



Swann Dormitory

Electrical
Building

Mechanical
Engineering
Buildings

President's Home

Administration
Building

Y. M. C. A.

Hospital
Textile
Building

Carnegie
Library

New Power Station
and Laboratory
Chemical Building

Knowles Dormitory

Frame Dormitories
Concrete
Grand Stand

Grant Field

VOL. XX

April 1923

No. II

BULLETIN

OF

The Georgia School of Technology

ESTABLISHED 1888

A School of Mechanical, Electrical, Civil and
Textile Engineering, Engineering Chemistry,
Architecture, Commerce and Industrial
Education

CATALOG 1922-1923

ANNOUNCEMENTS 1923-1924

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Begins 8:00 A. M., September 19, 1923, ends 8:00 A. M., February 4, 1924.

Entrance Examinations and Re-examinations begin September 14, 1923.

Schedule of these examinations will be mailed to applicants after August 1, 1923.

Christmas vacation begins at 5:00 P. M., December 21, 1923; ends 8:00 A. M., January 3, 1924.

Second Term

Begins 8:00 A. M., February 4, 1924; ends June 9, 1924.

Commencement Day, Monday, June 9, 1924.

By order of the Board of Trustees, the only other Holidays to be observed are Thanksgiving Day and Memorial Day (April 26.)

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GENERAL INFORMATION

Historical Sketch

On November 24th, 1882, the General Assembly passed a resolution, introduced by Honorable N. E. Harris to consider the establishment of a technical school in Georgia. A Commission of ten was appointed to visit the leading engineering institutions of the country, and in 1885, the law was passed appropriating \$65,000 for the institution. In January, 1886, the first Commission was appointed, consisting of Honorable N. E. Harris, S. M. Inman, O. S. Porter, E. R. Hodgson and Columbus Heard. Five places, namely: Athens, Atlanta, Macon, Milledgeville and Penfield, offered bids for the new school, and on October 20, 1886, Atlanta was chosen as the location. Professor Higgins of the Worcester Institute was secured to supervise the new work, and on October 7, 1888, the installation ceremonies were held at the Opera House in Atlanta.

Five acres were purchased from the Peters Land Company at the outset, and later, Mr. Richard Peters donated four additional acres. The campus has been increased by purchase and gifts from time to time until it now comprises thirty-five acres. The original buildings destroyed by fire were replaced in 1891, and at present there are on the campus the following:

- The Lyman Hall Laboratory of Chemistry.
- Academic Building.
- Electrical Building.
- Old Shop Building.
- Carnegie Library.
- Joseph E. Brown Memorial Hospital.
- Y. M. C. A. Building.
- Knowles Dormitory.
- Swann Dormitory.
- The New Power Plant.
- The New Mechanical Building.
- Grant Field Stadium.
- Automotive Building.
- Military Buildings.
- Textile Building.
- President's Home.
- The New Physics Building.

and other small buildings. Several of these in part and much of the machinery and apparatus have been given by generous friends. Some of these are the Knowles and Swann dormitories, the A. French Textile Building, Electrical Building, Lyman Hall Laboratory of Chemistry, Carnegie Library, Y. M. C. A. Building, Grant Field, and Stadium. The Joseph Brown Whitehead Memorial Hospital, and the New Physics Building, towards which the Carnegie Corporation made an appropriation of \$150,000; the remainder was received from the Alumni and friends of the school, through subscriptions to the Greater Tech Campaign Fund of \$1,585,080.11. By will, Honorable Julius L. Brown left two-thirds of his estate to the school, and this it is believed will be the largest of all gifts made thus far, when the estate is finally settled. In addition, generous friends have contributed loan funds to help needy students.

A complete list of these contributions will be found in the later part of this volume under the head of Scholarships and Prizes.

General Information

Dr. I. S. Hopkins was the first President of the Georgia School of Technology. While at the head of Emory College, there was built under his direction the first shop for technical training of college men in this State. Naturally, he was the choice of the Trustees for leadership in the new work. He served until his health failed in 1896.

Dr. Lyman Hall, Professor of Mathematics at the School, a graduate of West Point, was the second president. The continuous effort to meet the conditions required by the General Assembly in providing funds for new buildings undermined his health, and he died in 1905.

To succeed him, the Trustees elected Dr. K. G. Matheson, who was then Professor of English at Georgia Tech. Dr. Matheson continued as president until April 1, 1922, when he resigned to become president of Drexel Institute in Philadelphia.

Mr. N. P. Pratt, Chairman of the Executive Committee of the Board of Trustees, served as Administrative Executive Ad Interim until the Board elected Dr. M. L. Brittain as President, effective August 1, 1922.

Governor N. E. Harris has served as Chairman of the Board of Trustees since the school was founded. Other trustees besides the four already mentioned on the first Commission who have rendered service are: D. N. Speer, W. B. Miles, George Winship, George W. Parrott, Walter M. Kelley, N. P. Pratt, Hal G. Nowell, E. R. Hodgson, Sr. and Jr., George J. Baldwin, J. S. Akers, John W. Grant, George H. Carswell, George G. Crawford, L. W. Robert, Jr., Floyd Furlow, and E. R. Black. Besides these regular members, there are three ex-officio trustees appointed each year by the Chairman of the Board of Trustees of the University of Georgia, and in addition the Governor and State Superintendent of Schools are also ex-officio members. A list of the members of the present Board of Trustees is given on page two of this catalog.

COURSES AND DEGREES

During the first eight years of its history the Georgia School of Technology offered one course of study leading to the degree of Bachelor of Science in Mechanical Engineering. From time to time other courses have been added, and at present the following degrees are granted, the figures giving the year when each course was established:

Bachelor of Science in Mechanical Engineering	1888
Bachelor of Science in Electrical Engineering	1896
Bachelor of Science in Civil Engineering	1896
Bachelor of Science in Textile Engineering	1899
Bachelor of Science in Engineering Chemistry	1901
Bachelor of Science in Architecture	1908
Bachelor of Commercial Science (Evening School)	1913
Bachelor of Science in Commerce	1916
Bachelor of Science in Industrial Education	1918
Master of Science	1922
Bachelor of Science	1923

THE DEGREE OF MASTER OF SCIENCE

In 1922 the Board of Trustees authorized the establishment of graduate courses leading to the degree of Master of Science. These graduate courses are open to any one who has graduated in good standing from an approved college or university. At least one year of resident work is required at the Georgia School of Technology, and in cases

Georgia School of Technology

of those who have not specialized in scientific studies more time may be required. Any one who is interested may obtain more detailed information by applying to the Head of the Department in which he wishes to do his major work.

THE GENERAL SCIENCE COURSE

The general science course leading to the B. S. degree is primarily an engineering or pre-engineering course. It differs from the regular four-year engineering courses in the omission of some of the technical subjects and in the addition of other subjects designed to furnish a background which an engineer needs today to be most useful to society. There are two classes of students for whom this course will be of particular value; for students who are preparing for an industrial or engineering career not requiring highly specialized technical training and for students who wish a broad training before taking up the highly specialized engineering subjects. With the establishment of the above course, a student in coming to the Georgia School of Technology will have a greater variety of courses from which to choose the one most suited to his needs. If he wishes a broad training with a minimum of specialization, he may choose the general science course; if he wishes a minimum of general training but considerable specialization, he may choose one of the regular four-year engineering courses; if he wishes both a broad training and considerable specialization he may choose the general science course and the one year graduate course.

ENROLLMENT

The total net enrollment in all departments, given by decades is as follows:

1888-89	130	1918-19	1853
1898-99	332	1922-23	3053
1908-09	565		

The total enrollment of 3026 for 1922-23 includes the following divisions: Collegiate Day Courses, 1821; Evening School of Commerce, 440; Evening School of Applied Science, 145; Summer School, 362; Non-Collegiate Rehabilitation, 599. Counted twice 314.

The above figures set forth in a striking way the growth of the institution. The increase in the last five years has been about two hundred and fifty per cent.

GENERAL REGULATIONS

Sessions and Terms

The session begins next to the last Wednesday in September and continues for thirty-seven weeks from the following Monday. It will be divided into two nearly equal terms. There will be an intermission at Christmas, as indicated in the Calendar.

All students are required, and all applicants are requested, to be present at the opening hour of each session, as punctuality operates to their advantage in many ways.

Entrance Requirements

Entrance Requirements

The requirements for admission to the Georgia School of Technology are as follows:

An applicant may be admitted to the Freshman class by certificate if he has graduated in good standing from a four-year accredited high school and is specifically recommended by the superintendent or principal. The certificate must show that he is entitled to at least 15 units, that he is not less than 16 years of age and that he is of good moral character. If a student entering as above is allowed a condition in one of the specified units, this condition must be removed in one year.

Specified Units

It is very important that all of these be presented on entrance.

English	3	History	1
Elem. Algebra*	1½	Physics	1
Adv. Algebra	½		
Plane Geometry	1	Total	3½
Solid Geometry	½		

Beginning Sept. 1925, two units in one modern language (French, Spanish, or German) will be required.

In addition to the specified units, the applicant must present enough of the optional units to make up a total of 15 units.

Optional Units

History	1 to 3	Physiology	½ to 1
Civics	½ to 1	Phys. Geography	½ to 1
Latin	1 to 3	Gen. Science	½ to 1
Greek	1 to 3	Trigonometry	½
German	1 to 2	Adv. Arithmetic	½
French	1 to 2	Economics	½
Spanish	1 to 2	Drawing	½ to 2
Chemistry	½ to 1	Commerce	½ to 3
Biology	½ to 1	Manual Training	½ to 2
Botany	½ to 1	Agriculture	½ to 2
Zoology	½ to 1		

Special attention is called to the required units in Algebra, as a great many students are conditioned in this subject. To receive entrance credit, for the ½ unit in Advanced Algebra the course must have included Logarithms, Ratio and Proportion Binominal Theorem, Progressions and Partial Fractions.

We wish to urge that the students have a good command of all the Mathematics required for entrance. It frequently happens that members of the freshman class must be turned back to review their foundation work in Algebra and Geometry.

*Students registering in the School of Commerce are not subject to the full requirements in Mathematics and Physics. In addition to the required units in English and History, they must present one unit in Algebra, one in Plane Geometry or shorthand or Bookkeeping and one in a Natural Science.

Admission by Examination

Applicants who are not qualified to enter by certificate may apply for admission by examination.

Two general entrance examinations will be held: One at the time of the final examination for the school session, and the other at the opening of the fall term. Applicants for admission to Freshman Class will be admitted to either or both of these examinations, and by special arrangements with the principal, may stand entrance examinations at their local schools about June 1st. Students with only three years of high school work to their credit are not advised to take the examinations. For full particulars address the Registrar Georgia School of Technology.

Subjects passed satisfactorily in May-June Examinations will be credited on the admission in September.

Tuition and Fees

All checks for fees, board, or other deposits should be made payable to The Georgia School of Technology.

By a law of the State, the fees for each term must be paid in advance before the day on which the term opens.

The fees for the 1922-23 session are:

For students whose parents are legal residents of Georgia:

	1st Term	2nd Term
Tuition and other fees	\$50.00	\$50.00
Student Activities fee	6.50	6.50
Deposit for damage	5.00	
Alumni Dues (Optional) .....	.50	.50
Total charges	\$62.00	\$57.00

For students whose parents are not legal residents of Georgia:

Tuition and other fees	\$87.50	\$87.50
Student Activities fee	6.50	6.50
Deposit for damage	5.00	
Alumni Dues (Optional) .....	.50	.50
Total charges	\$99.50	\$94.50

The Student Activities fee of \$6.50 per term was added at the request of the Student Body and the Alumni. The payment of this fee is really a matter of economy to the student, since it covers subscription to all student publications, membership in the Y. M. C. A., membership in the Athletic Association, and a pass to all the athletic games. This fee is collected for the student associations as a matter of accommodation. None of it goes into the School treasury.

The fee for Alumni dues is optional with each student. It covers his subscription to the Georgia Tech Alumnus, gives him the privileges of the employment agency, makes him a member of the Association for one year, thus saving him the \$5.00 fee in case he leaves school, or when he graduates. It entitles him to a letter of introduction to the local Club in whatever city he locates.

Each member of the Senior Class must pay a diploma fee of \$5.00 before graduating.

Examinations at other than the regular examination times will be granted in exceptional cases only and by Faculty action. A fee of \$2.00 will be charged in all such cases.

A fee of \$2.00 will be charged to old students reporting late for registration or payment of fees without a valid excuse.

Until the above requirements are complied with, no student will be allowed to participate in the duties and privileges of his class.

The student is advised to defer the purchase of drawing instruments and materials until he can have the direction of the professors in their selection. The prices range from \$10.00 to \$20.00.

Text books and stationery can be purchased from the School Quartermaster at reasonable rates. The student is advised, however, to bring such scientific books as he may possess. The books for a freshman usually cost from twelve to fifteen dollars.

No fees are refunded to students who are required to withdraw on account of conduct, or for failure in work or who may withdraw for any reason, except for disabling sickness, properly certified to by a reputable physician. In the latter event, an equitably prorated amount will be refunded, provided the student is not able to return to the School before the end of the term in which he withdraws.

Contingent fees are not returned to any student unless he presents an order for the same from parent or guardian, saying he is to leave the School permanently. These fees are not returnable till the end of the school year.

Examinations

Final examinations are held at the end of each term. Students are liable to be dropped from the roll of their classes at any examination, when they do not meet the requirements, as well as at any time when they neglect their studies and fall hopelessly behind their classes. No fees are refunded under such circumstances.

Reports

Reports of the standing of students are issued at the close of each term.

Monthly reports of students whose work is unsatisfactory in any subject are posted on the bulletin boards of the departments, and copies of such reports are mailed to parents.

Changes of Courses and Withdrawals

Changing from one course to another, in some special cases, is highly advisable, but if the change is merely to satisfy the foolish whim of some student it is to be discouraged. In all cases where the student wishes to change his course or to withdraw from the School, he must file written permission from his parent or guardian to this effect.

Dormitories

All students in the Freshman Class who do not reside with their parents, near relatives, or bona fide guardians legally appointed, are required to board in the School Dormitories as far as they can be accommodated. This regulation was passed by the Board of Trustees, after a careful examination of the advantages and protection offered by the dormitories to students of the Freshman class, and all such students as are physically or otherwise unable to comply with the law, will not be retained in the school.

Living Expenses

(Make all checks payable to Georgia School of Technology and mail remittance to F. K. Houston, Bursar).

The School is provided with dormitory accommodations for three hundred students.

Board, including laundry, fuel, lights, is furnished at cost, and must be paid monthly in advance. The cost which depends on the prices of food, fuel, and other commodities is estimated not to exceed \$210.00 for the 1923-24 session. Dormitory students are required to pay board in advance at the rate of \$25.00 per month.

Money paid for board is not refunded to students unless they have been absent over fourteen consecutive days on account of sickness properly certified to; or unless they withdraw from school. This law is necessary on account of the fact that the dormitories are conducted under a system of fixed charges.

Any student who desires a room in the dormitories must write and secure it before reporting for duty, as the dormitories accommodate scarcely one-sixth of the students who are in the institution. In order to secure a room, each student must deposit \$25.00, one month's board, with the Bursar not later than September 1st. Applications are listed in the order in which they are received. Those who apply early will be sure of a reservation. In case the students find it impossible to enroll, the fee will be refunded provided notice is given the President not later than September 10th.

Students who board in the dormitories are required to furnish the following articles: One pillow, three pillow cases, four sheets, blankets or comforts, six towels, and other small and portable articles needed about their rooms. The articles named should be brought from home. The school furnishes with each room: Beds (single three-quarter width), mattresses, springs, wardrobe, or closet, washstand, bureau, and table.

The cost of equipment in the Freshman year is relatively large on account of the purchase of drawing instruments.

Students who board in private homes or boarding houses may estimate their living expenses at from \$10.00 to \$15.00 per month more than the dormitory charges.

Discipline and Dormitory Regulations

The students of the school have a record for good conduct unsurpassed by any corps in the country. They are required to obey but few regulations, the authorities bearing in mind the development and best interest of the student body.

Every man is expected to conduct himself in a gentlemanly manner. When he fails in this and convinces the authorities that he has not come to work, his parents are requested to withdraw him.

Special Textile students and students having but few lessons to prepare will not be admitted to the dormitories.

Patrons or prospective patrons will be furnished upon application with the printed Rules and Regulations of the School.

DEPARTMENTS

DEPARTMENT OF ARCHITECTURE

Professors Skinner, Gailey, Bush-Brown and Mr. Gill.

General Statement

The course in Architecture was opened to the students in the autumn of 1908 as one of the full professional courses in the Georgia School of Technology. The regular course extends over four years, leading to the degree of Bachelor of Science in Architecture.

It is the purpose of the Department to offer the necessary training in Design, Construction, and the allied subjects that will eventually fit the student for the practice of Architecture, and will also enable him upon graduation to be of immediate value as a draughtsman.

With this end in view, the course of study combines with the strictly professional work, the essentials of a liberal education, aiming to give the student as broad a foundation as possible for his future work. The number and scope of the subjects to be covered during the course make it necessary that the student start his architectural work at the beginning of the Freshman year.

Architecture is regarded primarily as a Fine Art, and the aesthetic side of the profession is emphasized throughout the course. Design, consequently, with the subjects closely allied to it, is given the most important place in the curriculum.

The work in Design is started after the course in Descriptive Geometry, Shades and Shadows, Perspective and the Elements of Architecture have given the student a good foundation. During the Sophomore year simple problems in Design are taken, involving the use of the Orders and other elements, and training in the sense of correct form and proportion. In the Junior and Senior years plan problems are given and the entire composition of buildings is studied. A series of lectures on the Elements and Theory of Architecture accompanies this work and frequent sketch problems are given to develop rapidity of thought and presentation. During the second term of the Senior year, Thesis Designs are presented, the subjects for which are selected by the students with the approval of the head of the Department.

Whenever possible, the problems given out by the Society of Beaux Arts Architects are taken. These designs are judged in New York in competition with the work of other Schools of Architecture throughout the country. Problems that are not sent to New York for judgment are passed upon by a jury of practicing architects in Atlanta, and "Mentions" are awarded to the best designs.

In the study of the History of Architecture, the student is encouraged to regard the buildings not merely as remarkable monuments of great artistic value, but also as links in the chain of architectural development, and as being truly representative of the civilization and epoch to which they belong. The social and political aspects of the various periods and their effects upon the historic styles are studied, as well as the architectural characteristics of the building.

Draughtsmanship receives constant attention throughout the four years, not only in the courses in pure Drawing and Water Color, but

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also in the work in Design and Ornament. The importance of the study of Drawing can scarcely be over-estimated, it being the architect's principal medium of expression.

The nature and use of Building materials are studied, as well as the principles involved in General Construction and Sanitation, while the studies of Graphic Statics and Structural Mechanics familiarize the student with these branches of Architectural Engineering. Inspection trips are made to buildings in course of erection and to certain manufacturing plants.

Throughout the work the student is urged to make adequate and intelligent use of the Library, a comprehensive knowledge of the best work of all periods being essential to success.

Equipment

The Department of Architecture occupies the entire third floor of the Mechanical Building, there being two large Draughting Rooms, a Free Hand Studio, Lecture Room, Office, etc. All of these rooms are well furnished and have excellent light, both natural and artificial.

The School possesses a good working Library of Architectural books and periodicals, to which additions are constantly being made, as well as collections of photographs, drawings, stereopticon slides and plaster casts. In September, 1923, the Department of Architecture will move into larger and more adequate quarters in the New Physics Building now in process of construction. The growth of the Department in recent years has made this change necessary. The top floor of the new building has been especially disposed for its destined use of the School of Architecture.

Scholarship

The Georgia Chapter of the American Institute of Architects has established a self-perpetuating scholarship open to students in the two upper classes who may be in need of financial assistance. The beneficiary refunds the money after graduation in payment of small monthly notes without interest.

Two-Year Special Course

A Special Course of two years' duration is also offered men of exceptional ability, who must have had at least two years' experience in the office of a practicing architect. In addition to this, fifteen units are required for entrance. Exceptions to this may be made by the head of the department with approval of the faculty in the cases of mature candidates who have had more than 2 years experience in the office of a practicing architect. In this course Architectural studies only are pursued. Upon completion of this required work a Certificate of Proficiency is given.

Department of Architecture

The Regular Course in Architecture

FRESHMAN YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Arch.	1 Architectural Drawing		9	9.
Arch.	8 Pencil Drawing		2	2.
Draw	17 Applied Tech. Drawing	1	6	8.5
Eng.	11 Composition and Rhetoric	3		7.5
Hist.	17 Survey of Gen. Hist.	3		7.5
Math.	17 Trigonometry	6		13.5
Mil.	1 Military Instruction		5	5.
Total		13	22	53.

Second Term

Arch.	3a Shades and Shadows	1	6	7.
Arch.	7a Elements of Architecture	1	9	11.
Eng.	12 Composition and Rhetoric	3		7.5
Hist.	18 Survey of Gen. Hist.	3		7.5
Math.	16 Slide Rule		1	1.
Math.	18 Analytic Geometry	5		12.5
Mil.	2 Military Instruction		5	5.
Total		13	21	51.5

SOPHOMORE YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Arch.	5 Perspective	1	3	4.
Arch.	11 Architectural Design		12	12
Arch.	15 History of Architecture, Ancient	2		5.
Arch.	19 Charcoal Drawing		2	2.
Eng.	21 American Literature	3		7.5
Math.	23 Calculus	5		12.5
Phys.	5 Physics	3		7.5
Mil.	3 Military Instruction		5	5.
Total		14	22	55.5

Second Term

Arch.	12 Architectural Design		12	16.
Arch.	16 History of Architecture, Mediaeval	2		5.
Arch.	20 Charcoal Drawing		2	2.
Eng.	24 Political Economy	3		7.5
Math.	23 Calculus	5		12.5
Phys.	6 Physics	3		7.5
Mil.	4 Military Instruction		5	5.
Total		13	19	55.5

JUNIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Arch. 23	Architectural Design	2	14	17.
Arch. 27	History of Architecture, Modern	1	2	5.
Arch. 31	Building Construction, Masonry	1	2	3.5
Arch. 35	Sanitation of Buildings	1	2	2.5
Arch. 39	Cast Drawing*	2	2	2.
Arch. 43	Pen and Ink Drawings*	2	3	2.
C. E. 31	Graphic Statics	3	3	8.
Eng. 31	English Literature	3	3	7.5
M. L. 7	French	3	3	7.5
Total		12	21	55.

Second Term

Arch. 24	Architectural Design	1	16	21.
Arch. 32	Building Construction, Masonry	1	2	3.5
Arch. 40	Cast Drawing*	2	2	2.
Arch. 44	Pen and Ink Drawings*	2	2	2.
Arch. 48	Historic Ornament	4	4	4.
Arch. 52	Water Color Drawing	3	3	3.
Eng. 32	English Literature	3	3	7.5
Mech. 41a	Mechanics of Materials	2	3	5.
M. L. 8	French	3	3	7.5
Total		9	27	55.5

*Electives for Mil. 5 and 6.

SENIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Arch. 55	Architectural Design*	18	4	22.
Arch. 59	Archaeology	1	2	5.
Arch. 63	Building Construction, Carpentry	1	2	3.5
Arch. 67	Professional Practice	1	2	2.5
Arch. 71	History of Art	1	2	2.
Arch. 75	Antique Drawing	2	2	2.
Arch. 79	Pen and Pencil Rendering	3	3	3.
Arch. 83	Water Color Drawing	3	3	7.5
M. L. 9	French	3	3	7.5
Total		6	29	50.

Second Term

Arch. 56	Architectural Design*	1	20	28.
Arch. 64	Building Construction, Carpentry	1	2	3.5
Arch. 68	Professional Practice	1	2	2.5
Arch. 72	History of Art	1	2	2.
Arch. 76	Antique Drawing	2	2	2.
Arch. 80	Pen and Pencil Rendering	3	3	3.
Arch. 84	Water Color Rendering	3	3	7.5
M. L. 10	French	3	3	7.5
Total		6	27	51.

*Arch. 55, 2 hours, and Arch. 56, 3 hours are electives for Mil. 6 and 7.

SPECIAL COURSE IN ARCHITECTURE

FIRST YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Arch. 3	Shades and Shadows	1	6	7.
Arch. 7	Elements of Architecture	1	8	9.
Arch. 11	Architectural Design	2	6	12.
Arch. 15	History of Architecture, Ancient	2	2	5.
Arch. 19	Charcoal Drawing	2	2	2.
Arch. 31	Building Construction, Masonry	1	2	3.5
Arch. 35	Sanitation of Buildings	1	2	2.5
Arch. 43	Pen and Ink Drawing	2	2	2.
Mil. 1	Military Instruction	5	5	5.
Total		6	29	48.

Second Term

Arch. 5a	Perspective	1	3	4.
Arch. 12	Architectural Design	16	16	25.
Arch. 16	History of Architecture, Mediaeval	2	2	5.
Arch. 20	Charcoal Drawing	2	2	2.
Arch. 32	Building Construction, Masonry	1	2	3.5
Arch. 39a	Cast Drawing	2	2	2.
Arch. 44	Pen and Ink Drawing	2	2	2.
Arch. 52	Water Color Drawing	3	3	3.
Mil. 2	Military Instruction	5	5	5.
Total		4	33	51.5

SECOND YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Arch. 23	Architectural Design	14	14	17.
Arch. 27	History of Architecture, Modern	2	2	5.
Arch. 40	Cast Drawing	2	2	2.
Arch. 59	Archaeology	4	4	5.
Arch. 63	Building Construction, Carpentry	1	2	3.5
Arch. 67	Professional Practice	1	2	2.5
Arch. 71	History of Art	1	2	2.5
Arch. 79	Pen and Pencil Rendering	2	2	2.
Arch. 83	Water Color Drawing	3	3	3.
C. E. 31	Graphic Statics	2	3	8.
Mil. 3	Military Instruction	5	5	5.
Total		7	33	55.5

Second Term

Arch. 24	Architectural Design	16	16	25.
Arch. 48	Historic Ornament	4	4	4.
Arch. 64	Building Construction, Carpentry	1	2	3.5
Arch. 68	Professional Practice	1	2	2.5
Arch. 72	History of Art	1	2	2.5
Arch. 75a	Antique Drawing	2	2	2.
Arch. 76	Antique Drawing	2	2	2.
Arch. 80	Pen and Pencil Rendering	2	2	2.
Arch. 84	Water Color Rendering	3	3	3.
Mil. 4	Military Instruction	5	5	5.
Total		3	34	51.5

Course of Instruction

Arch. 1. Architectural Drawing.

Prof. Bush-Brown and Mr. Gill.

Freshman, first term, nine hours.

An introductory course in free-hand and mechanical lettering, instrumental drawing of architectural forms, and India ink wash-drawing.

Text:: Ware "American Vignola." Part I.

Arch. 3 and 3a. Shades and Shadows.

Prof. Gailey and Mr. Gill.

Arch.3 First Year Special, first term, seven hours.

Arch. 3a. Freshman, second term, seven hours.

This course consists of lectures and draughting room work in the theory and methods of determining the shades and shadows on architectural forms.

Text: McGoodwin, "Architectural Shades and Shadows."

Arch. 5 and 5a. Perspective.

Professor Gailey.

Arch 5. Sophomore, first term, 4 hours.

Arch. 5a. First Year Special, second term, 4 hours.

This course consists of lectures and draughting room work in the theory of Perspective, the use of Vanishing Points, the Persepctive Plan, method, etc.

Text: Lubschez, "Perspective."

Arch. 7 and 7a. Elements of Architecture.

Prof. Bush-Brown and Mr. Gill.

Arch. 7. First Year Special, first term, nine hours.

Arch. 7a. Freshman, second term, ten hours.

Illustrated lectures on the simple elements of Architectural Designs, such as walls, doors, cornices and mouldings. This is followed by a careful consideration of the classical orders and the principles involved in their use. Stress is laid on their character and general proportions rather than upon mathematical rules for drawing them. Carefully rendered drawings of the orders and other simple Elements of Design are made in the draughting room.

Text: Buhlman.

Arch. 8. Pencil Drawing.

Prof. Bush-Brown.

Freshman, first term, two hours.

Elementary work in free-hand pencil drawing from blocks and simple forms, studying the mass and proportions.

Arch.11. Architectural Design.

Prof. Gailey and Prof. Bush-Brown.

Prerequisites, Arch. 3, 5 and 7.

Sophomore, first term, twelve hours.

First Year Special, first term, six hours.

Simple problems in composition and design involving the Orders, are studied, especial attention being given to the design and drawing of details at a large scale. Individual criticism is given as the work progresses, and at the completion of the problems, the rendered drawings are judged by a jury of practicing architects.

Arch. 12. Architectural Design.

Professors Gailey and Bush-Brown.

Prerequisites, Arch 11.

Sophomore, second term, twelve hours.

First Year Special, second term, sixteen hours.

A continuation of Arch. 11.

Arch. 15 History of Architecture, Ancient.

Prof. Bush-Brown.

Prerequisite, Arch 7.

Sophomore and First Year Special, first term, two hours.

Two lectures a week are given with the aid of the stereopticon. Architectural development is studied from the dawn of civilization to the fall of Rome. Research work is done in the Library by each student and written quizzes are held.

Text: Banister Fletcher, "History of Architecture."

Arch. 16. History of Architecture, Mediaval.

Prof. Bush-Brown.

Prerequisite, Arch. 15.

Sophomore and First Year Special, second term, two hours.

A continuation of Arch 15, in which the various mediaeval styles of European architecture are studied. Individual reports are prepared by the students on special topics.

Text: Banister Fletcher, "History of Artichecture."

Arch. 19.—Charcoal Drawing.

Prof. Gailey and Prof. Bush-Brown.

Prerequisite, Arch 8.

Sophomore and First Year Special, first two hours.

Charcoal work from simple plaster casts. Monthly tests without criticism are given.

Arch. 20.—Charcoal Drawing.

Professor Gailey.

Prerequisite, Arch. 19.

Sophomore and First Year Special, second term, two hours.

A continuation of Arch. 19.

Arch. 23. Architectural Design.

Professor Skinner.

Prerequisite, Arch. 12.

Junior and Second Year Special, second term, sixteen hours.

This course succeeds Arch 12. Problems in planning are taken up and buildings are designed in plan, section and elevation. Carefully

rendered drawings are made, and short sketch problems are given at stated periods.

Arch. 24 Architectural Design.

Professor Skinner.

Prerequisite, Arch. 23.

Junior and Second Year Special, second term, sixteen hours.
A continuation of Arch. 23.

Arch. 27. History of Architecture, Modern.

Prof. Bush-Brown.

Prerequisite, Arch. 16.

Junior and Second Year Special, first term, two hours.

This concluding course in the subject is devoted to a consideration of Renaissance and Modern Architecture, beginning with the work of Brunelleschi.

Text: Banister Fletcher, "History of Architecture."

Arch. 31. Building Construction. Masonry.

Professor Gailey.

Junior and First Year Special, first term, one hour.

Recitations and quizzes in the materials and processes of masonry construction as applied to buildings. Foundations, footings, brick work, stone masonry, systems of reinforced concrete, etc., are studied.

Text: Kidder, "Building Construction and Superintendence, Masonry."

Arch. 32. Building Construction. Masonry.

Professor Gailey.

Prerequisite, Arch. 31.

Junior and First Year Special, second term, one hour.
A continuation of Arch. 31.

Arch. 35. Sanitation of Buildings.

Professor Skinner.

Prerequisite, Arch. 12.

Junior and Second Year Special, first term, one hour.

A study of the principles of Heating, Ventilating and Plumbing. Lectures and recitations.

Text: Allen, "Notes on Heating and Ventilating."

Arch. 39 and 39a. Cast Drawing.

Professor Gailey.

Prerequisite, Arch. 20.

Junior, First Term and First Year Special, second term, two hours.
Drawing from casts of architectural features and sculpture.

Arch. 40. Cast Drawing.

Professor Gailey.

Prerequisite, Arch. 39.

Junior and Second Year Special, second term, two hours.
A continuation of Arch. 39.

Arch. 43. Pen and Ink Drawing.

Professor Gailey.

Prerequisite, Arch. 20.

Junior and First Year Special, first term, two hours.

The drawings and rendering in pen and ink of architectural subjects. Stress is laid upon the composition of the sketches as well as its presentation. Drawings by recognized masters are studied and copied to familiarize the student with good technique and style.

Text: Maginnis, "Pen Drawing."

Arch. 44. Pen and Ink Drawing.

Professor Gailey.

Prerequisite, Arch. 43.

Junior and First Year Special, second term, two hours.

A continuation of Arch. 43, in which the student works from photographs.

Arch. 48. Historic Ornament.

Professor Bush-Brown.

Prerequisite, Arch. 39.

Junior and Second Year Special, second term, four hours.

A course in the design of Architectural ornament in various historic styles. The best examples from the period are studied and used as inspiration for the work.

Arch. 52. Water Color Drawing.

Professor Skinner.

Prerequisite, Arch. 39.

Junior and First Year Special, second term, three hours.
Wash drawings in Sepia are made from still-life models.

Arch. 55 Architectural Design.

Professor Skinner.

Prerequisite, Arch. 24.

Senior, first term, eighteen hours.

In the Senior Year, the designing of large composition is begun. Group plans are studied and more complicated problems are taken up.

Arch. 56. Architectural Design.

Professor Skinner.

Prerequisites, Arch 55.

Senior, second term, twenty hours.

A combination of Arch. 55. During the latter part of the term the Thesis designs for the Bachelor's degree are made. Programs requiring original work must be selected.

Arch. 59 Archaeology.

Professor Skinner.

Prerequisites, Arch. 24 and 27.

Senior and Second Year Special, first term, four hours.

One or more Design problems in some of the more important historic styles are given. This course offers opportunity to obtain more exact knowledge of certain styles, and supplement the work in Architectural History, upon which it is largely dependent.

Arch. 63. Building Construction. Carpentry.

Professor Gailey.

Senior and Second Year Special, first term, one hour.

Recitations and quizzes on Carpentry Construction as applied to buildings. The construction of the frame house, floors, partitions, roofs, interior finish, etc., are studied.

Text: Kidder, "Building Construction and Superintendence, Carpentry."

Arch. 64. Building Construction. Carpentry.

Professor Gailey.

Prerequisite, Arch. 63.

Senior and Second Year Special, second term, one hour.

A continuation of Arch. 63.

Arch. 67. Professional Practice.

Professor Skinner.

Senior and Second Year Special, first term, one hour.

A course of lectures and discussions on professional ethics, competitions, contracts, specifications, theory of design and the specific requirements of certain classes of buildings such as School Houses, Libraries, Hospitals, and Residences. Papers are prepared and read by the students and discussed in class.

Arch. 68 Professional Practice.

Professor Skinner.

Prerequisite, Arch. 67.

Senior and Second Term Special, second term, one hour.

A continuation of Arch. 67.

Arch. 71. History of Art.

Professor Bush-Brown.

Prerequisite, Arch. 16.

Senior and Second Year Special, first term, one hour.

Recognizing the often intimate connection of Architecture with the allied Arts of Sculpture and Painting, the history of these subjects is taken up briefly in a course of lectures and recitations, assisted by the stereopticon and by photographs. Egyptian, Assyrian, Greek and Roman work is studied.

Arch. 72. History of Art.

Professor Bush-Brown.

Prerequisite, Arch. 71.

Senior and Second Year Special, second term, one hour.

A continuation of Arch. 71, devoting especial attention to the sculpture and painting of the Italian Renaissance.

Arch. 75 and 75a. Antique Drawing.

Professor Gailey.

Prerequisite, Arch. 40.

Arch. 75. Senior, first term, two hours.

Arch. 75a. Second Year Special, second term, two hours.

Drawing from the cast of antique sculpture and the full length figure.

Arch. 76. Antique Drawing.

Professor Gailey.

Prerequisite, Arch. 75.

Senior and Second Year Special, second term, two hours.

A continuation of Arch. 75, including also drawings from life.

Arch. 79. Pen and Pencil Rendering.

Professor Gailey.

Prerequisite, Arch. 44.

Senior and Second Year Special, first term, two hours.

A continuation of Arch. 44, in which sketches are made from nature and more elaborate renderings are made.

Text: Hays, "Architectural Rendering in Pen and Ink."

Arch. 80. Pen and Pencil Rendering.

Professor Gailey.

Prerequisite, Arch. 79.

Senior and Second Year Special, second term, two hours.

A continuation of Arch. 79.

Arch. 83. Water Color Drawing.

Professor Skinner.

Prerequisite, Arch. 52.

Senior and Second Year Special, first term, three hours.

Water Color drawings and sketches are made from photographs, still-life objects, architectural details, and nature.

Arch. 84. Water Color Rendering.

Professor Skinner.

Prerequisite, Arch. 83.

Senior and Second Year Special, second term, three hours.

A continuation of Arch. 83, in which the rendering of Architectural Perspectives in water color, is studied.

DEPARTMENT OF AUTOMOBILE ENGINEERING

Prof. E. C. Schroyer.

The courses in this department are taught by members of the department of Experimental Engineering.

General Statement

This course is intended to fit a young man to enter the automobile industry. The courses are so arranged that the Mechanical Engineering Course and the Automobile Engineering Course are identical up to the end of the Junior year. In the Senior year Automobile Engineering subjects have been substituted for the Steam Engineering subjects in the Mechanical Engineering Course. To be successful in this field the student should be well grounded in the fundamentals of internal combustion engine theory, the thermodynamics of fuels, metallurgy of steel and the steel alloys, and design of the automobile. This course leads to the Degree of Bachelor of Science in Mechanical Engineering.

This course is open only to students who have completed three years of the regular M. E. course or equivalent.

SENIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equv.
		Class	Lab.	
A. E. 81	Internal Combustion Engines.....	5	.....	12.5
A. E. 87	Automobile Design	1	6	6.5
E. E. 3	Electrical Engineering Laboratory	3	3	4.
E. E. 5	Applied Electricity	3	.....	7.5
Ex. E. 71	Fuels Laboratory .....	.....	4	4.
Ex. E. 89	Automobile Laboratory .....	.....	3	4.
M. E. 51	Shop Methods—(Military Elective) ..	2	.....	5.
M. E. 61	Mechanics of Materials	2	.....	5.
M. L. 3	German	3	.....	7.5
M. L. 9	French			
M. L. 15	Spanish			
Total		15	16	55.5

Second Term

A. E. 82	Thermodynamics of the Internal Combustion Engine	5	.....	12.5
A. E. 88	Automobile Design	1	6	8.5
A. E. 92	Seminar	2	7	5.
Ex. E. 90	Automobile Laboratory	2	.....	5.
M. E. 76	Graphical Statics .....	.....	3	4.
Met. 56	Metallurgy & Heat Treatment of Steels	2	.....	5.
Met. 58	Metallurgy Laboratory	3	.....	7.5
M. L. 4	German	3	.....	7.5
M. L. 10	French			
M. L. 16	Spanish			
Total		15	16	55.5

Department of Automobile Engineering

A. E. 81. Internal Combustion Engines.

Prof. E. C. Schroyer.

This course involves a very thorough study of the internal combustion engine and its application to automotive, marine, aerial and stationary use, particular emphasis being given the automobile engine. The theory of operation, carburetion, ignition, governing devices, valve gear, lubrication and measurement of power are included in this course.

Five recitation hours per week.

Text used, 1922-1923, "Gas, Gasoline and Oil Engines," by Hiscox—"The Gasoline Automobile," Vol. 1 and 3 by Heldt.

A. E. 82. Thermodynamics of the Internal Combustion Engine.

Prof. E. C. Schroyer.

A presentation of the fundamental principles of thermodynamics with special applications to the automobile motor. The thermodynamic principles, properties of perfect gases, expansion and compression of gases, cycles of heat engines using gas, the utilization of heat and its efficiency in the explosive motor, materials of power, and the combustion of hydro-carbon fuels are treated in this course.

Five recitation hours per week.

Text used 1922-1923, "The Gasoline Automobile," Vol. 1, by Heldt; "Handbook of Carburetion," by Browne.

A. E. 87. Automobile Design.

Prof. E. C. Schroyer.

A careful investigation of the engineering principles involved in the construction of a modern automobile engine is made by the student from existing designs. From the results of this study the student designs an automobile engine, carrying the work as far into detail as the time will permit. The first part of the term is devoted to lectures and recitations.

Two three-hour laboratory periods per week.

Text used 1922-1923, "The Gasoline Automobile"—Vol. 1, by Heldt.

A. E. 88. Automobile Design.

Prof. E. C. Schroyer.

This course is a continuation of A. E. 87. From a study of existing models the student designs a complete chassis including calculations for the frame, springs, axles, clutch, transmission, propeller shaft and differential, the work being carried as far into detail as the time will permit.

Two three-hour laboratory periods and one recitation period per week.

Text used 1922-1923, "Motor Vehicle Engineering—The Classics" by Favary.

A. E. 92. Seminar.

Prof. E. C. Schroyer.

This course consists of the reading of articles from current technical magazines pertaining to the subjects of Automobile Engineering, and

preparation of articles for presentation and discussion in the class room. The student is thus acquainted with the best engineering practice and is kept well informed as to the most recent developments in Automobile Engineering.

Two recitation periods per week.

DEPARTMENT OF CHEMISTRY

Professors Emerson, Boggs, Daniel, Wroth, and Shaw. Messrs. Taylor, Updike, Segur, Mull and Hewlett.

General Statement

The course offered by this department is intended, in the first place, to give the student a broad foundation in general and Theoretical Chemistry, so that new problems met in his future work may be solved intelligently; and in the second place, to give him special training in those branches of Chemistry which have been most generally applied industrially, so that he may be immediately useful.

Equipment

The Lyman Hall Laboratory of Chemistry, thus named in honor of Dr. Lyman Hall, second President of the Institution, was completed in 1906. It is a T-shaped building of brick with limestone trimmings, two stories high, with a basement. Each floor has an approximate area of 5,600 square feet. Lecture rooms, reading room, stock rooms, offices, combustion room, and dark rooms occupy the front, and laboratories the rear wing. The basement is fitted up for offices and lecture rooms. The large lecture room on the first floor will accommodate about one hundred students, and there are two smaller rooms for the use of advanced classes. Especial care has been given to the lighting and ventilation of the laboratories. All of them receive light from three sides and for the removal of noxious fumes, they are amply provided with hoods, each of which has a separate flue leading to a tight wooden fume-box, located just under the roof. This box communicates with the outer air. The natural draught thus created serves the desired purpose admirably.

Each student is provided with gas, water, sink, and a private locker allowing at least four feet of desk space. The entire first floor of the rear wing is occupied by the laboratory for elementary Chemistry, which will accommodate about 500 students. The upper floor of this wing is for the laboratories of qualitative and quantitative analysis and a small private laboratory for the instructors. Seventy-five students can be accommodated in the first named and forty-five in the second. The hydrogen sulphide gas used is generated in a separate room. The students are served with materials and apparatus from a stock-room on each floor. The amply lighted balance room, which is shut off from the laboratory fumes by means of double doors, is equipped with nine high-grade balances, one of which is mounted on a pier of masonry free from contact with the building, thus eliminating vibrations.

Course Leading to the Degree Bachelor of Science in Engineering Chemistry

The graduate in this course will be prepared to pursue the subject either on its manufacturing or analytical side. With respect to his fitness to take up the work in chemical manufacturing, the course offers exceptional opportunities. The work in Mechanical Engineering, embracing considerable shop and laboratory practice, elementary mechanics, and the steam engine, will enable him to understand machinery, superintend the running of it, and take charge of various mechanical operations. The course in Drawing will enable him to understand mechanical drawings and express his ideas by means of them. The course in Electricity will enable him to understand electrical appliances and to superintend industrial operations carried on by means of this power. His knowledge of Chemistry will equip him to determine the relative values of the raw materials offered by dealers, and to conduct intelligently operations based on chemical principles, detect imperfections in them and suggest improvements. The work of the course being mainly chemical, the graduate will be prepared to undertake analytical processes of almost any kind, and should be valuable in the laboratory in many ways.

Tabulation of Subjects Leading to the Degree Bachelor of Science in Engineering Chemistry

FRESHMAN YEAR

Uniform for all Engineering Courses, except T. E.

First Term

Abbrev.	Subject	Hrs. Per W'k		Equv.
		Class	Lab.	
Chem.	1 Inorganic Chemistry	3	.....	7.5
Chem.	5 Chemical Laboratory	3	.....	3.
Dr.	15 Applied Technical Drawing	6	.....	6.
Eng.	11 Composition and Rhetoric	3	.....	7.5
Math.	15 Trigonometry	5	1	13.5
M. L.	French, Spanish or German	3	.....	7.5
Mil.	2 Military Instruction	5	.....	5.
Total		14	15	50.

Second Term

Chem.	2 Inorganic Chemistry	3	.....	7.5
Chem.	2 Chemical Laboratory	3	.....	3.
Dr.	16 Applied Technical Drawing	6	.....	6.
Eng.	12 Composition and Rhetoric	3	.....	7.5
Math.	16 Slide Rule	5	1	1.
Math.	18 Analytic Geometry	5	.....	12.5
M. L.	French, Spanish or German	3	.....	7.5
Mil.	2 Military Instruction	5	.....	5.
Total		14	15	50.

SOPHOMORE YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Chem. 13	Qualitative Analysis	1	6	7.5
Chem. 29	Advanced Inorganic Chemistry	2		5.
Dr. 27	Machine Drawing		3	3.
Eng. 21	American Literature	3		7.5
Math. 23	Calculus	6		13.5
Phys. 9	Physics	4		10.
Mil. 3	Military Instruction		5	5.
Total		15	14	50.5

Second Term

Chem. 14	Qualitative Analysis	1	6	7.5
Chem. 30	Advanced Inorganic Chemistry	2		5.
Dr. 28	Machine Drawing		3	3.
Eng. 24	Political Economy	3		7.5
Math. 28	Calculus	5		12.5
Phys. 10	Physics	4		10.
Phys. 16	Physics Laboratory		3	4.
Mil. 4	Military Instruction		5	5.
Total		15	17	54.5

JUNIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Chem. 17	Quantitative Analysis	2	9	12.
Chem. 21	Organic Chemistry	3		7.5
Chem. 23	Organic Laboratory		3	3.
Mech. 37	Applied Mechanics	3		7.5
Met. 21	Ferrous Metallurgy	2		5.
M. L. 1	German	3		7.5
M. L. 7	French			
M. L. 13	Spanish			
Phys. 11	Physics	3		7.5
Phys. 17	Physics Laboratory		3	4.
Total		16	15	54.0

Second Term

Chem. 18	Quantitative Analysis	1	12	13.
Chem. 22	Organic Chemistry	3		7.5
Chem. 24	Organic Laboratory		3	3.
E. E. 2	Applied Electricity	3		7.5
E. E. 3a	Electrical Engineering Laboratory		3	4.
E. E. 76	Power Plants	2		5.
Mech. 32	Applied Mechanics	3		7.5
M. L. 2	German	3		7.5
M. L. 8	French			
M. L. 14	Spanish			
Total		15	18	55.

SENIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Chem. 19	Quantitative Analysis	1	12	13.
Chem. 33	Physical Chemistry	2		5.
Chem. 37	Industrial Chemistry	2		5.
Eng. 31	Elementary Steam Laboratory		3	4.
Ex. E. 73	English Literature	3		7.5
Ex. E. 79	Heat Engines and Thermodynamics	3		7.5
Mech. 41	Mechanics of Materials	2		5.
M. L. 3	German	3		7.5
M. L. 9	French			
M. L. 15	Spanish			
Total		16	15	54.5

Second Term

Chem. 34	Physical Chemistry	3		7.5
Chem. 36	Physico-Chemical Measurements		3	3.
Chem. 38	Industrial Chemistry	2		5.
Chem. 42	Thesis	1	12	14.5
Eng. 32	English Literature	3		7.5
Ex. E. 74	Fuel and Gas Engine Laboratory		3	4.
Ex. E. 78	Advanced Heat Engines and Thermodynamics	2		5.
M. L. 4	German	3		7.5
M. L. 10	French			
M. L. 16	Spanish			
Total		14	18	54.0

Military Electives

Junior, First Term
Junior, Second Term
Senior, First Term
Senior, Second Term

Metallurgy 21

Six Hours of Chem. 18
English 31
Modern Language.

