredited by the State Universities or the State Departments of Education of other states, so long as they comply with the requirements for admission indicated above.

## EXPENSES.

Arrangements for board and room will be made by the students themselves or their parents or guardian. These will range in cost from $25.00 per month to $37.50 per month. A list of approved boarding houses for men can be obtained from the Dean of the College of Liberal Arts. A similar list for women can be obtained from the Dean of Women.

Books may be purchased by the individual student from the College Book Store or elsewhere or can be rented for a reasonable amount from the College Book Store.

## COLLEGE FEES.

Registration and incidental fees, $8.00 per quarter (three months).
Library fee, $1.00 per quarter.
Medical fee, $1.75 per quarter.
Students' Activity fee, $3.00 per year. (Not compulsory.)
Artist Course, $2.50 per year. (Not compulsory.)

Moderate Laboratory fees will also be charged for courses in Chemistry, Physics, Household Economics and other subjects involving the use of considerable laboratory equipment.

For students residing in other states than Texas, the registration and incidental fees are doubled.

The medical fee is required of all students, whether they reside with their parents or board elsewhere. In return for this fee each student receives the following advantages:

(1) He is given a thorough physical examination at the beginning of the year, or at his entrance in the school. In case of abnormalities he is given advice with a recommendation as to treatment or exercise.

(2) He is allowed free consultation with the School Physician at any time he desires it.

(3) The physician will make, without further charge, calls at the students' homes or at the sanitarium.

(4) He will, in case of necessity, have free use of sanitarium facilities, including board, lodging and general nursing in the sanitarium, provided this need does not exceed twenty-one days in any one school year. In the event of an epidemic, this limit may be reduced, and in case of necessity the limit may be extended. Any reduction or extension will be made only upon the recommendation of the President of the College. These provisions apply only to the relief of acute conditions and do not include special nursing unless authorized by the President of the College in cases where students are financially unable to employ a special nurse.

(5) If an ambulance or carriage is required to carry the student to the hospital, this will be furnished without additional charge.

(6) The student will receive without further cost any pathological or X-ray examinations which may be needed.

(7) Any minor surgical operations which may be needed by the student, such as for cuts, sprains, and simple fractures will be performed for him without further cost.

(8) The student will receive without further cost examinations and treatments by specialists for eye, ear, nose, and throat difficulties. This, however, does not include operations for the removal of tonsils, or for chronic nasal diseases or for special operations on the eye or ear.

Any student desiring to receive treatment from any other physician than the school physician is permitted to do so at his own expense.

## COLLEGE OF ARTS AND SCIENCES.

The following work is prescribed for the freshman year:

(1) English 101.
(2) One course of mathematics (Mathematics 101).
(3) A foreign language, either ancient or modern.
(4) A natural science or a second foreign language, ancient or modern, or history.
(5) One of the courses needed to make five.
(6) Physical training.

Two foreign languages may not be begun by freshmen.

The following work is prescribed for the sophomore year:

(1) Any unabsolved freshman requirements.
(2) English 201 or 202.
(3) A foreign language, either ancient or modern. If a modern language was begun in the freshman year, it must be continued here.
(4) A natural science.
(5) Enough other courses to make five.
(6) Physical training.

For securing the degree of Bachelor of Arts, the student must complete the following required courses, with enough other courses to make twenty:

(1) Two courses in English.
(2) One course in Mathematics.
(3) Two numbered courses in one foreign language, either ancient or modern.
(4) Two courses in the natural sciences.

(5) One course in economics or government.
(6) At least a one-third course in philosophy or psychology.