Courses of Instruction

Chem. 1. Elementary Inorganic Chemistry.

Professors Emerson, Boggs, Daniel, Wroth and Shaw,
Messrs. Taylor, Updike Mull, Segur and Hewlett.

Freshman, First Term, three hours.

This course is required of all Freshman except students of Architecture and Commerce and is designed to acquaint them with some of the principles of Chemistry, and also familiarize them with the sources, methods of preparation, properties and uses of a number of important commercial substances. In order to accomplish these ends, considerable time is spent in explanatory and experimental lectures, in which the significance of the theories is dwelt upon, and their applications in a practical way pointed out. Thus the harmony between theory and practice is established. The modern theories of solution, and the "Mass Law," are emphasized. The solution of numerous numerical problems is required.

Text: Smith's "Intermediate Chemistry." The ground covered during this term includes the first twenty-two chapters, with about a month of review.

Chem. 2. Elementary Inorganic Chemistry.

Professors Emerson, Boggs, Daniel, Wroth and Shaw,
Messrs. Taylor, Updike, Mull, Segur and Hewlett.

Prerequisite, Chem. 1.

Freshman, second term, three hours.

A continuation of Chem. 1, covering the remainder of text with about a month of review.

Chem. 5. Chemical Laboratory.

Professors Shaw, Emerson, Boggs, Daniel, Wroth,
Messrs. Taylor, Updike Mull, Segur and Hewlett.

Freshman, first term, one three-hour period.

The Experiment-Observation-Deduction Method is here applied as far as the time permits. The keeping of accurate records of observations is required, as upon these the students must draw, in answering the oral questions following each experiment. These quizzes insure an understanding of the subject and its connection with the instruction given in Chem. 1. While the ground covered is limited, the thoroughness attained by requiring every student to recite on each experiment has amply justified the adoption of this method.

Text: Selected exercises from Laboratory Outline of Smith's "Intermediate Chemistry."

Chem. 6. Chemical Laboratory.

Professors Shaw, Emerson, Boggs, Daniel and Wroth,
Messrs. Taylor, Updike, Mull, Segur and Hewlett.

Prerequisites, Chem. 1 and 5.

Freshman, second term, one three-hour period.

A continuation of Chem. 5, with special attention to the metals.

***Chem. 9. Qualitative Analysis.**

Professor Wroth and Mr. Updike.

Prerequisites, Chem. 1, 2, 5, 6.

Sophomore, first term three hours laboratory, one hour lecture.

This course is required of students in Civil and Textile Engineering. The course is similar to Chem. 13, and is conducted in a like manner. Groups 1, 2 and 3 of the metals are completed during this term.

Text: Sear's "Qualitative Chemical Analysis."

Chem. 10 Qualitative Analysis.

Professor Wroth and Mr. Updike.

Prerequisite, Chem. 9.

Sophomore, second term, time same as Chem. 9.

A continuation of Chem. 9, completing the study of the metallic ions. It also includes a study of a few of the more common acids and the analysis of several unknown mixtures and minerals.

*Chemistry 9 and 10 given to Textile Engineering students, first term. Civil Engineering students, second term.

Chem. 13. Qualitative Analysis.

Professor Boggs and Mr. Mull.

Prerequisites, Chem. 1, 2, 5 and 6.

Sophomore, first term, six hours laboratory, one hour lecture.

This course includes laboratory work, lectures and quizzes, and is required of all students specializing in Chemistry. The lectures deal with the "Mass Law," complexions, solubility product, and other theoretical matters bearing on the work, as well as the methods of procedure, and the precautions necessary to secure good results. Frequent quizzes are given upon these lectures and upon the laboratory work.

Text: Sear's "Qualitative Chemical Analysis."

References: Such texts as Treadwell, Bottger, and Talbot and Blanchard. The work of this term includes the separation of the metallic elements. Enough mixtures of known and unknown composition are given to ground the students thoroughly in the methods used.

Chem. 14. Qualitative Analysis.

Professor Boggs and Mr. Mull.

Prerequisite, Chem. 13.

Sophomore, second term, six hours laboratory, one hour lecture.

This course is a continuation of Chem. 13, and is conducted in a similar manner. The recitations and identifications of the more common anions are studied, and a number of unknown mixtures and minerals are given for complete analysis.

Chem. 17 Quantitative Analysis.

Professor Daniel and Mr. Taylor.

Prerequisite, Chem. 14.

Junior, first term, Engineering Chemists, two hours lecture and nine hours laboratory.

This is the introductory course in Quantitative Analysis. The practice work will include both gravimetric and volumetric processes. The class-room work will be devoted to careful discussion of the theory of the process carried out in the laboratory and to the solution of simple chemical problems.

Texts: Mahin, "Quantitative Analysis" and Lord, "Metallurgical Analysis."

Chem. 18. Quantitative Analysis.

Professor Daniel and Mr. Taylor.

Prerequisite, Chem. 17.

Junior, second term, Engineering Chemists, one hour lecture and twelve hours laboratory.

This course is a continuation of Chem. 17 and is similarly conducted.

Chem. 19. Quantitative Analysis.

Professor Daniel and Mr. Taylor.

Prerequisite, Chem. 18.

Senior, first term, Engineering Chemists, one hour lecture and twelve hours laboratory.

The theory and methods of quantitative analysis will be studied in the classroom.

In the laboratory the work will be individual. Students showing especial fitness and interest will be assigned special topics for experimental investigation. The other members of the class will be given routine work in analysis.

Chem. 21. Organic Chemistry.

Professor Wroth and Mr. Segur.

Prerequisites, Chem. 1, 2, 5 and 6.

Parallel, Chem. 23.

Junior, first term, E. C. and T. E., three hours.

The ground covered in this course includes the paraffin hydrocarbons and their derivatives, mixed compounds derived from paraffins, and the carbohydrates.

Text: Perkin and Kipping, "Organic Chemistry."

Chem. 22. Organic Chemistry.

Professor Wroth and Mr. Segur.

Prerequisites, Chem. 21 and 23.

Parallel, Chem. 24.

Junior, second term, E. C. and T. E. three hours.

It includes the mixed compounds containing nitrogen, phosphorus, arsenic and sulphur, the purine groups and the cyclic hydrocarbons and their derivatives.

Text: As for Chem. 21.

Chem. 23. Organic Chemistry.

Professor Wroth and Mr. Segur.

Prerequisites, as for Chem. 21.

Junior, first term, E. C. and T. E., three hours.

In this course the student becomes acquainted with the apparatus used in organic work, and with such operations as fractional distillation, saponification, steam distillation, and the determination of melting and boiling points. Fifteen or sixteen typical substances, such as ether, chloroform and iodoform, are prepared.

Text: Cohen's "Practical Organic Chemistry."

Chem. 24. Organic Laboratory.

Professor Wroth and Mr. Segur.

Junior, second term, E. C. and T. E., three hours.

This course is a continuation of Chem. 23. The student carries out such processes as nitration, sulphonation and diazotization, and prepares fifteen or sixteen compounds of typical kinds.

Text: As for Chem. 23.

Chem. 29 and 30. Advanced Inorganic Chemistry.

Professor Boggs.

Prerequisites, Chem. 1, 2, 5 and 6.

Sophomore, first and second terms, two hours.

This course consists in systematic study of the metals and non-metals, based on Mendeleeff's classification, and includes the chemistry of some of the rarer elements. While the course is largely descriptive, considerable time is devoted to modern theories.

Text: Byers' "Inorganic Chemistry."

Chem. 33. Physical Chemistry.

Professor Emerson.

Prerequisites, Chem. 1, 2, 5, 6, Phys. 9, 10, 11, and Math. 25, 26.

Senior, first term, two hours.

This subject is given to Seniors. The work of the term includes a study of the physical states of matter, and solution.

Text: "Physical Chemistry for Colleges," Millard.

Chem. 34. Physical Chemistry.

Professor Emerson.

Prerequisite, Chem. 33.

Senior, second term, three hours.

A continuation of Chem. 33. Thermochemistry, Chemical Dynamics and Equilibrium, the modern theories of structure of the Atom and Electrochemistry are studied.

Text: Same as for Chem. 33.

Chem. 36 Physico—Chemical Measurements.

Professor Wroth.

Prerequisites, Chem. 33: Chem. 34, parallel.

Seniors, second term, three hours.

The student will determine molecular weights by the freezing and boiling point methods. Dissociation will be determined by the conductive method. A study is made of Victor Meyer's method for determining molecular weights, the distribution ratio and transition point.

Text: Jones, "The Freezing Point, Boiling Point, and Conductivity Methods."

Chem. 37. Industrial Chemistry.

Professor Daniel.

Prerequisites, Chem. 21, 22.

Senior Engineering Chemists, first term, two hours.

Attention is given to the general principles and operations common to many industries, such as crushing, grinding, lixiviation, filtration, evaporation, crystallization, and the details of the various types of apparatus for carrying on these processes. Descriptions of the most important manufacturing industries, such as the production of alkali, sulphuric acid, fertilizers, glass, pigments, cement, oils, fats, soaps, glycerine, paper, and wood distillation are used to furnish the illustrative material. Reports are submitted by members of the class re-

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viewing journal articles pertaining to industrial chemical processes. Papers are assigned to each student in which he will discuss in some detail a particular process or the utilization of a special raw material. Text Thorp, "Outlines of Industrial Chemistry" and References.

Chem. 38. Industrial Chemistry.

Professor Daniel.

Prerequisites or parallel, Chem. 21, 22 37.

Senior Engineering Chemists, second term, two hours.

This course is a continuation of Chem. 37. Other industrial processes are studied and discussed and the reports and papers are continued.

Text: Thorp, "Outlines of Industrial Chemistry" and References.

Chem. 42. Thesis.

Prerequisites, all courses below the Senior Year.

Senior, Engineering Chemists, second term, one hour lecture and twelve hours laboratory.

During the Senior year, the student prepares a thesis requiring original work. The subject for investigation is usually selected by one of the instructors in the department, who also supervises the work.

DEPARTMENT OF CIVIL ENGINEERING

Professors Branch, Snow, and Smith, Mr. Hommon, Mr. Sanford, and Mr. Lucas.

General Statement.

The graduate in Civil Engineering should have a broad education based upon Mathematics, Mechanics, Chemistry and Physics, the fundamental sciences of Engineering. He is expected to be expert only to the extent that he be a good surveyor, a neat draftsman and an accurate and systematic computer. These are the agencies through which his knowledge of the sciences is applied, and his success in any one of the specialties of the profession will depend largely upon his ability to make this practical application.

The course is so outlined as to fit the student to be of immediate value in practically all of the subordinate positions of the profession and to bring him to a point where he may be able to continue his studies professionally and develop in any particular field which he may choose. Special attention is given to Railroad Engineering and the design of structures in the steel and concrete.

The demand for better highways has broadened the field of Municipal or Highway Engineering until it has assumed such proportions that the Highway Engineer has become a paramount public official, with a broad experience in business methods and a thorough training in Civil Engineering. His knowledge of modern road materials must be certain, necessitating a special preparation in Geology, Mineralogy, and Chemistry. The Highway Engineering subjects are given special attention, and ample study of modern methods of highway construction and maintenance is provided for throughout the Senior year.

There is a great demand on the part of cities for men trained in the handling of water and sewage purification plants, as well as general municipal work. The preservation of the health of communities is constantly calling for more intense specialization in that branch of civil engineering known as Sanitary Engineering, and to meet this need Georgia Tech has added a well equipped laboratory for the study of purification methods and bacterial analysis in supplying communities with pure air and water and for disposing of municipal wastes.

Special Highway Course

A three days' course in advanced highway engineering is given during the last week in January. This work is offered for the benefit of practicing engineers and special information will be sent on request.

Equipment

The aim of the Department is to keep up the equipment to meet the needs of the classes, to add such instruments as are required, and to replace the worn-out models by newer ones, rather than to acquire a large and not fully needed equipment. This process has been worked out so completely that our instruments are all new and of the latest models.

The Course in Civil Engineering

FRESHMAN YEAR

See Page 37.

SOPHOMORE YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equv.
		Class	Lab.	
C. E.	23 Plane, Topographic and City Surveying	1	6	8.5
Eng.	21 American Literature	3		7.5
Math.	23 Calculus	5		12.5
M. L.	3 German			
M. L.	9 French	3		7.5
M. L.	15 Spanish			
Phys.	9 Physics	4		10.
Mil.	3 Military Instruction		5	5.
Total		16	11	51.0

Second Term

Chem.	9-10 Quantitative Analysis	2	6	9.0
C. E.	24 Road and Railroad Surveying	2	3	8.0
Math.	26 Calculus	5		12.5
M. L.	4 German			
M. L.	10 French	3		7.5
M. L.	16 Spanish			
Phys.	10 Physics	4		10.
Phys.	16 Physics Laboratory		3	4.
Mil.	4 Military Instruction		5	5.
Total		16	17	56.

JUNIOR YEAR

First Term

C. E.	33 Hydraulics	3		7.5
C. E.	45 Highway Engineering	1		2.5
Eng.	31 English Literature	3		7.5
Ex. E.	41 Hydraulic Laboratory		3	3.
Math.	35 Differential Equations (Elec. for Mil.)	2		5.
Mech.	33 Applied Mechanics	3	3	10.5
*M. L.	French, Spanish or German	3		7.5
Phys.	11 Physics	3		7.5
Phys.	17 Physics Laboratory		3	4.
Total		18	9	55.0

*After 1923 Geology will be substituted for Modern Language.

Second Term

Abbrev.	Subject	Hrs. Per W'k		Equv.
		Class	Lab.	
C. E.	35 Sewerage and Water Supply	3		7.5
C. E.	36 Engineering Economics	2		5.
C. E.	38 Sanitary Engineering		6	6.
C. E.	46 Highway Laboratory		3	3.
Eng.	32 English Literature (Elec. for Mil. 6)	3		7.5
Ex. E.	57 Materials Laboratory		3	3.
Geol.	10 General Geology	8		7.5
Mech.	44 Mechanics of Materials	3		7.5
*M. L.	French, Spanish or German	3		7.5
Total		17	12	54.5

*After 1923 a course in Excavation will be substituted.

SENIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equv.
		Class	Lab.	
C. E.	51 Sanitary Engineering	2		5.0
C. E.	53 Framed Structures	3		7.5
C. E.	53b Truss Analysis		6	6.
C. E.	55 Reinforced Concrete	2	3	8.
C. E.	57 Highway Engineering	1		2.5
C. E.	57a Highway Laboratory		3	3.
C. E.	61 Contracts & Specif. (Elec. for Mil.)	2		5.
Ex. E.	73 Steam Laboratory		3	3.
Ex. E.	77 Heat Engines	3		7.5
*M. L.	French, Spanish or German	3		7.5
Total		16	15	55.

*After 1924 a course in Public Speaking will be substituted.

Second Term

C. E.	54 Framed Structures	3		7.5
C. E.	54b Structural Detailing		6	6.
C. E.	56 Concrete Structures	2	6	11.
C. E.	58 Highway Engineering	3		7.5
E. E.	2 Applied Electricity	3		7.5
E. E.	3a Electrical Engineering Laboratory		3	4.
*M. L.	French, Spanish or German (Elective for Mil.)	3		7.5
Total		14	15	51.0

*After 1924 a course in English will be substituted.

Civil Engineering

C. E. 21 and 21a. Plane Surveying.

Professor Smith, Mr. Sanford.

Prerequisite, Math. 17.

Sophomore E. E., first term, and M. E. second term, one hour lecture and three hours practice.

The construction, care, and adjustment of instruments commonly used in surveying; their use in traversing, land surveying, and differential and profile leveling; computation of areas, parting off land and the reduction and plotting of field notes.

Text: Raymond's "Plane Surveying."

C. E. 23. Plane, Topographic and City Surveying and Mapping.

Professor Smith, Mr. Sanford.

Prerequisites, Math. 17.

Sophomore C. E., first term, one hour recitation and six hours practice.

The construction, care, and adjustment of instruments commonly used in surveying; their use in traversing, land surveying, and differential and profile leveling; computation of areas, parting off land and the reduction and plotting of field notes.

Theory of the Stadia and the Plane Table and their application in topographic surveying; city and mine surveying, and the U. S. Government system of laying out public lands; the elements of Geodetic

surveying, with the adjustments of the measured and calculated data by the method of Least Squares; the general system of filing and recording deeds in the State of Georgia; plotting, finishing and filing maps; conventional topographic signs and symbols in ink and water color.

A topographic survey is made of a section of the city—usually a park—selected so as to offer as great diversion as possible and to exemplify all of the various methods of horizontal and vertical control and to afford practice in sketching contours, water lining, etc. The field notes are plotted up and a complete map of the section made by each member of the class.

Text: **Breed and Hosmer's "Principles and Practice of Surveying."** Part I.

C. E. 24. Road and Railroad Surveying.

Professor Smith, Mr. Sanford.

Prerequisite, C. E. 23.

Sophomore, C. E., second term, two hours recitation and three hours practice.

Reconnaissance and preliminary surveys; simple, compound, and reverse curves; the American Railway Spiral, with a discussion of various other forms of easement curve; right of way description; location, earth-work computations, haul and the Mass Diagram.

Problems so designed as to illustrate principles, as well as involve individual thinking in their solution, are given throughout the course. Those involving curves and best adapted for the purpose, are "run in" in the field. Checks on all computations and field work are required. Practice is also obtained in cross sectioning and setting slope-stakes.

Text: **Allen's "Railroad Curves and Earthwork, with Tables."**

C. E. 31. Graphical Analysis of Roof Trusses.

Professor Smith.

Junior and Special Arch., first term, three hours, lectures or drawing.

A course in the design of simple roof trusses, including the application of the force and equilibrium polygons and the Maxwell diagrams in the determination of stresses due to dead load, wind and snow loads, etc. The design of a roof truss, wood and steel is given in alternate years.

Text: **"Design of Simple Roof-Trusses in Wood and Steel," Howe.**

C. E. 33 and 33a. Hydraulics.

Professors Branch, Snow, Dunn.

Prerequisites, Phys. 9, 13 and Math. 25.

C. E. 33, Junior C. E., and Senior E. E., first term, three lectures with problems.

C. E. 33a, Junior M. E., second term, three lectures with problems. The study of the principles of laws which govern and control the behavior of liquids at rest or in motion. It includes the hydrostatics of water pressure as applied to simple structures and machines; the hydrokinetics of the flow, discharge, and measurement of water together with applications in the design of canals, conduits, pipe lines, etc.; and the hydrodynamics of the use of water in the generation and transmission of power.

Text: **Merriman's "Treatise on Hydraulics."**

C. E. 34. Masonry Laboratory.

Juniors in Industrial Education, second term, three hours.

This course will consist of practical laboratory study of mortars and mortar mixture, concrete, and simple operations in plastering, and brick and stone masonry. Juniors and Seniors in Industrial Education may elect additional advanced work in masonry work. Not open to engineering students.

C. E. 35. Sewerage and Water Supply.

Professor Branch.

Prerequisite, C. E. 33.

Junior C. E., second term, three lecture hours.

A study of the theory of sewerage systems, their construction and maintenance. Water supply and its distribution.

Text: **Babbitt's and Metcalf and Eddy's "Sewerage," and Folwell's "Water Supply,"** and lectures.

C. E. 36. Engineering Economics.

Professor Snow.

Prerequisites, C. E. 23 and 24.

Junior C. E., second term, two lecture hours.

This course is intended to give the student a foundation for solving the problems in economic selections. It deals with Interest, Annuities, Depreciation, Sinking Funds, Salvage, Economics of Repairs and Renewals, the selection of the best machine for a given purpose, yearly Costs of Service, Operation and Maintenance.

C. E. 38. Sanitary Engineering.

Mr. Hommon and Mr. Sanford.

Prerequisites, Chem. 10.

Junior C. E., Second Term, six hours laboratory.

A Laboratory Course in General Bacteriology and taking up for study the bacteria that are most commonly found in sewage, water and milk.

There are several sewage treatment works and water purification Plants within the immediate vicinity of the school and these will be visited as often as possible for practical demonstrations.

C. E. 45. Highway Engineering.

Mr. Lucas.

Prerequisites, C. E. 24. Physics 9.

Junior C. E., first term, one lecture per week.

This course is intended to familiarize the student with the materials used in highway construction, and prepare him for the work of the laboratory course of C. E. 46. The terminology of Highway Engineering, is also discussed so that the student may become familiar with its terms and definitions.

C. E. 46. Highway Laboratory.

Mr. Lucas.

Prerequisites, C. E. 24, C. E. 45, Phys. 9.

Junior C. E., second term, three hours in Laboratory.

This course is intended to teach the student how to test Highway and Paving Materials, including cement, sand, gravel, slag, rock, etc., for the purpose of deciding whether they are suitable for road purposes.

C. E. 51. Sanitary Engineering.

Mr. Hommon.

Prerequisites, C. E. 35 and 38.

Senior, C. E., first term, two hours lecture.

Sewage Treatment and Water purification with the resume of the most recent work being done along this line; the underlying principles of sewage treatment a discussion of the different types of sewage treatment devices, and the importance of careful and intelligent supervision of sewage treatment and water works.

Text: Babbitt's "Sewage Treatment."

C. E. 52. Theory of Structures.

Professor Smith.

Prerequisites, Mech. 33 and 44.

Senior E. E., second term, three recitations per week.

A course in determination of stress in frames, principally roofs and bridges, for static and moving loads. The design of beams and girders will close the course.

C. E. 53 Framed Structures.

Professor Branch.

Prerequisites, Mech. 33 and 44.

Parallel, C. E. 53b.

Senior C. E., first term, three lecture hours.

A course in which is grouped the analytical and graphical determinations of stresses in framed structures. The subjects studied are girders, roof and bridge trusses of various types, wood and steel trusses, towers, tanks, etc.

Text: Johnson's "Modern Framed Structures."

C. E. 53b. Truss Analysis.

Professor Branch.

Parallel, C. E. 53.

Senior C. E., first term.

Six drawing hours per week, mainly devoted to algebraic and graphic determination of stresses in trusses, etc.

C. E. 54. Framed Structures.

Professor Branch.

Prerequisites, C. E. 53.

Parallel, C. E. 54b.

Senior C. E., second term, three lecture hours.

A course consisting of the design and detailing of steel structures. Bills of material are made. Detail plans of similar structures and of tanks, towers, trestle and steel buildings are studied in and out of class. The course closes with a study of structural erection.

C. E. 54b. Design of Structures.

Professor Branch.

Parallel, C. E. 54.

Senior C. E., Second Term, six hours.

Shop drawings and shipping bills and erection plans.

C. E. 55. Reinforced Concrete.

Professor Snow.

Prerequisites, Ex. E. 52a, Mech. 44.

Senior C. E., first term, two hours recitation and three hours office. Construction of shear and moment diagrams under intricate loading and practical application in reinforced concrete designs; vertical and horizontal shear and diagonal tension. The Straight Line flexure formulas with a discussion of the parabolic formula and other formulas. The design of slabs, beams, girders and columns and buildings.

Text: Hood and Johnson "Concrete Handbook."

C. E. 56. Design of Higher Structures in Concrete.

Professor Snow.

Senior C. E., second term, two hours lecture, six hours office.

A continuation of C. E. 55, devoted mainly to the design of retaining walls, arches and special structures. Each student is placed very largely on his own resources, and given access to the blue print files, etc., he is carefully watched and guided by his instructor to prevent him from arriving at absurdities.

C. E. 57. Highway Engineering.

Professor Snow.

Prerequisites, C. E. 24, C. E. 45-46.

Senior C. E., first term, one lecture.

This course includes the historic, economic, and structural phases of highway engineering. Special emphasis is placed on traffic census, traffic development and traffic classification as related to type of highway; to plotting, mapping, paper location, and final field location from reconnaissance and location surveys; to soil classification and use in construction and maintenance; to selection and construction of type of road to give the maximum service at a minimum cost; to effect of traffic on permanence of wearing surface; to preserving surfaces through artificial binders; and to road machinery.

C. E. 57a. Highway Engineering

Mr. Lucas.

Prerequisites, C. E. 46.

Senior, first term, three hours laboratory.

This is a continuation of C. E. 46 and includes the testing of tars, asphalts, bituminous oils, etc.

C. E. 58. Highway Engineering.

Professor Snow.

Prerequisites, (C. E. 57), (57a).

Senior C. E., second term, three lectures.

This course is a continuation of C. E. 57. It includes the design of highway structures; the maintenance of various types of pavements; estimates of costs, highway computations and mass diagrams.

Text same as in C. E. 57, together with bulletins of Office of Public Roads, state highway departments, etc., and current road literature.

C. E. 61. Engineering Contracts and Specifications.

Professor Snow.

Prerequisites, admission to Senior C. E., two hours lecture.

The purpose of this course is to teach the principles of specifications and contracts so that the student will have a basic knowledge of this branch of engineering. It covers the theories of contracts as related to engineering, especially municipal and highway work. It explains how to write contracts, bonds and general specifications; deals with specifications for materials and methods of starting just what is required in construction.

Text: Contracts and Specifications by Daniel W. Mead.

SCHOOL OF COMMERCE

Professors Watters, Dennison, Byington, Lewis and Noel.

Messrs. Merrick, Rivers, Adair, Kell, Robinson, Seibert, Berry.

Jeffries, Hosmer Warren, Braddock, Ellsworth, Deadwyler.

The School of Commerce was established in the fall of 1912 at the request of a number of the members of the engineering alumni. They recognized that a technical study of the human equation was just as essential to the development of Southern industries as a study of production.

The profession of business has been developed along scientific lines. It has undergone the same processes as did the professions of law and medicine. Successful business men have accumulated information out of their experiences which they have passed down from father to son and to business associates. This data has been collected, analyzed, and classified in such a way as to bring out the economic and scientific principles which form the back-ground for the up-building of the profession of business.

Today there are perhaps more books and magazine articles about business being published than there are about any other scientific subject.

The object in organizing courses in Commerce in this institution was two fold:

(1) To give students desiring to enter upon a business career an opportunity to receive a technical training along administrative lines.

(2) To give Engineering students an opportunity to supplement their training with courses in Accounting, Marketing, Finance, Management and Law.

The instruction given includes both liberal and technical courses. The technical courses are interpreted from a practical viewpoint.

The first two years gives a very thorough grounding in fundamental principles. This enables the student to arrange his course during the last two years so as to permit him to specialize in any of the following fields or in practically any other field having financing, accounting, selling or managing as the basis:

Retail Merchandising	Banking
Wholesale Merchandising	Real Estate
Business Management	Insurance
Credits and Collections	Advertising
Commercial Secretary	Journalism
Commercial Teaching	Bond Brokerage
Government Service	Public Accounting
C. P. A. Examination	Salesmanagement

Advantage of Location

The School of Commerce is fortunately located. Atlanta is the financial, manufacturing and distributing center for the South. It is headquarters of the Federal Reserve Bank for the Fifth District. Practically every business concern doing a nation wide business has an office in this city. These facts coupled with Atlanta's many home industries make it possible to bring the students into close contact with actual business conditions and to give them practical experience in business. The fact that students who were in attendance in the School of Commerce during last year alone are now employed in more than three hundred of the Atlanta business houses is bringing about a very close relationship between the institution and industry.

Day and Evening Schools

The courses described in this catalog are given in the day school. Business men of Atlanta, who are employed during the day, should write for special bulletin giving a complete course of study offered in the evening school. Students are advised to enter the day school if possible.

Degrees Conferred

The courses offered in the School of Commerce lead to the degree of Bachelor of Science in Commerce.

Commerce Student Organizations

Aside from the various class organizations, associations, clubs and fraternities, which include students from all departments of the institution, there are two Commerce fraternities: the Alpha Kappa Psi and the Delta Sigma Pi. The latter fraternity awards each year a gold key to the member of the graduating class in Commerce who makes the highest average grade through his entire course in Tech. Membership in the fraternity is not a pre-requisite to receiving this award.

Transfers from Other Departments

Students in other departments may transfer to the Commerce Course only by securing the approval of the Dean of the School of Commerce, and the faculty. Only students with high scholastic records will be permitted to transfer to Commerce.

Special Rehabilitation Courses

Special two-year courses of less than college grade have been arranged for disabled soldiers assigned to the institution by the Veteran's Bureau. No other student will be permitted to take this work. Persons interested should write for special information.

Advanced Standing

Students who have completed one full year of approved college work may substitute academic credits for Commerce 11, 12, 17, and 18.

Students from other approved institutions who have completed satisfactorily two full years, sixty-four semester hours, may enter the Junior Class. They will be conditioned in the following subjects if credits for them are not filed: English 11, 12, 21 and 31; Mathematics 11 and 15; Commerce 13, 14, 15 and 16. Students transferring from other departments of the Georgia School of Technology, who have completed 200 equivalent hours, may enter the Junior Class under the same conditions as above.

Students entering under the above conditions must pass 213 equivalent hours, including Commerce 23-24, 25-26, 31-32, 47-48 and 35-36, and elect the remaining hours from the subjects listed in the description of courses under the heads of Accounting, Finance, Marketing, Management, Law and Com. 55-56. Additional advanced credits can be given only on commerce subjects taken in an accredited school of commerce of collegiate grade.

Four-Year Courses in Commerce

The schedules of all Commerce students are the same during the first two years. Specialization begins during the Junior year. The courses offered during the first two years are foundation courses forming a basis for the last two years. While the courses offered during the Junior and Senior years are largely elective, when a subject is once placed on a student's schedule it becomes a requirement for graduation. If the course continues through two terms both terms must be passed.

The student may elect upon entering the Junior year, one of the following groups of courses:

ACCOUNTING COURSE—Designed for persons expecting to take up professional or private accounting, or office management.

BANKING AND FINANCE COURSE—Given to prepare men to enter the fields of banking, finance, or to become secretary and treasurer, or manager of a corporation. This course is, also, recommended to persons desiring a general course in business.

MERCHANDISING AND ADVERTISING COURSE—Designed for the student who expects to enter a retail or a wholesale business, or to become an advertising or a sales manager of a manufacturing concern, or to enter the professional field of advertising.

REAL ESTATE AND INSURANCE COURSE—Designed for persons who expect to enter the field of real estate, fire or life insurance business.

FRESHMAN YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Com.	11 Economics: Resources and Industries	3	.....	7.5
Com.	13 Accounting: Introductory	2	6	8.
Com.	15 Law: Contracts and Agency	3	.....	7.5
Com.	17 Management: Business Administration	3	.....	7.5
Com.	19 Management: Office Appliances	.....	3	3.
Eng.	11 English: Composition and Rhetoric	3	.....	7.5
Math.	9 Mathematics: Business	3	.....	7.5
Mil.	1 Military Instruction	.....	5	5.
Total		17	14	53.5

Second Term

Com.	12 Economics: Resources and Industries	3	.....	7.5
Com.	14 Accounting: Introductory	2	6	8.
Com.	16 Law: Partnership and Negotiable Instruments and Marketing	3	.....	7.5
Com.	18 Management: Business Administration	3	.....	7.5
Com.	20 Management: Office Appliances	.....	3	3.
Eng.	12 English: Composition and Rhetoric	3	.....	7.5
Math.	10 Mathematics: Business	3	.....	7.5
Mil.	2 Military Instruction	.....	5	5.
Total		17	14	53.5

SOPHOMORE YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Com.	23 Accounting: Principles	2	6	6.
Com.	25 Marketing: Salesmanship	3		7.5
Com.	27 Law: Corporation and Insurance	3		7.5
Com.	31 Finance: Principles	3		7.5
Com.	35 Marketing: Business English	2		5.
Com.	37 Economics: American Government	3		7.5
Eng.	24 Economics: Principles	3		7.5
Mil.	5 Military Instruction		5	5.
Total		19	11	55.5

Second Term

Com.	24 Accounting: Principles	2	6	8.
Com.	26 Marketing: Advertising	3		7.5
Com.	28 Law: Real Estate	3		7.5
Com.	32 Finance: Banking	3		7.5
Com.	36 Marketing: Business English	2		5.
Com.	38 Economics: American Government	3		7.5
Eng.	21 English: American Literature	3		7.5
Mil.	4 Military Instruction		5	5.
Total		19	11	55.5

ACCOUNTING

JUNIOR YEAR

For outline of Freshman and Sophomore years see above.

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
	Required courses:			
Com. 41	Accounting: Problems	3		7.5
Com. 43	Accounting: Cost	2	3	7.5
Com. 47	Finance: Corporation	3		7.5
Eng. 31	English Literature	3		7.5
M. L.	Spanish, French or German	3		7.5
	Total required.....	14	3	37.5

Students must elect 15 equivalent hours from the following courses:

Com.	21 Accounting: Theory	2		5.
Com.	49 Economics: Industrial History	2		5.
Com.	53 Marketing: Merchandise	3		7.5
Com.	55 Economics: Problems	3		7.5
Com.	57 Marketing: Advertising Typography	2	3	7.5
Com.	77 Marketing: Principles of Journalism	2		5.
Mil.	5 Military Instruction			7.5

Second Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
	Required Courses:			
Com.	42 Accounting: Problems	2	3	7.5
Com.	44 Accounting: Cost	3	.....	7.5
Com.	48 Finance: Corporation	3	.....	7.5
M. L.	Spanish, French, or German	3	.....	7.5
Total required.....		11	3	30.

Students must elect 22½ equivalent hours from the following courses:

Com.	22 Accounting: Theory	2		5.
Com.	50 Economics: Industrial History	2		5.
Com.	54 Marketing: Merchandising	3		7.5
Com.	56 Economics: Business Cycles	3		7.5
Com.	58 Marketing: Psychology of Advertising	2	3	7.5
Com.	78 Marketing: Principles of Journalism	2		5.
Eng.	32 English Literature	3		7.5
Mil.	6 Military Instruction			7.5

SENIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
	Required Courses:			
Com.	61 Accounting: Auditing	3	.....	7.5
Com.	83 Accounting: Income Tax	2	.....	5.
Com.	85 Accounting: Advanced Problems	2	.....	5.
M. L.	Spanish, French, or German	3	.....	7.5
	Total	10	.....	25.

Students must elect 27½ equivalent hours from the following courses:

Com.	63 Marketing: Applied Advertising	3		7.5
Com.	73 Finance: Investments	3		7.5
Com.	79 Marketing: Applied Salesmanship	2	3	7.5
Com.	87 Management: Life and Accident Insurance	3		7.5
Com.	89 Management: Liability Insurance	3		7.5
Com.	91 Management: Real Estate	2		5.
Com.	93 Management: Industrial	2		5.
Com.	97 Marketing: Practical Journalism	2	3	7.5
Mil.	7 Military Instruction			7.5

Second Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
	Required Courses:			
Com. 62	Accounting: Auditing	3	.....	7.5
Com. 70	Finance: Credits and Collections.....	3	.....	7.5
Com. 84	Accounting: Income Tax	2	.....	5.
Com. 86	Accounting: Advanced Problems	2	.....	5.
	Total	10	.....	25.

Georgia School of Technology

Students must elect 27.5 equivalent hours from the following courses:

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Com. 64	Marketing: Applied Advertising	3		7.5
Com. 67	Management: Fire and Casualty Insurance	3		7.5
Com. 74	Finance: Investments	3		7.5
Com. 80	Marketing: Applied Salesmanship	2	3	7.5
Com. 92	Management: Real Estate	2		5.
Com. 94	Management: Industrial	2		5.
Com. 98	Marketing: Practical Journalism	2	3	7.5
M. L.	Spanish, French, or German	3		7.5
Mil.	Military Instruction			7.5

MERCHANDISING AND ADVERTISING JUNIOR YEAR

For outline of Freshman and Sophomore work see page 55.

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Required Courses:				
Com. 47	Finance: Corporation	3	.....	7.5
Com. 49	Economics: Industrial History	2	.....	5.
Com. 53	Marketing: Merchandising	3	.....	7.5
Com. 57	Marketing: Advertising Typography	2	3	7.5
M. L.	Spanish, French, or German	3	.....	7.5
Eng. 31	English: English Literature	3	.....	7.5
Total required.....		16	3	42.5

10 equivalent hours to be elected from the following list:

Com. 41	Accounting: Problems	3		7.5
Com. 43	Accounting: Cost	2	3	7.5
Com. 55	Economics: Problems	3		7.5
Com. 77	Marketing: Principles of Journalism	2		5.
Arch. 15	History of Architecture, Ancient	2		5.
Mil. 8	Military Instruction			7.5

Second Term

Required Courses:				
Com. 48	Finance: Corporation	3		7.5
Com. 50	Economics: Industrial History	2		5.
Com. 54	Marketing: Merchandising	3		7.5
Com. 58	Marketing: Psychology of Advertising	2	3	7.5
M. L.	Spanish, French, or German	3		7.5
Total required		13	3	35.

Students must elect 17½ hours from the following list:

Com. 42	Accounting: Problems	3		7.5
Com. 44	Accounting: Cost	2	3	7.5
Com. 56	Economics: Business Cycles	3		7.5
Com. 78	Marketing: Principles of Journalism	2		5.
Eng. 32	English: English Literature	3		7.5
Arch. 15	History of Architecture Mediaeval	2		5.
Mil. 6	Military Instruction			7.5

Department of Commerce

SENIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Required Courses:				
Com. 63	Marketing: Applied Advertising	3	.....	7.5
Com. 79	Marketing: Applied Salesmanship	2	3	7.5
M. L.	Spanish, French, or German	3	.....	7.5
Total		8	3	22.5

Students must elect 30 equivalent hours from the following courses:

Com. 61	Accounting: Auditing	3		7.5
Com. 73	Finance: Investments	3		7.5
Com. 83	Accounting: Income Tax	2		5.
Com. 87	Management: Life and Accident Insurance	3		7.5
Com. 89	Management: Liability Insurance	3		7.5
Com. 91	Management: Real Estate	2		5.
Com. 93	Management: Industrial	2		5.
Com. 97	Marketing: Practical Journalism	2	3	7.5
Arch. 27	History of Architecture, Modern	2		5.
T. E. 4	Cotton Grading	3		7.5
Mil. 7	Military Instruction			7.5

Second Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Required Courses:				
Com. 64	Marketing: Applied Advertising	3	.....	7.5
Com. 70	Finance: Credits and Collections	3	.....	7.5
Com. 80	Marketing: Applied Salesmanship	2	3	7.5
Total		8	3	22.5

Student must elect 30 equivalent hours from the following courses:

Com. 62	Accounting: Auditing	3		7.5
Com. 67	Management: Fire and Casualty Insurance	3		7.5
Com. 74	Finance: Investments	3		7.5
Com. 84	Accounting: Income Tax	2		5.
Com. 92	Management: Real Estate	2		5.
Com. 94	Management: Industrial	2		5.
Com. 98	Marketing: Practical Journalism	2	3	7.5
M. L.	Spanish, French, or German	3		7.5
Mil. 8	Military Instruction			7.5

BANKING AND FINANCE JUNIOR YEAR

For outline of Freshman and Sophomore work see page 55.

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
	Required Courses:			
Com. 41	Accounting: Problems	3	.....	7.5
Com. 47	Finance: Corporation	3	.....	7.5
Eng. 31	English: English Literature	3	.....	7.5
M. L.	Spanish, French, or German	3	.....	7.5
	Total	12	.....	30.

Georgia School of Technology

Student must elect 22.5 equivalent hours from the following list:

Com.	21	Accounting: Theory	2	.....	5.
Com.	43	Accounting: Cost	2	3	7.5
Com.	49	Economics: Industrial History	2	.....	5.
Com.	53	Marketing: Merchandising	3	.....	7.5
Com.	55	Economics: Problems	3	.....	7.5
Com.	57	Marketing: Advertising Typography	2	3	7.5
Com.	77	Marketing: Principles of Journalism	2	.....	5.
Mil.	5	Military Instruction .....	.....	.....	7.5

Second Term

Required Courses:					
Com.	42	Accounting: Problems	3	.....	7.5
Com.	48	Finance: Corporation	3	.....	7.5
M. L.		Spanish, French, or German	3	.....	7.5
Total			9	.....	22.5

Student must elect 30 equivalent hours from the following list:

Com.	22	Accounting: Theory	2	.....	5.
Com.	44	Accounting: Cost	2	3	7.5
Com.	50	Economics: Industrial History	2	.....	5.
Com.	54	Marketing: Merchandising	3	.....	7.5
Com.	56	Economics: Business Cycles	3	.....	7.5
Com.	58	Marketing: Psychology of Advertising	2	3	7.5
Com.	78	Marketing: Principles of Journalism	3	.....	5.
Eng.	21	English: American Literature	2	.....	1.5
Mil.	6	Military Instruction .....	.....	.....	7.5

SENIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equy.
		Class	Lab.	
Required Courses:				
Com.	61 Accounting: Auditing	3	.....	7.5
Com.	63 Marketing: Applied Advertising	3	.....	7.5
Com.	73 Finance: Investments	3	.....	7.5
Com.	83 Accounting: Income Tax	2	.....	5.
M. L.	Spanish, French, or German	3	.....	7.5
Total		14	.....	35.

Student must elect 17.5 equivalent hours from the following list:

Com.	79	Marketing: Applied Salesmanship	2	3	7.5
Com.	87	Management: Life and Accident Insurance	3	.....	7.5
Com.	89	Management: Liability Insurance	3	.....	7.5
Com.	91	Management: Real Estate	2	.....	5.
Com.	93	Management: Industrial	2	.....	5.
Com.	97	Marketing: Practical Journalism	2	3	7.5
Mil.	7	Military Instruction .....	.....	.....	7.5

Second Term

Required Courses:					
Com.	62	Accounting: Auditing	3	.....	7.5
Com.	64	Marketing: Applied Advertising	3	.....	7.5
Com.	70	Finance: Credits and Collections	3	.....	7.5
Com.	74	Finance: Investments	3	.....	7.5
Com.	84	Accounting: Income Tax	2	.....	5.
Total			14	.....	35.

Department of Commerce

Student must elect 17.5 equivalent hours from the following list:

Com.	67	Management: Fire and Casualty Insurance	3	.....	7.5
Com.	80	Marketing: Applied Salesmanship	2	3	7.5
Com.	92	Management: Real Estate	2	.....	5.
Com.	94	Management: Industrial	2	.....	5.
Com.	98	Marketing: Practical Journalism	2	3	7.5
M. L.		Spanish, French, or German	3	.....	7.5
Mil.	8	Military Instruction .....	.....	.....	7.5

REAL ESTATE AND INSURANCE

For outline of Freshman and Sophomore work see page 55.

JUNIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Required Subject:				
Com.	47	Finance: Corporation	3	7.5
Com.	57	Marketing: Advertising Typography..	2 3	7.5
Eng.	31	English Literature	3	7.5
M. L.		Spanish, French, or German	3	7.5
Total		11	3	30.

Student must elect 22.5 equivalent hours from the following list:

Com.	41	Accounting: Problems	3	.....	7.5
Com.	43	Accounting: Cost	2	3	7.5
Com.	53	Marketing: Merchandising	3	.....	7.5
Com.	55	Economics: Problems	3	.....	7.5
Com.	77	Marketing: Principles of Journalism	2	.....	5.
Arch.	15	History of Architecture, Ancient	2	.....	5.
Mil.	5	Military Instruction .....	.....	.....	7.5
Math.	11	Algebra	3	.....	7.5

Second Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
	Required Subjects:			
Com.	48 Finance: Corporation	3	.....	7.5
Com.	58 Marketing: Psychology of Advertising	2	3	7.5
M. L.	Spanish, French, or German	3	.....	7.5
	Total	11	.....	22.5

Student must elect 30 equivalent hours from the following list:

Com.	42	Accounting: Problems	3	.....	7.5
Com.	44	Accounting: Cost	2	3	7.5
Com.	54	Marketing: Merchandising	3	.....	7.5
Com.	56	Economics: Business Cycles	3	.....	7.5
Com.	78	Marketing: Principles of Journalism	2	.....	5.
Arch.	16	History of Architecture, Medieval	2	.....	5.
Eng.	32	English Literature	3	.....	7.5
Mil.	6	Military Instruction .....	.....	.....	7.5
Math.	15	Trigonometry	3	.....	7.5

SENIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
	Required Courses:			
Com.	63 Marketing: Applied Advertising	3	.....	7.5
Com.	79 Marketing: Applied Salesmanship	2	.....	5.
Com.	89 Management: Liability Insurance	3	.....	7.5
Com.	87 Management: Life and Accident Insurance	3	.....	7.5
Com.	91 Management: Real Estate	2	.....	5.
M. L.	Spanish, French, or German	3	.....	7.5
	Total	16	.....	40.

Student must elect 7 equivalent hours from the following list:

Com.	61 Accounting: Auditing	3	.....	7.5
Com.	73 Finance: Investments	3	.....	7.5
Com.	83 Accounting: Income Tax	2	.....	5.
Com.	93 Management: Industrial	2	.....	5.
Com.	97 Marketing: Practical Journalism	2	3	7.5
Arch.	27 History of Architecture, Modern	2	.....	5.
C. E.	21 Plane Surveying	1	3	5.5
Mil.	7 Military Instruction	3	.....	7.5
Total		16	.....	40.

Second Term

Required Courses:				
Com.	64 Marketing: Applied Advertising	3	.....	7.5
Com.	67 Management: Fire and Casualty Insurance	3	.....	7.5
Com.	70 Finance: Credits and Collections	3	.....	7.5
Com.	80 Marketing: Applied Salesmanship	2	3	7.5
Com.	92 Management: Real Estate	2	.....	5.
Total		13	3	35.

Student must elect 17.5 equivalent hours from the following list:

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Com.	62 Accounting: Auditing	3	.....	7.5
Com.	74 Finance: Investments	3	.....	7.5
Com.	84 Accounting: Income Tax	2	.....	5.
Com.	94 Management: Industrial	2	.....	5.
Com.	98 Marketing: Practical Journalism	2	3	7.5
M. L.	Spanish, French, or German	3	.....	7.5
Mil.	8 Military Instruction .....	.....	.....	7.5

ACCOUNTING

Com. 13 and 14. Introductory Accounting.

Freshman, first and second terms, two hours recitation and six hours laboratory.

This is an introductory course in bookkeeping preparatory to the course in accounting. It does not require a previous knowledge of bookkeeping. It includes the theory of debits and credits, the construction of the trial balance, the profit and loss statement, and the balance sheet. Practice is given in the use of the various types of modern books of original entry. Students who have completed a high school course in bookkeeping may substitute another course for the first term's work by securing a special permit from the head of the department. All commerce students will be required to take the second term's work.

Com. 21 and 22. Theory of Accounts.

Offered in the Evening School only. May be elected by day students.

Com. 23 and 24. Principles of Accounting.

Sophomore, first and second term, two hours recitation and six hours laboratory.

This course represents the connecting link between theory and practice. The handling of each individual asset account, and liability account, is taken up in detail, giving the "why" of each step and illustrating the practical application with a problem. The preparation of the different forms of balance sheets, profit and loss accounts, statements of affairs, statements of realization and liquidation are illustrated and explained in full. The course is built up to show the evolution of the holding company by means of explaining the legal types of organization preceding the same, namely, sole proprietorship, co-partnership and corporation. All commerce students are required to take this course. Prerequisites: Com. 13-14.

Com. 41 and 42. Practical Accounting Problems.

Junior, first and second terms, three hours recitation.

This course consists of carefully selected problems taken from examinations set by the Certified Public Accountancy Boards in the different states, and by the American Institute of Public Accountants. They deal with single entry statements of profit and loss, single entry balance sheet construction, work sheet for adjusting a trial balance the preparation of statements for factory operations, the opening and closing of sets of accounts for the different forms of organizations, the special problems of different corporate openings, problems involved in mergers, consolidations, promotions, holding companies, stock donations, refunding voluntary bankruptcy, statement of affairs and deficiency account, receivership, reorganization, realization and liquidation of insolvent sole proprietors, administrative accounts. In all problems the work sheets and various report forms are worked out as the case may require.

Prerequisites: Com. 23-24.

Com. 43 and 44. Factory Cost Accounting.

Junior, first and second terms, two hours recitation, three hours laboratory.

Lectures will be given explaining the elements of costs, principles and general methods of cost finding, direct and indirect, expenses, wage systems, recording material and labor costs, devising cost systems. The students will be required to work up a set of manufacturing cost books during the first semester. During the last semester they will be given problems involving the various phases of cost accounting. The Comptometer and other calculating machines will be used in calculating costs.

Special emphasis will be given to problems relating to textile and cotton oil mills, lumbering and other distinctly Southern industries.

Prerequisites: Com. 23-24.

Com. 61 and 62. Auditing, Theory and Practice.

Senior, first and second terms, three hours recitation.

This course prepares the manager to investigate the operation of his own business, the prospective investor to determine the value of the proposition, the student to practice the public accounting profession. The student will be taught to prepare audit programs for various classes of business. Methods of accounting used by unsuccessful concerns will be explained and the cause of the failure analyzed. Methods followed by concerns in need of capital involving hypothecation of assets, and manipulation of accounts with allied and subsidiary concerns will be discussed. Actual practice will be given in the audit of books of various lines of business.

Prerequisites: Com. 23-24, and 41-42.

Com. 83 and 84. Income Tax.

Senior, first and second terms, two hours recitation.

This is a study of the income and excess profits law and the treasury ruling relating to same. Problems will be submitted covering the details of making up corporation and personal income tax reports. This course is given in the evening school by a professional income tax expert, and may be elected by day students who have completed Com. 41 and 42.

Com. 85 and 86. Advanced Accounting Problems.

Senior, first and second terms, two hours recitation.

This course consists of a study of C. P. A. problems which have been given on previous examinations. It is intended for persons who expect to take up the professional practice of accounting.

Prerequisites: All accounting courses described above.

ECONOMICS

Com. 11 and 12. Economic Resources and Industries.

Freshman, first and second terms, three hours recitation.

This course forms a foundation for the study of Marketing, Economics, and Finance. It covers the study of the location and distribution of natural resources, the location of industrial enterprises and the influence of geographical and climatic conditions on the development of trade. Special attention will be given to the study of mineral and food products, textile materials, skins, and leather goods, oils, woods, drugs, dye-stuffs, and how they influence the growth of cities and transportation facilities.

Com. 49 and 50. Industrial History.

Junior, first and second terms, two hours recitation.

This course traces the progress and development of Europe and its effect on the commercial situation in America. It shows the relation between commercial progress and political history. Special emphasis is given to the development of industry, agriculture and land tenure, growth of slavery, internal improvements, finance, development of banking, combination of labor and capital, growth of transportation facilities, natural resources, large scale manufacturing, commercial expansion, education and general social life.

Com. 37 and 38. American Government.

Sophomore, first and second terms, three hours recitation.

The primary purpose of this course is not only to develop better and more intelligent citizenship, but particularly to have the student understand the intimate relationship between government and business. After brief consideration of the framework and functions of the branches of government, special emphasis is laid upon the regulation and promotion of business through statutes and commissions. Cases and judicial decisions are employed to show the division of constitutional authority over business between the states and the federal government.

Commerce 55. Economic Problems.

Junior, second term, three hours recitation.

The purpose of this course is to secure for the student a definite mastery of the theory of economic principles. This aim is facilitated by the use of illustrative problems based upon facts obtained from the business world actually at work. It attempts to do for economics what the science of chemistry has done for that subject—give definiteness to its field. The problems are based upon such questions as: increase in output, supply and demand schedules normal price schedules; output control; and related questions. Its study will assist the business man to forecast the rise and fall of sales, prices and changes in production and consumption. Prerequisites: English 24, Commerce 31, Commerce 32.

Commerce 56. Business Cycles.

Junior, second term, three hours recitation.

The severity of the ups and downs in business is traceable primarily to the lack of foresight and to the lack of knowledge of the factors that determine the course of business prosperity, and to failure to adopt corrective policies before it is too late. One's foresight and knowledge can be made to play a larger part in prosperity provided that foresight and knowledge are backed up by business statistics, accurately arrived at and accurately compiled. This course deals with the questions of how to collect and to compile business data in order to be able to determine the trend of business. With this knowledge the business man will be able to adjust his affairs to meet the changes in business conditions.

FINANCE

Com. 31. Principles of Finance.

Sophomore, first term, three hours recitation.

A study of the causes which lead to the rise and fall of prices.

The relation of money values to market prices; functions of money, quantities of money, banking and medium of exchange, centralized and decentralized banking systems, panics and industrial depressions and monetary problems. All Commerce students are required to take this course.

Com. 32. Banking.

Sophomore, second term, three hours recitation.

This course serves a two-fold purpose. It gives a working knowledge of a bank and at the same time teaches the student how to use the services of the bank to the greatest advantage in other lines of business. It deals with modern banking functions, classes of banks; bank loans, special loan problems, bank deposits, domestic exchange, foreign exchange, bank notes, clearing houses, bank organization and administration, capital and service statements, government regulations, Federal Reserve Act and the operation and control of the Reserve System. Prerequisites: Com. 31 and English 24.

Com. 47 and 48. Corporation Finance.

Junior, first and second terms, three hours recitation.

Nearly every business man is interested in the formation or management of a corporation, or in buying or selling stocks of corporations. The methods by which corporations are organized and financed and the principles that underlie corporate management are explained. The difference between what is permissible at law and what is expedient in practice will be emphasized. The course includes the instruments of finance, the methods of raising the managing investments and working capital, inter-business relations, distribution of profits, causes and remedies for failures.

Com. 73 and 74. Investments.

Senior, first and second terms, three hours recitation.

This course is intended to present the methods of analyzing and determining the values of the various kinds of stocks and bonds. It prepares the business man to seek out safe investment for his money. A life-time's savings may be lost in a day. It also, gives special preparation for a position as secretary and treasurer of a corporation. The students will be required to study and make reports on stocks and bonds of railway, manufacturing, banking and other classes of corporations, also on municipal and farm bonds and mortgages.

Prerequisites: Com. 47-48.

Com. 70. Mercantile Credits.

Senior, second term, three hours recitation.

A practical study of the factors to be considered when credit is granted, and the routine of the credit and collection departments. It explains the duties of the members of the credit department, the granting of credit to customers, bank credits, commercial agencies,

interchange of credit information about customers, checking orders, collection and credit man's methods, causes of failure, bankruptcy of claims and adjustments. Prerequisites: Com. 23-24, 31-32.

LAW

Com. 15. Law of Contracts and Agency.

Freshman, first term, three hours recitation.

This course gives the student a working knowledge of the law of contracts and agencies and its relation to business. It deals with laws and the principles of law in general with the elements necessary to a contract, with the different forms and manifestations of them, with breach of contracts and with the rights and remedies belonging thereto. In agency, the different ways by which agents are appointed, the interests and the rights arising therefrom, the powers of the agent and the extent of authority conferred are investigated.

Com. 16. Law of Negotiable Instruments and Marketing.

Freshman, second term, three hours recitation.

This course deals with law relating to bailments, sales, restraint of trade, unfair competition, and legal instruments used in financing business transactions such as notes, drafts, stocks, bonds and mortgages. The rights and obligations of all parties concerned are thoroughly discussed and analyzed.

Com. 27. Law of Corporations and Insurance.

Sophomore, first term, three hours recitation.

This course deals with the formation of corporations, their management, including the issue and transfer of stock, the rights and liabilities of promoters, stockholders and directors; the proper method of holding corporate meetings and keeping the records thereof; the taxes required of the ordinary business corporation.

It deals with fire insurance, special policy provisions, loss and proceedings, life and accident insurance.

Com. 28. Law of Real Estate.

Sophomore, second term, three hours recitation.

The real estate law course covers the law relating to methods of transferring titles, abstracts of title, mortgages, liens, wills and administration.

MANAGEMENT

Commerce 19 and 20. Office Appliances.

Freshman, first and second term, three hours laboratory.

The students are trained in the use of the various office appliances, as typewriters, adding machines, bookkeeping machines, comptometers, calculating machines, multigraphs, mimeographs, addressographs, billing machines, and letter folding machines.

No credits will be given for this course for work done elsewhere. Upper classmen may elect this course, but no credit will be given toward graduation.

Com. 17 and 18. Business Administration.

Freshman, first and second terms, three hours recitation.

This course includes a study of note taking, personal efficiency, a broad, general survey of the field of business, and inspirational literature.

America has given the world the modern business man, and this course will endeavor to show the important place which business occupies in the everyday life of the American people; that is, how our every day necessities would be impossible of attainment but for modern business. This course will also show the part played by the various divisions of business, including finance, accounting, advertising, selling, banking, transportation, and business law.

Com. 67. Fire and Casualty Insurance.

Senior, first term, three hours recitation.

This subject is treated from the viewpoint of both the policy-holder and the insurance company. It involves a study of types of policies, policy contracts, principles of rate making, hazards, reserves for protection of policyholders, examination of the company to determine its safety, adjustments of losses, fire protection and prevention, state regulation and fixing of rates, and the methods of organizing an insurance company or agency.

Com. 87. Life and Accident Insurance.

Senior, first term, three hours recitation.

This course is intended for persons who expect to go into the life and accident insurance business. It covers the methods of operating district and branch offices, insurance policies, and insurance salesmanship.

Com. 89. Liability Insurance.

Senior, first term, three hours recitation.

The passage of the Workmen's Compensation Act in the various states, not only necessitates a very thorough knowledge of this subject, but opens up a very remunerative field of employment in this branch of the Insurance business. This course deals with the protection of the employer and employee against financial loss due to accidents, sickness, negligence, and labor disturbances. It consists of a study of social insurance, workmen's compensation, the determination of the proper wage and the various methods for accomplishing this, collective bargaining, the open and closed shop, strikes, and lockouts, boycott, and sabotage, arbitration and conciliation.

Com. 91-92 Real Estate.

Senior, first and second term, two hours recitation.

A man can scarcely be in business without becoming interested in real estate, either as owner or lessee, or as a professional real estate man. It is often profitable and sometimes a dangerous field of investment. This is a practical course dealing with the business problems connected with the sale, purchase and management of real estate.

The various departments of a modern Real Estate office are studied with a view of determining what a person should know in order to successfully operate each department. The departments covered are renting, sales, appraisal, loans, insurance, chain stores, leasing, building, accounting, and trust.

Com. 93-94. Industrial Management.

Senior, first and second terms, two hours recitation.

This course involves a study of the fundamental principles of factory organization and how these principles may be applied in placing a manufacturing business on a profitable basis. It discusses organization elements of an industrial body; departmental authorities—their duties and responsibilities, how to pay labor, welfare work, depreciation and its relation to costs, how the executive may keep in touch with his factory and how to cut labor costs.

MARKETING

Commerce 25. Principles of Salesmanship.

Sophomore, first term, three hours recitation.

The purpose of this course is to give the student a broad, general knowledge of the principles of salesmanship. Among the topics discussed are: the essential personal qualifications of the salesman, preparing for the interview, methods of handling objections, methods of building up strong sales arguments, graphic presentation of facts and methods of closing sales. The principles and problems bring the student in contact with both retail and wholesale selling, the sale of services, financial selling and the sale of insurance.

Lectures, demonstrations and problems are calculated to develop enthusiasm and show the possibilities of influencing men in every line of business through the exercise of tact, courtesy, suggestion, forceful comparisons and an understanding of human nature. All commerce students are required to take this course.

Commerce 26. Principles of Advertising.

Sophomore, second term, three hours recitation.

This basic course covers the elementary principles of advertising. The purpose is to give the student a broad knowledge of advertising, applicable to the problems of the retailer, wholesaler or manufacturer in a fundamentally correct manner.

Topics discussed include: History of advertising; finding points of contact; services the product can render the customer; appeals to use in advertising; the effect of different appeals used; principles of advertising copy; use of color and display; art work; type work and printer's measurements; how layouts are made; planning the campaign; choosing the media; checking the returns; organization of an advertising department; relation of advertising to other departments.

All commerce students are required to take this course. Prerequisite: Commerce 25.

Com. 35 and 36. Business English.

Sophomore, first and second terms, two hours recitation.

Every letter that is properly written lays the foundation for future business. The type of the letter indicates the type of the concern. Tactful letters save customers and make friends. This course teaches how to make every letter a sales letter whether it be to sell goods, collect money or adjust a complaint. Lectures are given covering the elements of letter writing, special emphasis being given to the preparation of sales letters. Then the student is required to write a letter embodying the principles covered. The letter is reviewed by the instructor. The faults are corrected, the good points are noted and suggestions are made to assist the student to improve his style.

Com. 53 and 54. Marketing and Merchandising.

Junior, first and second terms, three hours recitation.

This course covers successively, the retailer's, the wholesaler's and the manufacturer's problems of distribution, and finally covers the producers' cooperative marketing associations. The course begins with the problems of the modern retailer, and the lectures take up and show, how the needs of a community may be analyzed, the choosing of location, the figuring of rent and the relative cost of doing business, store arrangement, store display, retail price fixing, the importance of turnover, correct buying methods, training and compensation of salespeople, and the cause and avoidance of retail failure.

The problems of the manufacturer are then entered into, which includes a comparative value of different channels of distribution, the study of buying habits, analysis of market for potential consumers, sources of statistical information relative to the strength of market, study of Trade Commission rulings, patent laws, problems of price determination and all the other factors dealing with the distribution of manufactured goods. Practical problems submitted by the business men along these lines and research work among those in this field assures a practical as well as a theoretical knowledge of the subjects.

Prerequisites: Com: 25 and 26.

Com. 57. Advertising Typography.

Junior, first term, two hours recitation, three hours laboratory.

The modern advertiser, through a knowledge of the mechanical production methods employed, can lay-out effective type designs, capable of quick, accurate production. In this course layout, type-work, color, spacing, and ornament are the subject of a series of problems and lectures. Mechanical production methods become the tools by which an advertisement is made to carry a message.

Com. 58. Psychology of Advertising.

Junior, second term, two hours recitation, three hours laboratory.

From a study of psychology as applied to advertising, the student learns the probable reaction to be expected from different appeals, devices, or plans. Present day attention devices and interest incentives are studied concretely, together with modern applications of the laws of suggestion, memory, and association, in advertising. Psychological laboratory and field tests of advertisements and containers are made. Color, design, and balance are also subjects of practical problems and experiments.

Com. 63 and 64. Applied Advertising.

Senior, first and second terms, two hours recitation, three hours laboratory.

Successfully organized as a model advertising agency, advertising departments of a manufacturing concern, and finally of a department store, this class furnishes the advanced student with practical experience in advertising. Campaigns are planned and completely executed from preliminary research to final compilation of returns. Not only copy-writing, art selection, choice of media, and purchasing of paper are covered, but special attention is given to merchandising and planning. This includes the analysis of products for selling points, study of containers, evaluation of distribution methods, and the study of sales conditions which affect the success of the advertising cam-

paigns executed. Intricate processes such as Ben Day work, multi-color printing, etc., are studied through trips to local engraving and printing plants. This course is open only to students who have completed their theoretical study of advertising and are competent to undertake practical advertising duties in the class.

Prerequisites: Com. 25-26, 53-54, and 57-58.

Com. 77 and 78. Principles of Journalism.

Junior, first and second terms, two hours recitation.

This course in Journalism is designed not only for those who intend to take up some form of newspaper, magazine, or trade journal work as a profession, but also for the business man who wishes a broader knowledge of this important aid to his success, and a greater ability in expressing himself. This is particularly valuable to men who will be engaged in any form of advertising or in any business where publicity is of value. The student is given practical work in news articles; he learns the principles underlying the art and is given a broad survey, by means of special lectures, of the field of Journalism.

Com. 79 and 80. Salesmanagement and Applied Salesmanship

Senior, first and second terms, two hours recitation and three hours laboratory.

The every-day decisions and solutions of the salesmanager's problems are dealt with. This includes methods of choosing salesmen, methods of compensating salesmen, the routing of salesmen, checking up of salesmen's activities, establishing sales quotas, determination of price policies, selecting channels of distribution, proper relation with factory and other departments, activities of the sales promotion department, dealer co-operation, salesman's conventions, training schools, and in fact, all of the major and minor policies which fall within the scope of salesmanagement. Actual problems assure practical solutions, while correct theory determines that clear-cut analytical methods be employed in the solution. Prerequisites: Com. 25-26, 53 and 54.

Com. 97 and 98. Practical Journalism.

Senior, first and second terms, two hours recitation, three hours laboratory.

A study will be made of the editorial policies for metropolitan newspapers, small-town dailies, country-weeklies, trade papers and general magazines. Specific problems will be worked out in the laboratory covering business policy, circulation methods, advertising department, printing, and production methods. Opportunity will be given for specialization in some one class of publications. Advertising students will find this course helpful as further basis for judging media.

CO-OPERATIVE PLAN

GENERAL ENGINEERING (COMBINING THE FUNDAMENTALS OF ELECTRICAL AND MECHANICAL ENGINEERING) AND TEXTILE ENGINEERING

Prof. T. P. Branch, Dean.

Associate Prof. E. H. Flath, Co-ordinator.
E. W. Bullock, Assistant Co-ordinator.

Since 1912 the Georgia School of Technology has offered two courses in Engineering, the standard four year theoretical course as given by other engineering colleges and a five year co-operative course in which the student spends, alternately, four weeks in college and four weeks in practical engineering work in the shops of Atlanta and the cities within a radius of about three hundred miles.

The Co-operative Department offers two courses, one in General Engineering (combining the fundamentals of Electrical and Mechanical) which leads to the degree of B.S. in Engineering, Co-operative Plan, and one in Textile Engineering which leads to the degree of B.S. in Textile Engineering, Cooperative Plan.

The course in General Engineering combines all the fundamental principles in Electrical and Mechanical Engineering, omitting some of the specialized subjects.

Should a student desire to specialize in any branch of Electrical or Mechanical Engineering, he would be placed during the last two or three years in school in such an industry as would give him practical knowledge of the speciality he desires to follow.

This course is planned to equip the student for a position in either the designing, production, sales, or executive department of industry.

In the Co-operative Plan the students are divided into two Groups, or Sections, Section 1 and Section 2.

Section 1 reports to college for 4 weeks during which time it is given the regular class room work. At the same time Section 2 is working in the various shops in and about Atlanta. At the end of this four-week period the sections change places, Section 1 going to work in the shops, while Section 2 takes its place in college. At the end of the second 4 weeks the sections again reverse positions and thus the class and shopwork is carried on throughout the year. The student always returns to the same job until the shop officials and the college officials advance him to a higher grade of work. In this manner the student receives training in all branches of work in the factory.

This course extends for the full twelve months of the year, the student being given a vacation, on college time, of two weeks in the summer and one week during the Christmas Holidays.

The manufacturers find that they get a boy who takes an interest in his work while the boy gets all the advantages of "rubbing elbows" with the working man, seeing and doing things under actual manufacturing conditions so that, when he graduates from college, he can at once take up the duties of his chosen engineering profession without first serving two years apprenticeship course as is required by many leading manufacturers of the country.

The Co-Operative Plan

A corroboration, unintentional and therefore more valuable, of the value of the Co-operative five year plan is gained from a study of the positions held by the graduates of the four year plan and the Co-operative five year plan. It is a well known fact that less than 75 per cent of the engineering graduates from the four year plan ever follow their chosen and studied profession, while records of the graduates of the Co-operative five year plan since its inauguration at Cincinnati University in 1906 show that over 95 per cent are following engineering work.

Let us for a few minutes study and analyze the cause for this difference. Psychologists tell us that any person, when left to make his own choice, will naturally do those things in which he is interested and for which he is best fitted. If he likes and understands engineering he will follow this profession. If he does not like it, or understand it, he will either fail, make a mediocre success of it, or change over entirely to something to which he is interested, although perhaps not schooled in this new work.

The reason for the large percentage of Co-operative graduates following their chosen and studied profession is that they have grown up, so to speak, in the shop or engineering office so that, when they graduate from college, they do not feel lost when asked to undertake some work of large and difficult proportions. They have been doing this kind of work for the past five years on alternate four weeks and it is but a continuation, on a larger scale, after they graduate.

The aim of the Georgia School of Technology is to educate young men for lives of greater usefulness—to give them a training which will enable them to rise to positions of leadership in the business and industrial world. The recent war has forced upon us the necessity (which previously was seldom recognized) of considering the working man as a human being and not merely a machine. It has brought forcibly to our attention the necessity of considering the human relations between employer and employee.

The manager, or other executive, of today who cannot establish and maintain the right personal relations with his workers is considered unfit for this position. It is well known that the Captains of Industry have learned to study human nature by "rubbing elbows" with the working man in the shop and factory.

The Co-operative student (called Co-op.) gains experience during his weeks of work and, being in his most impressionable age, it leaves an indelible trace on his mind. In addition to this great advantage he absorbs shop methods, shop routine, he sees how things are being done, and, being mentally alert, often suggests how improvements can be made.

The Laboratory methods of teaching is regarded as essential in the training of Engineers. In addition to the regular laboratory practice and instruction at school the Co-ops have the advantage of becoming familiar with the apparatus employed by the leading manufacturing and power companies for whom they work. The entire industrial district of Atlanta and other cities thus become the Co-ops' Laboratory.

TEXTILE ENGINEERING

Cotton is king of the South and the cotton manufacturing industry is reaching such magnitude as to demand far more textile engineers than the school can supply. The Co-operative Department offers in addition to the General Engineering course, a thorough course in

Georgia School of Technology

Textile Engineering. These students will be placed at work in the textile mills. In these mills they will actually perform all of the major and many of the minor operations from breaking up the bale of cotton to and including the finished product. This is in addition to our regular course in Textile Engineering. Any student finishing this course should be a capable Textile Engineer.

Out-of-Town Work

Many of the Co-operative students have their homes in the large cities of the state and other cities within 300 miles of Atlanta. For these it is evidently advantageous if they can work in the shops of their home town. In this manner the cost of room and board is greatly reduced and at the same time permitting the student to enjoy the advantages of his home. It would mean that they could be home one-half of the time and the railroad fare would only amount to one round trip per alternate month to Atlanta.

Men living in cities the size of Columbus, Birmingham, Chattanooga, Rome, Macon, Brunswick, Augusta, Savannah, Athens, Waycross, Newnan, Dalton, etc., should find this plan especially favorable.

The co-ordinator will be very glad to give further information to any prospective candidates who wishes to work in one of the shops in his city.

Entrance Requirements

The entrance requirements for this course are the same as for the four year course.

Tuition fees for the Co-operative students are slightly less per year than for the four year students.

The Co-operative Department Bulletin gives full particulars about fees scholarships, living expenses and the wages paid the student while at work.

We do not recommend entering the Co-operative course unless you have sufficient funds to complete at least the first year. The student may be required to start work early in July preceding the fall he expects to enter college.

The quality of work that the student does, as well as his fitness to continue the work of the class room, will largely determine whether he will be permitted to start the class room work in August.

Address all communications:

THE GEORGIA SCHOOL OF TECHNOLOGY,

Co-operative Department,

Atlanta, Ga.

Co-Operative Plan

ALL FRESHMAN CO-OPS.

First Term (7 Weeks)

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Chem. 1	Inorganic Chemistry	6	.....	15
Chem. 5	Chemical Laboratory .....	.....	6	6
Math. 15	Trigonometry	6	.....	15
Draw. 15c	Applied Technical Drawing .....	.....	9	9
Co-op. 1	Co-ordination	1	.....	1
Eng. 11	Composition and Rhetoric	3	.....	7.5
MIL. 1c	Military Instruction .....	.....	5	5
Total		16	20	58.5

Second Term (10 Weeks)

Chem. 2	Inorganic Chemistry	5	.....	12.5
Chem. 6	Chemical Laboratory .....	.....	6	6
Math. 18	Analytic Geometry	5	.....	12.5
Draw. 16	Applied Technical Drawing .....	.....	9	9
Math. 16	Slide Rule .....	.....	1	1
Eng. 12	Composition and Rhetoric	5	.....	12.5
MIL. 2c	Military Instruction .....	.....	5	5
Total		15	21	58.5

GENERAL ENGINEERING (CO-OP.)

SOPHOMORE

Summer Term (4 Weeks)

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Eng. 12	Composition and Rhetoric	6	.....	15
Co-op. 2	Co-ordination .....	.....	3	3
Phys. 9	Physics	5	.....	12.5
Math. 16	Slide Rule .....	.....	2	2
Math. 18	Analytic Geometry	6	.....	15
Eng. 31	English Literature	3	.....	7.5
Total		20	5	55.

First Term (7 Weeks)

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Draw. 27	Machine Drawing .....	.....	6	6
Phys. 9	Physics	6	.....	15
Phys. 30	Physics Laboratory .....	.....	3	4
Math. 11	Algebra	6	.....	15
Eng. 31	English Literature	5	.....	12.5
MIL. 3c	Military Instruction .....	.....	5	5
Total		17	14	57.5

Second Term (10 Weeks)

Draw.	28	Machine Drawing	4	4
Phys.	10	Physics	6	15
Phys.	31	Physics Laboratory	3	4
Math.	25	Differential Calculus	5	15
Eng.	32	English Literature	5	12.5
Mil.	4c	Military Instruction	5	5
Total			17	55.5

PRE-JUNIOR

Summer Term (4 Weeks)

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Phys.	11	Physics	4	10
Math.	21	Solid Analytical Geometry	6	15
Draw.	47	Kinematics of Mechanism	4	10
Phys.	31a	Physics Laboratory	3	4
Ex. E.	23	Calibration Laboratory	12	16
Total			14	55.

First Term (7 Weeks)

Phys.	11	Physics	4	10
Math.	26	Integral Calculus	4	10
Draw.	47	Kinematics of Mechanism	4	16
E. E.	51	Electricity and Magnetism	3	7.5
Eng.	24	Economics	3	7.5
Mil.	5c	Military Instruction	5	5
Total			18	56.

Second Term (10 Weeks)

Phys.	32	Physics Laboratory	5	3	4
Math.	26	Integral Calculus	5	6	12.5
Draw.	48	Kinematics of Mechanism	4	4	14
Mech.	37	Applied Mechanics	3	7.5	
E. E.	52	Principles of D. C. Generators	3	7.5	
Eng.	24	Economics	3	5	5
Mil.	6c	Military Instruction	5	5	5
Total			15	18	56.5

JUNIOR

Summer Term (4 Weeks)

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
E. E.	53	Principles of D. C. Motors	3	7.5
Draw.	48	Kinematics of Mechanism	6	12.5
Mech.	38	Applied Mechanics	5	15
Math.	35	Differential Equations	12	16
Ex. E.	56	Hydraulics and Materials Laboratory	14	57.
Total			14	57.

First Term (7 Weeks)

E. E.	53	Principles of D. C. Motors	3	7.5
E. E.	51	Electrical Engineering Lab.	3	4
Mech.	38	Applied Mechanics	4	10
Mech.	48	Mechanics of Materials	2	5
Ex. E.	95	Thermodynamics and Heat Engines	4	10
Ex. E.	81	Fuels and Steam Engine Laboratory	6	8
M. L.	13	Spanish	5	12.5
Mil.	7c	Military (One required)	5	12.5
Total			18	57.

Second Term (10 Weeks)

E. E.	54	A. C. Circuits	3	7.5
C. E.	33	Hydraulics	4	10
Mech.	48	Mechanics of Materials	3	7.5
Ex. E.	96	Thermodynamics and Heat Engines	4	10
Ex. E.	82	Fuels and Steam Engine Laboratory	6	8
M. L.	14	Spanish	5	12.5
Mil.	8c	Military (One required)	5	12.5
Total			19	55.5

SENIOR

Summer Term (4 Weeks)

M. E.	61	Mechanics of Materials	6	15
E. E.	55	A. C. Machinery	5	12.5
E. E.	63	Electric Engine Laboratory	6	8
C. E.	21	Surveying	4	22
Total			15	57.5

First Term (7 Weeks)

Ex. E.	88	Gas Engine Laboratory	5	6	8
E. E.	55	A. C. Machinery	5	12.5	
E. E.	63	Electric Engine Laboratory	6	8	
M. E.	71	Machine Design	3	9	16.5
M. L.	15	Spanish	5	12.5	
C. E.	52	Structures (One required)	5	12.5	
Mil.	9c	Military	5	12.5	
Total			13	21	57.5

Second Term (11 Weeks)

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Ex. E.	80 Hydro-Electric Power Plants	3	.....	7.5
E. E.	56 A. C. Machinery	6	.....	15
E. E.	64 Electric Engine Laboratory		6	8
M. E.	72 Machine Design	2	9	14
M. L.	16 Spanish			
Eng.	21 American Literature } (One required)	5	.....	12.5
Mil.	10c Military			
Total		16	15	57.

TEXTILE ENGINEERING (CO-OP.)

Notation. T means times per week; W. weeks taught; and H hours per recitation.

The number of actual school weeks (exclusive of examination weeks) are as follows:

First term, 11 weeks.

Second term, 10 weeks.

SOPHOMORE

		First Term			Second Term		
		W	T	H	W	T	H
Chem. 9-10	Chemistry	11	2	3	10	1	3
Dr. 27-28	Machine Drawing	11	2	3	10	1	3
Eng. 21	American Literature	11	5	1			
Eng. 24	Economics				10	6	1
Math. 11	Algebra	7	6	1			
Math. 18	Analytical Geometry	4	6	1			
Math. 25	Differential Calculus				10	6	1
Phy. 5-6	Physics	11	4	1	10	4	1
Phy. 8	Physics Lab.				10	1	3
T. E. 31-32	Fabric Design	7	1	3	10	2	3
Mil. 3c-4c	Military	11	5	1	10	5	1

PRE-JUNIOR

Chem. 21-22	Organic Chemistry	11	4	1	10	4	1
Chem. 23-24	Organic Lab.	11	2	2	10	2	2
Dr. 41a	Kinematics of Mechanism	11	4	1			
Dr. 44	Kinematics of Mechanism				10	2	3
Eng. 31	English Literature	11	2	1	10	2	1
Math. 21	Solid Analytical Geometry	4	6	1			
Mech. 26	Elem. Appl. Mechanics				10	4	1
T. E. 1-2	Yarn Manufacture, Theory	7	6	1	10	5	1
T. E. 33-34	Fabric Design	7	2	3	10	1	3
Mil. 5c-6c	Military	11	5	1	10	5	1

JUNIOR

Eng. 32	English Literature	11	4	1			
Ex.E. 73-74	Steam, Fuels, and Gas Engine Laboratory	7	2	3	10	2	3
Ex.E. 95-96	Heat Engine and Ther.	7	4	1	10	5	1
T. E. 3-4	Yarn Manufacture	11	4	1	10	4	1
T. E. 13-14	Knitting	11	1	3	10	1	3
T. E. 17	Dyeing Theory				10	3	1
T. E. 22-23	Dyeing Laboratory	11	1	3	10	1	3
T. E. 27-28	Fabric Analysis	11	1	3	10	1	3
T. E. 41-42	Weaving Theory	11	3	1	10	3	1
Mil. 7c-8c	Military (Elective)	11	5	1	10	5	1

SENIOR, Textile Engineering

		First Term			Second Term		
		W	T	H	W	T	H
Com. 47-48	Subject.						
E. E. 2	Corporation Finance	7	3	1	10	3	1
E. E. 3a	Elem. Applied Electricity	7	6	1			
Ex.E. 80	Elect. Engineering Lab.				10	2	3
T. E. 18	Hydro-Electric Power Plants				10	3	1
T. E. 24	Dyeing Theory				10	3	1
T. E. 24	Dyeing Laboratory				10	1	3
T. E. 37-38	Jacquard Design	7	2	3	10	1	3
T. E. 43	Weaving Theory	7	4	1			
T. E. 53-54	Weaving Practice	7	1	3	10	2	3
T. E. 71-72	Mill Engineering	7	2	1	10	2	3
T. E. 75-76	Mill Engineering Lab.	7	1	3	10	2	3
Mil. 9c-10c	Military (Elective)	7	5	1	10	5	1

SPECIAL COURSES OF INSTRUCTION

Co.op. 1. Co-ordination.

For all first year students in General Engineering and Textile Engineering.

Written and oral discussions by the students based on observation and experience gained through their connection with the outside work. Lectures and reports on trips of inspection to industrial plants. One hour a week, first semester.

Co-op 2. Inspection Trips.

For Sophomores in General Engineering.

Inspection trips to power stations and industrial plants in Atlanta. Three hours per week, summer term.

DEPARTMENT OF ELECTRICAL ENGINEERING

Professors Fitzgerald, Seidell, Savant, Ellis, Thaxton, Elsom;
Messrs. Duling, Wolf, Criley, Petzing, Getzen, and Phillips.

General Statement

The Electrical Engineering Department has for its object the training of young men to be industrious and clear thinking, and to equip them with the scientific and practical knowledge necessary for the successful practice of their profession as Electrical Engineers.

The course of study is planned to give comprehensive training in the fundamental sciences of Chemistry, Physics, Mathematics and Applied Mechanics. Adequate training is also given in the scientific and applied aspects of the several important branches of engineering other than electrical, such as Constructive Materials, Steam Engineering, Hydraulics, Hydraulic Machinery and Structures.

The electrical subjects are so planned as to give thorough instruction in the fundamental principles of the various branches of applied electricity. During the senior year some of the more important applications of electricity are included in the course of study with a view to showing the application of the principles rather than attempting to produce specialists in that particular branch.

Parallel with the theoretical work are carefully planned laboratory courses beginning with the first year in Chemistry and continuing throughout the four years in the various sciences and engineering branches studied. The laboratory work is so conducted as to enable the student to verify theory in the performance of fundamental experiments, and to develop in the student the powers of accurate observation and initiative.

EQUIPMENT

The lecture rooms and laboratory of the Electrical Engineering Department are on the second and third floors of the Electrical Building.

The laboratory is supplied with three phase power at 60 cycles and 220 volts. Direct-current power is supplied from three sources, namely: one motor-generator set consisting of a 17.5 kilowatt compound generator driven by a 25 horsepower, 220 volt, three phase induction motor; two 30 kilowatt compound generators driven by a 90 horsepower, 2200 volt, three phase synchronous motor; and approximately 25 kilowatts from a motor driven generator at the new power plant. The two 30 kilowatt generators can be used for tests on the parallel operation of shunt or compound generators, for apposition tests of dynamos, or as a balancer set for the three wire system of distribution.

The laboratory contains the following apparatus: a 25 kilowatt split-pole, double-current generator, and a 10 kilowatt double-current generator, both built in the school shops; a number of shunt, series, and compound continuous current generators and motors; two 5 kilowatt three phase alternators or synchronous motors; one 3 horsepower, 3 phase induction motor; two 5 horsepower, 3 phase induction motors; two single-phase motors; one 20 horsepower three-phase induction motor; one 15 horsepower three-phase induction motor; a 2-kilowatt booster set for continuous currents; two 3-kilowatt transformers arranged for phase transformation; a constant-current transformer; three 1-kilowatt

transformers arranged for star and delta connection on three-phase and six-phase circuits; a 2-kilovolt-ampere, 50,000 volt, portable truck-type testing outfit for insulation testing; a mercury arc rectifier; a tungar rectifier; condensers aggregating several hundred microfarads capacity, a large number of electrical measuring instruments, prony brakes, spring balances, rheostats and other pieces of laboratory apparatus for the convenient and accurate performance of the usual laboratory experiments. There have also been added two 7.5 kilovolt-ampere synchronous generators of the revolving field type with special armature windings so as to obtain 2, 3, 6, and 12 phase connections. Each generator is supplied with two additional motors and by their use the machines can be transformed into squirrel-cage or wound-rotor induction motors. A 10-kilowatt rotary converter is of the special educational type with the usual features of a commercial machine such as end-play and speed-limiting devices. This machine is supplied with two 5-kilovolt-ampere transformers, and by means of special armature connections and special taps on the transformer windings it can be used as a single, two or three phase converter. An oscillograph equipped with two measuring loops is used for the observation of voltage and current wave forms and their phase displacement. This machine is equipped for observing transient phenomena due to disturbances on transmission lines or the phenomena which attend the growth or decay of currents in circuits at the time of closing or opening the switch supplying that circuit. There is also in use an improved lecture-room type oscillograph making it possible to throw waves on a screen for lecture room demonstration. A model of a common battery telephone exchange is arranged for convenient inspection and testing while various parts of telephone equipment are mounted separately to enable detailed study of the various parts of a telephone exchange.

All machines have individual circuits going to a common switch-board making it possible to connect a machine to any source of power or to any other machine in the laboratory by simply plugging in on the board.

A Kelvin hekto-ampere balance and a potentiometer with certified resistances and a standard cell are a portion of the apparatus available for calibration work.

The photometer room is equipped with a Lummer-Brodhun screen; a Sharp-Miller illuminometer for determining the illumination of streets and buildings, a 72-inch Globe Photometer and a foot-candle meter.

A complete equipment of lamps and fixtures has been installed in the laboratory by local jobbers to give examples of the various methods of lighting factories and offices. Practical tests can thus be made to solve various problems of industrial lighting.

In addition to the above, the electrical machinery of the new power plant is available for experimental work.

RADIO STATION

The radio station is located in a separate room built into the upper portion of the power house, near the chimney, from which the aerials are strung. The radio apparatus consists of both continuous wave and spark transmitters for radiotelegraphy; their range is more than a thousand miles. For radiotelephony, vacuum tube sets are used. The receiving apparatus consists of a DeForest regenerative set, with two stages of amplification. From the signal corps units, in conjunction

with whom the radio courses are carried on, all kinds of radio apparatus, such as wavemeters, variometers, condensers, etc., are available. Much additional equipment is either under construction or being contemplated, which will make this station one of the largest of college stations.

THE COURSE IN ELECTRICAL ENGINEERING

Freshman Year, See Page 37

SOPHOMORE YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
C. E. 21a	Plane Surveying	1	3	5.5
Dr. 27	Machine Drawing		3	3
Eng. 21	American Literature	3		7.5
Math. 23	Calculus	5		12.5
M. E. 11b	Machine Shop		3	3
Phys. 9	Physics	4		10
Phys. 13	Physics Laboratory		1.5	2
Mil. 3	Military Instruction		5	5
Total		13	15.5	48.5

Second Term

Dr. 28	Machine Drawing		3	3
Eng. 24	Political Economy	3		7.5
Math. 26	Calculus	5		12.5
Met. 21	Ferrous Metallurgy	2		5
Phys. 10	Physics	4		10
Phys. 14	Physics Laboratory		3	4
Mil. 4	Military Instruction		5	5
Total		14	11	47

Electrical Engineering

JUNIOR YEAR

Military Instruction is optional for Modern Language in the Junior year.

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
E. E. 7	Principles of Electrical Engineering..	3		7.5
Eng. 31	English Literature	3		7.5
Ex. E. 21	Calibration Laboratory		3	4.
Ex. E. 76	Power Plants	2		5.
Mech. 31	Applied Mechanics	3		7.5
Mech. 41	Mechanics of Materials	2		5
M. L. 1	German	3		7.5
M. L. 7	French			
M. L. 13	Spanish			
Phys. 11	Physics	3		7.5
Phys. 15	Physics Laboratory		3	4
Total		19	6	55.5

Second Term

E. E. 8	Principles of Electrical Engineering..	5		12.5
E. E. 16	Electrical Engineering Laboratory		6	8
Eng. 32	English Literature	3		7.5
Ex. E. 52	Hydraulic and Materials Laboratory..		3	4
Math. 36	Differential Equations	3		7.5
Mech. 32	Applied Mechanics	3		7.5
M. L. 2	German	3		7.5
M. L. 8	French			
M. L. 14	Spanish			
Total		17	9	54.5

SENIOR YEAR

Military Instruction is optional for C. E. 33 & 52 or E. E. 25, and 26, in the first and second terms of the Senior year.

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
C. E. 33	Hydraulics	3		7.5
E. E. 25	Radio			
E. E. 9	Alternating Current Machinery	5		12.5
E. E. 31	Electrical Design		5	5
E. E. 17	Electrical Engineering Laboratory		6	8
E. E. 27	Seminar	2		5
Ex. E. 77	Fuels Laboratory		4	4
Ex. E. 79	Power Plant Engineering	3		7.5
M. L. 3	German	3		7.5
M. L. 9	French			
M. L. 15	Spanish			
Total		16	15	57.

Second Term

C. E. 52	Structures	3		7.5
E. E. 26	Radio			
E. E. 10	Alternating Current Machinery	5		12.5
E. E. 14	Electric Railways	2		5
E. E. 18	Electrical Engineering Laboratory		6	8
E. E. 30	Electrical Transmission of Power	3		7.5
Ex. E. 80	Hydro-Electric Power Plants	2		5
Ex. E. 84	Engine Laboratory		4	4
M. L. 4	German	3		7.5
M. L. 10	French			
M. L. 16	Spanish			
Total		18	10	57.

Courses of Instruction

E. E. 2. Applied Electricity.

Professors Ellis and Elsom; Messrs. Duling and Wolf.

Prerequisite, Physics 11 (Physics 6 for T. E., Seniors). Parallel E. E. 3a.

Senior, C.E., E.Ch., and T.E., second term, three hours.

A course of recitations covering the fundamental principles and characteristics of direct and alternating current machines.

E. E. 3 and 3a. Electrical Engineering Laboratory.

Professors Ellis and Thaxton; Messrs. Duling, Wolf, Getzen, and Phillips.

Parallel E. E. 2 or E. E. 5.

E. E. 3. Senior M. E., first term, three hours.

E. E. 3a. Senior C.E., and T.E., second term, three hours.

A course consisting of the experimental determination of the characteristics, efficiency and regulation, of direct and alternating current machines. A written report is required on each experiment covering the method of procedure and the results obtained.

E. E. 5. Applied Electricity.

Professors Ellis and Elsom.

Prerequisite, Physics 11. Parallel, E. E. 3.

Senior M. E., first term, three hours.

A course devoted to the study of the principles of construction and operation and the industrial applications of direct and alternating current apparatus and machines.

E. E. 7. Principles of Electrical Engineering.

Professors Savant, Ellis, Thaxton; and Mr. Duling.

Prerequisites, Physics 10 and Math. 26.

Junior E. E., first term, three hours.

A course devoted to the study of the laws and properties of electric and magnetic circuits, and the elementary principles of the construction of direct current machines.

E. E. 8. Principles of Electrical Engineering.

Professors Seidell Savant, Thaxton and Elsom.

Prerequisites, E. E. 7. Parallel, E. E. 16.

Junior E. E., second term, five hours.

A continuation of E. E. 7 and consisting of recitation and problem work devoted to the principles of construction and performance of direct-current machinery. The latter part of this course is given to the study of variable currents and alternating-current circuits.

E. E. 9. Alternating Current Machinery.

Professors Fitzgerald, Seidell and Savant.

Prerequisites, E. E. 8. Parallel, E. E. 17.

Senior E. E., first term, five hours.

A course consisting of recitations and problem work devoted to the study of single and polyphase circuits and the theory, construction, and operating characteristics of the static transformer and the synchronous generator.

E. E. 10. Alternating Current Machinery.

Professors Fitzgerald, Seidell and Savant.

Prerequisites, E. E. 9. Parallel, E. E. 18.

Senior E. E., second term, five hours.

A continuation of E. E. 9, consisting of recitations and problem work devoted to the study of the theory, construction, and operating characteristics of polyphase and single-phase motors and rotary converters.

E. E. 14. Electric Railways.

Professors Seidell, Thaxton and Elsom.

Senior E. E., second term, two hours, Parallel, E. E. 10.

A course consisting of recitations and problem work devoted to the study of modern electric traction covering construction, equipment and operation of the different types of roads.

E. E. 16. Electrical Engineering Laboratory.

Professors Ellis and Thaxton; Messrs. Duling, Wolf, Petzing, and Phillips.

Junior E. E., second term, six hours. Parallel, E. E. 8.

A course consisting of the experimental determination of the characteristics, efficiency and regulation of direct current generators and motors. A preliminary report written in class at certain assigned hours is required on each experiment as well as a final report covering in detail the results and conclusions derived from the experiment.

E. E. 17. Electrical Engineering Laboratory.

Professors Ellis and Thaxton; Messrs. Duling, Criley, Petzing and Getzen.

Senior E. E., first term, six hours, parallel, E. E. 9.

A course consisting of experiments on single and three-phase circuits and the characteristics, efficiency and regulation of transformers and synchronous generators. A preliminary report written in class at certain assigned hours is required on each experiment as well as a final report covering in detail the results and conclusions derived from the experiment.

E. E. 18. Electrical Engineering Laboratory.

Professors Thaxton; Messrs. Duling, Wolf, Petzing and Phillips.

Senior E. E., second term, six hours. Parallel, E. E. 10.

A course consisting of the experimental determination of the characteristics, efficiency and regulation of polyphase and single-phase motors and rotary converters. A preliminary report written in class at certain assigned hours is required on each experiment as well as a final report covering in detail the results and conclusions derived from the experiment.

E. E. 21. Telegraphy.

Messrs. Duling and Petzing.

Junior Signal Corps, first term, two hours. Parallel Physics 11.

A course covering open and closed circuit Morse telegraphic systems, bridge and polar duplex systems, quadruplex telegraphy, and the various types of apparatus used to accomplish multiplex telegraphy. Consideration is given to the construction and maintenance of pole lines and to the economic problems entering into the choice of material and apparatus.

E. E. 22. Thermionic Valves.

Professor Elsom; Messrs. Wolf and Petzing.

Junior Signal Corps, second term, two hours.

A course on the theory, operation and application of vacuum tubes as amplifiers, rectifiers, oscillators, and detectors.

E. E. 23. Telephone Engineering.

Mr. Criley.

Senior Signal Corps, first term, two hours class work and three hours laboratory. Parallel E. E. 9.

A course covering the principles of the various pieces of apparatus that go to make up the modern telephone plant and a consideration of modern application thereof. The laboratory work consists of the inspection and testing of a model telephone exchange and the establishment of complete local, central office, and trunk telephone circuits, using individually mounted relays and instruments which the students are required to connect.

E. E. 24. Radio Engineering.

Mr. Petzing

Senior Signal Corps, second term, two hours class work and three hours laboratory.

A course covering the theory of oscillating circuits; the special characteristics of antennas as radiators of electric waves; the design and use of radio instruments and devices; and the theory involved in radio measurements. Recent advances in the art are discussed and considerable time spent in the study of radio telephony.

E. E. 25. Radio.

Mr. Petzing

Parallel, E. E. 9.

May be taken instead of Hydraulics by Senior E. E. students.

A study of the theory of oscillating circuits as applied to damped wave telegraph and telephone communication, and the design, construction, and operation of apparatus used therein.

E. E. 26. Radio.

Mr. Petzing

Prerequisite, E. E. 25.

May be taken instead of Structures by Senior E. E. students.

A continuation of E. E. 26, dealing with the generation of undamped waves as applied in radio telephone communication, the theory of circuits used, and the principles, design and construction of apparatus employed.

E. E. 27. Seminar.

Professors Thaxton and Elsom.

Senior E. E., first term, two hours.

A course consisting of the delivery and discussion of technical papers in class. These papers deal with subjects of timely interest in electrical engineering.