## COURSES OF STUDY IN AGRICULTURE.

The following courses of study are prescribed for freshmen and sophomore classes. Announcements concerning junior and senior classes will be made before the end of the school year 1925-1926:

FRESHMAN YEAR.

| | Hours per Week | |
|---|---|---|
| | Theory. | Practice. |
| Agronomy 105. Crop Production. | 3 | 2 |
| Animal Husbandry 101. Market Types. | 2 | 4 |
| Biology 101. General Botany. | 2 | 4 |
| Chemistry 101. Inorganic. | 3 | 3 |
| Dairy Husbandry 101. Judging Dairy Cattle. | 0 | 2 |
| English 101. Written Composition. | 3 | 0 |
| Military or Physical Science | 1 | 0 |
| | 12 | 15 |

SOPHOMORE YEAR.

| | Hours per Week | |
|---|---|---|
| | Theory. | Practice. |
| Biology 207. Zoology. | 2 | 4 |
| English 203. Composition. | 2 | 0 |
| Entomology 201. General. | 2 | 2 |
| Geology 201. General. | 3 | 2 |
| Horticulture 201. Plant Propagation. | 2 | 2 |
| Military or Physical Science | 1 | 2 |
| Elective | 3 | 0 |
| | 15 | 12 |

## COURSES OF STUDY IN ENGINEERING COLLEGE.

### UNIFORM FRESHMAN YEAR.

Students intending to study Civil, Electrical, Mechanical, Chemical or Architectural Engineering will take the following subjects during their freshman year:

| | Fall. | Winter. | Spring. |
|---|---|---|---|
| Applied Mathematics 101 | 3 | 3 | 3 |
| Chemistry 101 | 3 | 3 | 3 |
| Drawing 101 | 3 | 3 | 3 |
| English 101 | 3 | 3 | 3 |
| Physics 101 | 3 | 3 | 3 |
| Physical or Military Training 101 | 1 | 1 | 1 |
| Engineering Lectures | | | |
| | 16 | 16 | 16 |

Students who elect Architectural Engineering will take Architecture 101 instead of Drawing 101.

### ARCHITECTURAL ENGINEERING, SOPHOMORE YEAR.

| *Fall Term.* | *Winter Term.* | *Spring Term.* |
|---|---|---|
| Analytics. | Calculus. | Calculus. |
| Architectural Design. | Architectural Design. | Architectural Design. |
| Architectural History. | Architectural History. | Architectural History. |
| Charcoal Drawing. | Charcoal Drawing. | Charcoal Drawings. |
| Shades, Shadows, and Perspectives. | Shades, Shadows, and Perspectives. | Shades, Shadows, and Perspectives. |
| English. | English. | Physics. |
| Physics. | Physics. | English. |

CIVIL ENGINEERING, SOPHOMORE YEAR.

| *Fall Term.* | *Winter Term.* | *Spring Term.* |
|---|---|---|
| Analytics. | Calculus. | Calculus. |
| English. | English. | English. |
| Surveying. | Railroad Curves. | Earth Work. |
| Field Work. | Field Work. | Field Work. |
| Geology. | Geology. | Mechanics. |
| Physics. | Physics. | Physics. |

ELECTRICAL ENGINEERING, SOPHOMORE YEAR.

| *Fall Term.* | *Winter Term.* | *Spring Term.* |
|---|---|---|
| Analytics. | Calculus. | Calculus. |
| Chemistry. | Chemistry. | Chemistry. |
| Electrical Engineering. | Mechanical Engineering. | English or Economics. |
| English. | English or Economics. | Mechanical Engineering. |
| Mechanical Engineering. | Physics. | Physics. |
| Physics. | Shop Work. | Shop Work. |
| Shop Work. | | |

MECHANICAL ENGINEERING, SOPHOMORE YEAR.

| *Fall Term.* | *Winter Term.* | *Spring Term.* |
|---|---|---|
| Analytics. | Calculus. | Calculus. |
| Chemistry. | Chemistry. | Chemistry. |
| English or Economics. | English. | English or Economics. |
| Physics. | Physics. | Physics. |
| Mechanical Engineering. | Electrical Engineering. | Mechanical Engineering. |
| Shop Work. | Mechanical Engineering. | Shop Work. |
| | Shop Work. | |

# COURSES OF STUDY

## MATHEMATICS.

Mathematics is the basis for the study of engineering and other scientific subjects.

It is presented to the student from a practical as well as from a theoretical point of view. Its many useful applications and relations to other scientific studies are emphasized along with the fundamental principles of the subject. Instruction in this field should also develop the student's appreciation of accuracy, order, and neatness.