E. E. 30. Electrical Transmission of Power.

Professors Seidell and Savant.

Parallel, E. E. 10.

Senior E. E., second term, three hours.

A course consisting of recitation and problem work devoted to the study of the construction and operating characteristics of transmission lines, and the distribution of power.

E. E. 31. Electrical Design.

Professor Seidell.

Parallel E. E., 9.

Senior E. E., first term, five hours.

This course covers the principles of the electrical design of compound generators, transformers and alternators. Calculations are made and characteristic curves of each machine predetermined.

E. E. 51. Electricity and Magnetism.

Professor Elsom.

Prerequisite, Physics 11.

Co-operative Course, Pre-Juniors, first semester, 3 hours, 7 weeks.

A study is made of the fundamental principles relating to electric and magnetic circuits.

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E. E. 52. Principles of Direct Current Generators.

Professor Elsom.

Prerequisite, E. E. 51.

Co-operative Course, Pre-Juniors, second semester, 3 hours, 10 weeks.
The theory of operation, and the construction of generators with special attention given to armature reaction and characteristic curves

E. E. 53. Principles of Direct Current Motors.

Professor Thaxton.

Prerequisites, E. E. 52, and Math. 26.

Co-operative Course, Juniors, first semester, 3 hours, 11 weeks.
The theory of operation of motors and their characteristics. A thorough study is made of the commutation of direct current machines and the compensation of armature reaction.

E. E. 54. Alternating Current Circuits.

Professor Savant.

Prerequisite, E. E. 53.

Co-operative Course, Juniors, second semester, 3 hours, 10 weeks.
A study is made of the principles of electricity and magnetism as applied to alternating current circuits. The relation of voltages and currents and the theory of the measurement of power in polyphase circuits is stressed.

E. E. 55. Alternating Current Machinery.

Professor Seidell.

Prerequisite, E. E. 54.

Co-operative Course, Seniors, first semester, 5 hours, 11 weeks.
A study is made of the construction, and the theory of operation of alternating current generators and transformers.

E. E. 56. Alternating Current Machinery.

Professor Savant.

Prerequisite, E. E. 55.

Co-operative Course, Senior second semester, 6 hours, 10 weeks.
A continuation of E. E. 55, taking up the principles of synchronous motors, rotary converters, induction motors, and the parallel operation of alternators.

E. E. 61. Electrical Engineering Laboratory.

Professor Ellis.

Parallel, E. E. 53.

Co-operative Course, Juniors, first semester, 3 hours, 11 weeks.
A laboratory course involving the use of instruments and the testing of direct current machines.

Electrical Engineering

E. E. 63. Electrical Engineering Laboratory.

Professor Thaxton.

Prerequisites, E. E. 61. Parallel E. E. 55.

Co-operative Course, Seniors, first semester, 6 hours, 11 weeks.
Tests are made on direct current and alternating current machines to determine their characteristics and familiarize the student with their operation and performance.

E. E. 64. Electrical Engineering Laboratory.

Professor Ellis.

Prerequisites, E. E. 63, Parallel E. E. 56.

Co-operative Course, Seniors, second semester, 6 hours, 10 weeks.
Tests are made on induction motors, rotary converters, and synchronous motors so as to learn their operating characteristics and their application.

DEPARTMENT OF ENGLISH

Professors Perry, Armstrong, Farris, McDaniel, Wheeler;
Messrs. Ferguson, Fisher, Blair, Brokenshire, Gandy.

General Statement

This course in English begins with the Freshman class, and extends through the Junior class, a period of three years.

The work of the department is required of all regular students, and its importance as the avenue of approach to all knowledge is kept constantly in mind. Particularly is its value to technical students recognized and enforced; first, as supplying the engineer with equipment of direct, accurate, and vigorous expression necessary to his success in life; and second, as co-ordinating with his scientific training the equally important cultural development which is justly demanded of the educated man today.

The purposes of the courses are utility, which predominates in the first year and in half of the second; and culture, which is the chief end sought as the student progresses in his work. It is to be recognized and stressed, however, that both purposes are considered fundamental and correlative and are earnestly sought from the beginning to the end of the course.

Course of Instruction

English 11. Composition and Rhetoric.

Professors Armstrong, Farris, McDaniel, Wheeler; Messrs. Ferguson, Fisher, Blair, Brokenshire, Gandy.

Freshman, first term, three hours.

This course consists, primarily, of a careful study and application of Rhetorical principles, including the structure of the paragraph and the sentence, a correct and effective use of words, punctuation, letter-writing and forms of discourse. The subject of composition is considered entirely from the point of view of construction and constant effort is made to bring the student to apply in his own composition the principles that are studied in the class-room. Composition work during the first term is devoted mainly to Description and Narration. Text books: Lomer and Ashmun's, "The Study and Practice of Writing English;" "Atlantic Monthly," an approved dictionary.

English 12. Composition and Rhetoric.

Professors Armstrong, Farris, McDaniel, Wheeler; Messrs. Ferguson, Fisher, Blair, Brokenshire, Gandy.

Freshman, second term, three hours.

This course is in large measure a continuation of English 11. The work of this term, however, is devoted mainly to study and practice of Exposition. A special effort is made throughout the course to relate the work in composition to the present and future needs of the student as a young engineer; and in the study of matter and method the needs and requirements of the scientific departments of the School are kept constantly in mind.

Text books: Thompson's "Technical Exposition;" Sypherd's "Handbook of English for Engineers;" reference books and periodicals in the library.

At the beginning of the first term a careful test will be made of the ability and preparation of Freshman students in English; and on the basis of this test all students will be classified. Those notably deficient in English will be assigned to a non-credit course, in preparation for their regular Freshman English work.

A number of themes on assigned topics are required of students during each term. No theme is accepted which is notably defective in grammar or spelling; and no student will be allowed to pass the course until he has acquired correctness in these particulars and a reasonable facility in the application of rhetorical principles. Where it is expedient, a consultation hour with the instructor will be provided for the student.

The Freshman English Course may be completed in one year; but if the student fails to pass the course satisfactorily, he may be required to repeat the work—at least in part—as often as is necessary to enable him to write correctly. Students in more advanced classes whose work in composition is unsatisfactory will be required to take this course, as a whole or in part, even though they may have credit for the course.

At the close of the year a contest is held in which a gold medal is offered by Mr. Frederick J. Paxon for excellence in the preparation and delivery of orations. Students will be qualified to enter this contest by the general excellence of their work in this course. A gold medal is also offered by the Scottish Rite Bodies of Atlanta for excellence in Essay Writing. Competition for this medal is open to all Freshman English students.

History 17-18.

Professor Armstrong.

Freshman in Architecture, first and second terms, 3 hours.

A survey course in General History will be given throughout the year to Freshmen taking the course in Architecture. The course, which will be given at present by the Department of English, aims to give a working background for the advanced courses in the History of Architecture. Special emphasis will be laid on the contributions which the nations have made to Art and Government. Library and notebook reports will supplement class recitations.

Freshman Parallel Reading.

All Freshmen are required to read each term a designated number of books as parallel reading and to present brief written reports of these books. The volumes appointed for this purpose cover a wide range of type and subject matter. They are, in the main, supplied by the School Library, though the larger collection of the Atlanta Carnegie Library is also made available for the use of all Tech students.

English 21. American Literature.

Professors Perry, Armstrong, Farris, McDaniel, Wheeler;
Messrs. Ferguson, Fisher, Blair.

Sophomore, first term, three hours.

This course consists of a brief survey of American literature, from Irving to "O. Henry." The primary aim of the course is to give the student an appreciation of the meaning and worth of the literature of

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America; to familiarize him with representative work of American writers; and to cultivate in him a sound critical faculty. As a secondary aim, a careful study is made of literary types, methods, and conventions in preparation for the study of English literature in the Junior year.

Text-book: Pattee's "Century Readings in American Literature;" selected American novels.

English 24. Economics.

Professors Perry, Armstrong, Wheeler, McDaniel; Mr. Ferguson.

Sophomore, second term, three hours.

As the School has no department of political or social science, a brief course in Economics is given by the English Department. Ely's "Outlines of Economics" is used as a text-book, supplemented by lectures, papers upon various economic subjects, and discussions. The aim of this course is to familiarize the student with economic theories, to indicate the laws underlying the complex fabric of modern commercial and social systems and to give him an intelligent apprehension of the nature and meaning of the great economic problems of the age. An essay on some approved economic subject is required of each student.

Text-book: Ely's "Outlines of Economics."

English 31. English Literature.

Professors Perry, Armstrong, Farris, McDaniel, Wheeler; Messrs. Fisher, Blair.

Junior, first term, three hours.

The course in English Literature, given throughout the Junior year, offers a study of literature itself rather than of texts about literature. It recognizes that a literary work is not merely a work of art, but an expression of the personality of its author and through him, as the voice and exponents of his age, a record of the ideas and ideals of a section, of the nation's life. The course presents a general survey of English letters, from Chaucer to Stevenson. During the first term this survey extends through the Eighteenth Century and the beginning of the Romantic Movement. The course is conducted by lectures, oral and written quizzes, and written reports.

Text-books: Moody and Lovett's "History of English Literature;" Snyder and Martin's "A Book of English Literature;" selected plays of Shakespeare, Sheridan and Goldsmith.

English 32. English Literature.

Professors Perry, Armstrong, Farris, McDaniel, Wheeler; Messrs. Fisher, Blair.

Junior, second term, three hours.

This course continues the survey of English literature from the Wordsworth through the Nineteenth Century. It is similar in aim and scope to English 31.

Text-books: Moody and Lovett's "History of English Literature;" Snyder and Martin's "A Book of English Literature" and selected English novels.

DEPARTMENT OF EXPERIMENTAL ENGINEERING

Professors King, Howell, Mason, McEver, R. C. Broach and E. C. Schroyer; Messrs. H. J. Powell, G. F. Anton, E. W. Hines, W. B. Johns, P. R. Camp, Mrs. Mary Robinson.

General Statement

The object of courses in this department is to enable the engineering student to recognize and apply such natural forces and materials as are adapted to his uses.

In order that he may be capable of intelligently and skillfully designing, constructing and supervising all kinds of machinery, it is necessary that he should pursue thorough and extensive theoretical courses which are of primary importance in according mental discipline not to be derived from practical research. The latter is made to go hand in hand with the former, for it is believed that, from continued practical applications of theoretical conclusions, a broader and more tangible conception of their truths may be derived. It is not, then, at the expense of the abstract mathematical law that time is given to show how it may be involved in the construction of the simplest machine, for not only is a new and suggestive meaning thereby given to the various contrivances of the mechanism, but an insight into the whole significance of the law itself is gained, which can be acquired only by observing practical applications.

To explain theoretical principles, however, is not the only value of the experimental work of the department. If the student desires to go from college to manufacturing world, it is essential that he should be familiar with working machines, methods of management, and as much of the every-day detail engineering work as it is possible for him to acquire as a supplement to his higher training.

Courses of Instruction

JUNIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Ex. E. 21	Calibration Lab. (E. E., M. E.)	.....	3	4
Ex. E. 23	Calibration Lab. (Co-op.)	.....	6	8
Ex. E. 47	Elem. Mat. Lab. (I. E.)	.....	3	4
Ex. E. 73	Elem. Steam Lab. (C. E.)	.....	3	4
Ex. E. 76	Power Plants (E. E.)	.....	2	5
Ex. E. 95	Heat Engines and Thermo. (Co-op.)	4	.....	10

Second Term

Ex. E. 41	Hydraulic Lab. (C. E.)	.....	3	4
Ex. E. 52	Hydraulic & Mat. Lab. (Co-op.)	.....	6	8
Ex. E. 56	Hydraulic & Mat. Lab. (Co-op.)	.....	3	4
Ex. E. 76	Power Plants (E. Ch., M. E.)	.....	2	5
Ex. E. 96	Heat Engines and Thermo. (Co-op.)	4	.....	10

SENIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Ex. E. 15	Power Plant Operation (I. E.).....	1	3	6.5
Ex. E. 57	Materials Lab. (C. E.).....		3	4
Ex. E. 71	Fuels Lab. (E. E., A. E.).....		4	4
Ex. E. 73	Elem. Steam Lab. (E. Ch., T. E.).....		3	4
Ex. E. 73	Elem. Steam Lab. (T. E. Co-op.).....		3	4
Ex. E. 75	Steam Engine Lab. (M. E.).....		7	8
Ex. E. 77	Heat Engines & Thermo. (C. E., T. E.).....	3		7.5
Ex. E. 79	Power Plant Engineering (E. Ch., E. E.).....	3		7.5
Ex. E. 81	Steam & Gas Engine Lab. (Co-op.).....		6	8
Ex. E. 88	Gas Engine Lab. (Co-op.).....		6	8
Ex. E. 89	Automobile Lab. (A. E.).....		4	4

Second Term

Ex. E. 74	Fuels & Gas Engine Lab. (E.Ch.T., E.).....		4	4
Ex. E. 74	Fuels & Gas Engine Lab. (T.E. Co-op.).....		3	4
Ex. E. 78	Adv. Heat Eng. & Thermo. (E. Ch.).....	2		5
Ex. E. 80	Hydro-Elec. Power Plants (E. E., T. E.).....	2		5
Ex. E. 80	Hydro-Elec. Power Plants (Co-op.).....	3		7.8
Ex. E. 82	Steam & Gas Engine Lab. (Co-op.).....		6	8
Ex. E. 84	Engine Lab. (E. E.).....		4	4
Ex. E. 86	Adv. Steam & Gas Engine Lab. (M.E.).....		7	12
Ex. E. 90	Automobile Lab. (A. E.).....		7	8

Ex. E. 15. Power Plant Operation.

Seniors in Industrial Education, first term, one hour recitation and four hours laboratory.

This is an abridged course in power plant operation and is intended to give the student a working knowledge of the operation of small power plants and the care of the apparatus usually encountered in such plants. The theory of operation is given in the class room and is followed by practical work and demonstration in the laboratory. This course is not open to regular engineering students.

Ex. E. 21. Calibration Laboratory.

Prerequisites, Physics 5 and 9.

Ex. E. 21, Juniors in E. E. M. E., first term, three hours.

This course covers the calibration of steam gauges and other pressure measuring devices, thermometers, indicator springs, reducing motions and planimeters. The use of the steam engine indicator. The testing of lubricating oils and greases.

Ex. E. 23. Calibration Laboratory.

Prerequisites, Physics 5 or 9.

Pre-Juniors, Co-ops, six hours, summer term.

This course is an abridgement of Ex. E. 21 and is arranged especially for co-operative students.

Ex. E. 41. Hydraulic Laboratory.

Prerequisites, C. E. 33, or Parallel.

Juniors in C. E., second term, three hours.

The calibration of nozzles and orifices, weirs, water meters of different types, pitot tubes, etc., the testing of pelton water wheels, hydraulic rams, centrifugal pumps, steam pumps, pulsometer, and flow of water in pipes are some of the subjects covered by this course.

Ex. E. 52. Hydraulics and Materials Laboratory.

Prerequisites, Ex. E. 21, Mech. 41 or 48, Ex. 76, or parallel.

Ex. E. 52, Juniors E. E., and M. E., second term, three hours.

The work covered in this course embraces the testing and calibration of orifices, nozzles, weirs, water meters, pelton wheel, centrifugal pump, etc., and the testing of the strength of materials in tension, compression, cross bending, torsion and shear.

Ex. E. 56. Hydraulics and Materials Laboratory.

Prerequisites, Ex. E. 23, Mech. Mat'ls.

Ex. E. 56, Junior Co-ops, six hours, summer term.

This course is an abridgement of Ex. E. 52 and is arranged especially for Co-operative students.

Ex. E. 57. Materials Laboratory.

Prerequisites, Mech. 41, or Parallel.

Seniors in C. E., first term, three hours.

This course covers the testing of strength of materials in tension, compression, torsion, shear, cross-bending, riveted joints and the commercial tests of structural materials.

Ex. E. 71. Fuels Laboratory.

Prerequisites, Ex. E. 76, Ex. E., 21. Ex. E., 52.

Seniors in E. E., and A. E., first term, four hours.

This course embraces the determination of the calorific values of fuel, proximate analysis of fuels, sulphur determinations, flue gas analysis, steam calorimetry, and tests of injectors and boilers.

Ex. E. 73. Elementary Steam Laboratory.

Juniors in C. E. first term, three hours.

Seniors in E. Ch., T. E., first term, three hours.

Seniors in T. E. (Co-ops).

This is an abridged course in the steam engine laboratory and covers the testing of steam gauges, lubricating oils, valve setting, engine testing, flue gas analysis and boiler trials.

Ex. E. 74. Fuels and Gas Engine Laboratory.

Seniors in E. Ch., T. E., second term, four hours.

Senior in T. E. (Co-ops).

This is an abridged course in these laboratories. The work covers the testing of internal combustion engines, the calorific values of fuels, and strength of materials.

Ex. E. 75. Fuels and Steam Engine Laboratory.

Prerequisites, Ex. E., 21, 52, and 76.

Seniors in M. E., first term, seven hours.

This course embraces the determination of the calorific values of fuel, proximate analysis of fuels, sulphur determination, flue gas analysis, steam calorimetry, tests of injectors, boilers, steam engines and turbines, with complete heat balance and entropy analysis of the steam engine and the tests of steam engine accessories.

Ex. E. 76. Power Plants.

Prerequisites, Physics 6, 9, 10.

Juniors in E. E., first term, two hours. Juniors in M. E. and E. Ch., second term, two hours.

This course is devoted to the study of power plants and auxiliaries, and the apparatus used in the testing of same, air machinery, hydraulic machinery, internal combustion engines, refrigeration plants and miscellaneous machinery used by the engineer. Many lessons illustrated by lantern slides.

Text book used in 1922-1923, *Elementary Steam and Gas Power Engineering* by Potter and Calderwood.

Ex. E. 77. Heat Engines and Thermodynamics.

Prerequisites, Physics 5 and 6.

Seniors in C. E. and T. E., first term, three hours.

This course covers the study of fuels and combustion, steam boilers, smoke prevention, furnaces, stokers, superheaters, coal and ash handling machinery, chimneys, mechanical draft, steam engines and steam turbines, properties of saturated and superheated steam, elementary thermodynamics, properties of air, finance and economics of power plants and the cost of power.

Text book used 1922-1923, *Steam Power Plant Engineering* by Gebhardt.

Ex. E. 78. Advanced Thermodynamics.

Prerequisite, Ex. E. 79.

Seniors in E. Ch. second term, two hours.

This course embraces a study of Thermodynamics and energy, pressure-volume and temperature-entropy diagrams, available, unavailable, utilized, and waste energy losses, vapor refrigeration, the compression and expansion of permanent gases, the throttling of gases, mixtures of gaseous substances, the air heat engine, the energy laws of thermodynamics, the decrease of available energy, the flow of fluids, kinetic engines and the kinetic theory of heat.

Text book used 1922-1923, *Thermodynamics* by Emswiler.

Ex. E. 79. Power Plant Engineering.

Prerequisites Ex. E. 76.

Seniors in E. E. and E. Ch., first term, 3 hours.

This course covers a study of the following subjects: Sources of energy, the steam engine and steam turbine, the steam boiler and its accessories, piping, the steam power plant, cost of power, power transmission, district heating, fuels, the internal combustion engine, pro-

ducer gas and gas producers, compressed air, refrigerating machinery and hydraulic power.

Text book for 1922-1923, *Engineering of Power Plants* by Fernald and Orrok.

Ex. E. 80. Hydro-Electric Power Plants.

Seniors in E. E., T. E., second term, two hours.

Senior Co-ops., second term, three hours every other four weeks.

This course deals with the Hydraulic Engineering only, and covers the fundamental principles of hydraulic motors, water wheels and turbines, typical installations and the cost of water power.

Text-book used, 1922-1923, Vol. I., *Hydro-Electric Power*, by Lyndon.

Ex. E. 81. Steam Engine Laboratory.

Prerequisite, Ex. E. 23.

Junior in Co-op. courses, two three-hour laboratory periods per week every other four weeks, first term.

Advanced laboratory work in valve setting, economy tests of steam engines, entropy analysis of steam engines, tests of pulsometers, air compressors, refrigerating machines and complete heat balances of heat engines.

Ex. E. 82. Steam Engine Laboratory.

Prerequisites, Ex. E. 81, 95 and 96.

Junior in Co-op. courses, two three-hour laboratory periods per week every other four weeks, second term.

A continuation of course Ex. E. 81.

Ex. E. 84. Engine Laboratory.

Prerequisites, Ex. E. 71, Ex. E. 79.

Seniors in E. E., second term, four hours.

The work in this course includes the testing of steam engines and turbines, valve setting, tests of internal combustion engines, testing of ventilating fans and air compressors.

Ex. E. 86. Advanced Steam and Gas Engine Laboratory.

Prerequisites M. E. 65 and 69, Ex. E. 75.

Seniors in M. E., Second term, seven hours.

This course includes the testing of pumps, pulsometers, refrigerating machines, air compressors, ventilating fans, use of dynamometers, transmission of power and a complete test of some power plant in the City of Atlanta.

Complete tests of internal combustion engines are given in this course, including heat balances and entropy analysis. The student is required to determine the heating value of his fuels and make analysis of the gases.

Ex. E. 88. Gas Engine Laboratory.

Prerequisite Ex. E. 81.

Seniors in Co-op course two three-hour laboratory periods per week, every other four weeks, first term.

This course is an abridgement of Ex. E. 86 and is arranged especially for co-operative students.

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Ex. E. 89. Automobile Laboratory.

Prerequisites Ex. E. 21, parallel with A. E., 81.
Seniors in Automobile Engineering, first term, four hours.
This course involves a study of the construction of the automobile engine, wiring, valve and ignition timing, carburetor adjustments, trouble shooting, and the calibration of equipment.

Ex. E. 90 Advanced Automobile Laboratory.

Prerequisites, all first term A. E. subjects
Seniors in Automobile Engineering, second term, seven hours.
Tests of the economy, efficiency, power output, and complete commercial tests of standard automobile engines are given in this course. Complete road tests of car performances under varying conditions will also be made.

Ex. E. 95. Heat Engines and Thermodynamics.

Senior Co-op, first term, four hours every other four weeks.
This is a course similar to Ex. E. 77 and when combined with Ex. E. 96 covers the same ground.

Ex. E. 96. Heat Engines and Thermodynamics.

Prerequisite Ex. E. 95.
Senior Co-op., second term, four hours every other four weeks.
A continuation of Ex. E. 95 and completes a course which is the same as Ex. E. 77, except that it is arranged especially for Co-operative students.

GEOLOGY AND METALLURGY

Professor Dunn.

General Statement

The department of Geology and Metallurgy does not offer a separate degree, but gives courses which are needed for other degrees offered by the school. The aim, therefore is to give such courses as will emphasize geologic and metallurgic principles in their application to the engineering fields of other departments. Special efforts are made to bring the student in contact with those publications which are vital forces in his chosen field. Topics for special investigation, and articles for special review are assigned to him, and as many classroom references as possible are made to the literature of this particular field. To impress upon the student the practical side of his work, inspection tours are made, which enable him to see in actual operation the processes discussed in the class room. In every department of the work the aim is to make the student responsible for himself, so that he may learn to attack a piece of work or a problem with the sole purpose of getting out of it, not what this or any other department may require by schedule from him, but what that particular case merits of his best efforts.

Equipment

The equipment consists of the usual office, section room, museum and laboratories. The department has collections as follows: type collections for Mineralogy, Petrography and Geology; working collections for Crystallography, Mineralogy and Petrography; Building Stones Collection; Metallurgical Products Collection. For use in the class room there is a catalog library of 700 bulletins, prints and papers. The metallography laboratory is equipped with horizontal polishing machines, electric heat treatment furnace, a Bausch and Lomb metallurgical microscope and the necessary accessories for the study of metals and alloys.

Material is being added to the equipment from time to time through regular funds and through the kindness of patrons in the commercial world.

Met. 21 and 21a. Ferrous Metallurgy.

Prerequisites, Chem. 1, 2, 5, 6.
Met. 21—Juniors in M. E., first term, two hours (1924.)
Met. 21a. Sophomores in E. E., second term, two hours.
A course of recitations and lectures covering four sections as follows—(a) Fuels. The work in this section consists of a brief study of the various kinds and the uses of fuels, together with their metallurgical applications. (b) Refractory Materials. The various types of crucibles, casting sands, mortars, and different acids and basic linings for furnaces are studied under this head. (c) Metallurgical Problems relating to Coal, Boilers, Blast Furnaces, etc., are studied. (d) Iron and Steel. No attempt is made to treat this section in detail, but modern steel making practice is taken, with special stress being laid on the Blast Furnace, the Bessemer, Open Hearth and Alloy Steel.

Georgia School of Technology

Met. 44. Non-Ferrous Metallurgy.

Prerequisites, Chem. 1, 2, 5, 6.

Second term, four hours.

(Given if applied for by a sufficient number of students).

A lecture course, in which the metallurgy of gold, silver, copper and lead is studied, the entire time being put on the modern practice in this country. No attempt is made to grasp the minutiae of the many processes, but each is studied as closely as is required to bring the student to the position where detailed work can be carried on at his pleasure. Extensive use is made of library assignments, trade catalogues and inspection trips.

Met. 56. Alloys and Metallography.

Prerequisites Chem. 1, 2, 5, 6. Met. 21.

Senior M. E. Automobile Engineering Option, second term, two hours.

A course of recitations and lectures dealing chiefly with the theoretical and practical considerations that influence the structure and properties of alloys with special attention to iron and steel and modern heat treatment methods.

Met. 58. Alloys and Metallography Laboratory.

To accompany Met. 56.

Prerequisite Chem. 1, 2, 5, 6. Met. 21.

Senior M. E. Automobile Engineering Option. Second term, three hours.

A laboratory course in alloys dealing chiefly with the micro-structure of iron and steel and the effect of proper and improper methods of heat treatment.

Geol. 10. Geology.

Prerequisites, Chem. 1, 2, 5, 6.

Juniors in C. E., second term, three hours.

A recitation course consisting of Dynamical Geology, in which the student studies the forces which are now at work changing the surface of the earth, such as the atmospheric, aqueous and igneous agencies; Structural Geology, a study of earth materials, their past and present forms; Historical Geology, which treats of the earth's life and history as revealed in the sequence of the rock beds. Use is made of the library and field trips as opportunity offers.

Geol. 31. Excavation.

Senior C. E. First term, three hours.

(Not given till 1925.)

Methods and machinery of excavating earth and rock tunnelling, machine drills, timbering and lining, explosives. Analysis of excavation problems and the selection of the proper type and size of machine for the work.

DEPARTMENT OF INDUSTRIAL EDUCATION

Professors McLaurine and Rountree.

The course in Industrial Education has for its objects the training of men for the following positions:

- I. Employment Manager.
- II. Supervisor of Industrial Education of State, City or Industrial Organization.
- III. Teacher-Trainer for State Vocational Boards.
- IV. Trainer of employees in industry.
- V. Teacher of Vocational subjects in our public school system.
- VI. Teachers of subjects related to Industrial Education.

This course has been made possible because of the needs as indicated above and because the State Board of Vocational Education is fostering this work and has selected the Georgia School of Technology to do this class of training.

Four groups of men will be trained through this department.

Group A. Men who have had trade experience equal at least to two years in excess of the period required to learn the trade and at least an elementary school education or its equivalent may qualify as shop teachers when they have completed a course in specialized training in centers best suited for this instruction. (Non-residence work.)

Group B. Men who have had two years' successful trade experience and the equivalent of a high school education, or men who have had two years' training in a technical school of college grade and successful contact with a trade or industry, may pursue a special course in Industrial Education at the Georgia School of Technology. This course will lead to a certificate of proficiency, and will include drawing, English, the more elementary mathematics, professional courses in Industrial Education, and a thorough training in industrial shop work.

Group C. Graduates of the Georgia School of Technology in any of the courses leading to the degree of B. S. in Civil Engineering, Mechanical Engineering, Electrical Engineering, or Textile Engineering, may qualify for teachers of subjects related to trades and industries in which they have had actual experience, upon completion of Industrial Education subjects.

Group D. Regular students at the Georgia School of Technology may pursue a four-year course in Industrial Education leading to the degree of B. S. in Industrial Education. Students in this group who possess no actual trade experience will be required to secure regular employment during the summer months of two years in some trade or industry and in some capacity that will provide actual contact with the work of that trade or industry. This work will be arranged through and be under the direction of the instructor in charge of co-ordination at the Georgia School of Technology.

INDUSTRIAL EDUCATION

For the Training of Teachers Under the Provision of the Smith-Hughes Vocational Educational Law.
Special Course Leading to a Certificate of Proficiency.

FIRST YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
*Chem. 1	Inorganic Chemistry	3	.....	7.5
*Chem. 5	Chemical Laboratory .....	.....	3	3
Eng. 11	Composition and Rhetoric	3	.....	7.5
Math. 11	Algebra	3	.....	7.5
Ind. Ed. 21	Applied Psychology	3	.....	7.5
	**Electives in Shop Work	12	12	
Mil. 1	Military Instruction .....	.....	5	5
Total				50.

Second Term

*Chem. 2	Inorganic Chemistry	3	.....	7.5
*Chem. 6	Chemical Laboratory .....	.....	3	3
Dr. 6	Elementary Drawing .....	.....	7	7
Eng. 12	Composition and Rhetoric	3	.....	7.5
Ind. Ed. 24	History of Industrial Education	3	.....	7.5
Ind. Ed. 26	Sanitation and Industrial Hygiene	2	.....	5
	**Electives in Shop Work .....	.....	12	12
Mil. 2	Military Instruction .....	.....	.....	5
Total				54.5

SECOND YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Math. 17	Trigonometry	6	.....	13.5
Ind. Ed. 31	Industrial Economics	2	.....	5
Ind. Ed. 33	Methods of Industrial Education	3	.....	7.5
Ind. Ed. 51	Drawing Methods	2	.....	5
Mil. 3	Military Instruction .....	.....	5	5
	**Electives in Shop Work .....	.....	18	18
Total				54

Second Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Ind. Ed. 34	Practice Teaching .....	.....	4	4
Ind. Ed. 36	Methods of Industrial Education	1	.....	2.5
Ind. Ed. 53	Reports on Assigned Readings	6	.....	6
Ind. Ed. 58	Shop Organization	3	.....	7.5
Math. 2	Shop Mathematics	2	.....	5
	Electives in Shop Work .....	.....	18	18
Mil. 4	Military Instruction .....	.....	5	5
Total				48.

*Where Chemistry is offered as a qualification for entrance, physics will be given in place of chemistry.

**Electives chosen by students will be subject to approval by the faculty, and will be governed by the following consideration: (1) Shop work will be required to supplement the trade experience of the student; (2) Shop work will be required in some additional trade of industry in a sufficient amount to make the student fairly proficient in his second chosen field.

FOUR-YEAR COURSE LEADING TO THE DEGREE OF B. S. IN INDUSTRIAL EDUCATION

FRESHMAN YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Chem. 1	Inorganic Chemistry	3	.....	7.5
Chem. 5	Chemical Laboratory .....	.....	3	3
Dr. 15	Applied Technical Drawing .....	.....	6	6
Eng. 11	Composition and Rhetoric	3	.....	7.5
Math. 17	Trigonometry	5	.....	13.5
M. E. 3	Wood Shop .....	.....	3	3
M. E. 5	Smith Shop .....	.....	.....	.....
M. E. or	7 Foundry .....	.....	3	3
Mil. 2	Military Instruction .....	.....	5	5
Total		11	21	48.5

Second Term

Chem. 2	Inorganic Chemistry	3	.....	7.5
Chem. 6	Chemical Laboratory .....	.....	3	3
Dr. 16	Applied Technical Drawing .....	.....	6	6
Eng. 12	Composition and Rhetoric	3	.....	7.5
Math. 16	Slide Rule .....	.....	1	1
Math. 18	Analytical Geometry	5	.....	12.5
M. E. 4	Wood Shop .....	.....	3	3
M. E. 5	Smith Shop .....	.....	.....	.....
M. E. or	7 Foundry .....	.....	3	3
Mil. 2	Military Instruction .....	.....	5	5
Total		11	21	48.5

SOPHOMORE YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Eng. 21	English	3	.....	7.5
Phys. 9	Mechanics and Heat	4	.....	10
Dr. 27	Machine Drawing .....	.....	3	3
Math. 23	Calculus	5	.....	12.5
C. E. 21	Plane Surveying	1	3	5.5
Ind. Ed. 21	Applied Psychology	3	.....	7.5
T. E. 31	Fabric Design .....	.....	3	3
Mil. 3	Military Instruction .....	.....	5	5
Total		16	14	54.

Second Term

Eng. 24	English	3	.....	7.5
Phys. 10	Heat, Sound, Magnetism & Electricity	4	.....	10
Phys. 16	Physics Laboratory .....	.....	3	4
Dr. 28	Machine Drawing .....	.....	3	3
Math. 26	Calculus	5	.....	12.5
Ind. Ed. 24	History of Industrial Education	3	7.5
T. E. 32	Fabric Design	3	3
Mil. 6	Military Instruction	5	5
Total		17	14	52.5

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JUNIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Ind. Ed. 33	Methods in Industrial Education	3	7.5
Phys. 11	Electricity and Light	3	.....	7.5
Phys. 17	Physics Laboratory	.....	3	4
T. E. 1-11	Yarn Manufacturing	3	3	10.5
T. E. 27	Fabric Analysis	.....	3	3
T. E. 41-51	Weaving, Theory and Practice	2	3	8
Arc. 31	Building Construction	1	.....	2.5
Arc. 35	Sanitation	1	.....	2.5
Ex. E. 76	Power Plant	2	.....	5
Total		15	12	50.5

JUNIOR YEAR

Second Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Ind. Ed. 34	Practice Teaching	.....	3	3
Ind. Ed. 36	Economic History	2	.....	5
Ind. Ed. 38	Methods	1	.....	2.5
T. E. 2-12	Yarn Manufacturing	3	3	10.5
T. E. 28	Fabric Analysis	.....	3	3
T. E. 42-52	Weaving, Theory and Practice	1	3	5.5
T. E. 22	Dye Laboratory	.....	3	3
Met. 21	Ferrous Metallurgy	2	.....	5
Arc. 32	Building Construction	1	.....	2.5
***Electives		.....	.....	10
Total		10	15	50.

SENIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Ind. Ed. 41	Industrial Economics	2	.....	5
Ind. Ed. 53	Foremanship, Shop Org. Training	3	.....	7.5
T. E. 3-13	Yarn Manufacturing	3	3	10.5
T. E. 43-53	Weaving, Etc.	1	3	5.5
T. E. 23	Dye Laboratory	.....	3	3
T. E. 17	Dyeing	2	.....	5
Ex. E. 77	Heat Engines	3	.....	7.5
Arch. 63	Carpentry	1	.....	2.5
Total		15	9	46.5

Second Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Ind. Ed. 56	Vocational Guidance	2	.....	5
Ind. Ed. 58	Shop Organization	3	.....	7.5
T. E. 4-14	Yarn Manufacturing	3	3	10.5
T. E. 54	Weaving	.....	3	3
T. E. 13	Dyeing	2	.....	5
T. E. 24	Laboratory	.....	3	3
E. E. 2	Applied Electricity	2	.....	5
E. E. 3-A	Electrical Laboratory	.....	3	3
Arch. 64	Carpentry	1	.....	2.5
***Electives		.....	.....	6
Total		13	12	50.5

***Electives chosen by students will be subject to approval by the faculty, and will be governed by the following considerations: (1) No student may elect a course unless he has passed the prerequisites for that course; (2) Subjects elected must be either a continuation of or related to the courses scheduled as required.

DEPARTMENT OF INDUSTRIAL EDUCATION

Description of Courses

Ind. Ed. 21. Applied Psychology.

First year Special and Sophomore, first term, three hours. Lectures and recitations.

An elementary study of the general phenomenon of consciousness; sensation, images, affections, and the laws of their groupings in perception, attention, association, memory, etc., with particular attention given to the application of psychology to industrial education.

Text: "Ewer, "Applied Psychology."

Ind. Ed. 24. History of Industrial Education.

First Year Special and Sophomore, second term, three hours. Lectures and recitations.

The characteristic ideals of ancient, mediaeval, and modern educational systems will be briefly considered; but the primary aim of the course will be the study of the rise and development of industrial education. The various apprentice systems under changed industrial conditions since mediaeval times will be reviewed, and the modern conditions that have stimulated interest in trade and industrial schools in the United States will receive careful attention.

Text: Kelly: "Training Industrial Workers."

Ind. Ed. 33. Methods of Industrial Education.

Second Year Special and Junior, first term, three hours. Lectures and recitations and inspection trips.

A study of the application of the principles of pedagogy to the special field of industrial education; the consideration of courses pursued and methods used in industrial schools in the United States and Europe; and the aim and intent of vocational education under the provisions of the Smith-Hughes Act. Visits will be made to industrial shops and industrial schools.

Text: Allen, "The Instructor, The Man and The Job," "Government Bulletins," and "State Reports."

Ind. Ed. 34. Practice Teaching.

Second Year Special and Junior, second term, four hours practice in actual teaching.

Ind. Ed. 36. Economic History.

Junior, Second Term, two hours recitations.

A study of colonial development; struggle for commercial and economic independence; the industrial revolution and westward movement; economic intergration and industrial organization.

Text: Bogart, "Economic History of United States."

Ind. Ed. 38. Methods of Industrial Education.

Second Year Special and Junior, second term, one hour. Lectures and recitations.

A parallel course to Ind. Ed. 34., and continuation of Ind. Ed. 33. The problems arising in practice teaching will be considered.

Text: (Same as Ind. Ed. 33.)

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Ind. Ed. 41. Industrial Economics.

Second Special and Senior, first term, two hours. Lectures and recitations.

The study of the special industrial relations of labor, capital, rent, interest, wages, profits, and profit sharing, and the aims of industrial education in the lessening of poverty and crime through industrial preparedness.

Text: Finney, "Social Unrest," and others.

Ind. Ed. 53. Making Out an Educational Program.

Second Year Special and Senior, first term, three hours per week.

Industrial motion pictures, Americanization, the responsibility of the community and of the employer for the general education of the employees, vocational guidance and industrial education, the vestibule school, the trade school, the training of executives, the education of foremen, the educational significance of work councils, subnormal workers in industry, the training of salesmen, and the basis of industrial education.

Text: Link, "Education and Industry."

Ind. Ed. 56. Vocational Guidance.

Senior, Second Term, two hours. Lectures and recitations.

A study and an attempt at classification of the individual characteristics and abilities in their relation as determining factors in denoting adaptability to particular occupations. Various Psychological tests will be discussed and demonstrated as time will permit.

Text: Link, "Employment Psychology."

Ind. Ed. 58. Shop Organization.

Second Year Special and Senior, second term, three hours. Lectures, recitations, and shop visits.

This course will consider the fundamentals of shop organization and as many of the specialized "systems" as time will permit. Especial attention will be given to the practical adaptation of these systems in the organization of courses in the industrial school shop.

Text: Kimball, "Factory Organization and Administration."

DEPARTMENT OF MACHINE DESIGN

Professors Coolidge, Billmyer, Webber and Genz. Instructors Stovall, Rhys and Lucas. Student Assistant Powell.

The courses in this department are so arranged in order and substance that it is hoped that the student, on completion of the courses, will be thoroughly rooted in the basic principles of sound machine design.

The courses in the Department of Machine Design are divided into three groups: Engineering Drawing, Engineering Mechanics and Machine Design.

ENGINEERING DRAWING

Professors Coolidge, Billmyer and Webber; Instructors Stovall, Rhys and Lucas.

The courses in engineering drawing are intended to be useful to the student in his engineering practice in the particular branch of engineering which he elects from the several courses offered by the school.

A standard drafting room practice is maintained throughout the various courses of instruction. It is the average of standards maintained by over 130 drafting rooms in the largest manufacturing concerns in the United States. The meager time available for the courses in drawing does not as a rule develop the student to that perfection of manual skill and dexterity which would classify him as a mere draftsman. This can only be attained by constant practice under the perfected system found in reputable and commercially established concerns.

Throughout the various courses in drawing, however, students are required to acquire a certain standard of technique in order that they will be qualified to supervise a drafting room as an executive in charge of the whole or part of the work.

Special effort is constantly made to emphasize the fundamental points and features in good design. Students are presented only such problems to analyze over the drawing board as will occur in good engineering practice. Bad habits acquired from bad examples are serious handicaps to young engineers assuming responsibility in engineering work after graduation.

TABULATION OF SUBJECTS TAUGHT IN ENGINEERING
DRAWING

FRESHMAN YEAR

First Term

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Dr. 15	Applied Technical Drawing (Excepting Co-op)	6	6	6
Dr. 15c	Applied Technical Drawing (Co-op)	9	9	9
Dr. 17	Descriptive Geometry for Architects	1	6	8.5

Second Term

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Dr. 16	Applied Technical Drawing (Excepting Co-op)	6	6	6
Dr. 16c	Applied Technical Drawing (Co-op)	9	9	9

SOPHOMORE YEAR

First Term

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Dr. 27	Machine Drawing (Excepting Co-op)	3	3	3
Dr. 27	Machine Drawing (Co-op)	6	6	6

Second Term

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Dr. 28	Machine Drawing (Excepting Co-op)	3	3	3
Dr. 28	Machine Drawing (Co-op)	4	4	4

PRE-JUNIOR YEAR (Co-op only)

Summer Term

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Dr. 47	Kinematics of Mechanism (Co-op)	4	10	10

First Term

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Dr. 47	Kinematics of Mechanism (Co-op)	4	6	16

Second Term

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Dr. 48	Kinematics of Mechanism (Co-op)	6	6	6

JUNIOR YEAR
Summer Term (Co-op only)

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Dr. 48	Kinematics of Mechanism (Co-op)	6	6	6

First Term

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Dr. 41	Kinematics of Mechanism	4	10	10
Dr. 47	Kinematics of Mechanism	2	3	8

Second Term

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Dr. 44	Kinematics of Mechanism	3	3	3
Dr. 48	Kinematics of Mechanism	6	6	6

Courses of Instruction

Drawing 15. Applied Technical Drawing.

Professor Webber; Instructors Stovall, Rhys and Lucas.

Freshmen in E. Ch., C. E., E. E., M. E., T. E., and Co-op. First term, six hours drafting.

Instruction in the freshman year is devoted to training the student in elementary projection, the analytical and synthetical treatment of points, lines, and planes having predefined relations, the delineation of lines obtained from the intersection of surfaces, developments of surfaces, etc. The subject matter mentioned is usually treated as a course in so called Descriptive Geometry in which auxiliary revolving planes, dihedral angles, and other highly complex methods are necessarily employed to present to the student a fundamental training in a branch of engineering drawing which is the science of all drawing. The methods now employed in teaching Applied Technical Drawing are such that they can be readily applied in engineering practice without the cumbersomness of the usual academic technicalities. Standard finished penciled drawings only are required.

Drawing 16. Applied Technical Drawing.

Professor Webber; Instructors Stovall, Rhys and Lucas.

Freshmen in E. Ch., C. E., E. E., M. E., T. E., and Co-op. Second term, six hours drafting.

A continuation of Drawing 15.

Drawing 17. Descriptive Geometry for Architects.

Prof. Webber.

Freshmen in Architecture. First term, six hours drafting, one hour class room.

Specially selected problems to emphasize the essentials of descriptive geometry applied to architecture.

Drawing 27. Machine Drawing.

Professor Webber; Instructors Stovall, Rhys and Lucas.

Prerequisites Dr. 15, and Dr. 16.

Sophomores in E.Ch., E.E., M.E., T. E., Sp. T. E. 1, and Co-op. First term, three hours drafting.

Instruction in the Sophomore year is confined to sketching machine parts and the execution of shop working drawings of parts of standard types of machines for the production of power and various manufacturing. The student is instructed thoroughly in the correct use and care of all his instruments, in the technique of tracing on tracing cloth, and in duplication of the various photographic processes, including blue printing, brown printing, and white printing from Van Dykes.

Drawing 28. Machine Drawing.

Professor Webber; Instructors Stovall, Rhys and Lucas.

Prerequisites Dr. 15, 16, and 27.

Sophomores in E. Ch., E.E., M.E., T. E., Sp. T. E. 1, Co-op. Second term, three hours drafting.

A continuation of Drawing 27.

Drawing 41. Kinematics of Mechanism.

Prof. Webber.

Prerequisites: Dr. 27 and Dr. 28.

Juniors in T.E., first term, four hours class room.

This course deals with the motions of various mechanisms and their parts and includes an investigation of the various types of gears; the design of plate and cylindrical cams for variable motions, belt and chain transmissions, epicyclic or planetary transmissions; various linkages for various combinations applied to the reciprocating engine, reversing gear, reducing and pantographic motions, quick returns applied to machine tools, and construction of velocity and acceleration diagrams by vector and instant center methods, etc.

Drawing 44. Kinematics of Mechanism.

Professor Webber.

Prerequisite: Dr. 41.

Juniors in T. E., second term, three hours drafting.

Problems in this course to be worked out on the drawing board are specially selected from mechanisms incorporated in the design of textile machines and include gear tooth profiles, cams, linkage arrangements, etc.

Drawing 47. Kinematics of Mechanism.

Professors Coolidge, Billmyer and Webber.

Prerequisites Dr. 27 and Dr. 28.

Juniors in M. E., and Co-op, first term, two hours class room and three hours drafting.

Students in Mechanical Engineering in their Junior year are instructed in the kinematics of various mechanisms. It includes on the penciled drawings developments of theoretical profiles of cycloidal

and involute gear teeth applied to the usual types of gears; working drawings of bevel gears; spiral gears; worm gears, plate and cylindrical type cams; velocity diagrams of a shaper and other machine tools, rubbing speed and acceleration diagrams for important parts of the reciprocating types of steam and gas engines by the application of the instant center method, etc.

Drawing 48. Kinematics of Mechanism.

Professors Coolidge, Billmyer and Webber.

Prerequisite Dr. 47.

Juniors in M.E., and Co-op, second term, six hours drafting.

A continuation of Dr. 47.

ENGINEERING MECHANICS

Professors Coolidge, Billmyer and Genz.

Instruction in Engineering Mechanics is given students who have elected courses in Mechanical, Electrical, Civil, Textile, and Experimental Engineering; also Chemistry, Architecture, Co-operative, and Industrial Education.

Particular emphasis is laid on the essentials in those divisions of Mechanics which the student will need in his particular branch of engineering. To that end a selective course is arranged suitable for students in the separate branches of engineering.

The fundamental principles of Mechanics are the foundations on which all sound engineering must rest. Sir Isaac Newton in the seventeenth century uncovered and heralded to the world in a concise statement the three simple "Newtonian Laws" which most of us know, few of us appreciate, and which the untutored engineer does not know how to intelligently apply. Mechanics, as such, is the elaboration of these laws in their useful application to engineering problems. An engineer without a working knowledge of these either in-born or acquired, will sooner or later contribute his quota to the usual junk heaps which should be sufficient object lessons to inventive minds who endeavor to produce without sufficient schooling in the unchangeable laws of Mechanics.