The following courses are outlined as a basis for the first two years of college work. It is assumed that the minimum amount required for entrance is elementary algebra and plane geometry. Some students who enter will have either trigonometry or solid geometry, or both. It is further assumed that all candidates for a degree are required to take one full college year of mathematics, and that all engineering students will take at least two years of mathematics.

*Mathematics 101a. Plane Trigonometry.*

This course covers trigonometric functions of angles, identities, solution of triangles, inverse functions, equations, radian measure, and logarithms. The arithmetic side of the subject is given considerable emphasis. Three hours a week. Fall term. One-third of course.

*Mathematics 101b. College Algebra.*

This course assumes the subject matter of elementary algebra in the high school, but will review some of the topics of the high school course. Special attention will be given to quadratic equations, graphs, graphical solution of equations, logarithms, progressions, etc. Three hours a week. Fall and Winter terms. One-third of course.

*Mathematics 101c. Introduction to Analytic Geometry.*

The course will treat the following topics: Cartesian co-ordinates, curve plotting, locus problems, complete discussion of the straight line, the circle, and polar co-ordinates. Three hours a week. Winter and Spring terms. One-third of course.

*Mathematics 101d. Analytic Geometry, continued.*

The following topics will be treated: The parabola, the ellipse, and the hyperbola, the general equation of the second degree, parametric equations, tangents to curves, point, plane, and surface in space. Three hours a week. Spring term. One-third of course.

*Mathematics 201. Elementary Calculus.*

The prerequisites for this course are either Mathematics 1abc, or 1dcd. This course should be taken by all students who continue mathematics, students of Physics. Chemistry.

In the freshman year those students who have had trigonometry in

the high school will take Mathematics 1bcd, and those who have not had trigonometry will take 1abc. Either choice in the freshman year leads to Elementary Calculus in the sophomore year.

MATHEMATICS FOR ENGINEERS ONLY.

*Mathematics 103.*

Required of freshmen in all engineering courses. This course is designed for engineering students and deals with college algebra, trigonometry, and analytic geometry. The main purpose of this course is to teach these subjects so as to train students to solve readily practical problems in engineering. Six hours a week. Fall, winter and spring terms.

*Mathematics 203.* Calculus for Engineering students.

Required of sophomores in engineering courses.

The first quarter is devoted to a study of the derivative and its applications to mechanics and geometry, expansion of functions; and partial differentiation. The second quarter deals with definite integrals and its application; the third quarter is chiefly devoted to engineering problems involving calculus, with an elementary treatment of differential equations. Six hours a week. Fall, winter and spring terms.

ADVANCED MATHEMATICS.

Courses will be offered during the session of 1926-1927 to meet the needs of students who elect to continue the study of mathematics beyond what is required.

## ENGLISH.

FIRST YEAR.

*English 101, 102, 103.* Composition.

This course seeks to develop the power of effective expression as well as of literary interpretation. It deals, therefore, with the fundamental principles of writing as these principles are exemplified in current and older literature of recognized merit. While texts and other appropriate illustrative material will be used as a basis for study and practice in the principles and technique of writing, constant attempt will be made to vitalize the work by holding before the student the intimate relation literature and life.

*English 101* deals with the various phases of expository writing that are met within the student's most frequent reading,—the newspaper, the magazine, and the more pretentious book of fiction or non-fiction. The classwork, as a means to an end, will involve persistent attention to the principles of effective expression in the whole composition, the paragraph, and the sentence, as well as constant drill in other technical aspects of composition. But the chief end to be kept in view will be the development in the student of the power of clear and forceful expression of his reactions to literature and life.

*English 102* is a continuation of English 101, in both method and

purpose, and deals with other types of composition, such as the formal essay, and informal and formal argumentation.

*English 103* deals more specifically with the aesthetic phases of the personal essay, and descriptive and narrative writing.

Supplementary readings and reports will be required in all three terms of this course.

*English 104* serves as an introduction to the types of literature with which the student meets in his more formal studies at college, as well as in his everyday life after his college days. It will involve considerable reading and informal discussion of such types of poetry as the lyric, the narrative poem, and the poetic drama; and such types of prose as the one-act play, the longer prose play, the short story, miscellaneous essays, and the novel. The aim of the course is to develop in the student, early in his college life, a vital sympathy with the literary forms with which he is constantly surrounded, so that he may establish permanent life-interests in literature that will be for his pleasure and profit.

NOTE.—*English 104* is elective, may be taken after the student has completed *English 101* and *English 102,* and will count as freshman or sophomore credit.

SECOND YEAR.

*English 201, 202, 203, 204.* Survey Course in English Literature.

The work of this course deals with representative literature of England from the beginnings to the present time. The chief emphasis is put upon the esthetic interpretation of actual literature of various types, supplemented by incidental study and informal discussion of the historical and social backgrounds of the literature studied. *English 201, 202,* and *203* constitute the basic survey course of English Literature for the sophomore year. *English 204* deals, in the manner of the preceding courses, with more recent literature in England, from about 1875 to the present. It may be taken as an elective, and may count as sophomore or junior credit.

*English 201.* English Literature from 450 to 1550.

*English 202.* English Literature from 1550 to 1725.

*English 203.* English Literature from 1725 to 1875.

*English 204.* English Literature from 1875 to the present time.

## GOVERNMENT, ECONOMICS AND SOCIOLOGY.

GOVERNMENT.

*101. American Government.*

A fundamental course dealing with the organization, principles, and actual workings of American Government, National and State. Emphasis will be placed upon the duties and obligations of citizenship. In dealing with state government, illustrative material will be drawn largely from Texas.

*102. Local Government and Political Parties.*

(A) An account of the origin and devolopment of institutions of local government in the United States. This is followed by a study of the organization and functions of the modern county, with special reference to Texas.

(B) A general study of municipal government and administration, with special reference to Texas cities.

(C) A brief survey of the origin and development of parties in the United States, followed by a study of party functions, organization, campaign methods, elections, and party finance.

ECONOMICS.

*101. Principles of Economics.*

A general introductory course covering the fundamental principles underlying the organization of modern industrial society with applications to the outstanding economic problems of the present day.

SOCIOLOGY.

*101. Introduction to Sociology.*

This course is designed to develop social concepts and give practice in reasoning about society and social problems.

## EDUCATION.

DETAIL OF COURSES.

*101A. Introduction to Elementary Education.*

A rapid summary of the major problems that demand solution by students of education and necessitate professional training for teachers. An effort is made to give the student beginning the training for teaching, a conception of the nature of the work before him. The point of view throughout the course will be that of the elementary school.

*101B. Organization and Control.*

A study of the problems of classroom organization and control. Features of administration and management growing out of the fact concerning the pupil population, together with the technique of studying them.

*101C. Methods of Teaching in Elementary School.*

Methods of learning involved in various school subjects and corresponding methods of teaching; planning lessons and criticisms of recitation work; type lessons in reading, language, arithmetic, spelling, history, geography, etc.; observation of grade work, followed by class discussion.

*201A. Educational Psychology.*

The principles of psychology in their application to education, with chief emphasis on the mental processes involved in the study of the various school subjects, such as writing, drawing, manual training,

nature study, reading, geography, mathematics, etc. The following are some of the topics discussed: The native responses of the child and their modification by education the various types of learning, methods of memorizing, transfer of training and fatigue.

*201B. History of Modern Elementary Education.*

The purpose of this course would be to discover the origin and trace the development of the subjects studied and methods employed in elementary education for the present day. Special attention would be given to the social background of education, and such topics would be treated as the following: The retarded developments of elementary education, the religious basis of elementary education till the close of the eighteenth century, improvement in methods and enlargement of the course of study in the nineteenth century. A study of such reformers as Rousseau, Pestalozzi, Herbart, Froebel; and of such modern movements as those represented by Francis, Parker, Dewey, and Montessori.

*201C. Measurement in Education.*

The instruments and technique of measuring the results of instruction. The giving and scoring of tests; tabulation and statistical treatment of scores; interpretation, description, and uses of results for improving instruction.