TABULATION OF SUBJECTS TAUGHT IN ENGINEERING MECHANICS**SOPHOMORE YEAR****Second Term**

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Mech. 26	Elementary Applied Mechanics	3	.....	7.5

PRE-JUNIOR YEAR (Co-op only)**Second Term**

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Mech. 37	Applied Mechanics (Co-op).....	4	4	14

JUNIOR YEAR
Summer Term (Co-op only)

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Mech. 38	Applied Mechanics (Co-op).....	5	.....	12.5

First Term

		Hrs. Per W'k		
		Class	Draft'g Lab.	
Mech. 31	Applied Mechanics	3	.....	7.5
Mech. 33	Applied Mechanics	3	3	10.5
Mech. 37	Applied Mechanics	3	3	10.5
Mech. 38	Applied Mechanics (Co-op)	4	.....	10
Mech. 41	Mechanics of Materials	2	.....	5
Mech. 43	Mechanics of Materials (Co-op).....	2	.....	5

Second Term

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Mech. 32	Applied Mechanics	3	.....	7.5
Mech. 38	Applied Mechanics	4	.....	10
Mech. 44a	Mechanics of Materials	2	.....	5
Mech. 44	Mechanics of Materials	3	.....	7.5
Mech. 48	Mechanics of Materials	3	.....	7.5
Mech. 48	Mechanics of Materials (Co-op).....	3	.....	7.5

SENIOR YEAR
Summer Term (Co-op only)

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g	
Mech. 61	Mechanics of Materials (Co-op).....	6	.....	15

Courses of Instruction

Mech. 26. Elementary Applied Mechanics.

Professor Genz.

Prerequisite, Math. 15.

Sophomores in T. E. and I. E., second term, three hours.

An exposition of the simple laws of Mechanics applied to the solution of a considerable variety of practical problems is attempted in this course including analysis of external forces and the internal stresses induced by them.

Mech. 31 and 32. Applied Mechanics.

Professor Genz.

Prerequisites, Math. 25 and 26, including Hyperbolic Functions. Juniors in E. E., and E. Ch., first and second terms, three hours.

Instruction is given in the application of the fundamental principles of Mechanics together with their application to problems occurring in engineering practice which would interest the students in Electrical Engineering. Both graphical and mathematical methods are used in the analysis of a variety of problems.

Mech. 33. Applied Mechanics.

Professor Billmyer.

Prerequisite, Math. 25 and 26, including Hyperbolic Functions.

Juniors in C. E., first term, three hours class room and three hours drafting.

Instruction is given in the application of the laws of Mechanics with special emphasis on the essentials which would be useful to the civil engineer in his practice. Both graphical and mathematical methods are used in the analysis of problems which include roof and bridge trusses under dead and live loads.

Mech. 37-38. Applied Mechanics.

Professors Coolidge and Billmyer.

Prerequisites, Math. 25 and 26, including Hyperbolic Functions.

Juniors in M. E. and Co-op., first term, three hours class room and three hours drafting; second term, 4 hours class room.

A very thorough and extended course in the elaboration of the laws embodied in the Statics and Kinetics of Mechanics with selected problems drawn from engineering practice to illustrate their application. Analyses of the problems by graphical methods are liberally employed together with a mathematical treatment of them.

Mech. 41. Mechanics of Materials.

Professor Genz.

Concurrent with Mechanics 31.

Juniors in E. E., first term, two hours.

An investigation is made of the simple stresses induced in various materials by various types of loads applied to simple beams, columns, and shafts, and the component parts of built up members found in the general design of structures and machines for the production of power.

Mech. 44. Mechanics of Materials.

Professor Billmyer.

Prerequisites, Mech. 33.

Juniors in C. E., second term, three hours.

An analysis is made of the simple and compound stresses in various materials, including concrete, which are induced by both static and moving loads on simple beams, girders, columns, and struts, and the component parts when integrally built up. Standard stock, rolled shapes and materials purchasable on the market are selected in the illustrative problems used in the investigations of stresses induced.

Mech. 44a. Mechanics of Materials.

Professor Genz.

Prerequisites: Math. 25 and 26.

Juniors in Arch., second term, two hours.

Similar to course taken by civil engineers in Mechanics 44, but abbreviated on account of less time assigned for the work.

Mech. 48. Mechanics of Materials.

Professors Coolidge and Billmyer.

Prerequisite, Mech. 38.

Juniors in M. E. and Co-op., second term, three hours.

A very thorough and extended investigation is made of the stresses induced in the various common materials used in the design of a large variety of structures and machines when subjected to loads incurred under working conditions. Attention is also given primarily to crystalline changes in the material explained by a brief discussion of the more modern view point of magnetic affinity of particles in ferrous materials and their alloys, together with changes resulting from heat and mechanical working of materials. To illustrate fundamental formulas derived, current problems are selected with which the mechanical engineer has to deal in solving stresses in the members of a large variety of commercial machines.

Mech. 61. Mechanics of Materials.

Professor Billmyer.

Prerequisite: Mech. 48.

Senior Co-ops, first term (summer) 6 hours, class room work for 4 weeks.

A continuation of Mech. 48.

MACHINE DESIGN

Professors Coolidge and Billmyer.

The usefulness of a designing engineer is measured in particular by his knowledge of those things "which won't work," and in general by his accomplishments along many lines. He should have a thorough knowledge of the sciences, engineering mechanics and commercial practice. He should know well the elementary principles of modern physics, chemistry, metallurgy, thermodynamics, etc. He should know how to apply engineering mechanics, based on the "Newtonian Laws," without which an engineer attempting a novel design would be as a ship without a rudder. He should be well informed on the various standard types of mechanism, and the kinematic relations of their component parts. Lastly, he should be able to provide the builder or manufacturer with the necessary drawings and specifications of his design which must in all details conform with the best in modern commercial practice. This necessarily presupposes that he is an experienced man in shop and modern manufacturing methods and that he knows modern drafting room practice supported by a theoretical training in descriptive delineation based on third angle projection.

TABULATION OF SUBJECTS TAUGHT IN MACHINE DESIGN**SENIOR YEAR****First Term**

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g.	
M. D. 71	Machine Design (Co-op)	2	9	14.

Second Term

Symbol	Subject	Hrs. Per W'k		Equiv.
		Class	Draft'g.	
M. D. 72	Machine Design (Co-op)	2	9	14

Courses of Instruction**M. D. 71. Machine Design.**

Professor Billmyer.

Prerequisites: Dr. 15, 16, 27, 28, 47 and 48. Mech. 37, 38, 48 and 61.

Senior Co-ops, first term, 3 hours class room and 9 hours drafting. The regular course covers a layout of a manufacturing plant from the selection of its site to the shipment of its finished product, together with the design of some of the important and representative manufacturing equipment used in the plant which might include a power punch and shear, electric traveling crane, steam hammer, hydraulic press, jigs and fixtures, etc.

Selection of the plant with respect to natural advantages in the marketing of its product, and selection of the types of buildings with their equipment to insure the best modern working conditions and maximum production of standardized quality at minimum cost, will be thoroughly discussed. Some particular commodity will be selected to be manufactured in quantity production, which will be the basis of the plant design. The necessary layout drawings and specifications will be required.

The designing of any machine or component part will include the application of the laws of nature, the application of the mechanics involved and the necessary modifications to satisfy economic production. Detailed shop working drawings with the necessary accompanying specifications will be required.

M. D. 72. Machine Design

Professor Billmyer.

Prerequisite: M. D. 71.

Senior Co-ops, second term, 2 hours class room and 9 hours drafting. A continuation of M. D. 71.

DEPARTMENT OF MATHEMATICS

Professors Field, Skiles, Morton, Smith, Stamy and Mundorff; Messrs. Wilson, R. I. White, P. L. Armstrong, Driscoll, Trawick, Fulmer and Miles.

General Statement.

Great importance is attached to the study of Mathematics. Primarily the aim of the instruction is to supply the student with a working knowledge of those principles which he needs in the study of engineering and to meet this need, conferences have been held with the engineering departments in order to check on the actual mathematics required in the various engineering courses.

However, since the acquisition of a ready and logical mind is quite as valuable as the ability to use the subject, it is not the purpose to subordinate altogether the logical development of mathematics to the practical side.

Instruction in this department is given by use of text-books, supplemented by oral explanations, lectures and personal oversight of student in working many exercises. It is hoped that the classes may be subdivided into sections numbering from twelve to twenty, thus making possible the individual treatment of students who require it.

Entrance.

For entrance to the Freshman Class by examination, it will be necessary to pass the following subjects:

Plane and Solid Geometry; all theorems and one-third of exercises. Elementary and Advanced Algebra: factors, fractions, involution, evolution, exponents, radicals, solution of quadratic equations by formula and by factoring, simultaneous equations, ratio, proportion, variation, progressions, partial fractions, logarithms, etc.

Do not omit the subject of logarithms, for this is necessary for Freshman Trigonometry.

A review course in Algebra during the last half year of the high school would be of great value to the student. In this course, drill should be given in problems involving exponents, solution of equations, reduction of fractions, radicals, etc. The inability of students to do this part of the later work is the chief cause of discouragement and failure.

Courses of Instruction

Math. 2. Shop Mathematics.

Second Year Specials and Sophomores in Ind. Education.

This course emphasizes the practical industrial application of mathematical principles with which the students are already familiar. Lectures and assigned problems. Not open to engineering students.

Math. 3. Algebra.

Prerequisites, Elementary Algebra to Simultaneous Quadratics. Freshman, first term, three hours. No college credit.

This course is designed for those students who are conditioned in higher Algebra. It covers the subjects of ratio, proportion, variation, progression, partial fractions, logarithms, etc.

Text: Shultze.

Math. 7. Geometry.

Prerequisite, Plane Geometry.

Freshman, second term, three hours. No college credit.

This course is for those students who enter conditioned in Solid Geometry. It is the usual course with propositions and two-thirds of the exercises.

Text: Wentworth and Smith.

Math. 9. Business Mathematics.

Messrs. White, Wilson and Miles.

Prerequisites, Arith., Plane Geo., Elementary Algebra.

Freshmen in Commerce and Sp. T. E. I. first term, three hours per week.

This course gives a thorough review of interest and percentage, followed by an application of these principles to investments, insurance, partnerships, exchange, etc.

Speed and accuracy, both oral and written, are required.

Text: Van Tpyl—Business Arithmetic.

Math. 10. Business Mathematics.

Messrs. White, Wilson and Miles.

Prerequisite, Math. 9.

Second term Freshman in Commerce and Sp. T. E. I., three hours per week.

A continuation of Math. 9 and including the development and use of Tables and Formulas which are used in accounting problems with the use of logarithms and the slide rule in computation.

Text: Vinal's Mathematics for Accountants.

Math. 11. College Algebra.

Professor Stamy.

Prerequisite, Entrance Mathematics.

Sophomore Co-ops, six hours for eight weeks.

A review of the important topics in the Algebra for entrance to the Freshman Class and advanced work in Theory of Equation.

Math. 15. Trigonometry.

Professor Stamy.

Prerequisite, Entrance Mathematics.

Freshman Co-ops, six hours for eight weeks.

The derivation of all formulas of Plane Trigonometry, transformations, solution of trigonometric equations, right and oblique triangles. All exercises worked.

Math 17. Trigonometry.

Professor Mundorff; Messrs. White, Wilson, Armstrong, Driscoll, Trawick, Fulmer and Miles.

Prerequisite, Entrance Mathematics for Freshmen.

Freshmen, first term, five hours and one hour conference.

This course covers certain topics in Algebra and the usual course in Trigonometry.

Math. 18. Analytic Geometry.

Professor Mundorff; Messrs. White, Wilson, Armstrong, Trawick, Driscoll, Fulmer and Miles.

Prerequisite, Math. 17.

Freshman, second term, five hours.

Includes points, lines, circles, plots both rectangular and polar, transformation of co-ordinates from rectangular to polar and polar to rectangular, the ellipse, parabola, hyperbola, and loci of second order.

Text: Wood and Bailey, "Analytical Geometry."

Math. 16. Slide Rule.

Professors Smith, Stamy and Mundorff; Messrs. White, Armstrong, Trawick, Driscoll and Fulmer.

Freshmen, except Commerce, second term, one hour.

The slide rule is explained and used in the solution of many problems of calculation.

Slide Rule required: Keuffel & Esser, Polyphase Slide Rule, 10 inch, No. 4053-3. No other rule permitted in class work.

Text: D. M. Smith, "Notes on Slide Rule."

Math. 21. Analytic Geometry.

Professor Stamy.

Prerequisites, Math. 11, 15 and 18.

Pre-Junior Co-op, six hours for four weeks.

Special work in curve tracing and analytical geometry of three dimensions.

Text: Smith and Gale.

Math. 23. Differential Calculus.

Professors Skiles, Morton, Smith, Stamy and Mundorff;

Messrs. Miles, White and Fulmer.

Prerequisites, Math. 17 and 18.

Sophomore, first term, five hours.

The usual subjects of differential calculus, and also analytical geometry of three dimensions.

Math. 25. Differential Calculus.

Professor Stamy.

Prerequisites, Math. 11, 15, and 18.

Sophomore Co-ops, six hours for eleven weeks.

Differential Calculus, including the derivatives of all algebraic and transcendental functions, maxima and minima, indeterminate forms, series, etc.

Text: Granville's, "Calculus."

Math. 26. Calculus.

Professors Skiles, Morton, Smith and Stamy; Messrs Fulmer and White.

Prerequisites, Math. 17, 18 and 23.

Sophomore, second term, five hours.

Complete Differential and Integral Calculus. Many problems of practical application from outside the text.

Text: Granville's, "Calculus."

Math. 28. Calculus.

Professor Skiles.

Prerequisite, same as Math. 26.

Sophomore, second term, five hours. Students in Arch., and E. C. Integral Calculus and a short course in Differential Equations. A great many applications from Geometry, Physics, Chemistry, and Mechanics are given.

Text: Granville's, "Calculus."

Math. 35 and 36. Differential Equations.

Professors Skiles, Morton and Stamy.

Prerequisites, Math. 18, 23, 26.

Math. 35. Junior, first term, two hours. Students in M. E. and C. E.

Math. 36. Junior, second term, three hours. Students in E. E.

Ordinary Differential Equation of first and second orders and special types of higher order. A great many applications from Physics and Mechanics are given.

Text: Campbell's "Differential Equations."

DEPARTMENT OF MECHANICAL ENGINEERING

Professors Coon and King; Messrs. Martindale, Henika, Thompson, Van Houten, Norman, Griffin, Topham, Taylor and Browning.

General Statement

A mechanical engineer should possess accomplishments in three general particulars. He should be able to grasp and solve mechanical problems; he should be an expert mechanical draftsman in order to be able to design; and he should be thoroughly familiar with shop processes and shop limitations. The studies in the mechanical course are laid out with these ends in view.

As Mathematics is, to a large extent, the basis of Engineering, the student is given a thorough course in this subject as an important part of his foundation work. Of scarcely less importance is the study of Physics and Chemistry, the former giving the student a knowledge of the laws of nature, and the latter enabling him to better understand the composition of matter. The course in English is not only general, but practical in its benefits, since an essential part of the equipment of every engineer is the ability to express his ideas clearly and concisely either orally or in writing.

With a careful preparation in the foregoing subjects as a groundwork the student is prepared to take up the subjects which are of a technical nature, and peculiar to the course in Mechanical Engineering. It will probably not be questioned that a good designer of machinery must primarily be a good draftsman, and to this end, the course in Mechanical Drawing extends throughout the four years, it being recognized that the "only way to learn how to draw is to draw." Supplementing the work in the drafting room, a course is given in Machine Design, both by text-books and lectures, and in his Senior year the student is thrown largely upon his own resources, with the knowledge that neither here nor elsewhere, is the undergraduate competent to turn out good mechanical designs without assistance from an experienced designer.

As many hours as the time permits are devoted to work in the various shops. The purpose of this practical work is not to teach the student a trade, although it can not be questioned that the more skill a man possesses with his hands, the better off he is, in every way. With the exception of one or two preliminary tasks, all the machine shop work is confined to parts of machines under construction, the student following working drawings prepared under the supervision of an experienced designer. In the limited time he is enabled to devote to this class of work, the student does not ordinarily acquire sufficient skill to readily make the accurate fits required in first class construction, but he unconsciously acquires a knowledge of the manner in which the several members of a machine have to be fabricated, and this knowledge is of inestimable value to him as a designer of machinery. Of a like value is the knowledge gained by his work in the foundry and smith shop. Experience in pattern making and in the foundry enables the student to instinctively avoid designing needlessly difficult or absurd castings.

Studies of a strictly technical character pertaining to this course necessarily are deferred to the later years, as a thorough knowledge of the subject already briefly touched upon is essential to a comprehensive grasp on the student's part, of the basic principles of Mechan-

ical Engineering. Many men have become eminent as engineers who had no training in a technical school. It is no doubt equally true that many men have become of great service in the engineering profession who owe their inspiration, their initial start to the training and the mental discipline, they received in some technical school. The purpose of a course in engineering is not so much in the line of imparting facts and information, as it is to enable the student to form the habit of logically reasoning, to depend upon his own resources, to draw correct conclusions from given premises,—in short to think.

Engineering courses do not pretend to cover the whole field of technical thought and achievement. At best they can impress upon the student only basic principles. Students who pursue successfully the course in Mechanical Engineering can not hope to be experts in all its varied and useful fields. On joining the great army of workers in the commercial world, they will inevitably drift into some particular line of work in which the productive period of their lives will be passed.

It will be conceded that it is not sufficient for a course in engineering to turn out technical experts, if it can hope to do even this. But it must do much more; it must turn out men. While the schedule of subjects in this course does not include it, it is the prime object to send out young men to engage in the commercial work of the world with high ideals and a keen sense of moral responsibility. Good character is of more importance to the young engineer than engineering ability. Much has been said about the "commercialism" of our time, but it is probable that no other one cause can have so profound and widespread influence for the uplift of all, as the right kind of manufacture, of trade, of commerce. There can not be too much commerce of the right sort. An earnest effort is made to fit our young men for the responsibilities of citizenship and to impress upon them the fact that the useful life, the life worth living, is a life of service.

Equipment

With the growth of the school, adequate as our shop equipment seemed to be, it has been outgrown, and the year 1912 saw a portion of the shops displaced by new ones of decidedly better class. The new shops comprise a smith shop, containing space for forty forges, twice the former equipment,—and a foundry. Both of these shops are strictly up-to-date in plan, and among their most marked characteristics are the flood of light, and the splendid ventilating systems. Forges of the down-draft system are installed in the smith shop, with also a score of vises for bench work. The foundry is equipped with core oven, brass foundry, overhead traveling crane, and an oil system for startling cupola fires. All roof trusses are of steel, in both shops, with a glass monitor roof. All blowers are electrically driven.

Adjoining the new shops is an administration building of strictly fire-proof construction having brick walls, reinforced concrete floors and roof,—the latter covered with slate. The building is four stories high. On the basement floor are offices for the smith shop and foundry foreman, with complete laboratory and toilet facilities, and a large storage bin for blacksmith's coal, and for other storage purposes. On the next, or ground floor, are a museum, a library, a large locker room with space for seven hundred lockers. Adjoining the latter are ample lavatory and toilet facilities for the students working in the shops. These rooms are fitted up in the style found in strictly first-class hotels, and form an object lesson to the students as to the provisions which should be made for working men.

On the second floor of the administration building are the offices of the mechanical director, two large class rooms, and a drawing room, besides a janitor's room. On the top floor are two large drawing rooms, and a handsome studio and office, the entire floor being used by the Department of Architecture. The blackboards in the drawing rooms, and the class rooms below, are made of slate.

Later, new wood shops and machine shops will be added, each 40 ft. x 200 ft., with necessary offices, tool rooms, store rooms and lecture rooms.

The machine shop equipment comprises a large assortment of tools incident to the needs of the School. Several of these tools are much larger than are to be found at other technical shops. Among them are an iron planer 36 inch x 40 inch x 10 feet; two lathes having 25 ft. beds, the large, 36-inch swing; five 20-inch x 20-inch x 6 ft. iron planers, all of our own design and manufacture complete; six emery wheel stands, and the steam engine which at present drives all the machinery in all the shops. Much of the machine shop equipment is new, including a universal milling machine, a universal grinding machine, shaping machine, horizontal boring machine and many lathes. There has been recently added to the present machine shop equipment one surface grinder, one shaper, one power hack saw, on drill press one 20 inch x 6 ft lathe, and three 22 inch x 6 foot lathes. The growth of the School will require additions to this equipment when we move into the new shops.

Besides the tools, etc., mentioned above as having been made in our shops, we have also made a 24-inch buzz planner for our own use which has given excellent satisfaction. The shops have also made nineteen high-speed wood laths, all for our own use. We have also made a hot water boiler feed pump which has been a long time in successful service, scores of shaft hangers and bearings, many electrical machines including a large rotary converter, many steam traps which work, steam and water pressure reducing valves, friction clutches, drawing stands, a great amount of cabinet work of various kinds and many other miscellaneous tools.

The shop management does not think it desirable, and thus far has not found it necessary to put students upon tasks to be cast into the scrap heap, though it would be much easier to run the shop on that plan. Neither does the shop purchase castings and drawings of machinery to be built. All work done in the shops is from our own design from beginning to end, and there has never been an indication that our plan is not successful.

For the description of equipment used by students in mechanical engineering during the advanced part of the course, see Department of Experimental Engineering and also Electrical Engineering. All students are given some practical work in concrete construction, which up to the present time has been in the form of outdoor walks, basements floors, flagging, or foundations.

COURSE IN MECHANICAL ENGINEERING

FRESHMAN YEAR

See Page 37

SOPHOMORE YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equv.
		Class	Lab.	
Dr.	27 Machine Drawing		3	3
Eng.	21 American Literature	3		7.5
Math.	23 Calculus	5		12.5
M. E.	3 Woodshop		3	3
M. E.	7 Foundry		3	3
M. L.	French, Spanish or German	3		7.5
Phys.	9 Physics	4		10
Mil.	3 Military Instruction		5	5
Total		15	14	51.5

Second Term

C. E.	21 Plane Surveying	1	3	5.5
Dr.	23 Machine Drawing		3	3
Eng.	24 Political Economy	3		7.5
Math.	26 Calculus	5		12.5
M. L.	French, Spanish or German	3		7.5
Phys.	10 Physics	4		10
Phys.	16 Physics Laboratory		3	4
Mil.	4 Military Instruction		5	5
Total		16	14	55

JUNIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equv.
		Class	Lab.	
Draw.	47 Kinematics of Mechanism	2	3	8.
Eng.	31 English Literature	3		7.5
Ex. E.	21 Calibration Laboratory		3	4
Math.	35 Diff. Equations (Elec. for Mil. 5)	2		5
Mech.	37 Applied Mechanics	3	3	10.5
M. L.	1 German	3		7.5
M. L.	7 French			
M. L.	13 Spanish			
Phys.	11 Physics	3		7.5
Phys.	17 Physics Laboratory		3	4
Total		16	12	54

Second Term

C. E.	33a Hydraulics	3		7.5
Dr.	48 Kinematics of Mechanism		6	6.
Eng.	32 English Literature (Elec. for Mil. 6)	3		7.5
Ex. E.	52 Hydraulic & Materials Lab.		3	4
Ex. E.	76 Power Plants	2		5
Mech.	38 Applied Mechanics	4		10.
Mech.	48 Mechanics of Materials	3		7.5
M. L.	2 German	3		7.5
M. L.	8 French			
M. L.	14 Spanish			
Total		18	9	55.

SENIOR YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
E. E. 3	Electrical Engineering Laboratory.....		3	4
E. E. 5	Applied Electricity	3		7.5
Ex. E. 75	Fuels Laboratory		7	8
M. E. 51	Shop Methods (Elec. for Mil. 7)	2		5
M. E. 61	Mechanics of Materials	2		5
M. E. 65	Steam Engine	4		10
M. E. 69	Valve Gears	2		5
M. E. 71	Designing (Drawing)		3	3
M. L. 3	German	3		7.5
M. L. 9	French			
M. L. 15	Spanish			
Total		16	13	55

Second Term

Ex. E. 86	Steam and Gas Engine Lab.		7	12
M. E. 66	Gas Engines	4		10
M. E. 72	Machine Design (Drawing)		6	6
M. E. 74	Machine Design	3		7.5
M. E. 76	Graphical Statics	2		5
M. E. 78	Steam and Water Turbines	2		5
M. L. 4	German	3		7.5
M. L. 10	French			
M. L. 16	Spanish			
Total		14	13	53

Courses of Instruction

M. E. 3-4. Woodshop.

Prof. Coon, Mr. Henika, Mr. Norman, Mr. Browning.

M. E. 3e, Sophomore Ind. Ed., first term, 45 hours.

M. E. 4., Freshmen, second term, 45 hours.

M. E. 3a Sp. T. E., first term, 36 hours.

M. E. 4e, Sophomore, Ind. Ed., second term, 45 hours.

An advanced course in Cabinet Making required of four-year students in Industrial Education. Not open to engineering students.

M. E. 3e, Sophomore Ind. Ed., first term, 45 hours.

An advanced course in Pattern Making required of four-year students in Industrial Education. Not open to engineering students.

1st.—To pass Woodshop, students must complete Bench and Lathe work, pass examination in Text Books, and put in 40 hours maximum or 20 minimum time, on Cabinet and Pattern Making; as soon as the maximum is completed, they are excused from Woodshop, and they cannot graduate until the minimum is completed.

2nd.—Each unexcused absence shall take four points from grade; deficiencies caused by unexcused absences, at the end of the month, will necessitate repeating the subject.

3rd.—No student will be allowed to do more than four hours work for himself until the maximum time has been completed.

As described above the beginner completes satisfactorily about twelve tasks in joint making in wood. He then takes up wood turning and is kept on this, turning at first mere tasks, but later useful

articles, such as file handles, etc., until he has acquired considerable skill at the lathe. After the lathe work the student is put upon cabinet work. It is always upon some useful thing, usually something ordered by some department of the School. For instance, students have made hundreds of drawing boards, and scores of cabinets in pine, and in plain and quartered oak.

Students who have completed the maximum of 40 hours time are allowed to construct articles for themselves, being charged the bare cost of materials used. Very many of these articles have reflected the highest credit upon the student, and some remarkably beautiful things have been constructed by boys who had had no prior experience whatever in the use of tools.

Students are required to keep their tools in good order, and only the very best of tools are supplied to them. The student pays for all damaged or missing tools.

All students are required to pass an examination in pattern-making which is taught by lecture, text book and pattern construction.

Students from accredited schools where wood working is taught, are given credit for such work, but are required to pass an examination in pattern-making.

Students in Industrial Education are required to put in the full time scheduled in all courses, but after having completed the minimum of 20 hours, as outlined above, on Cabinet and Pattern Making, they are urged to use the balance of the time in making useful articles for themselves upon the same basis as recommended for engineers, viz., that they are required to pay only the bare cost of the material used.

M. E. 5, 6 and 19. Smithshop.

Professor Coon and Mr. Thompson.

M. E. 5 or 5a, Freshman, first and second term, 45 hours.

M. E. 6, Freshman, Ind. Ed., second term, 45 hours.

A continuation of M. E. 5, required of four-year students in Industrial Education. Not open to engineering students.

M. E. 19, Junior Ind. Ed. first term, 45 hours.

An advanced course in Blacksmithing, required of four-year students in Industrial Education. Not open to engineering students.

In the smithshop the student at first is given a set of tasks in forging, in order to acquire skill in the handling of a forge fire and in the heating of metals, as well as in the actual work of forging. He is taught the treatment required for different classes of steels, annealing and tempering, case hardening, brazing, tool dressing of lathe, tools, etc. Students in this shop make a very great number of useful articles, such as razors, carving sets, drawing knives, and irons, hammers, etc.

This subject is taught by text-book and lectures, as well as by practice, and students are required to pass an examination on these.

M. E. 7 and 8. Foundry.

Professor Coon and Mr. Van Houten.

M. E. 7 or 7a, Freshman, first or second term, 45 hours.

M. E. 8, Sophomore Ind. Ed., Second term, 45 hours.

*In the shop courses the total hours per term is given. In other courses, hours per week.

Georgia School of Technology

A continuation of M. E. 7, required of four-year students in Industrial Education. Not open to engineering students.

Students in the foundry do the various work of the foundryman, making moulds for patterns, running heats from the cupola, metal mixing, brass casting, aluminum and alloy making, core making, etc.

Students are required to pass an examination in this subject, which is taught, like the smith shop work, by text book and lectures, as well as by practice.

M. E. 11 and 12. Machine Shop.

Professor Coon; Messrs. Martindale, Camp, Topham and Griffin.

Prerequisites, M. E. 3, 4, 5, 7, and ability to read and understand simple machine drawings.

M. E. 11, Sophomore or Junior, first term 90 hours.

M. E. 12, Sophomore, Junior or Sp. T. E. II, second term, 90 hours.

The work in the machine shop is almost exclusively the construction of useful, workable machinery, as described in the opening announcement of the Department of M. E. All the varied processes carried on in a well-equipped machine shop of a manufacturing plant are at the disposal of the student. He is given work in gear cutting, turning, shaping, planing, drilling, grinding, babbitting, journal boxes, chipping, filing, scraping not only flat surfaces but scraping fits, laying out work, assembling, sketching, tool room keeping by check system, keeping machinery in order and making repairs of many kinds, valve fitting, cylinder boring, management of portable forge, keeping engines, and dynamos in order, firing and caring for steam boilers. At all times a varied class of work is in process of construction, such as lathes, planers, gas engines, steam traps, grinding machines, friction clutches, electric machines of different kinds, etc., and repairs for the various departments of the school.

Instruction and practical work are given in pipe fitting, both steam and water, plumbing in its various branches, electric wiring, etc., all under instruction of experienced men in the varied classes of work—men who have had large experience in commercial work. Special emphasis is placed on this last statement. There is not an instructor in the shops anywhere who has not come up through the school of hard knocks, with years of experience in commercial shops.

M. E. 16. Plumbing and Pipe Fitting.

Professors Coon, McLaurin, Mr. Griffin and Mr. Taylor.

Sophomores in Ind., Ed., second term, 60 hours.

This course is designed to introduce the student to the fundamentals of plumbers work, and will consist of the making of joints in wrought and cast iron pipe, lead pipe, and vitrified tile. All work will be executed to measure from working drawings. Students may elect additional work in plumbing during their Junior and Senior years. Not open to engineering students.

M. E. 17. Sheet Metal Work.

Professor Coon and Professor McLaurin.

Juniors in Ind., Ed., first term, 60 hours.

This course will include the development of patterns and the making of various commercial articles of sheet metal. Practice and fac-

Mechanical Engineering

ity in the use of fluxes and solder will be required. Students may elect additional Sheet Metal Work during their Junior and Senior years. Not open to engineering students.

M. E. 18. Wood Finishing.

Professor Coon, Professor McLaurin and Mr. Henika.

Juniors in Ind. Ed., second term, 45 hours.

This course will consist of practice in the preparation of wood surfaces for finishing, and study and practice in the use of shellac, paint, filler, stain, and varnish. Not open to engineering students.

M. E. 51. Shop Methods.

Professor King.

Senior in M. E., first term, two hours.

The object of this course is to familiarize the student with shop processes in such problems as are common in daily practice to further the knowledge he has gained in the more elementary shop courses: to give him a clear idea of the kind of problems one meets in a modern shop; and to instruct him in the methods of attacking and solving such problems.

M. E. 61. Mechanics of Materials.

Professor Coon.

Prerequisites, Math. 25 and 26, Mech. 48 and all Physics.

Senior, first term, two hours.

Analysis of stress in beams and girders. Analytical determination of formulas, of use of practical constants, determined in testing machines. Columns, long and short of wood, steel, concrete and reinforced concrete. Stresses in thick cylinders and boiler shells, pipe, etc. Girders, floors, roofs, etc., of reinforced concrete. Various stresses in shafting, transmission of power, etc. Centrifugal forces and other forces of acceleration in circular saws, fly wheels, connecting rods, etc. Stresses in tanks, grain bins, crane hooks, stand pipes, smokestacks, etc.

Text: Merriman, Mechanics of Materials.

M. E. 65. Steam Engine.

Professor Coon.

Prerequisites, All Math., Physics, Analytic Mechanics, and Drawing.

Senior, first term, four hours.

Thermodynamics of steam. Action of the steam engine as a heat engine. Indicator card. Temperature-entropy chart. Analysis of compound and triple expansion engines, complete. Calorimetry, Condensers, Feed water heaters, Jacketing, Superheating, Injectors, and other boiler feeders. Lubricators, Governors, complete analysis by instant centre method (principle of virtual velocities.) Kinematics of the steam engine, rotative effort. Acceleration of piston and forces set up. Graphic analysis wherever applicable. Stresses due to various accelerations in connecting rod. Steam engine details, types of steam engines. Complete analysis of drop cut-off engines, such as Corliss, etc. Locomotive and marine engines.

Steam engine design, Steam turbine.

Text: Ripper.

M. E. 66.; Gas Engine.

Professor Coon.

Prerequisites, All Math., Physics and Drawing.

Senior, second term, four hours.

Thermodynamics of gas engines, types of gas engines,—explosive engines, combustion engines, gas engine details, marine engines, stationary engines, gas engine fuels, combustion, carburetors, gas production, such as suction producers with "soft" coal, lignite, etc. Analysis of gas engine tests, heat balances, gas turbines.

Text: Carpenter and Diederichs.

M. E. 69. Valve Gears.

Professor Coon.

Prerequisites, All Math., Physics and Drawing.

Senior, first term, two hours.

Complete analysis of plain slide valve gears, fixed and shifting eccentrics, by Bilgram, Zeuner and McCord diagrams. Exclusive graphics. Ryder (Meyer), and Gonzenbach gears. Complete blackboard analysis of link motions. Shifting (Howe-Stephenson) link; stationary (Danl. Gooch) link; straight link (Allan); Egide Walschaerts link; Pilliod link; all both for stationary and locomotive purposes. Buckeye valve gears. Joy, Marshall and Hackworth gears. Cam gears.

Text: Halsey and lectures.

M. E. 71. Drawing.

Professor Coon.

Prerequisites, All Math., Physics and Drawing.

Senior, first term, three hours per week.

The student is given the elements of a machine to design, as nearly as possible as would be done in a commercial drawing office. He is thrown upon his own resources, having access to other machines to aid him in deciding upon size, thickness, etc., with expert advice to prevent his drawing absurdities. The designing covers a wide range of subjects, its principal value being to impress upon the student the conventional shop practice, and the proper method of producing working drawings of machinery. All the various machines, etc., manufactured in the shops are from working drawings made by students.

M. E. 72. Machine Design Drawing.

Professor Coon.

Prerequisites, All Math., Physics and Drawing.

Senior, second term, six hours per week.

As far as possible the drawing of this term is in connection with the M. E. 74. It is also largely the solution of problems involving force, by use of graphical statics. Problems connected with governor design, as shaft governors, inertia governors, spring loaded governors, stresses in framed structures, etc. Laying out of power plants and works. Also, there are frequently machines to be designed and drawn for our use in the shops.

M. E. 74. Machine Design.

Professor Coon.

Prerequisites, All Math., Physics, Analytic Mechanics, Drawing, and M. E. 28 and 61.

Senior, second term, three hours. Text and lectures.

Wrought and cast iron pipe and fittings. Cylinders and joints. Boilers, horizontal, tubular, and vertical. Heating surface and grate area. Boiler and other riveted joints, analysis for maximum efficiency. Stacks and foundations. Clutches and brakes, disc, ring, strap and hydraulic. Belt and rope transmission. Locomotive and engine designs. Shafting hangers and lubrications. Gears, toothed and friction. Aeroplane construction.

Text: Spooner.

M. E. 76. Graphic Statistics.

Professor Coon.

Prerequisites, All Math., Physics and Drawing.

Senior, second term, two hours.

Lectures and problems. Warren, Pratt, Bollman trusses, Fink, "A" roof trusses, etc. Analysis by tabulation and moments, supplemented by graphics in the drawing room. Graphic solution of governor problems.

The construction of mills and factories is not given a separate heading. Modern mill construction, including foundations, is given during the Senior year.

M. E. 78. Steam and Water Turbines.

Professor Coon.

Prerequisites, All Math., Physics and Drawing.

Senior, second term, two hours.

Construction and operation of the various steam turbines so far introduced. Superheated steam, Condensers, Forms of buckets and systems of expansion. Use in connection with compound reciprocating engines.

Water turbines, Pelton Wheels and others. Design, form of guides and buckets, Laws of Velocity, Efficiencies, Distribution of power from water-power sites. Construction of masonry and concrete dams, solid and cellular slip joints (expansion). Proper foundations for dams to secure permanency.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

Reserve Officers Training Corps.

For list of instructors and staff see page 11.

Among many things the World War taught us that, as a nation, the battles of peace and war must be fought both by the citizen and the soldier, that our future safety lies in the development of a great and powerful citizen-soldiery. Altho the richest of nations we cannot attempt to maintain a paid force sufficient to meet the demands of any future national emergency. It is a mistaken idea that the professional soldier owes any greater allegiance to his country than does the citizen.

If we are reasonable, we must admit that every citizen must from now on be a soldier. This is more imperative and of greater concern now that Congress has seen fit to reduce the Regular Army from 300,000 to 150,000. But with the Act which accomplishes this, Congress has made liberal provisions for the development of the National Guard and the Officers' and Enlisted Reserve Corps.

In the World War there was a job for every physically fit man, and every job was important, one as much as the other whether it was making hand-grenades in the United States or throwing them in France. The citizen-soldier fought and won the war "Over Here and Over There." And this is but another lesson of the great war. There was urgent need of the Chemical Engineer to find us a deadlier gas than our enemies used and to give us more powerful explosives. The Automotive Engineer found millions of trucks and tractors ready for him. There was a desperate call from the Signal Corps for every Electrical Engineer. There were camp sites to lay out, cantonments to construct, roads and bridges to build and repair, trenches and dug-outs to build, and whatnot for the Civil Engineer. There was need for the lawyer, the physician, the surgeon, the minister, the educator, the actor, the actress, the cook, the manufacturer, the accountant, the undertaker and every other man, woman and child in every other walk of life. They composed the Army of the United States; they as citizen-soldiers fought and won the World War.

As it was in 1917 and 1918 it shall be again. History repeats itself over and over again.

In peace and in war the college graduate and under-graduate are the nation's greatest asset. Peace and war have proven this proposition. They seek the true education which blesses the nation with progress and prosperity along every line of endeavor, but unfortunately in the past as statistics compiled during the War show, educators overlooked two most important things concerned with education. First the American student was not adequately trained to a sincere and full appreciation of American citizenship, and second his physical development was neglected. Twenty-eight per cent of the young men of this country were found physically unfit for class A service.

That the country must depend in the future upon its citizen-soldiers is a proposition which has prompted Congress to make most liberal provision for the support, maintenance and conduct of the Reserve Officers' Training Corps in our educational institutions. The same proposition as vitally concerned with our national defense has caused the War Department to exploit the Reserve Officers' Training Corps to the fullest extent possible under the Acts of Congress. The same

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proposition together with additional propositions that the youth of the country must be developed physically and trained in the duties of citizenship has made the Reserve Officers' Training Corps most acceptable to the educators of this country. The greatest institutions of the country, Yale, Harvard, Cornell, Pennsylvania, Princeton, Columbia, Massachusetts Institute of Technology and the others all maintain one or more units of the R. O. T. C. Most of them have three and four representing as many branches of the military establishment. The R. O. T. C. has the support of Congress and the support of the educators of the country. Were it devoid of merit or value it would be denied support from both.

The primary and ultimate purpose of the R. O. T. C. is to provide for undergraduates that degree of military training which together with their college education will fit them for commissions in the Officers' Reserve Corps. The R. O. T. C. courses are fitted into the curriculum of an institution where it is established. Its schedules are arranged according to several assumptions established as lessons of the World War.

1st. That there is a place in the military establishment for every college bred man.

2nd. That every subject taught in any collegiate department possesses some military value.

3rd. That military courses can be so arranged as to supplement and enrich the academic courses materially.

4th. That academic courses can be enriched and made more interesting by the introduction of certain pertinent features of especial military importance.

5th. That every student should be brought into intimate touch with the national government and be schooled in a clear understanding of his rights, privileges and obligations as a citizen.

6th. That every member of a military establishment must be physically as well as mentally fit to perform his every duty.

7th. That every youth should be taught the meaning of discipline, the power of confidence, the value of self-control, the requisites of leadership, respect for authority, the force of morale, the care of mind and body and the rewards of promptness and obedience.

That the R. O. T. C. has a broad and worthy mission cannot be doubted. The means and methods employed by the R. O. T. C. to accomplish its mission commend themselves to every considerate parent.

One of the most effective features of the R. O. T. C. training is its liberal provision for field work, out-door drills and exercises and its compulsory physical training. The student, especially the Freshman or Sophomore, leaves the chalk and dust of the class-room daily to spend a healthful hour out in the open air. Depending upon the unit he is in, he may get drill as an infantryman, drill at the big guns, instruction in the care and operation of motor vehicles, field instruction with telephone and radio telegraph and telephone sets, scouting and patrolling, instruction in First Aid and Personal Hygiene, lectures in Military Law and History, lectures on the obligations of citizenship and the like. In addition to the prescribed physical training each one of the twelve companies comprising the "Tech" regiment has its football, basket-ball, baseball, track and rifle teams. In the proper season each company enters its team in contest for regimental championship, and the members of each winning company team are awarded heavy jerseys with company letters.

In addition to the jerseys awarded winning teams there are various

other medals and prizes given for excellence in regimental military and athletic activities.

There are six units of the R. O. T. C. in operation here. They are as follows:

Infantry, Coast Artillery, Signal Corps, Air Service, Motor Transport, Ordnance.

The military instruction in each of these units parallels as far as possible the work of certain departments. For example, only students of the Electrical Engineering Department are permitted to enroll in the Signal Corps unit. Enrollment in the Coast Artillery unit is restricted to Civil, Mechanical and Electrical Engineers. For the Motor Transport unit only Mechanical Engineers, especially those studying Automotive Engineering, are accepted.

Courses

Infantry: Infantry Drill, Manual of Arms, First Aid, Personal Hygiene, Military History and Law, Topography, Minor Tactics, War Games, Machine Guns, Automatic Rifles, Trench Motors, 37 m/m Gun, Camp Sanitation, Ceremonies, Interior Guard, Patrolling, Scout-ing. Lectures on citizenship and morale.

Coast Artillery: Basic Infantry Drill, First Aid, Camp Sanitation, Personal Hygiene, Military History and Law, Topography, Ballistics, Gunnery, Artillery, Material, Motor Transportation, Powders and Projectiles, Fire Control, Orientation, Field Engineering, Minor Tac-tics, Employment and Emplacement of Heavy Artillery, Lectures.

Signal Corps: Basic Infantry Drill, First Aid, Personal Hygiene, Military Law and History, Topography, Minor Tactics, Staff Organ-ization, Telephone Engineering, Telegraph Engineering, Radio En-gineering, Automatic Telephony, Signalling, Communication Eng-ineering and other subjects pertaining to Electrical Engineering.

Motor Transport: Basic Infantry Drill, First Aid, Personal Hy-giene, Camp Sanitation, Care, Operation and Repair of Motor Vehicles, Engine Design and Construction, Cooling Systems, Lighting Systems, Ignition Systems, Transmission Systems, Strength of Materials, En-gine Efficiency Tests Oil, Tests Body Construction, Welding, Vulcan-izing, Operation of nine trucks in convoys, Routing of Convoys, Studies in Motor Transportation, Studies of different types of motor cars, trucks and tractors and other subjects pertaining to Automotive Eng-ineering.

Ordnance: Pyrometry, Metallography and Heat Treatment of Iron and Steel, Elements of Artillery Design, Ammunition, Chemistry of Explosives, Gasoline Engines and Tractors, Interior and Exterior Bal-istics; Gun, Recoil, and Carriage Design; Ordnance Field Service; Organization and Administration of Ordnance Dept.; Ordnance Problems involving applied mechanics and general lectures.

Air Service: Basic Infantry Drill, First Aid, Personal Hygiene, Topography, Aerial Photography, Telegraphy, Telephone and Radio Engineering, Minor Tactics, Machine Guns, Air-Craft Guns, Aeroplane Engines, Air-Plane Controls, Air-Plane Construction, Meteorology, Aero-Dynamics, Aviation History, etc.

Equipment

The United States has placed equipment valued at four hundred and fifty thousand dollars at "Tech" for the use of the R. O. T. C. This equipment comprises 1000 rifles, belts and bayonets and complete sets of Infantry pack equipment, machine guns, automatic rifles of all types, trench mortars, 37 m/m guns, hand and rifle grenades, sixty complete sketching cases, relief maps, rifles and ammunition for target practice, one 8 inch howitzer, one 6 inch rifle, three 3 inch rifles, nine large and small trucks, one ten ton tractor, one complete machine shop truck, one motor car, four motor-cycles, complete fire control and range finding equipment, range finders, transits, telescopes, motor-generators, gas engines sets, various types of radio telegraph and tel-ephone sets, buzzers, complete automatic telephone installation, helio-graphs, projectors, switchboards, telephones, etc. The following equip-ment will be furnished for the Air Service Unit: one captive balloon, one small Dirigible, several types of aeroplanes, aeroplane engines, and other accessories required in aviation instruction.

Benefits

Each member of the R. O. T. C. is allowed \$36.00 a year for the pur-chase of prescribed articles of uniform. This is adequate to provide each student with 1 cap, 2 wool shirts, 1 blouse, 2 pairs of trousers, 1 pair leggings and insignia.

The above allowance is made with the understanding that the stud-ent will continue his course of military training throughout the school year. If for any reason he drops the course during the year, he must pay to the institution the cost of his military outfit less the pro-rated credit for such time as he has been enrolled.

In addition each member of the Advanced Course (Juniors and Seniors) receive pay at the rate of \$12.00 (twelve dollars) a month which is paid at the end of each quarter.

Summer Camp

Soon after the close of school each summer the War Department conducts R. O. T. C. camps. The camps run for six weeks, and there is a different camp for each different unit.

Camp attendance is elective for Freshmen and Sophomores. Mem-bers of the Advanced Course are required to attend camp one sum-mer. The latter receive pay at the rate of \$33.00 a month while in camp. All students going to camp receive mileage for the round trip at the rate of 5 cents a mile and are messed, housed, uniformed and given medical attention at government expense while in camp. From the time the student leaves school for camp until the time that he returns to his home he has no expenses.

DEPARTMENT OF MODERN LANGUAGES

Professors Crenshaw, McKee, Campoamor, Hildebrandt and Mr. Sullivan.

General Statement

The study of modern languages at the School of Technology has a two-fold aim. Primarily, its purpose is to enable students to translate into their own tongue with ease and precision the literature which is constantly appearing in these languages on their professional subjects. Secondly, its aim is to create in the student a living interest in the literature of these languages—an interest so strong that he will continue to read the great literary masterpieces found in them.

The courses in French, German, and Spanish extend through two years, and candidates for all degrees, except that of Bachelor of Science in Textile Engineering are required to take a two-year course in one of these languages.

The fall term of the first year is devoted to a thorough grounding in the inflections of the languages. In the spring term, the forms already learned are fixed by translating and parsing easy prose selections. Correct pronunciation is aimed at from the beginning, not by rules, but from the teacher. The ear is trained by dictation, and, as far as time will permit, by conversational exercises.

During the second year, works of greater difficulty are translated, the syntax of the language is studied more thoroughly, and the sentence structure is taught by practical work, both in written and oral exercises. In both years a wider field is covered by reading one part of the work assigned, carefully and slowly, another part rapidly. Greater facility in handling the languages is also gained by frequent sight translations.

In order that the students may learn to handle the topics discussed in the current technical magazines, articles from these are assigned, and written translations are required to be made in good English, at the same time faithfully reproducing the originals.

Courses of Instruction

German

M. L. 1. Elementary German.

Professor Crenshaw.

First term, three hours.

German Grammar, including the declension of nouns and adjectives, the conjugation of strong and weak verbs, the use of prepositions and the word order in the independent sentence.

Texts: Vos, "Essentials of German"; Carruth, "German Reader"; Truscott & Smith, "German Composition."

M. L. 2. Elementary German.

Professor Crenshaw.

Second term, three hours.

German Grammar, including the use of the model auxiliaries, passive voice, separably and inseparably compounded verbs, word-order in the subordinate sentence.