*202A. Functions of Secondary Education.*

Functions of the high school as disclosed by a study of the secondary school pupil population, and of the high school as a social institution. The secondary school pupil, physical and mental; individual differences; character and classification of education in America and other countries; relation of principles determining the aims and functions of secondary education.

*202B. The Curriculum and Program of the High School.*

An evaluation of instructional materials and pupil activities in the light of the aims and purposes of the high school.

*202C. Methods of Teaching in the High School.*

Economy in classroom management. Selection and arrangement of subject matter. Methods as related to types of learning and subjects of study. Supervised study, etc.

The provisions as to securing teachers certificate in Texas are as follows:

(1) On the completion of one year of college work, of which one full course of 108 recitation hours is education dealing with the work of elementary schools, a student may receive a four-year elementary school certificate.

(2) On the completion of one year of college work, of which one full course of 108 recitation hours is education, one may receive a two-year high school certificate (valid in third class and unclassified high schools). Since the nature of the education work that may be offered for this certificate is unspecified, the work offered for the first mentioned certificate will serve for this also.

(3) On the completion of two years of college work, of which two

courses of 108 recitation hours each shall be education, one may receive a six-year elementary school certificate, which becomes permanent after five years of teaching. In addition to the work provided for the four-year elementary certificate, a 108-recitation-hour course in elementary education should certainly be offered to lead to this certificate.

(4) On the completion of two years of college work, of which two 108-recitation-hours are education, one of these dealing specifically with high school teaching, one may receive a four-year high school certificate, legally valid in any Texas high school. This specific high school course makes a *third* course necessary.

## SOILS.

Processes of soil formation with geological classification; physical properties of soils as regards texture, structure, and their modification in relation to crop yield. Forms of soil water; soil water in relation to crop growth; control of soil water; soil heat; soil air; removal of nutrients by cropping, teaching, and erosion; alkali soils; so-called soil aridity; soil organisms; fertilizer practices; green manures. Maintenance of soil productivity.

Fundamentals of crop production. The course will deal with classification, distribution and marketing of farm crops; importance of good seed from good varieties; crop improvement; preparation of seed bed; commercial fertilizers; manures, lime; seeding; tillage; harvesting; forage production with especial reference to ranges and pastures; weeds, cropping systems; diseases; insect enemies.

## CHEMISTRY.

I. *General Chemistry.*

An elementary course with laboratory, divided into two sections, one for those who have never had the subject, and the other for those who have had high school chemistry and who show sufficient preparation to carry a somewhat more advanced course.

II. *Advanced Theoretical Chemistry and Analytical Chemistry.*

A course for those who have had Chemistry I or its equivalent. The laboratory work to consist of qualitative followed by quantitative analysis; the lectures and recitations covering such topics as mass action, sobility product, hydrolysis, complexions and the like.

III. *Organic Chemistry.*

An introductory course with laboratory. Chemistry I is prerequisite. Chemistry II may be taken before this course or at the same time, and should be required for those expecting to take further courses in chemistry. Chemistry I and III will probably be ample for home economics students.

IV. *Physical Chemistry.*

An advanced course with laboratory. Chemistry I and II are prerequisite. Chemistry III may be taken at the same time and should be required for students taking the full chemistry course.

V. *Industrial Chemistry.*

A course of lectures covering the application of chemistry to industry. Open to two groups, who should be taught separately: those who have had only Chemistry I and wish a broad general idea of the subject, and those who have had Chemistry I, II, and III and who are prepared for a more detailed study of the subject.

VI. *Technical Analysis.*

This may include all manner of special courses such as water analysis for sanitary engineers, testing of dyes for textile students, power plants chemistry for all engineers, agricultural chemistry for students in that branch, and food chemistry for home economics students.

## HOME ECONOMICS.

*Home Economics 231. Introductory Foods.*

Two lectures and two laboratory periods. Prerequisites as parallel: Bacteriology and Physiology. Laboratory fee, $4.00.

*Home Economics 232. Introductory Food.*

Two lectures and two laboratory periods. Prerequisite, Home Economics 231. Laboratory fee, $4.00.