Texts: Vos, "Essentials of German"; Gore, "German Science Reader"; Storm, "Imensee"; Truscott & Smith, "German Composition."

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M. L. 3. Advanced German.

Professor Crenshaw.

First term, three hours

Grammar reviewed in connection with translations. Stress laid on the acquisition of a vocabulary for speaking and writing German and for translating German into English. Daily practice in German conversation and German composition.

Texts: Von Jageman, "German Syntax"; Truscott & Smith, "German Composition"; Wright, "Scientific German"; Freytag, "Die Journalisten"; Lessing, "Minna von Barnhelm."

M. L. 4. Advanced German.

Professor Crenshaw.

Second term, three hours.

German syntax with special reference to the sentence-structure in connected prose. Translations of scientific German works on heat, light, electricity, magnetism, electric motors, and the steam engine.

Texts: Wright, "Scientific German"; Von Jageman, "German Syntax"; Muller, "Die Elektrischen Maschinen"; Kayser, "Die Elektronentheorie"; German Poems.

FRENCH

M. L. 7. Elementary French.

Professors Crenshaw, McKee and Hildebrandt.

First term, three hours.

Elements of French Grammar, including the forms of nouns and adjectives, regular conjugations, use of avoir and etre as auxiliaries, position of personal pronoun objects; the use of cardinals and ordinals; partitive noun and the partitive genitive.

Texts: Fraser & Squair, "New French Grammar"; Halevy, "L'Abbe Constantin"; Maistre, "La Jeune Siberienne."

M. L. 8. Elementary French.

Professors Crenshaw, McKee and Hildebrandt.

Second term, three hours.

Grammar reviewed in connection with translations: drill on the forms of irregular verbs, use of tenses, relative and interrogative pronouns, demonstrative pronouns and adjectives, passive voice, infinitive and subjunctive moods; French dictation, conversation and composition.

Texts: Fraser & Squair, "New French Grammar"; Davies, "Scientific French"; Lanson and Desseignat, "La France et Sa Civilisation"; Dumas, "Excursions sur les Bords du Rhin."

M. L. 9. Advanced French.

Professors Crenshaw, McKee and Hildebrandt.

First term, three hours

This course includes the translation of advanced literary and scientific French texts; exercises in connected French prose with special reference to French syntax; sight translation; French dictation and French conversation.

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Texts: Fraser & Squair, "New French Grammar" Wann, "French Conversation and Composition;" Hugo, "La Chute;" Merimee, "Colomba"; Rene Bazin, "Les Oberle."

M. L. 10. Advanced French.

Professors Crenshaw, McKee and Hildebrandt.

Second term, three hours.

This course is a continuation of M. L. 9 in which the aim is to secure a broader knowledge of French literature and a more accurate knowledge of French conversation and French composition. Texts are taken from the more advanced works of the classic and modern French periods, from French reviews, French newspapers and scientific French. Stress is laid on correct pronunciation, with practice in the use of ordinary daily French conversation.

SPANISH

The courses in Spanish are intended to equip the student with a speaking knowledge of the language. Conversation begins practically with the first lesson and extends throughout the whole course. The daily language of the home, street, newspaper, business, and commerce is taught by the use of commercial readers, Spanish newspapers, Spanish magazines, Spanish composition, dictation and conversation. The whole trend of the instruction is practical.

M. L. 13. Elementary Spanish.

Professors Crenshaw, McKee, Campoamor and Hildebrandt and Mr. Sullivan.

First term, three hours.

Spanish Grammar including the forms of nouns, adjectives and pronouns; the regular conjugations; the idiomatic use of *estar*, *ser* *hacer* and *tener*.

Texts: Hills and Ford, "First Spanish Course;" Fuentes and Francois, "A Trip to South America."

M. L. 14. Elementary Spanish.

Professors Crenshaw, McKee, Campoamor and Hildebrandt and Mr. Sullivan.

Second term, three hours.

Spanish Grammar including position of personal pronoun objects, verbs with radical change, irregular verbs, passive voice, and use of subjunctive mood.

Texts: Hills and Ford, "First Spanish Course;" Sparkman, "Industrial Spanish"; Escrib, "Fortuna"; "El Eco."

M. L. 15. Advanced Spanish.

Professors Crenshaw, McKee, Campoamor and Hildebrandt and Mr. Sullivan.

First term, three hours.

This course is devoted to Spanish composition, Spanish conversation and to the translation of works of greater difficulty in scientific and literary Spanish.

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Use is made of current Spanish magazines and newspapers.

Texts: Isaacs, "Maria"; Jimenez, "Platero y Yo"; La Revista del Mundo; Crawford, "Temas Espanoles."

M. L. 16. Advanced Spanish.

Professors Crenshaw, McKee, Campoamor and Hildebrandt and Mr. Sullivan.

Second term, three hours.

This course is a continuation of M. L. 15, in which the points stressed are: First, the acquisition of the vocabulary of daily life; second, Spanish conversation; third, the ability to write business letters in Spanish; fourth, fluency in translating technical, commercial and newspaper Spanish into good English.

Texts for this course are taken from both the classical and modern Spanish writers as well as from Spanish reviews, Spanish comic papers and commercial magazines.

DEPARTMENT OF PHYSICS

Professors Edwards, Jenness, Thompson, Beardsley and Samuels; Mr. Bortell, Mr. Estabrook.

General Statement

The aim of this department is to present the fundamental principles of Physics, the experimental basis upon which they rest, and, as far as possible, the mathematical reasoning employed in the deduction of various physical formulas. The student is not only made acquainted with certain physical laws in accordance with which physical events occur, but is taught that all physical quantities can be represented by symbols, and that certain mathematical relations exist between them, in consequence of which logical deductions can be made.

The study of Physics is taken up in a thorough and systematic way. Numerous problems are assigned in recitations, in order to familiarize the student thoroughly with the significance and practical use of the principles which he learns and the physical formulas which he sees deduced.

Equipment

The lecture room is provided with various facilities for experimental demonstration; running water, gas, and electricity from dynamo and storage-battery are available. There is a good stereopticon with arc-lamps and mechanical dissolver; also a projecting lantern with automatic feed arc-lamp, supplied with vertical attachment—an accessory to a lecture room which is indispensable for the presentation, to a large class, of a great variety of physical phenomena. The apparatus available for lecture experiments is large, and additions of modern equipment are constantly being made.

The laboratories of the department occupy three rooms in the basement of the Academic building and a newly fitted room in the north end of Knowles Dormitory. The total floor space available for this work is about 5,500 square feet. The equipment of the laboratories is very complete, large additions having been made during this term by purchase and by construction in the school shops. In the subject of mechanics and heat several units of each piece of apparatus are available thus allowing students to work in groups on the same experiment. Large additions have also been made in the equipment of the laboratories for experiments in light, sound, electricity, and magnetism. The equipment in electricity is especially good, all new galvanometers, bridges, and resistances being of high grade.

All equipment of this department will be placed in a new building, now being constructed, during the next few months. This building is designed especially for work in Physics; the four floors contain large laboratories, lecture rooms, and recitation rooms. A special lecture room is being provided to accommodate about two hundred and sixty students at one lecture. Ample space will be available for apparatus rooms, and research rooms, the latter being equipped with necessary apparatus for working out special problems.

The course in laboratory includes the experimental verification of physical formulas and the determination of various physical constants, and is designed to give the student practice in the use of instruments of precision and proficiency in the manipulation of physical apparatus.

Carefully written reports are required on all experiments performed. These reports include the proof of all formulas used in calculations. The application of the principles of analytical geometry to the solution of practical problems is emphasized in this course.

Course of Instruction

Phys. 5. Elementary Mechanics and Sound.

Professor Samuels and Mr. Estabrook.

Sophomore, T. E., Arch., and Ind. Ed., first term, three hours.

Prerequisites, Math. 17.

This course consists of recitations, problems and lectures. The physical properties of matter, Mechanics of Solids, Mechanics of Fluids, and Sound are included in this course. A large number of numerical problems are solved.

Text: "Kimball's 'College Physics.'"

Phys. 6. Elementary Light, Heat, and Electricity.

Professor Samuels and Mr. Estabrook.

Prerequisite, Phys. 5.

Sophomore, T. E., Arch., and Ind. Ed., second term, three hours.

A continuation of Phys. 5, Light, Heat, Electricity, and Magnetism being treated in an elementary way.

Text: "Kimball's 'College Physics.'"

Phys. 8. Laboratory.

Professors Edwards and Samuels.

Prerequisite, Phys. 5.

Sophomore, T. E., and Ind. Ed., second term, three hours.

Supplementary to Phys. 5 and 6 for students in Textile Engineering and Industrial Education.

Phys. 9. Mechanics and Heat.

Professors Edwards, Jenness, Thompson, Beardsley and Samuels; Mr. Bortell and Mr. Estabrook.

Prerequisite, Math. 18.

Sophomore, M. E., E. E., C. E., and E. Chem, first term., four hours.

Sophomore, Co-op., summer term, five hours; first term, six hours.

A course in Mechanics, Elasticity, Mechanics of Fluids, and Heat. The solution of a large number of numerical problems is required, involving the use of the English Engineer's and metric systems of units.

Text: _____

Phys. 10. Heat, Sound, Magnetism and Electricity.

Professors Edwards, Jenness, Thompson, Beardsley and Samuels; Mr. Bortell and Mr. Estabrook.

Prerequisite, Phys. 9.

Sophomore, M. E., E. E., C. E. and Chem., second term, four hours.

Sophomore, Co-op., second term, six hours.

A continuation of Phys. 9. Heat, Sound, Magnetism and Electricity are included in this course.

Text: _____

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Phys. 11. Electricity and Light.

Professors Edwards, Jenness, Thompson, Beardsley and Samuels.

Prerequisites, Phys. 9 and 10, Math. 25 and 26.

Junior, M. E., E. E., and E. Chem., first term, three hours.

Pre-Junior Co-op., summer term, four hours; first term, four hours.

This course includes lectures and recitations. The principles of electromagnetic induction and electromagnetism are taken up in a systematic way. The application of these principles to the dynamo and motor are explained by lectures and demonstrations.

The subject of discharge of electricity through gases is given by lectures and a number of demonstrations.

In the subject of light, special attention is given to optical instruments.

Text: Reed and Guthe's, "College Physics."

Phys. 13. Laboratory.

Professors Edwards, Jenness, Beardsley and Samuels; Mr. Bortell and Mr. Estabrook.

Prerequisite, parallel course in Phys. 9.

Sophomore, E. E., first term, three consecutive hours of alternate weeks.

This course consists of experiments, reports, and instruction in the laboratory. The experiments are on Mechanics and Heat.

Reference: Nichols' "Laboratory Manual."

Phys. 14. Laboratory.

Professors Edwards, Jenness, Beardsley and Samuels; Mr. Bortell and Mr. Estabrook.

Prerequisites, Phys. 9 and 13.

Sophomore, E. E., second term, three consecutive hours.

A continuation of Phys. 13. The course is designed for students of Electrical Engineering. The experiments are on Mechanics, Heat, and Electricity.

Reference: Nichols' "Laboratory Manual."

Phys. 15. Laboratory.

Professors Edwards, Jenness, Thompson, Beardsley and Samuels; Mr. Bortell and Mr. Estabrook.

Prerequisites, Phys. 10 and 14.

Junior, E. E., first term, three consecutive hours.

The experiments in this course are on Electricity, Magnetism, and Light.

Reference: Nichols' "Laboratory Manual."

Phys. 16. Laboratory.

Professors Edwards, Jenness, Thompson, Beardsley and Samuels; Mr. Bortell and Mr. Estabrook.

Prerequisite, Phys. 9.

Sophomore, M. E., C. E., E. Chem., second term, three consecutive hours.

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This course is similar to Phys. 13. The experiments are on Mechanics and Heat.

Reference: Miller's "Laboratory Manual," and Nichols' "Laboratory Manual."

Phys. 17. Laboratory.

Professors Edwards, Jenness, Beardsley and Samuels; Mr. Bortell and Mr. Estabrook.

Prerequisite, Phys. 16.

Junior, M. E., C. E., E. Chem., first term, three consecutive hours.

A continuation of Phys. 16. The experiments are on Sound, Light, Electricity, and Magnetism.

References: "Miller's and Nichols' "Laboratory Manuals."

Phys. 30. Laboratory.

Professor Edwards.

Prerequisites, Phys. 9, summer term, and parallel course Phys. 9, first term.

Sophomore Co-op., first term, three consecutive hours.

This course consists of experiments, reports, and laboratory instruction in Mechanics.

Phys. 31. Laboratory.

Professors Edwards and Jenness.

Prerequisites, Phys. 30, and parallel course Phys. 10. Sophomore Co-op., second term, three consecutive hours.

A continuation of course 30. The experiments are on Heat, Magnetism and Electricity.

Phys. 31a. Laboratory.

Professor Edwards.

Prerequisite, Phys. 31.

Third year Co-op., summer term, three consecutive hours. This course is a continuation of the subjects of Electricity and Magnetism.

Phys. 32. Laboratory.

Professor Jenness.

Prerequisites, Phys. 11, 31 and 31a.

Pre-Junior Co-ops., second term, three consecutive hours.

A continuation of course 31a. The experiments are on Electricity, Sound and Light.

TEXTILE DEPARTMENT

The A. French Textile School

Professors Seal, Camp, and Jones; Messrs. Philpot, Brandon, Martin and Miller.

General Statement

The Textile Department gave the first instruction in textile education in the South in February, 1899. The end of the first decade found the department well past the experimental stage, proceeding along well tried lines with the various phases of its curricula, appreciated and fully recognized by cotton manufacturers and the public in general.

The scope of instruction has been broadened to include the very highest grades of yarns and fabrics in order to exhibit the possibilities of native resources, as well as to give technical training along textile lines.

This department now offers excellent advantages to young men who intend entering the textile industry. The department is equipped for performing practically every process of cotton manipulation from cotton field to finished fabric, and has admirably arranged class rooms, laboratories, etc., for giving practical instruction in the science and the application of this knowledge along industrial lines.

A large amount of practical work is given, enabling the student to familiarize himself with all details in the design, construction and operation of the various types of the several machines and processes. The yarns required in the weaving rooms are manufactured in the carding and spinning department, thus affording opportunity for performing the whole of every process and operation on yarn and fabrics.

Products are manufactured by the students, under the direction of skilled instructors, in as nearly mill-like manner and quantity as is consistent with best results. These products are not merely experimental samples, but are made in quantity with the quality fully up to mill standards.

Textile Building

The Textile Building is a splendid example of architectural skill in modern mill construction. Its three floors, 150 x 70 feet, contain class rooms, laboratories and halls for textile equipment.

Textile Equipment

Great care was exercised in selecting the textile equipment, for the different branches of cotton manufacture. It will be noticed, in almost every process, that different forms of machines, as built by the different makers, have been installed, thus enabling the student to become familiar with the various types, as well as affording a most unusual opportunity for direct comparison.

The power for driving the machines is derived from electric motors and is transmitted by Jones and Laughlins equipment. The Sturtevant system is used for heating and ventilating. The entire building is provided with Grinnell automatic sprinklers for fire protection and is lighted by electricity.

Textile Department

Carding Department

Ginning.—One Winship Cotton Gin with Feeder and Condenser; one Lummus Cotton Gin with Feeder and Condenser.

Pickers.—One Saco-Lowell Breaker with Automatic Feeder; one Finished with Perhams and Davis Sectional Plate Evener and Kirschner Carding Beater.

Cards.—One Saco-Lowell 40-inch Revolving Flat Card; two Whitin 40-inch Revolving Flat Cards; one Howard & Bullough 40-inch Revolving Flat Card.

Combing.—One Dobson & Barlow Sliver Lap Machine; two Whitin Sliver Lap Machines; two Whitin Ribbon Lap Machines; one Dobson & Barlow Comber, 8 heads; one Whitin Comber, 6 heads, one Whitin with 8 heads.

Drawing.—One Saco-Lowell Drawing Frame, 4 deliveries, metallic rolls one Whitin Drawing Frame, 4 deliveries, metallic rolls, one Whitin Drawing Frame, 4 deliveries, leather rolls.

Fly Frames.—One Woonsocket Slubber; 32 spindles; one Woonsocket Intermediate, 42 spindles; one Woonsocket Fine Frame, 64 spindles one Providence Fine-frame, 64 spindles; one Saco-Petee Jack-frame, 96 spindles.

Miscellaneous.—Grinding, stripping and brushing rolls; percentage, roving and yarn scales; carder's tools, sliver balance, change gears, etc.

Spinning Department

Ring Spinning.—One Fales & Jenks Combination Warp and Filling Frame, 80 spindles; one Fales & Jenks Filling Frame, 80 spindles; one Saco-Lowell Combination Warp and Filling Frame, 132 spindles; one Howard & Bulloch Combination Warp and Filling Frame, 160 spindles; one Whitin Warp Frame, 64 spindles; one Whitin Combination Frame, 156 spindles.

Mule Spinning.—One Mason Spinning Mule, 360 spindles.

Twisting.—One Draper Twister, 128 spindles; one Draper Twister, 32 spindles; one Fales & Jenks Twister, 80 spindles.

Spooling.—One Easton & Burnham Spooler, 24 spindles; one Draper Spooler, 40 spindles; one Fairmont Presser Spooler, 12 drums.

Winding and Reeling.—Two Universal Winding Gangs, 6 spindles; one Universal Winding Gang, 6 drums for doubling; one Tompkins Reel, 50 spindles.

Miscellaneous.—One Week's Banding Machine; one Culver Banding Machine; one power yarn testing machine, two Barber knotters; one twist counter; spindle sets, change gears, etc.

Warping.—One Entwistle Beam Warper; one Draper Beam Warper; one Draper Ball Warper.

Weaving Department

Warping and Winding.—One Entwistle Beamer; one Cole Beaming Machine; one Fairmont Bobbin Winder; one Universal Winder No. 90 one Hand Warping Machine.

Slashing.—One Lowell Single Cylinder Slasher; one Lowell size Kettle.

Hand Looms.—Hand-weaving room, with thorough equipment of hand bobbin winders, warping pins, hecks, drawing-in frames, and 24 hand looms with 30 harness dobbies, 4 shuttles, 4 beams complete and 200 Halton Jacquard; one Draper Loom with Terry motion and one Stafford Loom with filling change.

Power-Looms.—One Mason Sateen Loom; one C. & K. medium Duck Loom, shuttle changing; one Stafford Duck Loom, shuttle changing; one C. & K. 2 x 1 Box Gingham Loom with magazine; one C. & K. 4 x 1 Box Jacquard Loom; one Draper Loom, 5 harness work; one Draper Loom, 2 harness work; all motor driven; one Colvin Plain Loom; six Draper Northrop Looms one Lewiston Pillow Case Loom; one Whittin Plain Loom; one Nor-Dray Loom, 3 harness work; one Nor-Dray Loom, 2 harness work; one Mason Plain Loom; two Kilburn-Lincoln Looms; one Mason Gingham Loom one Northrop Loom, 3 harness work; one Northrop Loom, 2 harness work; one Crompton Gingham Loom; one Mason Dobby Loom; three Crompton Dobby Looms; two Knowles "Gem" Looms; Crompton-Thayer Dobby Loom; one Fairmont Dobby Loom; one Fairmont Loom; 600 Jacquard; one Crompton Knowles Upholstery Loom, 400 Jacquard; C. & K. 4 x 1 Box Gingham Loom, 400 Schaum & Uhlinger Jacquard; one Stafford Plain Loom; one Lewiston Wide Loom; 1,200 Halton Jacquard; one Crompton Damask Loom, 600 Jacquard.

Finishing.—One Curtis & Marble Railway Sewing Machine; one Curtis & Marble Brushing and Calendering Machine; one Elliott & Hall Cloth Folder; one Windle Doubling and Winding Machine; one Parks & Woolson French Napper; one American Napping Machine Co.'s French Napper.

Dyeing Department

One Klauder Weldon Raw Stock Dyeing Machine; one Klauder-Weldon Skein Dyeing Machine; one Hussong Skein Dyeing Machine; one Textile Finishing Co.'s Chain Warp Dyeing Machine; one Franklin Yarn Dyeing Machine; one National, Electrolytic Bleach Machine; one Draper Winding-on Machine; one Draper Winding-off Machine; one Textile Finishing Machinery Co.'s Can Chain Warp Drying Machine; one Schaum & Uhlinger Engine-driven Hydro-Extractor; 1 Bleaching Kier; one Berry Ventilating Wheel one Granger Jigg Dyer; one Phillips Steam Chest; one Butterworth Steam Cylinder; one dry room one Paramount, Form Drying Machine for Hosiery; four cypress dye vats, regulation depth; one set Phillips' Cooper Measures; twelve small cypress dye vats, fitted with steam and water for experimental dyeing.

The dyeing laboratory is fitted up complete for experimental dyeing, color matching, testing, and analysis. Students have access to our splendid collection of dyestuffs and dyed specimens.

Course Leading to the Degree of B.S. in Textile Engineering

The four-year course in Textile Engineering was established in response to the demand for instruction in the arts and sciences directly applicable to the cotton manufacturing industry.

The course includes a sound foundation in engineering subjects, in addition to the purely textile branches, lecture room theory being combined throughout with laboratory practice.

The practical results of this well rounded course are well illustrated in the positions of trust and responsibility occupied by the alumni, by the numerous requests for their services and in the increasing number of matriculates attracted by the successful careers of former students.

It will be noticed that the course includes Mathematics, English, Chemistry, Physics, Mechanism, Mechanics, Steam Engines and Boil-

ers, Power Transmission, Lubricants, Strength of Materials, and Shop Work, Drawing, Machine Design, Corporations and Finance, in addition to Carding, Spinning, Weaving, Bleaching, Dyeing, Finishing, Mill Equipment and Practice.

THE COURSE IN TEXTILE ENGINEERING

FRESHMAN YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Chem. 1	Inorganic Chemistry	3	.....	7.5
Chem. 5	Chemical Laboratory	3	.....	3
Dr. 15	Applied Technical Drawing	6	.....	6
Eng. 11	Composition and Rhetoric	3	.....	7.5
Math. 17	Trigonometry	5	1	13.5
M. E. 3	Wood Shop	3	.....	3
M. E. 5-7	Smith Shop or Foundry	3	.....	3
Mil. 2	Military Instruction	5	.....	5
Total		11	21	48.5

Second Term

Chem. 2	Inorganic Chemistry	3	.....	7.5
Chem. 6	Chemical Laboratory	3	.....	3
Dr. 16	Applied Technical Drawing	6	.....	6
Eng. 12	Composition and Rhetoric	3	.....	7.5
Math. 16	Slide Rule	1	.....	1
Math. 18	Analytic Geometry	5	.....	12.5
M. E. 4	Wood Shop	3	.....	3
M. E. 5	Smith Shop .....	.....	.....	.....
or	.....	.....	.....	.....
M. E. 7	Foundry	3	.....	3
Mil. 2	Military Instruction	5	.....	5
Total		11	21	48.5

SOPHOMORE YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Chem. 9-10	Qualitative Analysis	2	6	9
Dr. 27	Machine Drawing	3	.....	3
Eng. 21	American Literature	3	.....	7.5
Math. 23	Calculus	5	.....	12.5
Phys. 5	Physics	3	.....	7.5
T. E. 9	Yarn Manufacture, Practice	3	.....	3
T. E. 31	Fabric Design	3	.....	3
T. E. 49	Weaving, Practice	3	.....	3
Mil. 3	Military Instruction	5	.....	5
Total		13	23	53.5

Georgia School of Technology

Second Term

Abbrev.	Subject	Hrs. Per W'k		Equv.
		Class	Lab.	
Dr.	23 Machine Drawing	3	3	3
Eng.	24 Political Economy	3		7.5
Mech.	26 Elem. Applied Mechanics	3		7.5
M. E.	12 Machine Shop		6	6
Phys.	6 Physics	3		7.5
Phys.	8 Physics Laboratory		3	4
T. E.	10 Yarn Manufacture, Practice		3	3
T. E.	32 Fabric Design		3	3
T. E.	50 Weaving, Practice		3	3
Mil.	4 Military Instruction		5	5
Total		9	26	49.5

JUNIOR YEAR

First Term

Chem.	21 Organic Chemistry	3		7.5
Chem.	23 Organic Laboratory		3	3
Dr.	41 Kinematics of Mechanism	4		10
Eng.	31 English Literature (Elec. for Mil. 5)	3		7.5
T. E.	1 Yarn Manufacture, Theory	3		7.5
T. E.	11 Yarn Manufacture, Practice		3	3
T. E.	27 Fabric Analysis		3	3
T. E.	33 Fabric Design		3	3
T. E.	41-51 Weaving, Theory and Practice	2	3	8
Total		15	15	52.5

Second Term

Abbrev.	Subject	Hrs. Per W'k		Equv.
		Class	Lab.	
Chem.	22 Organic Chemistry	3		7.5
Chem.	24 Organic Laboratory		3	3
Dr.	44 Kinematics of Mech. (Elec. for Mil. 6)		3	3
Eng.	32 English Literature	3		7.5
T. E.	2-12 Yarn Manufacture	3	3	10.5
T. E.	22 Dyeing, Laboratory		3	3
T. E.	34 Fabric Design		3	3
T. E.	28 Fabric Analysis		3	3
T. E.	42-52 Weaving, Theory and Practice	1	3	5.5
C. E.	21a Plane Surveying	1	3	5.5
Total		11	24	51.5

Textile Department

SENIOR YEAR

First Term

Com.	25 Salesmanship (Elec. for Mil. 7)	3		7.5
Ex. E.	73 Elem. Steam Engine Lab.		3	4
Ex. E.	73 Heat Engines & Thermo. Dyn.	3		7.5
T. E.	3-13 Yarn Manufacture	3	3	10.5
T. E.	17 Dyeing, Theory	2		5
T. E.	23 Dyeing, Laboratory		3	3
T. E.	37 Jacquard Design		3	3
T. E.	43-53 Weaving, Theory and Practice	1	3	5.5
T. E.	81-85 Knitting	1	2	4.5
Total		13	17	50.5

Second Term

Abbrev.	Subject	Hrs. Per W'k		Equv.
		Class	Lab.	
W. E.	2 Applied Electricity	3		7.5
E. E.	3a Applied Elec. Engineering Lab.		3	3
Ex. E.	74 Fuels and Gas Engine Lab.		3	4
Ex. E.	80 Hydro-Electric Power Plants	2		5
T. E.	4-14 Yarn Man'f	3	3	10.5
T. E.	18 Dyeing, Theory	2		5
T. E.	24 Dyeing Laboratory		3	3
T. E.	38 Jacquard Design (Elec. for Mil. 8)		3	3
T. E.	54 Weaving Practice		3	3
T. E.	58 Shop Organization	3		7.5
Total		13	18	51.5

Military Instruction is optional for Juniors and Seniors as a substitute for an equivalent amount of the work tabulated below.

SPECIAL TEXTILE COURSE

General Statement

This course is offered to students not having the necessary time to pursue the four-year course. The number of units required for admission is the same as for the four-year course, the only difference being that Solid Geometry, Advanced Algebra and Physics are not specified units.

A limited number of applicants, who cannot meet the full entrance requirements, but have had one or more years of mill experience, may be admitted on the approval of the head of the Textile Department.

The course includes instruction in carding, spinning, weaving, dyeing, fabric structure, fabric analysis, Jacquard design, wood shop, smithy, foundry, machine shop, Chemistry, English, Mathematics, and Machine Drawing.

This course is not recommended to any student who can possibly arrange to pursue the regular course, but it is meeting the demand for a brief course, and many former students of this course are now holding remunerative and responsible positions in textile mills.

Special Textile Course

FIRST YEAR

First Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
Chem. 1	Inorganic Chemistry	3	.....	7.5
Chem. 5	Chemical Laboratory .....	.....	3	3
Eng. 11	Composition and Rhetoric	3	.....	7.5
Dr. 27	Machine Drawing .....	.....	3	3
Math. 9	Business Arithmetic	3	.....	7.5
T. E. 1-9	Yarn Manufacture	3	3	10.5
T. E. 31	Fabric Design .....	.....	3	3
T. E. 41-49	Weaving, Theory and Practice	2	3	8
Mil. 1	Military Instruction .....	.....	5	5
Total		14	20	55

Second Term

Chem. 2	Inorganic Chemistry	3	.....	7.5
Chem. 6	Chemical Laboratory .....	.....	3	3
Eng. 12	Composition and Rhetoric	3	.....	7.5
Dr. 28	Machine Drawing .....	.....	3	3
Math. 10	Business Arithmetic	3	.....	7.5
T. E. 2-10	Yarn Manufacture	3	3	10.5
T. E. 22	Dyeing Laboratory .....	.....	3	3
T. E. 32	Fabric Design .....	.....	3	3
T. E. 43-50	Weaving, Theory and Practice	1	3	5.5
Mil. 2	Military Instruction .....	.....	5	5
Total		13	23	55.5

SECOND YEAR

First Term

Eng. 24	Economics	3	.....	7.5
M. E. 3-5-7	Wood Shop, Smithy or Foundry .....	.....	6	6
T. E. 3-11	Yarn Manufacture	3	3	10.5
T. E. 17-23	Dyeing, Theory and Practice	2	3	8
T. E. 33	Fabric Design .....	.....	3	3
T. E. 37	Jacquard Design .....	.....	3	3
T. E. 27	Fabric Analysis .....	.....	3	3
T. E. 43-51	Weaving, Theory and Practice	1	3	5.5
Mil. 3	Military Instruction .....	.....	5	5
Total		9	29	51.5

Second Term

Abbrev.	Subject	Hrs. Per W'k		Equiv.
		Class	Lab.	
M. E. 11-12	Machine Shop .....	.....	6	6
T. E. 4-12	Yarn Manufacture	3	3	10.5
T. E. 13-24	Dyeing, Theory and Practice	2	3	8
T. E. 23	Fabric Analysis .....	.....	3	3
T. E. 34	Fabric Design .....	.....	3	3
T. E. 38	Jacquard Design .....	.....	3	3
T. E. 52	Weaving, Practice .....	.....	3	3
T. E. 81-85	Knitting	1	2	4.5
Mil. 4	Military Instruction .....	.....	5	5
T. E. 58	Shop Organization	3	.....	7.5
Total		9	31	53.5

T. E. 1, 2, 3, 4. Yarn Manufacturers, Theoretical.

Professor Camp and Mr. Philpot.

T. E. 1, Junior and Sp. 1, first term, three hours.

T. E. 2, Junior and Sp. 1, second term, three hours

Prerequisites, T. E. 1.

T. E. 3, Senior and Sp. II, first term, three hours.

Prerequisites, T. E. 1 and 2.

T. E. 4, Senior and Sp. II, second term, three hours.

Prerequisites, T. E., 1, 2 and 3.

This course includes lectures, recitations from technical text books upon the machines and processes. The work includes the study of cotton; its varieties, cultivation, ginning, grading, etc.; the special features of the various cottons; classes and numbers of yarn for which certain cottons are most suitable; and the methods used by mills in buying cotton. This is followed by a study of the principles, and the details of construction and operation of the machines used in the department. The student is thoroughly drilled in all calculations pertaining to this machinery, including organizations for various numbers and classes of yarns.

T. E. 9, 10, 11, 12, 13, 14. Cotton Yarn Manufacture, Practical.

Professor Camp and Mr. Philpot

T. E. 9 and 10, Sophomore, and Special I, first and second terms, 3 hours.

T. E. 11 and 12, Junior and Special II, first and second terms, 3 hours.

T. E. 13 and 14, Senior, first and second terms, 3 hours.

The practical work in yarn manufacture begins with the Sophomore year and extends throughout the course. The students are allowed every opportunity of acquiring a thorough knowledge of the construction and practical working of each machine. A moderate amount of time is devoted to the actual running of the different machines, so as to make them familiar with the use and operation of each machine and process. Each student is required to ascertain such particulars as, draft, twist, weight, hank or number, speed, production, etc., at each machine in this department. Some time is spent in testing laps, slivers, rovings and yarns, for comparing the actual with the theoretical results; indicating speeds, sizing rovings, yarns, etc., and getting up the necessary data for determining the efficiency of the machines; the effect of different twists, humidities, and temperatures on the appearance and the strength of yarns.

Practice is afforded in taking various parts of the machines down and replacing them; clothing, grinding and setting the revolving top flat card; setting rolls, spindles, builders, etc.; making the comber settings and timings, making changes in the numbers and varieties of yarns.

Cotton matching by the government standard is practiced sufficiently to enable the student to get some idea about classing cotton. The merit or spinnable value of cotton is also studied.

T. E. 17, 18. Dyeing.

Prof. Jones.

Prerequisites, Chem. 1, 2, 5, 6, T. E. 22.

Parallel, T. E. 23, 24.

T. E. 17. Senior and Sp. II, first term, 2 hours.

T. E. 18. Senior and Sp. II, second term 2 hours.

The subject, which includes the theory of both bleaching and dyeing, is taught by means of recitations from text books and lectures, in conjunction with laboratory work and experiments, covering such details as the study of the physical and chemical properties of cotton, wool silk, artificial silk and the minor fibres, chemical agents commonly made use of under above head and their application to above fibres, bleaching agents, cotton bleaching, mercerizing, water impurities and purifications, theories of dyeing, natural and artificial colors, particular attention being paid those colors of value in cotton dyeing. The course in dyeing is arranged in conjunction with that in textile chemistry, required of all textile students, the object of which is to give the student a clear idea of the fundamental principles which underlie the arts of bleaching and dyeing.

T. E. 22, 23, 24. Dyeing Laboratory.

Prof. Jones and Mr. Miller.

Prerequisites, Chem. 1, 2, 5, 6.

Parallel, T. E. 17, 18.

T. E. 22, Junior and Sp. I, second term, 3 hours.

T. E. 23, Senior and Sp. II, first term, 3 hours.

T. E. 24, Senior and Sp. II, second term, 3 hours.

Experimental dyeing begins the second half of the Junior and extends through the Senior year. The Junior work (T. E. 22) is in preparation for T. E. 17, 18, 23, 24, and is intended to acquaint the student with the elementary principles of dyeing and bleaching before taking the work up in more advanced form. Dyeing laboratory, includes such work as texts and experiments in: preparation of materials for bleaching and dyeing, bleaching agents and methods of bleaching, mordants, fixing agents and assistants, the use and application of natural dyes and artificial coloring matters, the dyeing of single and compound shades, color mixing and shade matching, testing of dyes for fastness and value.

T. E. 27, 28. Fabric Analysis.

Mr. Brandon.

Prerequisites, T. E. 31, 32.

Junior and Sp. II, first second terms, 3 hours.

Instruction is given in the various yarn standards and calculations leading to analysis. The student is provided with specimens of yarns for determination of breaking strength, count, twist, material, and cost of spinning. Specimens of fabric are then dissected for determination of weave, color arrangement, texture, quality, and percentage of materials, counts of warp and filling, analysis of finish, and other technical consideration. The more advanced work in the analysis of cloths of different character renders the student familiar with modern systems of ascertaining the exact construction of existing fabrics and compiling the data in suitable form for guidance in the reproductions of the fabrics.

In the latter part of this year the study of fabric analysis is taken up, samples of all kinds being analyzed. In this work woolen, worsted and silk fabrics are touched upon as well as cotton, this being necessary in order that the student may be able to make the tests necessary to distinguish between them. This work also covers sizes and other materials which are used for their weight giving properties.

T. E. 31, 32, 33, 34. Fabric Design.

Prof. Jones.

T. E. 31, 32, Sophomore and Sp. I, first and second term, 3 hours.

T. E. 33, 34, Junior and Sp. II, first and second terms, 3 hours.

The study of design covers a period of three years and is a parallel course to dobby and jacquard weaving, by which means the practical application of the theoretical design to the cloth gives a more thorough insight into the actual construction of the fabrics. During the first year fundamental weaves and their derivatives are constructed, special attention being given to their application to the various fabrics for which they are best suited. Following this work is the combining of these weaves into designs and their application to the cloth. Methods of reduction and drawing in are then taken up, one of the main objects at this time being to get a clear understanding of the relative value of the design to the actual fabric.

The course of study laid out for the second year consists of a continuation of the above, and includes also the design of the more complicated weaves such as piques, gauze and leno fabrics, ply fabrics and the actual laying out on paper of all data necessary to construct the various cloths.

T. E. 37, 38. Jacquard Design.

Professor Seal.

Prerequisites or Parallel, T. E. 27, 28, 31, 32, 33, 34.

Senior and Sp. II, first and second terms, 3 hours.

In the third year the design of fabrics for jacquard weaving is taken up. The course covers the entire range of jacquard work and is made as practical as seems consistent with best results. The simplest type of jacquard machine is first studied, together with the various methods of tying in the harness. After this the more complicated and larger machines are taken up before the actual work of designing is begun. Understanding the principles and limitations of the several machines and forms of harness, the student is taught the selection of figures, the making of cloth sketches, and the symmetrical distribution after stripe, diagonal or motive arrangement. The course also covers such technicalities as the proper selection of design papers, the development of the ground and figure with the various weaves, figure shading, card stamping and lacing, casting-out, etc. In connection with this work is the punching and lacing of the cards from pattern, after which a sample is woven to see the results obtained. Every design made by the student during this study of jacquard design is placed on a machine, either hand or power loom.

Course of Study

First Year—Fundamental Weaves, Derivatives, Reduction and Drawing In Simple Fabric Layouts.

Georgia School of Technology

Second Year—Ply Fabric Design, Leno Design, Extra Warp Effects, Fabric Analysis.

Third Year—Study of Jacquard Machine, Jacquard Design, Card Cutting, Application of Design to Fabrics.

T. E. 41, 42, 43. Weaving, Theoretical.

Mr. Brandon.

T. E. 41, Junior and Sp. I, first term, 2 hours.

T. E. 42, Junior and Sp. I, second term, 1 hour.

T. E. 43, Seniors and Sp. II, first term, 1 hour.

The study of weaving beginning with the Junior year is conducted by means of lectures, and demonstrations on the equipment of power looms in the weaving laboratory, the work starting with the simplest motion and loom then working gradually through the more advanced and complicated types until a good theoretical knowledge is obtained of the principal makes of machines in use in the southern mills. The student makes drawings of the principal parts, illustrates their use and prepares notes on the setting and timing of the same, giving causes and remedies for looms producing fabrics of faulty construction. Special attention is paid to the study of warping, slashing and the mixing of adhesives, softeners, antiseptics, and weight giving elements into sizes to yield certain characteristic results. During this term the study of calculations necessary in the size of yarns and construction of cloth is begun, this including the counts, weight, length and reed calculations. The construction and drawing of loom harness cams is given, first by theoretical data and later by actual measurements from looms in the laboratory, this work including all types and forms of cams necessary for producing fabrics within their scope and limit.

In the second term Junior the work is extended to automatic looms. Let-off and take-up motions, warp and filling stop motions, feeler motions, protector and shuttle changing mechanisms, thin place preventers, etc., are studied in detail. A comparison is made of the various types of automatic looms for both plain and colored work. Late methods in yarn and fabric calculations, loom gear, belting calculations, loom speeds, the importance of cloth construction, and all calculations necessary for the same included in the work of this year.

In the Senior year dobbies, single and double index, head motion of various types, box motion and Jacquards are studied. Although this course is primarily a cotton one, at various times the subjects of silk, linen, jute, wool and worsted are touched upon as a machine adapted to that work is studied. Pattern weaving and arrangement of colors for advanced fabrics is given and all calculations pertaining to the same. Advanced loom fixing relative to machines above is given by means of lectures, this work being parallel to the course in the weaving laboratory.

T. E. 49, 50, 51, 52, 53, 54. Weaving, Practical.

Mr. Brandon, Mr. Martin.

T. E. 49 and 50, Sophomore and Sp. I, first and second term, 3 hours.

T. E. 51, Junior and Sp. II, first and second term, 3 hours.

T. E. 53 and 54, Senior first and second terms, 3 hours.

The instruction given in weaving is being placed more and more on an experimental basis so that the student may by actual manufacture become familiar with the different cotton fabrics. The equipment

Textile Department

facilities in the weaving department are such that we are able to give each student individual attention and correct mistakes in faulty construction before the fabric to be woven is placed on the loom. The scope of the work undertaken, the proficiency obtained and the high standard required of the finished fabrics are to the student completing this course a sound as well as a general knowledge of the application of design to fabric and fabric to loom.

Outline of Study in Weaving

(Regulars)

First Year, First Term—Hand Loom Weaving.

First Year—Second Term—Hand Loom Weaving or original Designs.

Second Year, First Term—Power Loom Weaving.

Second Year, Second Term—Power Weaving, Colored Work, Loom Fixing.

Third Year, First Term—Box Looms and Dobby Weaving.

Third Year, Second Term—Box Loom, Dobby and Jacquard Weaving.

(Specials)

First Year, First Term—Power Loom Weaving.

First Year, Second Term—Power Loom Weaving.

Second Year, First Term—Power Weaving, Colored Work.

Second Year, Second Term—Box Looms and Dobby Weaving.

T. E. 60, 61, 62, 63, 64, 66. Industrial Teacher Training.

T. E. 60, Juniors and Ind. Ed., second term, 2 hours.

T. E. 61, Seniors in Ind. Ed., first term, 3 hours.

T. E. 62, Juniors in Ind. Ed., second term, 3 hours.

T. E. 63, Seniors in Ind. Ed., first term, 6 hours.

T. E. 64, Seniors in Ind. Ed., second term, 3 hours.

T. E. 66, Seniors in Ind. Ed., second term, 6 hours.

The above courses are given only to students in Industrial Education and for the purpose of providing training in the actual operations of the textile industry. These courses differ from those of the regular courses given to engineering students in that the aim is to train men as textile operators and teachers. T. E. 60, 61, and 64 are given by lecture and recitation; T. E. 62, 63, and 66 are laboratory courses. Students may elect additional work in the Textile Mill during the Senior year.

T. E. 81, 85. Seamless Hosiery Knitting.

Mr. Philpot.

Prerequisites, T. E. 1, 2.

Senior, first term, Sp. II, second term, one hour lecture, 2 hours practice.

The course is given in the form of notes and lectures, and practical work, covering the construction and operation of Circular Latch-needle Hosiery machines. Beginning with the simple hand machine, the work is gradually extended to include the present type of machine which is entirely automatic in its action. A close study is also made of the ribber, which represents a different system of knitting and is essential to the making of men's hose.

Considerable time is devoted to studying the methods pursued in finishing hosiery goods. This consists of a study of the equipment necessary for this work which includes looping, scouring and dyeing machines, and, also the forms used for drying and shaping the goods.

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The student is also afforded considerable practice in operating the machines, making necessary adjustments of the various parts and, the arrangement of cams and pattern chains for producing the different style articles for which the machine is designed.

The equipment consists of late models from several makers of the various styles of machine used in this work, and, is sufficiently extensive to give the student a clear idea of the processes necessary for the production of this class of hosiery.

Prospects for additional equipment for this department in the near future are very good. This will enable us to extend the work to include other systems of knitting and will serve to broaden the course considerably.

THE SUMMER SCHOOL

The twenty-seventh annual session of the Summer School will begin July 23, 1923, and continue for eight weeks. As in former years the Faculty will be chosen from members of the faculty of the Georgia School of Technology.

The School is designed primarily to give a thorough training in some of the subjects required for examination by applicants for admission to the Freshman class of the Georgia School of Technology; and, secondly, to enable such students of the Georgia School of Technology as have incurred deficiencies in their work to remove these deficiencies and continue with their respective classes.

The instructors, by reason of their connection with the School of Technology, are particularly well fitted to know the needs of the student and to direct his work. Knowing, moreover, the demands which will be made upon him after he enters the School of Technology, they will advise him as to the class which he should prepare to enter.

Emphasis is laid on these studies which a student finds most difficult, the instructor pointing out and laying stress upon the important principles which occur in each lesson. In this way a student's mind is filled with the principles he is to use and not crowded with useless materials. Success, being largely dependent upon the individual and his fitness for and application to his work, can not be guaranteed, but is expected in the case of those who work earnestly for it.

It must be born in mind, however, that the Summer School is essentially a school of review, and that, as the time spent here during the summer is short at most, it is essential to success that students enter at the opening session.

For the subjects upon which students who wish to enter the Freshman class must pass an examination the reader is referred to the subject entitled "Admission" in this catalogue.

The curriculum of the Summer School includes courses in the following departments: Chemistry, Drawing, Electrical Engineering, Experimental Engineering, English, Mathematics, Modern Languages, and Physics. Special classes will be formed in some of the subjects required for entrance to the Ga. School of Technology. These will include Advanced Algebra, Plane and Solid Geometry, and Elementary Physics.

Students who attend the Summer School will be given examinations immediately at its close, thus lifting anxiety from their minds and giving them an opportunity for rest before the regular session begins.

The Night School

Students of the Georgia School of Technology who have deficiencies in their college work will find the Summer School an excellent place for review. The Board of Trustees, at a recent meeting, has granted the Summer School the right to give credit to students who satisfactorily review subjects in which they are deficient, or to students who wish to study with a view to advanced standing. Such credit is given as follows:

Credit in college work will be given for subjects successfully passed under the following rules: (1) The student must have the approval of the department in which he wishes to work. (2) The total number of hours must not be in excess of one-half the number of hours of a full schedule for the semester during the regular session of the Georgia School of Technology.

The college subjects offered in the Summer School are identical in character and scope, and the same in time with those offered during the regular session of the Georgia School of Technology.

The tuition rates for the Summer Session are as follows:

One hour per day for the session	\$25.00
Two hours per day for the session	35.00
Three hours per day for the session	40.00
Deposit for Laboratory	5.00
The unused portion of the laboratory fee will be returned at the end of the session.	

The Dean of the Summer School will be glad to furnish a list of boarding places to prospective students, after July 1, 1923.

Further information regarding courses and entrance requirements will be found in this catalogue, or may be had by addressing the Registrar.

For further information concerning the Summer School, address the A. B. Morton, Dean of the Summer School.

NIGHT SCHOOL

Atlanta as a manufacturing center, has a large population of operatives, most of whom have been denied vocational training above the average standard imposed by faulty apprenticeship and financial necessity.

In addition, the expanding manufacturing interests of the city offer constantly increasing inducements to the young men who will prepare themselves for skilled labor. To meet both of above conditions, a Night School was inaugurated in the Institution March 2, 1908, and is now in successful operation.

The Night School is supported by appropriation from the City Council of Atlanta, supplemented by a small contingent fee charged each student.

The session for 1923-24 will begin October 1, 1923, and continue in session until May 16, 1924, divided into two terms of sixteen weeks each. The period beginning December 21, 1923, and ending January 1, 1924, will be observed as a holiday. The contingent fee for each term will be \$10.00. Courses leading to certificate in Applied Electricity, Applied Mechanics and Automobile Engineering, offered for the first time in 1919-1920, will be offered again. These are three year courses. The following special courses will also be offered: Drawing, Mathematics, Machine Shop, and Auto Mechanics, a course covering 32 weeks and devoted to a study of the automobile as it is. An auto

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shop is provided where the parts of the machine are taken down and put up again, each feature of the machine being carefully explained.

For full information concerning the Night School, address,
A. B. Morton, Dean, Ga. School of Technology.

Medical Attendance

Dr. J. B. White, Miss Florida Newman and Mrs. L. Posey.

The Joseph Brown Whitehead Memorial Hospital has been in operation ten years; and the system instituted at its opening has been so successful in treating the sick and conserving the health of the student body, that the same system will be in force during the coming year.

The School Surgeon is in charge of the Hospital and a trained nurse is in residence, thus insuring the very best care of the student in case of sickness. The hospital service gives any student who is temporarily ill all necessary medical treatment, without charge, by the School Surgeon, and necessary medicine and skillful nursing by a trained nurse, in residence. This does not apply to chronic cases, to surgical operations, or to constitutional disorders, the cause of which existed prior to the student's enrollment.

A student becoming ill will be required to report to the hospital for treatment at the discretion of the School Surgeon, unless attended by his own physician.

A student sick with diphtheria, scarlet fever, or smallpox, will be sent to the public hospital provided for those diseases.

A "Special Nurse" will be provided in those cases where the same is desired, at an additional fee covering the salary of the nurse and board. When consultation is required the student will pay the fee for consultation.

Students not residing in the dormitories are charged twenty-five cents for each meal served in the hospital. Dormitory students are charged ten cents a meal, for extra service.

The Library

A library building, the gift of Mr. Andrew Carnegie, occupies a central location on the Campus. The building has been occupied fifteen years, during which time the number of volumes has increased from about 3,000 to 17,000. It is now a well equipped Library in every way, being strongest in its scientific side, but also containing many other valuable books, especially in literature and art. Each year valuable acquisitions are made, with a view to strengthening the work of the college in each department. The Library also contains many rare books, among them a number of early 16th and 17th century volumes, the gift of ex-Governor Joseph M. Brown.

A most important feature is its number of scientific periodicals. The Library is now supplied with over one hundred of the leading papers and periodicals of this country and Europe. Each year has shown a decided growth over the preceding year in every way, and the entire outlook promises well for future expansion.

The Library is in charge of a competent and thoroughly trained Librarian and her assistants. All books and pamphlets, as soon as received, are classified and catalogued in accordance with the most approved library system.

Student Organizations

Library hours are from 8 A. M. to 6 P. M. daily, and Friday and Saturday evenings from 7 to 10.

In addition to the School library, students have free use of the Atlanta Carnegie Library, where they are always welcome.

STUDENT ORGANIZATIONS

The Young Men's Christian Association

The Young Men's Christian Association is the largest student organization in school in that every student can have a part in its program. Its purpose is to minister to the development of the moral, social and spiritual needs of each individual in the school community. There is scarcely any organization on the campus that does not in some way come in contact with the Y. M. C. A. In this way it has an opportunity to touch the entire life of the school.

On each Sunday night there is a religious meeting conducted for students as a part of the religious program. At these meetings an attempt is made to use just as many students as possible as a training in Christian work. At the same time a number of prominent speakers of the city are called upon to discuss religious problems vital to student life. These meetings are so arranged that they do not in any way conflict with the regular church services of the city.

Sometime during the year an Evangelistic Campaign is conducted under the auspices of the Association. The purpose of this campaign is to bring before the students the claims of the Christian life, and to raise the moral tone of the campus.

One of the important features of the Association's program is the organization and conduct of Bible Study groups. The plan is to use student leadership as much as possible. These leaders come together each week in a normal class where the lesson is studied as a preparation for leading a group. This normal class is lead by one of the secretaries who has special attention to this part of the program. During the past session approximately five hundred men have been enrolled in weekly Bible Study.

In addition to the distinctly religious activities of the Association quite a number of students have been used in doing social service, on deputation teams and with boys clubs. An employment bureau has been maintained and has been able to place quite a number of boys in part-time positions where they make all or part of their expenses. The Association has been the clearing house for one of the city organizations in operating a loan fund.

The Association with its excellent equipment, constitutes the real center of the student life. Its splendid home offers a wholesome atmosphere and adequate amusement, making it unnecessary for a boy to go to the city to spend his idle hours.

Mr. R. C. Beaty and K. P. Zerfoss, college graduates and M. A. graduates from Vanderbilt University and Southern Y. M. C. A. College, are the Secretaries of the Association, with Miss Ruth Paden as Office Secretary.

The Friendship Council is composed of approximately a hundred men and is the nucleus through which the Association does its work.

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THE STUDENT COUNCIL

The Student Council is composed of a group of undergraduate members, elected by the student body. Its duties are to handle all matters of general student interest, and to administer the Honor System.

The following declaration of principles has been adopted by the student body with regard to honesty in their work:

"We the students of the Georgia School of Technology, hold that the heart of education is morality, and the essence of achievement is character. We would place honor above credits and base attainment upon desert. We believe there is no enduring reputation which is not rooted in worth and no real success which has not its foundation in manhood; that every honorable man would rather suffer failure than stoop to fraud; and that trustworthiness is the superlative asset of the engineer.

As a concrete expression of this belief we hereby pledge ourselves:

First. Neither to give nor receive assistance during examinations, recitations or any work upon which we are graded.

Second. To report to the proper authorities anyone who we have good reason to believe is guilty of giving or receiving unauthorized assistance."

The Student Council was put into operation in the fall of 1922, and has been of service to the student body since that time. The following are members of the Student Council:

THE STUDENT COUNCIL

Albert H. Staton, President.
Paul Lyman, Secretary.

D. I. Barron, Vice-President.
K. G. Matheson, Jr., Treasurer.

Seniors

Staton, A. H.
Davis, O. G.
Mitchell, W. M.
Lyman, Paul.
Pearson, Chas.

Barron, D. I.
McIntyre, J. F.
McDonough, J. J.
Barnett, John.

Juniors

Murphey, Millege.
Hartford, W. D.

Staton, John.
Matheson, K. G., Jr.

Sophomores

Godwin, Walter.

Saunders, F. D.

Freshman

Williams, Orval.

The Cosmopolitan Club.

This is a club composed of all foreign students at Georgia Tech and a few selected American students. The purpose of the Club is to make the foreign student feel at home in the school, and to aid him in every possible way to get comfortably established. The club will handle all correspondence with foreign students in their own language. The president of the Club is Mr. I. Santamaria, Tech Y. M. C. A., Atlanta, Ga.

COLLEGE ATHLETICS

THE GEORGIA TECH ATHLETIC ASSOCIATION

Dr. J. B. Crenshaw, Director
Prof. A. H. Armstrong, Treasurer.
Mr. W. A. Alexander, Basket-ball Coach.
Mr. R. A. Clay, Baseball Coach
Mr. W. A. Alexander, Basket-ball Coach
Mr. G. C. Griffin, Track Coach
Mr. T. B. Amis, Freshman Coach
Mr. F. F. Wood, Line Coach, Football

College Athletics at the Georgia School of Technology are managed and controlled by a Board of Directors consisting of five members of the teaching force appointed by the President who is ex-officio chairman of the Board, three students chosen by the student body, who are the president, vice-president and secretary of the Georgia Tech. Athletic Association, and two alumni elected by the Alumni Association. This board aims to secure co-operation of the faculty and students in athletic affairs, to maintain the highest standards of sportsmanship, to give every student an opportunity to take part in some athletic activity, and to arouse in each one the desire to improve his health and physique so as to leave school a better man physically as well as mentally. Athletic activities are not allowed to interfere with the proper attention to and progress in the course of instruction, but every encouragement is given to participation in some form of exercise. The liberal policy adopted by the Faculty towards athletics has resulted in so much enthusiasm for college sports that the number engaged in some form of outdoor exercise is very large—over fifty percent—and is increasing yearly. The interest shown is in the following order: Football, baseball, track, basketball, tennis, swimming and golf.

Military and Class Athletics

For the benefit of those students who are not members of the varsity or scrub teams at Georgia Tech, games are played in all branches of sport between company teams and class teams. During the past year each of the twelve companies that compose the R. O. T. C. regiment at Tech put out teams in football, baseball, basket-ball, and track. A regular schedule was played in each of the above sports and the members of the winning team were awarded jerseys by the Athletic Association. The Greek Letter Fraternities also have a league in football, baseball and basket-ball, the winning fraternity receiving a handsome silver loving cup, which is presented each year by the Pan Hellenic Council.

A system has also been devised during the past year by which it is possible for any student in the school to score points for any organization to which he belongs in the Winter Cross Country Run and in the regulation Track events in the spring. In this way all organizations in the school are put in active athletic competition with one another. This year the Athletic Association has added to the athletic events to be held annually on Grant Field the Southern Relay Championships open to all College and University students in the South. Events are also offered for preparatory and high schools. For those students unable to pass the regular army physical examinations, special setting up exercises and light games are given. This work is un-

der special supervision of the Military Authorities. The equipment for the above athletics is furnished by the Athletic Association free of charge. The games are under the direct supervision of the coaching staff and the Commandant. This provides every student with equal chance in games, and gives him the benefit of proper instruction along athletic lines.

Hugh Inman Grant Field

Due to the liberality of Mr. John W. Grant, of Atlanta, the new Athletic Field, named "The Hugh Inman Grant Field," as a memorial to his son, is now finished and in constant use.

This gives us the finest Athletic Field in the South, and the completion of the concrete grandstand and the wooden stands furnishes accommodation for seating over 17,000 spectators. The field has a quarter-mile running track, room for a 220-yard straight away track, for sprints, two baseball diamonds, two football fields, tennis court, pole vaulting and jumping paths and accommodations for all other forms of field sports.

PUBLICATIONS

The Technique is the college newspaper. It is published weekly by the students. Its purpose is to give the college news, discuss student enterprises, and to promote the general welfare of the school; to serve the institution, in short, along the same lines as the daily newspaper serves the community.

The Blue Print, the College Year Book, is published annually by the students, and contains the usual matters of interest relative to student life.

The Yellow Jacket is the comic student periodical, published monthly during the session.

The Students' Hand-Book is published annually under the auspices of the School Y. M. C. A., contains information referring to student organizations, college customs, etc.; intended primarily for new students.

The School publishes five bulletins annually, in January, April, July, August and October.

TECHNICAL SOCIETIES

Civil Engineering Society

Only C. E. Seniors and certain elected C. E. Juniors are eligible to membership in this society. The meetings are held bi-monthly, and are often addressed by resident or visiting engineers of well-established reputation.

Architectural Society

All Architectural students who have completed the first term of the Sophomore year are eligible for membership. Prominent local architects frequently address the monthly meetings. Prizes are offered for the best work in Design, and a creditable library of drawings from architectural books has been formed.

Society of Mechanical Engineers

The society is for Seniors, with a few elected Juniors to form a nucleus for the following year. The plan is to meet bi-monthly, at which meetings engineering subjects are discussed by the members, and also frequently by Engineers of experience. Special trips and outside investigations by the members are a feature of the proceedings. The Society has recently become a branch of the American Society of Mechanical Engineers.

Emerson Chemical Society

The membership consists of the Senior, Junior and Sophomore Classes in the Chemical Course. The Faculty of the Chemical and Geological Departments of the School and all graduates of the Department of Chemistry are honorary members. At the weekly meetings, papers are presented by the students. Once a month the Society is addressed by members of the Faculty and by Professional Chemists.

Electrical Engineering Society

This Society is a branch of the American Institute of Electrical Engineers.

Membership is taken from the Senior and Junior students in the Electrical Engineering Course. Original papers are presented and articles from current electrical literature are abstracted and discussed. Lectures are given the Society by practicing engineers.

Textile Engineering Society

Senior and Junior Textile students are eligible to membership. Other students in the textile departments may be elected to membership. Regular meetings are held on the first and third Wednesdays of each month at which papers are read by members. Lectures by visitors prominent in the textile industry are arranged from time to time.

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LOAN FUNDS AND SCHOLARSHIPS

The Lewis H. Beck Fund

In January 1922 Mr. Lewis H. Beck, a public spirited, and benevolent citizen of Atlanta, established a fund of \$25,000, the interest of which is to be used to assist deserving Georgia boys to get an education at the Georgia School of Technology.

Other generous friends of the institution have established scholarships and loan funds of varying amounts as shown below:

Architects Scholarships	\$ 200.00
J. Baldwin Loan Fund	50.00
Berry Scholarships	2,400.00
S. F. Boykin Scholarship	100.00
J. B. Campbell Loan Fund	1,000.00
William B. Coleman Post Scholarship	200.00
S. C. Dobbs Scholarship	75.00
Ga. Federation of Labor Scholarship	400.00
The A. French Scholarship	1,500.00
Mrs. A. V. Gude Scholarship	200.00
Lyman Hall Scholarships	1,400.00
J. M. High Scholarships	800.00
J. M. High Scholarship No. 2	50.00
Dr. and Mrs. T. P. Hinman Scholarship	200.00
I. S. Hopkins Scholarship	30.00
Louis Gholstin Johnson Scholarship	400.00
Malta Lodge Scholarship	400.00
Malta Lodge Scholarship No. 2	250.00
Mansfield Scholarship	750.00
E. P. McBurney Scholarships	4,911.81
Gayle Nimmoicks Memorial (Pi Kappa Phi)	400.00
Quartermasters Loan Fund	9,500.00
Scottish Rite Scholarship	1,000.00
Sam W. Small Scholarship	100.00
T. W. Smith Scholarship	265.00
J. P. Stevens Scholarships	2,500.00
Clark Thornton Memorial	362.50
E. A. Turner Loan Fund	50.00
Mrs. Fannie B. Wright Scholarship	925.00
Y. M. C. A. Scholarship	380.00

Scholarships to Local High Schools

By action of the Board of Trustees a scholarship is awarded each year to an honor graduate of each of the following public high schools in the City of Atlanta: The Technological High School, the Boys' High School, and the Fulton County High School. The scholarships pay the fees of the recipients, except the Student Activities fee, which is required of all students.

MEDALS AND PRIZES

President's Scholarship Prizes

Through the generosity of Mr. W. H. Brittain of Atlanta "Gold-T's" are awarded each year to the members of the Junior class who, from the beginning of their courses have maintained the highest scholastic standing.

MEDALS AND PRIZES

Paxon Oratorical Medal

Through the generosity of Mr. Frederick J. Paxon, a public spirited citizen and a friend of the school, a handsome gold medal will be awarded each year to that member of the freshman class who shall deliver in public contest during the period of commencement the best original oration on some subject approved by the English Department. The winner of this medal will be announced on the evening of the contest, but the presentation of it will be made at the regular commencement exercises.

Masonic Medal

The Scottish Rite of Freemasonry of Atlanta, as an incentive for excellence in composition, offers annually a handsome gold medal, to be awarded at Commencement, to that member of the Freshman class who shall have demonstrated his accomplishment by writing the best essay submitted in a contest open to all members of that class.

The Honor Society of the Phi Kappa Phi

Among the prizes offered for scholarship by the Georgia School of Technology perhaps the most coveted is membership in the honor society Phi Kappa Phi, to which a limited number of seniors representing all departments are elected annually. Phi Kappa Phi is a national organization with branches or chapters in many Northern, Southern, Eastern and Western universities and colleges; and wherever it has been established it has proven a stimulus not only to scholarship but to all-round manhood. Its members are men of books, of affairs, and of character, its aims coinciding accurately with those of the Georgia School of Technology as set forth in the motto, "To know, to do, to be."

Military Prizes and Trophies

Through the generosity of Tech's many friends it is possible to award various prizes and trophies for excellence in the military activities.

The A. B. Steele trophy, a handsome silver cup, the gift of Mrs. Ray Powers and Mr. A. B. Steele, as a memorial to those "Tech" men who made the supreme sacrifice during the World War, is awarded annually to the best drilled company in the regiment. The letter of the winning company and the name of the company commander are engraved on the cup.

The Regimental Colors are presented to the company that wins the greatest number of points during the year. That company is designated as the "Color Company" for the succeeding year. Points counting on this competition are awarded for company and individual excellence in football, basket-ball, baseball, track events, target practice, military science and tactics, military competitions, etc.

Jersey With Company Letter (Furnished by Tech Athletic Association)

To: Members of Company Team winning Football Championship—100-50-25 points.

To: Members of Company Team winning Baseball Championship—100-50-25 points.

Jersey With Tech Rifle Insignia (Furnished by Athletic Association)

To: Each member of Regimental Rifle Team who fires 4-5 of the matches scheduled with other institutions—each student, 50 points.

Georgia School of Technology

Medals

Gold, silver and bronze medals are awarded to students who achieve excellence in the various military and athletic R. O. T. C. activities such as: Individual Rifle Competition, Individual Drill Competition, Highest Grades in each Unit, Winners of Field and Track Events, etc.

Favors

At the end of the school year a handsome favor is presented to each chaperon and sponsor of the regiment.

ACCREDITED FOUR YEAR HIGH SCHOOLS, GEORGIA LIST, 1923

(The list of schools is revised to April 12, and a few additions may be made to it later.)

The University Committee on Accredited Schools has been enlarged to include the following: Stewart, Hooper, Fain from the University Faculty; Dean Jack, Dean Farrar, Caldwell from the College Association; Purks and Cash, officers of the High School Association; Pound from the State Department. Correspondence regarding accrediting should be addressed to J. S. Stewart, Athens, Ga.

NOTE:—Schools with star in front of the name indicate those that have won a place on the Southern List of Accredited Schools as well as in Group 1 of the Georgia list. Group 1 represents the best schools in teaching staff, equipment of laboratory, library, and building. Group II represents those schools that have inadequate equipment in laboratory, library, and do not always have three-fourths of the teachers' college graduates, but offer fifteen units.

Schools for girls only are omitted from this list.

- | | |
|----------------------------------|------------------------------------|
| Abbeville High School, I | 6th Dist. Ag. School, I |
| Acworth High School II | Bartow High School, II |
| Adairsville High School, II | Baxley High School, I |
| Adel High School, II | *Blackshear High School, I |
| *Albany High School I | Blakely High School, I |
| *Americus: High School, I. | Blue Ridge: |
| 3rd Dist. Ag. School, I. | Mary P. Willingham School, II |
| Arlington High School, II | Blythe High School, I |
| *Ashburn High School, I | Boston High School, II |
| Athens: | Bowman: |
| *High School, I | Gibson-Mercer Acad., (Private), II |
| Atlanta: | Brooklet High School, II |
| *Boys High School, I | *Brunswick: Glynn Academy, I |
| *Commercial High School, I | Buchanan High School, I |
| *Fulton High School, I | Buford High School, I |
| *Marist College, (Private), I | Buena Vista High School, II |
| *Technological High School, I | Byromville High School, II |
| *University School, (Private), I | Cairo High School, I |
| Auburn: | Calhoun High School, I |
| Christian College Acad., | Camilla High School, I |
| (Private), II | Canton High School, I |
| Augusta: | Carrollton: |
| *Richmond Academy, I | High School, I |
| *Bainbridge High School, I | 4th Dist. Ag. School, I |
| Baldwin High School, II | *Cartersville High School, I |
| Barnesville: | Carnesville High School, II |
| *Gordon Institute, I | |

Accredited Schools

- | | |
|---|----------------------------------|
| *Cedartown High School, I | Folkston; Charlton Co. High, II |
| Chickamauga High School, II | Forsyth High School, I |
| Chipley High School, I | Gainesville: |
| Claxton High School, I | *High School, I |
| Clermont: | *Riverside Acad., (Private), I |
| Chattahoochee Acad. (Private), II | Glenville High School, II |
| Cochran: | Granite Hill: |
| High School, I | 10th Dist Ag. School, I |
| 12th District A. & M., II | Grantville High School, II |
| College Park: | Gray High School, I |
| College Park High School, I | Graymont-Summit |
| *Georgia Military Academy, (Private), I | Emanuel Co. Inst., I |
| Colquitt High School, II | Grayson High School, II |
| Columbus: | *Greensboro High School, I |
| *High School, I | Greenville High School, II |
| Secondary Ind School, I | *Griffin High School, I |
| Comer High School, II | Guyton High School, II |
| *Commerce High School, I | Hampton High School, II |
| Concord High School, II | Harlem High School, II |
| *Conyers High School, I | *Hartwell High School, I |
| *Cordele High School, I | *Hawkinsville High School, I |
| Cornelia High School, I | Hepzibah High School, II |
| *Covington High School, I | Hogansville High School, II |
| Crawford High School, II | *Jackson High School, I |
| Crawfordville; Stephens inst., I | Jefferson: Martin Inst., II |
| Cumming High School, II | Jeffersonville High School, II |
| Cuthert High School, I | Jesup High School, II |
| Dallas High School, II | Jonesboro High School, II |
| *Dalton High School, I | Kirkwood High School, II |
| Danielsville: | LaFayette High School, I |
| Madison Co. High School, II | *LaGrange High School, I |
| Darien High School, II | Lavonia High School, I |
| *Dawson High School, I | Lawrenceville High School, I |
| *Decatur High School, I | Leesburg High School, II |
| Demorest: | Leslie High School, II |
| Piedmont Acad., (Private), I | Lincolnton High School, I |
| Doerun High School, II | Lithonia High School, II |
| Donaldsonville High School, I | *Locust Grove Inst. (Private), I |
| Douglas High School, I | Louisville High School, I |
| 11th Dist. Ag. School, I | Lyons High School, II |
| Douglasville High School, I | Lumpkin High School, II |
| *Dublin High School, I | Macon: |
| Eastonelle High School, II | *Lanier High School, I |
| Eastman High School, I | Rutland High School, II |
| East Point High School, II | Madison: |
| Eatonton High School, I | *High School, I |
| Edison High School, II | 8th Dist Ag. School, I |
| *Elberton High School, I | Manchester High School, I |
| Ellaville High School, II | Marietta High School, I |
| Fairburn High School, II | Marshallville High School, I |
| Fayetteville High School, I | Maysville High School, II |
| *Fitzgerald High School, I | McDonough High School, I |
| Fort Gaines High School, II | McRae: So. Ga. Acad., I |
| *Fort Valley High School, I | Meigs High School, II |
| | *Metter High School, I |
| | Milledgeville: |

Georgia School of Technology

*Georgia Military College, I
 *Millen High School, I
 Monroe:
 High School, I
 5th Dist. Ag. School, I
 Montezuma High School, I
 Monticello District School, I
 *Moultrie High School, I
 Mount Berry:
 *The Berry School, (Private), I
 Mt. Vernon:
 *Brewton-Parker Inst. (Private), I
 Nashville High School, II
 *Newnan High School, I
 Norman Park:
 *Norman Park Inst., (Private)
 Ocilla High School, I
 Oxford:
 *Emory Acad., (Private), I
 Pavo High School, I
 Pelham High School, I
 Perry High School, II
 Plains High School, II
 Powder Springs:
 7th Dist. Ag. School, I
 *Quitman High School, I
 Reidsville High School, I
 Reynolds High School, I
 Richland High School, I
 Roberta High School, II
 Rochelle High School, II
 Rockmart High School, II
 Rome:
 *High School, I
 *Darlington Acad. (Private), I
 Royston High School, II
 Sandersville High School, I
 Santee: Nacoochee Inst., (Private), I
 Savannah:
 *Senior High School, I
 *Benedictine School, (Private), I
 Senoia High School, II
 Shellman High School, II
 Smithville High School, II
 Social Circle High School, II
 Soperton High School, II

Sparks Collegiate Inst., (Private), I
 Sparta High School, II
 Springfield: Effingham Acad., I
 St. Mary's High School, II
 Stapleton High School, II
 Statesboro:
 *High School, I
 1st Dist. Ag. School, I
 Stillmore High School, I
 Stone Mountain High School, II
 Swainsboro High School, I
 Sylvania High School, II
 Sylvester High School, I
 Tallapoosa High School, I
 Talbotton High School, II
 Tennille High School, I
 *Thomasville High School, I
 Plunkett's School, I
 Thomson High School, I
 *Thomaston: R. E. Lee Inst., I
 Tifton:
 *High School, I
 2nd Dist. Ag. School, I
 *Toccoa High School, I
 Unadilla High School, II
 *Valdosta High School, I
 Vidalia High School, II
 Vienna High School, II
 Villa Rica High School, II
 Waleska:
 Reinhardt Inst. (Private), I
 *Warrenton High School, I
 Washington High School, I
 Watkinsville High School, I
 Waycross:
 *High School, I
 Piedmont Inst., (Private), II
 Wacona High School, II
 *Waynesboro High School, I
 *West Point High School, I
 *Winder High School, I
 Winterville High School, I
 Woodbury High School, I
 Wrens High School, I
 Wrightsville High School, II
 Young Harris:
 Young Harris Acad., II
 Zebulon High School, II

REGISTER OF STUDENTS 1922-1923

Those whose names are printed in heavy type and starred constitute the Honor Roll of the class.

SENIOR CLASS

NAME	ADDRESS*
Alford, John Inzer	Gloster
Ailing, Roger Willis	Vinings
Almond, Edwin Pearson	Elberton
Annis, Carroll B.	Laurel, Miss.
Armentrout Gerald Eutsler	Augusta
Asbury, James Wells	Clarksesville
Asbury, Maurice Beverley	Elberton
Atchinson, Edward Roger, Jr.	Tullahoma, Tenn.
Avera, Bertie Lewis	Byron
*Aycock, John A.	Bullochville
Ballard, Levi	Brunswick
Barron, David Irenus	Clarksesville
Bartlett, George Prescott	Atlanta
Bates, Winton Everett, Jr.	Waycross
Bell, James Frank	Atlanta
Biggs, John Edwin	Bramwell, W. Va.
Binford, Walter Blair	Griffin
Black, Arleigh Arthur	Lakeland, Fla.
*Blumenthal, Leonard Mascot	New Orleans, La.
Bond, Homer Park	Atlanta
Bonds, Eugene Rufus	Atlanta
Borum, Vernon Lyons	Tampa, Fla.
Branch, Walter Marcy	Cedartown
Bratton, Samuel Paul	Little Lot, Tenn.
Brosnan, Denis William	Albany
Brown, Herman Bainbridge	Laurenceburg, Tenn.
Brown, Nathan Atkinson	Columbus
Bullock, Ellis Way	Eastman
Burks, B. Frank	Atlanta
*Butler, Harry Anderson	Savannah
Calhoun, Oscar Douglas	Atlanta
Campbell, Trigg Preston	Morristown, Tenn.
Campbell, William John	Jacksonville, Fla.
Carlisle, Isaac Reid	Atlanta
Carr, William Boney	Bainbridge
Carswell, John Wright	Waynesboro
Carter, Charles Steve	Lilburn
Carter, Hugh Davis	Atlanta
Carter, Homer Munroe	Cleburne, Tex.
Carter, Thomas Frederick	Richland
Chambliss, Joseph Maurice	Moreland
Chapman, Henry B.	Byromville
Chason, Alvin Leonard	Miller
Clark, Heustis	Birmingham, Ala.
Cohen, William Byron	Norton, Va.
Coleman, Samuel Taylor	Macon
Connell, Harvey Russell	Atlanta

*All towns in this column are located in Georgia unless otherwise indicated.

Georgia School of Technology

NAME	ADDRESS
Connor, Saxon Anderson	Marietta
Cook, Simeon Bates	Chattanooga, Tenn.
Cooper, Andrew Jackson	Dallas
Corwin, Thomas Lauren	Essex, N. J.
Coslow, George Ross	Jacksonville, Fla.
Couch, Willie Claude	Turin
Cox, Jack Fitzhew	Thomasville
Culler, Thomas Rickenbaker	Cameron, S. C.
*Cunliff, Donald Dale	Los Angeles, Calif.
Daughtry, Hampton Lamar	Jackson
Davidson, Coleman Lawson	Shelbyville, Tenn.
Davis, Arthur Willis	Hamilton
Davis, Victor Manget	Cave Springs
Dimmock, William Edward	Augusta
Drew, Thomas Champion	Macon
DuBose, Hugh Inman	Atlanta
Echols, George Henry	Atlanta
Eckford, Erroll	Atlanta
Edmond, Robert, Jr.	Atlanta
Edwards, William Augustus, Jr.	Atlanta
*Eiseman, Bernhardt Joseph, Jr.	Atlanta
Elder, Matthews Henderson	Atlanta
Ellerbe, Harry LaCoste	Atlanta
Engel, Arthur Benjamin	Lookout Mt., Tenn.
Everett, Harris Kiser	Calhoun
Fenton, Maurice J.	Chattanooga, Tenn.
Fleetwood, Charles Green, Jr.	Savannah
Flowers, Robert Benjamin	Atlanta
Fox, Hiram Stanley	Winchester, Ky.
Frankum, Jay Lester	Martin
Friedman, Jake	Atlanta
Furber, Eduardo Lozano	Mexico City, Mex.
Garden, Henry Beverley Campbell	Macon
Garrison, Richard Roddey	Charlotte, N. C.
Gassen, Lionel Joseph	Sulphur, La.
Getzen, John Edwin	Pendergrass
Gibson, Calvin Eustace	Thomasville
Gill, John Bell, Jr.	Statesville, N. C.
Glover, Byron Asberry	Atlanta
Goode, Jamie Clark	Griffin
Goodloe, Edward Everett, Jr.	Big Stone Gap, Va.
Goodloe, Edward Gordon	Big Stone Gap, Va.
Gradick, Leslie Emerson	Jacksonville, Fla.
Graham, Charles Hancock	Atlanta
Granger, Henry Grigary	Atlanta
Graydon, Walter Percival	Atlanta
Greene, Asbury Broadus	Wayside
Greet, Loui	Gadsden, Ala.
Griffin, Noyce Loric	Rocky Face
Griggs, James Robert, Jr.	Marietta
*Hahn, Edward William	Charleston, S. C.
Haire, James Monroe	Dunnellon, Fla.
Hall, Emory Day	Savannah
Haller, Karl Herman	West Palm Beach, Fla.
*Hamilton, Sherry McAuley	Dalton
Harris, Arthur William	Savannah

Register of Students, 1922-1923

NAME	ADDRESS
Harwell, Ernest Willie	East Point
Hauenstein, Rudolph Ferrill	Hattiesburg, Miss.
Henley, Frank	Atlanta
Henry, James Skelton	Atlanta
Herin, Thomas Davenport	Miami, Fla.
*Hiers, Jackson Brantley	Miami, Fla.
Higdon, James Jackson	Atlanta
Higginbotham, Elliott Francois, Jr.	Brunswick
Hill, Joe James	Lake Wales, Fla.
Hill, William Farris	Hartwell
Hill, William Meriwether	Washington
Hinde, Marion Kelley	Atlanta
Hines, Emmett Womack	Milledgeville
Hiscox, David Church	Atlanta
Hodge, Edwin Walsh	Ruston, La.
Hollberg, Charles Frank, Jr.	Senoia
Howell, Homer Augustus	Augusta
Hudgins, Boutwell	Atlanta
Hunt, Alexander Trotter	Hodge, La.
Hutcheson, Robert Henley	Douglasville
Jaeger, Henry John	Florence, S. C.
Jenks, Emory Lee	Decatur
Jennings, Joe Leslie	West Point
Jett, William Starke, Jr.	Memphis, Tenn.
*Johns, William Benjamin	Hawkinsville
Johnson, Charles Everest, Jr.	Wilmington, N. C.
Kanner, Israel Herman	Sanford, Fla.
Keen, James Lem, Jr.	Brewton
Kelley, Tip	Atlanta
*Kennedy, Clyde Marion	Birmingham, Ala.
Kight, Theodus	Macon
*Killen, John Timothy, Jr.	Macon
Kimble, Francis Marion, Jr.	Poulan
Kirkwood, Tom Adams	Bennettsville, S. C.
Kohlruss, Christian Frederick	Augusta
Krauss, Willard Webster	Brunswick
Latham, Joseph Gault, Jr.	Atlanta
Leaphart, Benjamin Franklin Perry, Jr.	Columbia, S. C.
LeCraw, Arthur Engstrom	Atlanta
Leppert, James Helland	Atlanta
Linch, William Eric	Flovilla
Little, Andrew Jack, Jr.	Augusta
*Longley, Frank Rogers	Chattanooga, Tenn.
Lowe, John Fletcher	Washington
Lyman, William Paul	Montevallo, Ala.
Malone, Rogers Woods	Macon
Manning, Frank Wyatt	Smyrna
Marshall, Marsden Laws	Meridian, Miss.
Martin, Roy Lamar	Atlanta
Matson, Ray McKinley	Citronelle, Ala.
Mattox, Robert Hendrick	Hastings, Fla.
Maxwell, Palmer McDougal	Calvary
McBride, George	Newnan
*McCall, Russell Lawton	Ogeechee
McClellan, Francis Riggs	Waycross
McClure, John Newton	Norcross

Georgia School of Technology

NAME	ADDRESS
McClure, Lee Cecil	Tampa, Fla.
McDonough, John Joseph III	Savannah
McGee, Herbert Searcy	Juliette
McGee, Joe Will	Atlanta
McIntyre, John Franklin, Jr.	Pine Bluff, Ark.
McIver, Roderick Stewart	Greenville, S. C.
McKinney, Robert Williams	Chattanooga, Tenn.
McMurray, Charles Payne	Atlanta
Mealor, William Theodore	Gainesville
Merritt, Edward Hayes	Macon
Miller, Henry Grady	Calhoun
Milner, Thomas Christian	Cartersville
Minchener, Calhoun Emmett	Atlanta
Mitchell, Walter Marshall	Tifton
Moore, Alexander Ross	Blanch, N. C.
Moore, Donald Cameron	Atlanta
Moore, Horace Alexander	Carlton
Moore, Lauriston Greene, Jr.	Jacksonville, Fla.
Morgan, Edmund Richards	Macon
Moses, William, Jr.	Columbia, Tenn.
Moss, Thomas Strong	Athens
*Murdaugh, Josiah Putnam, Jr.	Bartow, Fla.
Murrah, Edward Pope	Columbus
Myers, Arthur Reuben	Atlanta
*Neblett, Robert Stratton	Coriscana, Texas
Nichols, Donald Gordon	Savannah
Nolen, James Turner, Jr.	Middletown, Tenn.
O'Connor, Benjamin James	Kibbie
Oliver, Rudolph Stewart	Plains
Parker, Spotswood Randolph	Henderson, N. C.
Parker, William Lamar	Thomasville
Patterson, Jack Watkins	Atlanta
*Patterson, Karl Moore	Harrisonburg, Va.
Pepper, Hooker Earl	Belzoni, Miss.
Perry, Leo Kenneth Robins	Atlanta
Perryman, Arthur William	Atlanta
Phillips, Dexter Wilson	Ocala, Fla.
Phillips, William Russell, Jr.	Atlanta
Porter, George Homer, Jr.	Atlanta
Povoa, Genavra de Menezes	Brazil
Powell, Charles Ernest	Atlanta
*Pritchett, Edward Crawford	Atlanta
Pritchett, Leslie Cornelius	Atlanta
Prout, Harry Willis	Naval Base, Va.
Quallins, George Andrew	Atlanta
Quinn, Thomas Wallace	Atlanta
Rather, Charles Pratt	Tuscumbia, Ala.
Reed, William Thomas	Portsmouth, Va.
Richard, Ernest Camp	Miami, Fla.
Richardson, William Wightman, Jr.	Washington, D. C.
Rittenbaum, Alec	Atlanta
Ross, William Alexander, Jr.	Oak Grove, La.
Rountree, George Perry	Summit
*Rourke, John Wescott, Jr.	Savannah
Rush, Lloyd Kelso	Bemis, Tenn.
Sanders, Thomas Foster	Swainsboro

Register of Students, 1922-1923

NAME	ADDRESS
Saussy, Charles Walker, Jr.	Savannah
Saxon, Francis Amory	Augusta
Seward, Charles Mitchell	Atlanta
Shelton Hailey Woodward	Mitchell
Shephard, Charles Gates	Macon
Shewmake, John Troup	Dublin
*Sibley, William Augustus Longstreet	Milledgeville
Sinclair, Duncan	Moultrie
Skannal, Henry Lloyd, Jr.	Shreveport, La.
Skelton, Clarence Cunningham	Irvington
Smith, Archibald Yarbrough	Miami, Fla.
Starbird, Harry Vane	Apoka, Fla.
Staton, Albert Hammond	Atlanta
Stephens, Curtis Flournoy	Renfroes
Stokes, Fred Ricker	Covington
Stone, Daniel McQuigg	Chattanooga, Tenn.
Stone, James Howard	Carrollton
Sullivan, Edgar Scamy	Atlanta
Sutton, James Montroville	Memphis, Tenn.
Tappan, Lee Marvin	Atlanta
Teague, Penrose Terrett	Augusta
*Tennison, Alfred Austin	Texarkana, Ark.
Thomas, Earl Gordon, Jr.	Kirkwood
Thompson, George Albert, Jr.	White Plains, N. Y.
Tidwell, Hamilton Aurelius	Atlanta
Torbett, Joseph LaFayette	Columbus
Tumlin, Terrell Harris	Decatur
Vaughan, William Harry, Jr.	Clarksdale, Miss.
Verdery, Marion Crawford	Augusta
Vickery, George Lowery	Highlands, N. C.
Walker, Richard Ernest, Jr.	Brunswick
Watkins, Thomas Harlan	Decatur
Watson, Thomas Herbert	Whitmire, S. C.
*Watters, Joseph Thaddeus	Hermitage
*Weeks, Howard Raymond	Abbeville, S. C.
Welch, Houston Longino	Collins, Miss.
Wells, Bert Harden	Kissimmee, Fla.
Wells, Codie Dean	Bowie, Texas
Weston, Clement Walker	Logtown, Miss.
White, Boyd Franklin	Mableton
Whitelaw, Francis Edward	Charleston, S. C.
Wilde, Charles Thompson	Jackson, Tenn.
Wilkinson, James McClellan	Savannah
Willingham, Richard Furman	Atlanta
*Wilson, William Lewis	Thomasville
Wilton, Henry Wilchinski	Macon
Worley, Ben R.	Elbridge, Tenn.
Wyatt, Ira Eugene	Columbia, Miss.

JUNIOR CLASS

Abrey, Earl West	Osceola, Ark.
Adams, William G.	Asheville, N. C.
*Adamson, Cecil Franklin	Savannah
Alkens, Kenneth Lewis	Atlanta
Albright, James Gerald	Atlanta

Georgia School of Technology

NAME	ADDRESS
Alexander, William Bellamy	Columbus
Alford, James McRae	Bonifay, Fla.
Allen, Laurens Kennedy	Clayton, Miss.
Allen, Walter Hames	Greenville, S. C.
Alley, John Hamlin	Nacoochee
Allison, Harry Richard	Asheville, N. C.
Allman, John Iverson	Hartwell
Almand, Harold	Conyers
Amorus, William Williams	Marietta
Anderson, Vernon Lyle	Fort Pierce, Fla.
*Anton, George F.	Atlanta
Armstrong, John Randolph	Albany
Attridge, Oliver Clifford	Augusta
Averett, James Eli	Columbus
*Bahrt, Carl William	Tampa, Fla.
Baker, Arthur Branch	Macon
Ball, Fred M.	Albany
Banner, Earnest Kellner	Ft. Worth, Texas
Barro, Juan Segura	Cuba
Barton, Hertwell Paul	Americus
Batts, David Andrew	Elm City, N. C.
Baum, John Pinson	Atlanta
Beard, Dan M.	Bienville, La.
Beasley, Clarence Fletcher	Huntsville, Ala.
Beatty, Charles Mayhew	Memphis, Tenn.
Bell, Thomas Eliot	Richland
Benton, Arthur Ossian	Fitzgerald
Betts, Oscar Leon, Jr.	Rome
Blackwell, William Pell, Jr.	Lafayette
Blakey, Lawrence Millard	Atlanta
Booth, John Hannah	Atlanta
Bozarth, Walter Fortiner	Williamsburg, Va.
Bradford, Ralph J.	Atlanta
Brantley, Roderick Stone	Boston
Brasfield, Charles Theodore	Natchez, Miss.
Bratton, Andral	Atlanta
Britt, William Oslin	Thomaston
Brodnax, Benjamin Brook	Walnut Grove
Brodnax, George Hamilton, Jr.	Hapeville
Brooks, Lyle Arthur	Atlanta
Broughton, John Jackson	Pinewood, S. C.
Brower, Milleg Hendrix	Atlanta
Brown, Joe Davis	Cochran
*Brown, John H. Jr.	Louisville, Ky.
Brown, Thomas Gordon	Wilkesboro, N. C.
Bryan, Frank Conrad	Kissimmee, Fla.
Bullock, Edward Stanley	Kissimmee, Fla.
Burk, Jesse Haywood	Atlanta
Busbin, Thomas Edgar	Fayetteville
Caldwell, Horace Golden	Kelso, Tenn
Carleton, Finis Ewing, Jr.	Macon, Miss
Carmichael, J. R.	Jackson
Carroll, Alfred Lindsey	York, S. C.
Cary, George Rives	Sparta, S. C.
Cash, William Henry	Chattanooga, Tenn.
Cauldwell, Edmond Perry	Atlanta

Register of Students, 1922-1923

NAME	ADDRESS
Clanton, Darwin Windell	Swainsboro
Cleveland, Arthur Lee	Atlanta
Cole, Julian Otis	Atlanta
Collins, Clarence Grady	Warrior, Ala.
Colon, Cleo M.	Gibbsland, La.
Conkling, Frederic Everett	Atlanta
Cook, Robert Frederick	Oglethorpe
Cooper, Robert L.	Arlington, Tenn.
Costley, Edgar M.	Atlanta
Cox, Burns Caldwell	Atlanta
Cox, John J. Jones	Waynesboro
Crowell, Henry Borom, Jr.	Columbus
Cunningham, Edward Fairley	Savannah
Cureton, William Clay, Jr.	Rising Fawn
Daniel, James Fleming, Jr.	Anderson, S. C.
Daniel, Julian Turk	Columbus
Daniel, Milton Jones	Griffin
Daniell, Wilson Forrest	Beaumont, Tex.
Darling, Edward Lee	Blackshear
Daves, Pinckney Gibson	Cartersville
Davis, Allen H.	Byhalia, Miss.
Davis, Harry Lilly	Magnolia, Miss.
Davis, Paul R.	Madison, Ala.
Davis, William Crouch	Atlanta
Deadwyler, Corlyss Lucius	Elberton
DeBardleben, William Joseph	Atlanta
Deering, John Richard, Jr.	Atlanta
DeFore, Walker King	Macon
*deJarnette, John Reese	Norcross
Denicke, Clarence, Jr.	Macon
Denny, Richard Alden	Rome
Derry, Henry Prentiss, Jr.	Macon
Dickenson, George Leroy	Bainbridge
Didschuneit, Ralph Willard	Atlanta
Dodd, Harry Washington	Russellville, Ark.
*Donaldson, Malcom Rhett	Mt. Pleasant, S. C.
Donalson, John Munnerlyn	Blakey
*Dorn, Chauncey Everett	Atlanta
Dorough, Walter Pate, Jr.	Atlanta
Dorsey, Angus B. C.	Atlanta
Douglass, William Osborne	Atlanta
Earnest, William Mark	Atlanta
*Eastman, Wilson Hume	Atlanta
Eckels, Jerome Watson	Atlanta
Edwards, Allan Greer	Marietta
Ellington, Joseph Tilden	Oxford
England, John Austin	Bessemer, Ala.
Enloe, Louis	Atlanta
Enloe, Scroop Wesley, Jr.	Dillsboro, N. C.
Espedahl, Kaare S.	Daytona, Fla.
Exley, Frank Mortimer	Savannah
Fant, Joseph MacJunkin	Santuck, S. C.
*Fargason, John Thomas, Jr.	Memphis, Tenn.
Farmer, John L.	Savannah
Fenn, William Cotton	Dothan, Ala.
Ferdon, Emory Mayo	Crestview, Fla.

Georgia School of Technology

NAME	ADDRESS
Picken, John Francis	Atlanta
Piege, Stanley Lyon	Atlanta
Field, Richard Dudley	Marietta
Fincher, Sanford Edwin	Atlanta
Finkelstein, Joe	Atlanta
*Fort, Ernest Arlington	Lumpkin
Fortson, Howard Anthony	Augusta
Fountain, John Walter	Atlanta
Franklin, Graham	Tennille
Freeman, Donald Mix	Atlanta
Freeman, Herbert Spencer	Lemon City, Fla.
Freeman, William Parker	Atlanta
Frye, Claire A.	Cushing, Okla
Garcia, Santiago G.	Havana, Cuba
Gardner, George Cullen	Atlanta
Gaskins, Ernest	Willacoochee
George, Luther Clifton	Golden, Miss.
Gibson, William Webster	Thomasville
Glass, Herman Alton	Atlanta
Glover, Albert Kent	Charlotte, N. C.
Goldsmith, William	Greenville, S. C.
*Goodburn, Robert Armstrong	Miami, Fla.
Gordon, Meyer Harry	Macon
Gore, Calvin Ward	Wilmington, N. C.
Gore, Daniel Jackson	Wilmington, N. C.
Gouge, Dexter Thomas	Unicoi, Tenn.
Granath, Iver Henry	Atlanta
*Gregg, Joel Hardin	Lyndon, Ky.
Gunn, Donald	Rome
Hallenbeck, Charles William	Fredona, N. Y.
*Halsall, Leroy Winfield	Charleston, S. C.
Hammond, Brett Roberts	Rome
Hammond, Edward Carol	Atlanta
Hansell, Haywood Shepherd, Jr.	Fort McPherson
Hardin, Ira Hamilton	Atlanta
Harris, James Oliver	Carrollton
Hartford, William Donald	Decherd, Tenn.
Hartman, William Arthur	Atlanta
Harvel, Herbert Dail	Delray, Fla.
Hays, Robert Lee, Jr.	Muskogee, Okla.
Heath, Cornelius Elliott	Augusta
Hendricks, Charles Ellison	Sardis
Hendricks, J. Walter	Sardis
Henley, Richardson Leonard	Savannah
Herring, Holbrook Estill	Tifton
Hill, Harold Nelson	San Antonio, Texas
*Hill, Ralph Lenton	Dawson
Hillbrath, Arthur Speir	Atlanta
Holland, Archibald Dinsmore	Atlanta
Holleman, Carlyle	Atlanta
Holmes, James Capers	Woodbury
Honour, John Welsby	Atlanta
*Hubbard, George Anderson	Leda, Va.
Hull, Fred Marcus	Rockingham, N. C.
Hume, Walter Witsell, Jr.	Rome
Hunter, William	Atlanta

Register of Students, 1922-1923

NAME	ADDRESS
Hussey, Edward Orvill	Fitzgerald
Inman, Walker Patterson	Augusta
Jacobus, Theodore Carl	Tampa, Fla
*Johnson, Cyril Nathaniel	Egan
*Johnson, Cecil Patrick	Columbus
Johnson, Franklin Jackson	Columbus
Johnson, James Thomas	Montevallo, Ala.
Johnson, Louis Marion	Columbus
Johnston, Claude Virgil	Amite, La.
Johnstone, Rudolph Gordon	Winnsboro, S. C.
Jones, Edwin Grey	Florence, S. C.
Jones, George Gibbons	Florence, S. C.
Jones, William Roy	Bainbridge
Kaylor, Wesley Mills	DeSoto
Keenan, William Francis	Atco
*Keller, Milton Leon	Brunswick
*Kelly, Fred Griffin, Jr.	Ensley, Ala.
Kendrick, John William	Gaffney, S. C.
Kidd, Jefferson Ernest	Ruston, La.
Kinard, Henry Bennett	Epworth, S. C.
King, Wilbur B.	Wilmington, N. C.
*Kirchik, David Julius	Key West, Fla.
Knighton, Albert C.	Cuthbert
Kunz, Corbin Henry	Atlanta
Kyle, Reuben, Jr.	Columbus
Lambert, Gray	Lasca, Ala.
Lane, Thomas Gantt	Macon
Law, Fraser Carolyn	Winder
Lefkoff, Wolf	Atlanta
Levy, Lionel Koppel	Augusta
Lide, Brooks Smith	Meridian, Miss
Lide, William David	Kirkwood
Link, James Allen, Jr.	Atlanta
Lockwood, Charles Pelham	Columbus
Lowry, Albert Brooks Shide	Atlanta
Luehrmann, Arthur W.	New Orleans, La.
Lumry, Theron Welty	Carson, La.
Lynn, James Herman	St. Augustine, Fla.
Lyons, Charles Albert	Harlan, Ky.
MacDougall, Robert Leak	Philadelphia, Pa.
Marlowe, John Franklin	Pendegrass, Ga.
Martin, William Henry, Jr.	Sheffield, Ala.
*Matheson, Kenneth Gordon, Jr.	Philadelphia, Pa.
Mathews, John Francis	Quitman
Maynard, Chester	Winder
McCarrell, Thomas Moore	Charleston, S. C.
McDonald, James Milburn	West Palm Beach, Fla
*McDowell, Virgil Enlow	Dawson
McElrath, John McDowell	Macon
McIntosh, William McPherson	Elberton
McKee, George Sterling	Midland
McWhorter, William Troy	Atlanta
Meadows, Edgar Harold	Homer, La.
Means, Jesse Embree	Atlanta
Merritt, Edward Graham	Atlanta
*Miller, John, Jr.	Newport News, Va.