*Home Economics 233. Introductory Food.*

Two lectures and two laboratory periods. Prerequisite: Home Economics 232. Laboratory fee, $4.00.

*Home Economics 101. Elementary Nutrition.*

A study of food requirements and food selection. Elective for students not majoring in home economics. This course will count three hours toward graduation in the College of Liberal Arts, and will absolve credit for one term of Physical Education. Three lecture periods.

*Household Economics 240. Household Chemistry.*

Applied work in elementary organic chemistry. Two lectures and two laboratory periods. Prerequisite: Chemistry 101. Laboratory fee, $3.50.

*Home Economics 140. Home Nursing.*

A study of personal hygiene and home care of the sick. Three hours lectures and two hours laboratory per week. Prerequisite: Physiology. Parallel or prerequisite, Bacteriology. Laboratory fee, $1.00.

*Home Economics 111. Design.*

Study of the fundamental principles of design and color. Two hours lecture and four hours laboratory per week. Fee, $2.00.

*Home Economics 112. Costume Design.*

A study of the principles of design as applied to dress. Two hours lecture and four hours laboratory per week. Prerequisite: Home Economics 111. Laboratory fee, $2.00.

*Home Economics 121. Textiles and Clothing.*

Study of the physical, microscopic and chemical tests of fibers and of the selection and construction of clothing. Two lectures and two laboratory periods. Prerequisite or parallel: Home Economics 111 and 112. Laboratory fee, $2.00.

*Home Economics 122. Textiles and Clothing.*

Two lectures and two laboratory periods. Prerequisite: Home Economics 121. Laboratory fee, $2.00.

*Home Economics 123. Textiles and Clothing.*

Two lectures and two laboratory periods. Prerequisite: Home Economics 122. Laboratory fee, $2.00.

*Home Economics 20. Dress Appreciation.*

Study of economic, artistic and hygienic principles underlying the selection of clothing. Three lecture periods per week.

## SPANISH.

*Spanish A. A Course for Beginners.*

This course is designed for those students who have had no training in Spanish or those who have not had sufficient training to admit them to Spanish I. The work will consist of grammar, reading, and conversation.

*Spanish 101.*

This course is designed for those students presenting two entrance units in Spanish or those who have done the equivalent of Spanish A in another college of recognized standing. The work will consist of grammar, composition, reading and conversation.

*Spanish 102. Contemporary Literature.*

This course is designed for those students presenting three or four entrance units in Spanish or those who have done the equivalent of Spanish A and I in another college of recognized standing. The work will consist of an outline of the history of Spanish Literature from the beginning of the Romantic Movement to our own day; reading of representative novels and dramas; collateral reading and free composition based on readings. Conversation. The course will be conducted as far as possible in Spanish.

## FRENCH.

*French A. A Course for Beginners.*

This course is designed for those students who have had no training in French or those who have not had sufficient training to admit them to French I. The course will consist of grammar, reading and conversation.

*French 101.*

This course is designed for those students presenting two entrance units in French or those who have done the equivalent of French A in

a college of recognized standing. The work will consist of grammar, reading, composition, and conversation.

## BOTANY.

*101. Elementary Botany.*

General survey of the development of the plant kingdom; cell structure, tissues, physiological processes, methods of reproduction, relation to environment, distribution, and economic importance of plants. Two lectures and three laboratory hours and one quiz a week. Laboratory fee, $4.50; deposit, $1.00.

*102. Taxonomy of the Seed Plants.*

Lectures on principles of classification of gymnosperms and angiosperms, with herbarium and field study, emphasis being placed on characters of taxonomic importance. Prerequisite: Botany 101. One lecture and six hours of laboratory or field work. Laboratory fee, $4.50.

*201. Elementary Bacteriology.*

History of bacteriology, laboratory methods, morphology, physiology, and taxonomy of bacteria, yeasts, and moulds; the germ theory, immunity, and quantitative analysis of water, milk, sewage, and foods. Suitable to the needs of students in home economics. Open only to women students. Prerequisite: Chemistry I. No previous training in botany required. Two lectures and three laboratory hours. Laboratory fee, $6.00.

## GEOLOGY.

*101. General Geology. Introduction to Science.*

Three lectures and three hours of laboratory demonstrations or of field work a week. Laboratory fee, $4.50.

*102. Physiography of North America.*

Study of the chief physiographic features of the North American continent. Prerequisite: Geology 101.

*201. Mineralogy.*

Beginning course in the determination of minerals. Prerequisite: Geology I, or Chemistry I, or consent of the instructor. Six hours of laboratory practice and one conference period.

*202. Field Geology.*

Given by the camp method during the summer. Prerequisite: Geology 101.

*203. Geology for Engineering Students.*

Three lectures and three hours of laboratory demonstrations or of field work a week.

## COLLEGE OF HOME ECONOMICS.

### FALL TERM.

| *Freshman Year.* | Hours. | *Sophomore Year.* | Hours. |
|---|---|---|---|
| English | 3 | English | 3 |
| Biology | 3 | Chemistry | 3 |
| Bacteriology | | Inorganic | |
| Home Economics 121 | 3 | Social Science | 3 |
| Elementary Clothing | | Economics | |
| or | | Home Economics 231 | 3 |
| Home Economics 231 | | Foods | |
| Elementary Foods | | or | |
| Home Economics 111 | 3 | Home Economics 121 | |
| Applied Design | | Clothing | |
| Elective | 3 | Elective | |

### WINTER TERM.

| *Freshman Year.* | | *Sophomore Year.* | |
|---|---|---|---|
| English | 3 | English | 3 |
| Biology | 3 | Chemistry | 3 |
| Physiology | | Inorganic | |
| Home Economics 122 | 3 | Social Science | 3 |
| Clothing | | Sociology | |
| or | | Home Economics 232 | 3 |
| Home Economics 232 | | Foods | |
| Foods | | or | |
| Home Economics 112 | 3 | Home Economics 122 | |
| Costume Design | | Clothing | |
| Elective | 3 | Elective | |

### SPRING TERM.

| *Freshman Year.* | | *Sophomore Year.* | |
|---|---|---|---|
| English | 3 | English | 3 |
| Biology | 3 | Household Chemistry | 3 |
| Physiology | | Organic | |
| Home Economics 123 | 3 | Social Science | 3 |
| Clothing | | Sociology | |
| or | | Home Economics 233 | 3 |
| Home Economics 233 | | Foods | |
| Foods | | or | |
| Home Economics | 3 | Home Economics 123 | |
| Home Nursing | | Clothing | |
| Elective | 3 | Elective | |

## HISTORY.

*101. Introduction to European History.*

General survey of the history of Europe, including England, during the medieval and modern periods.

*102. History of Contemporary Europe.*

The social, economic, political, and religious systems of the eighteenth century, and effects of the French Revolution; development of the pricipal nations during the nineteenth century in their domestic and foreign relations; background of the World War; the Peace Conference; reconstruction; and subsequent issues.

*103. History of England.*

Survey of the social, economic, political, and intellectual development of Britain. Recommended for pre-law and pre-business administration students; adapted also to those majoring in English.

*20A. History of the United States.*

History of the United States from the discovery of America to the present time.

## PHYSICS.

*101. Mechanics and Heat.*

For students who expect to take more than one course in physics. Fall and winter terms: mechanics of solids and fluids; spring term: heat. Three lectures and two laboratory hours. Laboratory fee, $4.50.

*102. General Physics.*

For pre-medical students and those who expect to take only one course in physics. Three lectures and two laboratory hours. Laboratory fee, $4.50.

*103. General Physics.*

For women students, except pre-medical students. Three lectures and two laboratory hours. Laboratory fee, $4.50.

*201.* Fall and Winter Terms: *Magnetism and Electricity;* Spring Term: *Light and Sound.*

Prerequisite: Mathematics 1, and Physics 1 or 2 or 38. Three lectures and three laboratory hours.

*202. Musical Acoustics.*

Physical basis of sound with special reference to the fundamental elements of music and musical instruments. Prerequisite: Elementary knowledge of musical notation and the keyboard.