Georgia School of Technology

NAME	ADDRESS
Miner, Joe Watters	Hermitage
Minor, John Aubrey	Macon
Mitchell, Thomas Howard	Sandersville
Mooney, Charles Howard	Atlanta
*Moore, William Alvin	Atlanta
Morris, Richard Bush	Atlanta
Morton, Allan Benton, Jr.	Atlanta
Mott, William H.	Butler
Murphey, Thomas Milledge	Barnesville
Murray, John Beattie	Shelby, N. C.
Myers, Elbert M.	Atlanta
Narmore, Philetus B.	Grand Bay, La.
Nash, Francis Marion, Jr.	Atlanta
Neese, Paul Mathews	Marietta
Neighbors, George Jefferson	Cleburne, Texas
Neilson, Alan Vanhook	Oberlin, La.
Newton, George David	Fayetteville, N. C.
Noble, Walter Barnes	Mobile, Ala.
*Nolen, George Dan	Middleton, Tenn.
North, Allen Johnson	Hampton
North, Henry Martyn	Augusta
Northen, Charles Swift	Atlanta
Northern, Karl Whitsell	Chattanooga, Tenn.
Ogden, Samuel Frederick	Sulligent, Ala.
Osborne, Henry Pitchford, Jr.	Lavonia
Parkis, Donald Meier	Johnson City, Tenn.
Parrott, Harold LeRoy	Fitzgerald
Patton, Leslie Karr	Atlanta
Paul, Phillip Sherwood	Dallas, Texas
Pearson, Charles, Jr.	Atlanta
Perry, Marion Glass	Center Hill, Fla.
Phipps, Charles Albert	St. Petersburg, Fla.
Pitts, Lewis Gordon	Cedartown
Powell, Cecil Weaver	Fitzgerald
*Pritchard, Frederick Charles	Memphis, Tenn.
Pudney, Lewis Earl	College Park
Ramsey, Cecil Henry	Albany
Reese, Edward Lucius	Ducktown, Tenn.
Reeves, Henry Lewis	Chattanooga, Tenn.
Reeves, James Leak	Madison
Reilly, Frank Ward	Chattanooga, Tenn.
Rich, Charles Franklin	Wilmington, N. C.
Richards, Wilfred A.	Washington
Rikard, Murray Wheeler	Newberry, S. C.
Riley, George Green	Americus
Ripley, Allen Weeks	Kirkwood
Robbins, Gordon Lee	Searcy, Ark.
*Robert, Henry Cooke, Jr.	Atlanta
Roberts, Hugh Rivere	Savannah
Roberts, Philip Taylor	Montgomery, Ala.
Roberts, Walter William	Atlanta
Robertson, Delmar Darrin	Atlanta
Robey, Curry Stewart	Pineora
Rohrer, Jay Edwin	Fitzgerald
Rosser, George Pulliam	Atlanta
Rozier, Harold Francis	Sparta

Register of Students, 1922-1923

NAME	ADDRESS
Rumble, Alfred Reid	Macon
Sanford, James Warren	Augusta
Santamaria, Ildefonso	Havana, Cuba
Saunders, James Edmonds	Courtland, Ala.
Selser, Samuel Gourrier	Alexandria, La.
Seyle, George Francis	Savannah
Shackleford, Augustus Gustavus	Birmingham, Ala.
Shaw, Frank Kehrner	Atlanta
Shaw, Julius Clarence	Cartersville
Shepard, Walter Thomas	Atlanta
Sickel, William Edward	Savannah
Silvasy, John Eugene	Youngstown, Ohio
Silverthorn, Lee James	Girard, Pa.
*Skinner, Eugene Lafayette	Gretna, La.
Smalley, Frank Winthrop	Savannah
Smith, Julian Earle	Reidsville, N. C.
Smith, Paul Russell	Chattanooga, Tenn.
Smith, Richard Yeadon	Brunswick
*Snelling, Richard Jackson	Pinehurst
Snyder, Milton Allan	Atlanta
Snyder, Sampson	Bastrop, La.
Spitler, Stephen VanRenssalaer	Atlanta
Stark, Oliver Porter, Jr.	Russellville, Ark.
*Staton, John Curtis	Atlanta
Steil, Arthur	Fernandina, Fla.
Stevens, Atlee Foster	Meigs
Stevens, Walter Chandler	Carlton
Stewart Warren Askew	Atlanta
Stowitts, Emory Voorhees	Richmond, Va.
Stringer, Thomas Frank	Columbus
Summers, Clay Belknap	Asheville, N. C.
Tanner, Fred Lorenzo, Jr.	Atlanta
Taylor, James Herbert	Atlanta
Thomas, John Scott	Rocky Mount, N. C.
Thompson, Nenian Cartwright	Huntsville, Ala.
*Thompson, Robert Standish	East Point
Thornton, Guy Parker	Atlanta
Thurmond, James Dennis	Senola
Tippetts, Ernest Franklin	St. Petersburg, Fla.
Tupper, Noland	Atlanta
Turner, Cornelius Jasper	Cedartown
Turner, Herman Epps	Bradentown, Fla.
Turner, Nathaniel	Macon
Usry, Joseph Alexander	Dearing
VanWinkle, Edward King	Atlanta
Vick, Cecil Bruce	Seaboard, N. C.
Waldrup, Ray	Laurel, Miss
Walsh, Frank Ogden, Jr.	Atlanta
Walthall, Edgar Carruth	Atlanta
Watkins Benjamin Edmund	Indian Spring
Watkins, Robert Cameron	Atlanta
Webb, Richard Slade	Atlanta
Weems, James Woodruff	Rome
Weir, William Hugh	Chester, S. C.
Wells, Walter Fulmer	Newberry, S. C.
Welsh, Thomas Ambrose	Savannah

Georgia School of Technology

NAME	ADDRESS
*Westbrook, William Love	McComb, Miss
Wethington, Richard Wayne	Pensacola, Fla.
Whelchel, Lee	Ashburn
White, Roy Enoch	Atlanta
*Whitfield, John James, Jr.	Hawkinsville
Whyte, Carl B.	Little Rock, Ark.
Wikle, Eugene J.	Atlanta
Wilhelmi, Richard Otto	Grand Bay, Ala.
Williams, William Alexander	Atlanta
Willson, Robert Saunders	Lyons
Winstead, Philip Canon	Mullins, S. C.
Woodruff, Allen Gurney, Jr.	Savannah
*Woolford, Frank Reardon	Little Rock, Ark.
Worke, Robert Hughes	Nashville, Tenn.
*Wynn, George McElveen	Atlanta
Yon, Terrell Higdon	Pensacola, Fla.
Yon, Waymon Elbert	Anderson, S. C.

SOPHOMORE CLASS

Alexander, Carl Lawton	Macon
*Almond, Alexander Pearson	Elberton
Anderson, Charlie Washington	Trion
Anderson, George Taylor	Johnson City, Tenn.
Anderson, Marion H.	Madison, Fla.
Andrews, Walter Holleman	Atlanta
*Arenson, Abe	Macon
Arwood, Ernest Dennis	Draper, N. C.
Athanason, Nicholas Arthur	Augusta
Awtrey, Reginald Stacey	Acworth
Ball, Russell Lamar	Albany
Banks, Frank Lee	Senoia
*Bansley, John David, Jr.	Atlanta
Bardwell, George Estes	Atlanta
Barnett, William Ramsen	Pineville, N. C.
Barr, Tandy Leigh	Washington, D. C.
Bartlett, Allen Lyman	Atlanta
Bartow, Paul Lockwood	St. Petersburg, Fla.
Bates, Leonard Earl	Waycross
Bean, Charles Lester	Atlanta
Beck, Edward C.	Mobile, Ala.
Beck, Louis Richard	Atlanta
Bell, DeLamar Turner	Sandersville
Bell, Joseph Terrell	Griffin
Bellah, Levi Talmadge	Stockbridge
*Benson, Otto	St. Marys
Berry, Roy Claude	Gibbsland, La.
*Betts, Robert Huson	Bostwick
Bilford, James Stuart	Barboursville, W. Va.
Bivins, Roy Stephens	Americus
Blackman, Tom Sanders	Bloomington, Ill.
Blackmon, Hendley Napier	Macon
*Bloodworth, William Harold	Atlanta
Boazman, Arthur Bryant	Shreveport, La.
Body, Thomas Drew, Jr.	Atlanta
Bogle, Frank	Atlanta

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NAME	ADDRESS
Bond, Charles Allan	Royston
Bond, Stephen Pennington	Americus
Bowen, John Horace	Crawfordville
Boyd, Owen Dilliard	Douglasville
Boyle, Garry Aloysius	Savannah
Bozarth, Richard Vernon	Miami, Fla.
Bradley, Harry Pearce	Chattahoochee
Brannon, John Robert	Rome
Braswell, Samuel Eric	Atlanta
*Breithaupt, Charles Crathers	Natchez, Miss
Brewster, Philip Henry	Easom Hill
Britt, James Rosser	Atlanta
Brittingham, George Lee	Augusta
Brooke, George Washington	Atlanta
Brown, Charles Manley	Atlanta
Brown, Hoyt Cuthbert	Cornelia
Brown, Robert Lawson	Macon
Bryan, Charlie M.	Atlanta
Bryant, Eugene	Greenville, S. C.
Bufkin, Dan W.	Wesson, Miss.
Bullock, Henderson Carlisle	Tusculumbia, Ala.
Burke, Edward Lyndon	Washington
Busby, Terrell Alston	Ensley, Ala.
Caldwell, James Allan	Atlanta
Campbell, Edward Nelms	Morristown, Tenn.
Cannon, Charles Lewis	Birmingham, Ala.
Carlisle, Harry Lewis	Atlanta
Carnes, Ormond Mitchell	Atlanta
Carpenter, Starling Maxwell	Newnan
Carr, John Josiah	Waycross
Carter, Lenton Calloway	Gainesville
Cater, Franklin Edward	Meridian, Miss.
*Cef, Edgar Allen	Atlanta
Chandler, Benjamin Earl	Newberry, S. C.
*Chandler, Charles Frederick	Atlanta
*Chandler, George Albert	Barber, N. C.
Chandler, Sidney William	Barber, N. C.
Chapman, Howard King	Atlanta
Chapman, Richard Llewellyn	Chattanooga, Tenn.
*Cheatham, Cader Warren	Macon
Chester, William Fletcher, Jr.	Atlanta
Childs, Ernest Walker	Omaha
Clark, London Garland	Albany
Clark, Eugene Cleghorne, Jr.	Atlanta
Clifton, William Marvin	Palm Beach, Fla.
Cole, Louis Dugas	Madison
*Collier, Charles Franklin	Chattanooga, Tenn
Collins, Charles Dickenson	Miami, Fla.
Collins, Edwin Turner	Atlanta
Collins, John Belgrave	Niagara Falls, N. Y.
Conklin, Ralph Harold	Atlanta
Conover, Ralph Joy	Decatur
Cook, Lawrence Mason	Atlanta
Cook, Veazy Monroe	Atlanta
Cothran, Thomas White, Jr.	Greenwood, S. C.
Crawford, William Robert	Atlanta

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NAME	ADDRESS
Creighton, Robert Kilgo	Charlotte, N. C.
Crowther, John Alvan	Savannah
Cumming, Julian Brian	Rome
Daniel, Robert Gordon	Millen
David, Hugh Stanford	Cedartown
Davis, Albert	Savannah
Davis, Arnold Marion	Newberry, S. C.
Davis, James Scott, Jr.	Cave Springs
Davis, Noah Knowles	Atlanta
DeLay, George Raymond	Winder
*Desaussure, Richard Champion	Atlanta
Dickson, Carter Ogden	Dixie, La.
Dinsmore, Robert Melville	Atlanta
*Dobbs, Irving Sampson	Petersburg, Ill.
Dodd, Frank Jefferson, Jr.	LaGrange
Dodds, R. B., Jr.	Pinebluff, Ark.
Donaldson, Leslie Morgan	Jesup
Dowman, Walter Foote	Decatur
DuBose, Bascom Perryman	Cordele
Duggan, James Reynolds	Sparta
Dulaney, Robert Nat	Blountville, Tenn.
Dunklin, Edward Paul	Palatka, Fla.
Dunwoody, Howard Ross	Macon
Dunwoody, John Atkinson	Atlanta
Dunwoody, Robert Ralph	Macon
Durden, Collis Edward	Stillmore
*Durham, Albert Collins	Acworth
Edwards, Henry Coley, Jr.	Tampa, Fla.
Elder, Harold Osborne	Watkinsville
Elliott, Joe Black	Winnsboro, S. C.
Elsas, William Reinhardt	Atlanta
Epting, Harry Darby	Newberry, S. C.
Evans, Lee Arnold	Moreland
Evans, Neal Thomas	Woodville
Fagan, Thomas Easterlin	College Park
Fargason, Harry Fagan	Camp Hill, Ala.
Farnsworth, William Bethel	Atlanta
Ferguson, Nathan Norwood	Atlanta
Field, Paul Harmon	Dalton
Fischer, Walter Patrick	Atlanta
Fisher, William Henry	Memphis, Tenn.
Florence, Hugh	Hiram
*Floyd, Middleton Brawner	Chipley
Forester, George Chappell	Cairo
Forrester, Wallace Redmond	Leesburg
Fowler, William Thomas	Milledgeville
Freeman, Calvin Finley	Fairmont
Fuller, Bernard Bedon	Wadley
Gaines, John Samuel Marmon	Atlanta
Gamble, Slade Blount	Atlanta
Gardner, Emmett Forrester	Lumber City
Gaston, Matthew Homer	Jackson
*Gates, Louis Edwin	Bradentown, Fla.
George, John Emmanuel	Atlanta
Gibbs, Robert Shuford	Mars Hill, N. C.
Gilkeson, William Reginald	Summerville

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NAME	ADDRESS
*Givens, Augustus Carlisle	Tampa, Fla.
Glenn, John English	Decatur
Glisson, Frederick L.	Bainbridge
Godwin, Walter Hampton	Atlanta
Golding, Max Isadore	Atlanta
Goodwin, Winslow Copley	Marshallville
Grant, James Wallace	Rome
Graves, Donald G.	St. Petersburg, Fla.
Grayson, John Hugh	Blountsville, Fla.
Greeves, Walter Bruce	Beaumont, Texas
Grier, Robert Wallace	Atlanta
*Griffis, Paul McCurdy	Esom Hill
Griffith, James Coleman	Mayfield, Ky.
Gwyn, Childress Buckner	Moultrie
*Hall, Herbert Earle	Bayminette, Ala.
Hall, R. Stanley	Atlanta
Hall, Warner Wright	Decatur
*Hamilton, Clarence William	Columbus, Kansas
*Hamilton, William Floyd, Jr.	Corsicana, Texas
Hammond, Charles Kirby	Birmingham, Ala.
Hardage, William Thomas, Jr.	Atlanta
Hardigree, Ralph Raphael	Winder
Hardin, William Reeves	Macon
Hardwick, Garland Reeves	Atlanta
Harris, Frank Glenn	Atlanta
Harrison, Carl	Miami, Fla.
Harrison, John Phillips	Brunswick
*Harsch, Glenn Dale	Hot Springs, Ark.
*Hawkins, Louis Andrew, Jr.	Atlanta
Henderson, James Arthur	Hampton
Henderson, John Walston	Williamsburg, Va.
Hendrix, Flint Sommer	Aiken, S. C.
Hester, John Stephen	Demorest
Higgins, Kenton Bruce	Atlanta
Higgs, Sherwood	Atlanta
Hightower, Hilton Echols	Damascus
Hill, Charles Thomas	Chipley
Hines, Madison	Milledgeville
Hodges, Neil	Americus
Hogue, Benjamin Clifford	Americus
Holder, Albin Omberg	Atlanta
Holley, Harry Levan	Augusta
Holmes, Florence Frank	Columbus, Kansas
Holt, Walter Kelley	Lawrenceville
Horne, Carlos Hewlett	Fitzgerald
Howe, Donald Burton	Tallapoosa
Hudgens, John Nathan	Laurens, S. C.
*Huff, James Morton	Dalton
Hughes, Thomas Walter	Savannah
Hull, Arthur Dennison, Jr.	Rome
Hull, Finley Harper	Marion, Va.
Halsey, Howell Bateman	Memphis, Tenn.
Humme, John Wilson	Atlanta
Hutton, Herbert	Savannah
Hyer, David Burns, Jr.	Charleston, S. C.
Jackson, Wingate	Atlanta

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NAME	ADDRESS
Jacobs, Vonnice Lagree	Atlanta
James, Dow Deaking	Chattanooga, Tenn.
Jameson, William Campbell	Atlanta
Jenkins, Charles Marion	Monroe
Jensen, Charles	Huron, S. Dak.
Johnson, Clement Ole	Savannah
Johnson, Theodore Warren	Ludington, Mich.
Johnson, William Lawson	Griffin
Johnson, Francis Edward, Jr.	Savannah
Jolly, Clarence Lamar	Marietta
Jones, Fred	Atlanta
*Jones, Stephen Cornelius, Jr.	Jeffersonville
Justice, John Tilford	Columbia, Tenn.
Keene, James Albert, Jr.	Columbus
Keith, Gay Paul	Gay
Kelly, Jackson Leonard	Thomaston
Kelly, Patrick Gilham	Atlanta
Kennedy, John Payson, Jr.	Atlanta
Kent, William Harvey	Glenwood
Kilbourne, James Ferguson	Carrabelle, Fla.
Kilgore, Harold Woods	Jasper, Ala.
Kimball, Levi	Albuquerque, N. Mex.
King, John Ray	Lawrenceville
Knight, Joel James	Atlanta
Knight, James Lewis	Cartersville
Koblentz, Benjamin Ellis	Chattanooga, Tenn.
Krasnoff, Leo Isaac	Bishopville, S. C.
Kyser, Wilfred Denny	Marlin, Texas
Laird, Harold Eugene	Augusta
Lamb, Bronson Edmundson	Jacksonville, Fla.
Landers, Lamar Jackson	Atlanta
Lang, Jacob William	Savannah
Lanier, William Joseph, Jr.	Forrest City, Ark.
Lasek, Louis	San Francisco, Cal.
Latimer, Cecil	Decatur
Law, E. McIvor	Miami, Fla.
Law, William Fleming, Jr.	Augusta
Lay, James Chiles	Cartersville
Laycock, John K.	Baton Rouge, La.
*LeBey, Charles Andrew	Savannah
Lee, Elijah Butte	Leesburg
LeMay, James Wesley	Atlanta
Leverett, John Maston	Doerun
Lewis, George Allen	Monroe
Linder, James Wade	Vidalia
Little, Robert Slater	College Park
Locklin, Jack Griffith	Monroe
Lovett, Alexander H.	Atlanta
Lynes, Guy Bradley	Atlanta
MacDonell, John Richardson	St. Marys
Maddox, John Harris	Columbus
Marston, EH Frank	Columbus
Martin, Halley Watkins	Brunswick
Martin, Robert Beecher	Sheffield, Ala.
Martin, Robert Edgar	Nashville, Tenn.
Marye, Jack Nisbet	Atlanta

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NAME	ADDRESS
Matthews, Thomas Finley, Jr.	Woodland
Matthews, Vincent, Jr.	Athens
Mauldin, James Leonard, Jr.	Atlanta
Mayes, Mark Wilford	Fitzgerald
Mayo, Frank	Atlanta
McBrayer, Thomas Benson	Anderson, S. C.
McCamy, Robert Gardner	Dalton
McClintock, Robert	Lauren, S. C.
McConnell, Felton	Commerce
McCook, James William Emory	Little Rock, Ark.
McCrea, Thomas Russell	Tifton
McDaniel, Robert Bruce	Fairburn
McDonough, Thomas Joseph	Savannah
McElwee, James Frank	York, S. C.
McGarvey, Cormack Murray	Brunswick
McGavock, Hugh Kent	Max Meadows, Va.
McGinty, Luther Jackson	Atlanta
McGlone, Anthony John	Atlanta
McKenzie, Francis C.	Atlanta
McKew, Harold Arthur	Rome
McMurray, Hugh Dorsey	Lavonia
McWhorter, William Franklin	Chattanooga, Tenn.
Meacham, St. John	Atlanta
Merry, Arthur Brian	Augusta
Merry, Guy Hamilton	Augusta
MeYere, Julian LaFayette	Atlanta
Mikell, Robert Phillips	Statesboro
Miles, Marion Lee	Atlanta
*Miller, Joe Albert	Cordele
Moore, Fred Becker	Macon
Moore, John Virgil	Cedartown
Moore, Panchen	Atlanta
Morgan, John Lucius	Brunswick
Morris, Harold Robert	Louisville, Ky.
*Mullenix, David Halsey	Macon
*Munger, Hamnett Pitzer	Atlanta
Munson, Russell Davies	Port Chester, N. Y.
Murphy, Charles Townsend	Union, S. C.
Murphy, John Ridgway	Louisville
Murray, Thomas Fortson	Elberton
Myers, John Alva	McMinnville, Tenn.
Nabell, Edward Gordon, Jr.	West Point
Nash, John Calvin	Union City, Tenn.
Nash, John D.	Stone Mountain
Newman, Francis Powell	Decatur
*Newton, Frank	Macon
Newton, Wesley Carl	Dothan, Ala.
North, Sam Leigh	Newnan
Northrup, Ben John	St. Petersburg, Fla.
Norton, Ben Cole	Boston
Norvell, David Fulton	Atlanta
O'Brien, Edward Denmark	Savannah
Oerting, Harold Valdemot	Pensacola, Fla.
Olsson, Albert W.	Atlanta
*Owens, Wilbur Dawson	Albany
Padgett, Ben Robert, Jr.	Decatur

Georgia School of Technology

NAME	ADDRESS
Page, Joe Henry	Byronville
Palmer, Joseph Israel	Thomasville
Palmisano, Joe	West Point
Papageorge, George Thomas	Atlanta
Parker, Andrew Ray	Yadkinville, N. C.
Parker Roswell James	Williamsport, Pa.
Patrick, Hendrick C.	Monroe
Patten, Lindsey Roy	Adel
Paulk, Dave Roberts	Brunswick
Peacock, Kirk Ladu	Miami, Fla.
Peddicord, Samuel Robert	Ft. Valley
Perkins, Henry Harvey	Lumpkin
Perrine, Dwight Eluib	St. Joseph, Mo.
Peters Harold Otis	Leesburg, Fla.
Petty, James William, Jr.	Marietta
Phillips, Bethel Rogers	Spartanburg, S. C.
Pierson, John Edmund, Jr.	Ripley, Tenn.
Pike, Henry Hunter	LaGrange
Poindexter, Thomas Gwyn	Elkin, N. C.
Poole, William Floyd	Winder
Potts, William Ralph	Commerce
*Prewitt, Matthew Maury	Atlanta
Price, Gordon Field	Atlanta
Prisant, Isadore Louis	Albany
Raine, Joseph Shelton, Jr.	Atlanta
Ramsaur, Elgin Daniel	Atlanta
Redwine, Harry Hutcheson	Fayetteville
Reed Raymon	Punta Gorda, Fla.
Regan, James, Jr.	Atlanta
Reid, George Garland, Jr.	Milledgeville
Reid, Hector Graystone	Mandarin, Fla.
*Roberts, Clifford James	Savannah
Roberts, Lindsey	Atlanta
Roberts, William Thomas	Fairburn
Robins, John Bradley	Sparta
Rockwell, Robert Beverley Habersham	Savannah
Rogers, Warren Osgood	Atlanta
Rooks, William Anthony	Savannah
Rosenblath, Phil Fred	Shreveport, La.
Rozear Sterling Price, Jr.	Atlanta
*Rubin, Ernest	Atlanta
Rucker, Louis Deidrick	Atlanta
Rundell, Jack Watson	Fort Valley
Rush, William Henry	Midway, Tenn.
Sale, Oliver Higgeson	Rayle
Sanders, Dickenson Holiday	Atlanta
Sanders, Jones Lloyd	Logansport, La.
Sanders, Marthame	Murfreesboro, Tenn.
Saunders, Frederick Daniel	Atlanta
Saussy, Hugh	Savannah
Scher, Sam Sigfried	Atlanta
Sessions, Lee Moultrie	Marietta
Seymour, John Henry, Jr.	Elberton
Shackelford, Pat Stevens	Lexington
Shonesy, Charles Aubrey	Atlanta
*Sibley, Alan Bowen	Milledgeville

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NAME	ADDRESS
Silverstein, Isadore	Mecklenburg, N. C.
Slade, Jesse Weyman	Zebulon
Smith, Bayard Martin	Dallas, Texas
Smith, Frank Heard, Jr.	Thomasville
Smith, Ralph Beach	Atlanta
Snead, John Harrison Wilder	Savannah
Snyder, John Bradley	Winnesboro, La.
Sowards, Clyde Curtis	Fort Springs, W. Va.
Spalding, William Francis, Jr.	Atlanta
Spengler, Charles William	Atlanta
Spooner, Duncan LeGrande	Atlanta
Spradlin, Andy	Fulton, Ky.
*Spurlin, Harold Morton	Union Point
Stakemiller, Donald Cyrus	Miami, Fla.
Stanley, Wilkins McCall	Dublin
Stebbins, Alvin Lloyd	Palmetto, Fla.
Stebbins, Charles Austin	Darien
Stephens, Hamilton Brown	Atlanta
Stephenson, James Martin	Covington
Stillwell Rhantson Baldwin	Savannah
Sumner, John David	Franklinville, N. C.
Sutton, Duff	Adel
Swain, John Edwin	Adairsville
Tanner, Gordon Burnett	Fairburn
Taylor, Robert Leland	Minden, La.
*Teepie, Frank Albert	Thunderbolt
Tenzel, Volf	Dewitt, Ark.
Tharpe, Mercer McCall	Moultrie
Thigpen, Hugh McGhee	St. Marys
Thompson, Wilford D.	Brasfield, Ark.
Thompson, Wesley Winthrop	Augusta
Thornton, James William	Atlanta
Transou, Charles Bowie	Atlanta
Turner, Lucius McDowell	Royston
Turner, William Homer Jr.	Atlanta
Underwood, Don Launcelot	Blakely
Underwood, Weldon Lewis	Marietta
Upson, Norris Ward	Lakeland, Fla.
Vance, William Calvin	Benton, La.
Veal, John Wesley	Roopville
Veltre, Frank Emanuel, Jr.	Atlanta
Waite, Albert Francis	Isle of Hope
Waldrop, James M.	Alexander, N. C.
Walker, Haines Kent	Whitney, Fla.
Wallace, T. J., Jr.	Americus
Walton, William Thomas	Harlem
Ward, John Powell	Cordele
Ward, Robert Cobb	Arlington
Waterman, Marcus Mills	Gainesville
Waters, Russell Eugene	Macon
Weaver, Arthur Vey	Natchitoches, La.
Webb, Walter Ray	Chattanooga, Tenn.
*Werner, August Frederick	Washington, D. C.
Wesley, John Wendell	Atlanta
Westall, Frank	Columbia, Tenn.
Whealler, John Anson	Atlanta

Georgia School of Technology

NAME	ADDRESS
Wheaton, George Henry	Griffin
White, Andrew Gazaway	Cartersville
White, Clarence Julian, Jr.	LaGrange
White, John Daniel	Tifton
Whitley, Marvin Guy	Fitzgerald
Wilkins, Jack Grant	Atlanta
Williams, Jim Booth	Monroe
Williamson, W. L., Jr.	Commerce
Wilson, Cato	Leslie
Wilson, Norvell Elliott	Atlanta
Winkler, Thomas, Quenton	Biloxi, Miss
Withers, Walter Spencer	Atlanta
Wood, Harry Frank	Dalton
*Wood, James Arthur	James
*Woodall, John Pye	Woodlawn
Woods, Don Edwin	Jackson
Woolwine, Woods Rayburn	Atlanta
Word, George L., Jr.	Atlanta
Wren, Herbert Benjamin, Jr.	Vivian, La.
Wright, Albert Mell, Jr.	Monroe
Youmans, John Winfred, Jr.	Lexsy

FRESHMAN CLASS

Aaron, Rollin Grady	Millen
Acton, Harold Thomas	Atlanta
Alford, Benjamin Alvin	Gloster
Albritten, Robert Newton	Ft. Collins, Col.
Allen, Dickson Randolph	Van Buren, Ark.
Allen, Lewis Houston	Charleston, Miss.
Allen, Wilson Frank	Macon
Allison, Guy Pryor	Americus
*Anderson, Walter Edwin	Casma, N. C.
*Anding, James Lambricht	Delhi, La.
*Archer, George Eddings	Key West, Fla.
Archer, William Berry	Sparta
Ashmore, Fritz Hoyt	Mt. Zion
Atkinson, Charles Dessau, Jr.	Atlanta
Attridge, Arch Angus	Dayton, Tenn.
Aycock, Thomas Benton	Gay
*Ayers, Sanford McNeill	Jefferson
*Badenhoop, August George Cord	Savannah
Bagg, Donald Crew	Little Rock, Ark.
Baker, Millard Huett	Omaha
Baker, Pearce Horne	Macon
*Ball, James Eugene	Atlanta
Barker, James William	High Point, N. C.
*Barrett, John Thomas	Ft. Smith, Ark.
Barrett, Julian Nicholas	Pampa, Texas.
Barron, Carter Tate	Clarksville
Bates, Dawson Blair	Decatur
*Beatty, Thomas Clyde	DeFuniak Springs, Fla
Bedenbaugh, Garnet Franklin	East Point
Bell, John William	Atlanta
*Bellinger, Frederick	New London, Conn.
Berger, Eddie	Atlanta

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NAME	ADDRESS
Bernath, Joseph	Atlanta
Bickers, Clifford W.	Chattanooga, Tenn.
Bickerstaff, James Henry, Jr.	Atlanta
Biddy, N. J.	Adairsville
Biggers, Clarence Ernest	Atlanta
Biggs, Harry Dennis	Dyersburg, Tenn.
Bird, Francis Collins	Atlanta
Bird, Robert L.	Chattanooga, Tenn.
Bird, Wilson Benjah, Jr.	Atlanta
Bishop, Albert Hamby	Marietta
*Bivins, Arthur Calhoun	Miami, Fla.
Black, Bryant	Dalton
Blasingame, Guy Charles	Moultrie.
Bledsoe, William J.	Lynnville, Tenn.
Boling, Joseph Edwards	Winston-Salem, N. C.
Bomar, James Crawford	Little Rock, Ark.
Bookhardt, Fred Barringer	Powder Springs
Boots, Melvin Houston	Meridian, Miss.
Borden, John C.	Williston, N. Dak.
Bostick, William Alexander	Van Buren, Ark.
Boston, Joseph Emerson	Atlanta
Boswell, Thomas Jefferson	Atlanta
Bottoms, Charles Benson	Atlanta
Bowen, Hugh Walker	Kirkwood
Bowman, Edgar Brewin	Aberdeen, N. C.
*Boyd, Spencer Wallace	Atlanta
Boyd, William Snowden	Stapleton
Bozeman, Franklin Eugene	Atlanta
Bracey, Wiley Carlisle	Dillon, S. C.
Brandt, Marion Henry	Florence, S. C.
Brattain, Joseph Hiram	Miami, Fla.
Brawner, George Henry	Columbus
Breedlove, Royce Adams	Campton
*Breen, William Hixon	Pensacola, Fla.
Bridges, Arval William	Winnsboro, La.
Brinson, John Carroll	Millen
Broach, Edward Stanley	Atlanta
Broach, Homer Harris	Campton
Broadhurst, Roland Sloan, Jr.	Americus
Brook, John Prescott	Alpharetta
Brooker, John Lake	Dalton
Brower, Hugh D.	Atlanta
Brown, Claude Joseph	Demorest
Brown, Edward Harold	Martin
Brown, George Sargent	Savannah
Brown, Joe Ernest	Dublin
*Brown, Marcus Johnson	Atlanta
Brown, Steve Marion	Cochran
*Brown, Webster Colburn	Chattanooga, Tenn.
Brown, William Merrell	Martin
Bryant, Henry Powell	Tallulah Lodge
Bryson, William Hinard	Savannah
Buchanan, Clayton Harris	Dalton
Buchanan, Howard Scheck	Monongahela, Pa.
*Burks, Clarence Edward	Hapeville
Burns, James C.	Greenwood, S. C.

Georgia School of Technology

NAME	ADDRESS
Burt, Donald Duane	Atlanta
Butterfield, William Millsaps	Brookhaven, Miss.
Cagle, Jacob Washington	Poplarville, Miss.
Caldwell, Horace Galloway	Atlanta
Callahan, William Paxton	Gibbsland, La.
Campbell, Curtis Rogers	Crossett, Ark.
Canon, Harry James	Atlanta
Carlton, James E.	Atlanta
Carmichael, William Lawson	Cordele
Carroll, William Rainey	York, S. C.
Carter, Herbert Hilliard	Albany
Casteel, John Bridges	Atlanta
Cate, Reynolds Newman	Terrell, Texas.
Chapman, Joseph Poole	Lithonia
Chapman, Thomas Gibbs	Charlotte, N. C.
Chason, Aubrey Thelmon	Rabun Gap
Chatham, Oran Legrae	Cornelia
Cheshire, Joseph Bennett	Moultrie
Chesnut, Thomas Alton	Atlanta
Christian, Thomas Bernard	Jacksonville, Fla.
*Clatlin, James Moreland	Cleveland, Ohio.
Clark, William Ross	Quitman
Clarke, Daniel Canguy	Atlanta
Coates, Harold Anderson	Tampa, Fla.
*Cochran, James Seldon	Norcross
Cohen, Isaiah	Atlanta
Cohen, Robert Marion	Bainbridge
Cole, Frank Barton	Newnan
Cole, Harry	Birmingham, Ala.
Cole, Kenerly O'rear	Sharpsburg
*Collins, John Henry	Savannah
Comfort, James Fleming	Marietta
*Conn, John Hardeman	Macon
Cook, Eldridge Baxton	Reynolds
Cook, Francis Estill	Thomson
Cook, Marcus Alonzo	Columbus
*Cooper, Green Flavie	Columbia, S. C.
Cope, John Lovell	Savannah
*Copeland, Arthur Joel	Jackson
Copeland, Luther W.	Clarksville, Ark.
Cowart, Calvin Roy	Donaldsonville
Cowart, Walter James	Donaldsonville
Cowle, Angus Edward	Eustis, Fla.
Cox, Fred Harter	Cordele
Cox, John Wright	Atlanta
Crabb, James Edwin	Rockmart
*Crenshaw, Wendell Paine	Aberdeen, Miss.
Crew, James	Americus
Cross, Benjamin Merryman	Atlanta
Crouch, Thomas Alexander, Jr.	Ocilla
Crowder, Christopher Render	Bullochville
Crowder, William Napoleon	Marietta
Culbreth, Cecil C.	Wichita Falls, Texas.
Cummings, William Franklin	Lela
Dance, Samuel Webster	Eatonton
Daniel, Crawford Young	Atlanta

Register of Students, 1922-1923

NAME	ADDRESS
Daniel, Fred Adams	Atlanta
Daugherty, George William	Valdosta
Daves, Francis Marion	Cartersville
David, Exen	Cedartown
Davis, Hubert Holderby	Atlanta
Davis, John Archie	Bailey, Tenn.
Davis, John Pike	Miami, Fla.
Davis, McCamie Frank	Milledgeville
Dean, Joel Edward	Gordon
Dean, Marshal Pope	Norcross
Dee, Winfield Scott	Cliftonville, Miss.
Dews, Harry Phillip	Forsyth
Dial, James William	Monroe
Dickerson, Frank M.	Homerville
Dickerson, Warren Spencer	Homerville
Dillard, Richard Miles	Oxford
Donaldson, Carl Leon	Atlanta
Donaldson, Thomas Quitman	Atlanta
Draper, George Oran	Henryetta, Okla.
Drew, Walter Eugene	Preston
*DuBols Charles Merwin	Memphis, Tenn.
DuBose, Millard Marion	Macon
Duncan, George Luther	Atlanta
Dunn, Frederick Barfield	Cuthbert
Dunn, Jacob	Dublin
Dunnam, Albert Harper	Mer Rouge, La.
DuPre, William Anderson	Marietta
Durham, Broughton Grogan	Cumming
Durham, Clarence Lemuel	Hendersonville, N. C.
Durrett, Thomas Jackson	Cordele
Lambert, Herman Ovid	Chattanooga, Tenn.
East, Charles Preston	Pooler
*Edge, Arthur Brannon	Atlanta
*Edwards, Paul Marion	Atlanta
*Eichberg, Joseph	Atlanta
Emerson, Russell Watkins	Dixie
English, Joseph Elton	Ellabelle
Epperson, LeRol	Atlanta
*Epstein, Edwin Sigmund	Savannah
Estes, Joseph Thrash	Gay
Everhart, Wade Hampton	Decatur
Fair, William Richard	Columbia, S. C.
Farmer, Millard Courtney	Newnan
Farries, Ralph C.	Williston, N. Dak.
Fincher, Homer Douglas	Culloden
Fincher, Julius Malcolm	Roberta
Fincher, William Hiram	Mountville
Fisch, Howard William	Atlanta
Fitzpatrick, James William	Madison
Flanders, Clement Carroll	Bogalusa, La.
Fleming, James Thomas	Atlanta
Fletcher, Robert Frizzel	Murfreesboro, Tenn.
Flowers, Quin. Edmondson	Atlanta
Fluker, Robert Alvin	Thomson
Ford, Theodosius Bartow	Atlanta
Foster, Henry Burt	Monticello, Fla.

Georgia School of Technology

NAME	ADDRESS
Foster, James Clinton	Greenville, S. C.
Foster, Roger Cecil	Woodland
Fowler, George Boling	Milledgeville
Frain, William Joseph, Jr.	Savannah
Franklin, Samuel Jasper	Statesboro
Franklin, Selmon	Natchitoches, La.
Franklin, William Crumley	Atlanta
Fraser, Guy Adams	Clinton, S. C.
Frazier, Charles Rawson	Blakely
Gantt, Edward Quillian	Marietta
Garber, Isaac Calvin, Jr.	Jackson, Miss.
Garthside, George Henry	Key West, Fla.
Getzen, Rupert Guy	Pendergrass
Gilbert, Hal Tucker, Jr.	Perry
Gill, James Robert	Woodbury
Gilreath, James Wofford	Cartersville
Girardeau, Richard Bohun	Thomaston
*Glover, James Bolan	Marietta
Goff, Orion Keener	Thomasville
Goldman, Irving	Atlanta
Gooch, Benjamin Erasmus	Eatonton
Goodman, Thomas Hill	Knoxville, Tenn.
Goodner, Buford Miller	Cleveland, Tenn.
Gordy, William Lehman	Atlanta
Gould, Fred Stuart	Decatur
Graham, John Thomas	Atlanta
Graham, Robert Mills	LaCenter, Ky.
Grambling, James Albert	Atlanta
Grant, Albert Baim	Cordele
Graves, James Francis	Albany
Graves, Robert Maurice	Tampa, Fla.
Graydon, Stafford Worthington	Atlanta
Green, Lee Aaron	Atlanta
Green, Wallace James	Cornelia
*Gresham, William Ivan	Ashland, Miss.
Griffin, Charles Melvin	Villa Rica
Griffin, Hugh Volnet, Jr.	Albany
Griffin, Lawton Willingham	Eastman
Griggs, Frank Hunter	Meridian, Miss.
Gunn, Ernest Linwood	Jacksonville, Fla.
Gupton, Guy Winfred	Portal
Hahn, George Christian	Savannah
Halford, Marion Eugene	Augusta
Hall, John Cox	Albany
Hamby, Lewis Elvin	Greenville, S. C.
Hammett, Ralph Philmore	Toccoa
Hamrick, Neal R.	Atlanta
*Hankins, Decatur Davies	Savannah
Happoldt, Albert Stocton	Atlanta
Harbour, Talmon Wright	Decatur
Hardin, Edward James	Hampton, Va.
Hardin, Lewis Sage	Atlanta
Hardwick, James Carlton	Atlanta
Harlow, Marvin Vernon	Iron City
Harrington, Myron Charles	Philadelphia, Pa.
Harris, Albert Kenneth	Brevard, N. C.

Register of Students, 1922-1923

NAME	ADDRESS
Harris, Francis Bell	Decatur
*Harris, Hugh Courtney	Jacksonville, Fla.
Harris, Linton Ivey	Rome
Harris, Robert Hale	Arkadelphia, Ark.
Harris, Robert McCowen	Macon
Hartsfield, Olin Sanford	West Palm Beach, Fla.
Harty, Gerard Robert	Savannah
Haston, Gordon Charles	Albany
Hawes, Peyton Samuel	Elberton
Hayes, Robert Dudley	Camilla
Hazlehurst, Thomas Mortimer	Savannah
Heery, Clarence Wilmer	Atlanta
Heidt, Walter Sinclair	Tampa, Fla.
Helms, William Eldridge	Cochran
Hendricks, Fred Sommers	Cochran
*Henges, Frederick William	Savannah
Henry, Tom Wilson	Pampa, Texas.
Herrick, Frank Arlington	Red Wing, Minn.
Herring, Robert Lee	Grayson
Hill, Francis Marion	Atlanta
*Hill, Hines LaFayette	Nashville, Tenn.
Hill, Rufus Andrew	Dawson
*Hillis, Jacob Lewis	Girard
Hinman, Thomas Phillip, Jr.	Atlanta
Hipps, Clifford Leon	Hiram
Holcombe, Davis	East Point
Holland, Truman Monroe	Atlanta
Holliman, Carl Edwards	McIntyre
Hollingsworth, Keenan Eugene	Tampa, Fla.
Hollingsworth, Louis Castex	Statesville, N. C.
Hollingsworth, Osro Tucker	Valdosta
*Holmes, James Bright Morgan	Hernando, Miss.
Holmes, John Pharr	LaGrange
Hood, Robert Jackson	Atlanta
Horan, Tom Yancey	Dalton
Horton, Robert Price	McDonough
Howard, George Render	Columbus
Howard, Ross Hubert	Atlanta
Howard, William Carr, Jr.	Albany
Huggins, George Walter	Savannah
Hughes, Isaac Shepherd	Rupert
Huguley, Minter Jack	Macon
Huguley, Thomas Clinton	Atlanta
Huie, Malcolm Benjamin	Albany
Hunter, Charles Pinckney	Atlanta
Hurlburt, Harry David	Atlanta
Hurt, John Abram	Atlanta
Hutchings, Sheldon Clark	Quitman
Hutchinson, Thomas	LaGrange
*Hyman, Melvin	Darlington, S. C.
Irwin, Francis	Atlanta
Irwin, Thomas Jared	Sandersville
Ivey, Jasper West	Milledgeville
Jackson, Alonzo Church	Atlanta
Jackson, Cecil Andrew	Jacksonville, Fla.
Jenkins, Linn Hemingway	Alma

Georgia School of Technology

NAME	ADDRESS
Johnson, Ben Gray	Jackson
*Johnson, George Brooks	Albany
Johnson, Julius Caesar	Lithonia
Johnson, J. Leo	Bowersville
*Johnson, Marion Tietjen	Savannah
Johnson, Thomas Harold, Jr.	Chattanooga, Tenn.
Johnstone, Ray Corwan	Fitzgerald
Jones, Bailey Berthius	Harlem
*Jones, James Lewis	Gulfport, Miss.
Jones, Rube Coggins	Canton
Josel, Nathan A.	Darien
Kane, Robert	Rome
Keeler, George Henry	Marietta
Kehoe, Simon Peter, Jr.	Savannah
Keith, George	Gay
Keller, Downing Donald	Atlanta
Kelley, William Henry	Atlanta
Kellum, Medford Ross, Jr.	Ft. Myers, Fla.
Kelly, Henry Leigh	Birmingham, Ala.
Kendrick, Hyrell Smith	Dublin
Kendrick, Marcellus Eason	Atlanta
Kennedy, Peyre Gaillard	Spartanburg, S. C.
Kennedy, Tom Linchfield	Tampa, Fla.
Kersey, Wyatt D.	Kathleen
Kiker, John Ewing, Jr.	Americus
King, Byron Hill, Jr.	Atlanta
King, Clifton Percy, Jr.	Charleston, S. C.
Kinsey, Walter Frank	Savannah
Kirby, William Patton	Atlanta
Kirkland, Vernon Hampton	Vienna
Knox, Jack Herman	Waycross
LaCook, James Hurt	Sharkey, Miss.
Lambert, Herman Ovid	College Park
Landers, Elmo Washington	Atlanta
Lanford, Carl Clinton	Woodruff, S. C.
Langston, Edward Carol	Titusville, Fla.
Lanier, Moultrie Harrington	Monroe
Lathe, Warren Shorey	Adel
Laughlin, John Alvis	Atlanta
Launius, Jake Kelsey	Monroe
Law, Fred Bell	Atlanta
Lease, Daniel	Dublin
*Leffler, Abram	Savannah
*Leonard, Alvin Harvey	Milledgeville
Leslie, James Edward	Birmingham, Ala.
Lewis, John D.	Garfield
Lide, Millard Allston	Decatur
Ligon, Henry Wampole	Sumter, S. C.
Lindner, Frank Plato	Muskogee, Okla.
Lipsey, Victor Price	Wynne, Ark.
Little, Fulton Allen	Wadesboro, N. C.
Little, Leo William	Atlanta
Little, Trawn Hume	Waycross
Locke, Rogers	Dawson
Long, George	Gadsden, Ala.
Long, Oscar Waldo	Atlanta

Register of Students, 1922-1923

NAME	ADDRESS
Lott, William Thomas	Macon
Lowe, Ralph Augustus	Gray
Lowndes, William, Jr.	Savannah
Lunsford, John Thomas	Acworth
Luter, James Gray	Decatur
Lyle, Edward Lafayette	Benton, Tenn.
Lyon, Louis	Sumter, S. C.
Maddox, William Alexander	Atlanta
Malone, Mathew Thomas	Atlanta
Malpass, John Burwell	Milledgeville
Marshall, John Houston	Jacksonville, Fla.
Marshall, Stewart Andrew	Rome
Massey, Carl Henry	Milledgeville
Mather, Roy Jackson	Atlanta
Mathews, John Barnett	Griffin
Mathis, William Arthur	Americus
Maxey, William Irvin	Shreveport, La.
Maxwell, Thomas Hays	Adairsville
May, Joseph Edwin	Carlton
May, Stephen Cuthbert	Chevy Chase, Md.
May, Thomas Carrol	Huntsville, Ala.
Mayfield, William Roy	Milledgeville
McCall, Kelsey Knighton	Savannah
McCathern, James Monroe	Atlanta
McClave, Howard Franklin	Miami, Fla.
*McDonald, John William	Atlanta
McDougald, Ardis Fuller	Thomasville
McKemie, William Joel	Atlanta
McLean, Harvey Duard	Dillon, S. C.
McLendon, Jewel Floyd	Atlanta
McManus, Thomas Kessler	Atlanta
McMath, Benjamin Hixon	Americus
McMillan, George Moffat	Atlanta
McMillan, Robert Milton	LaGrange
McRoberts, Maurice Denman	Tampa, Fla.
McWhorter, Charles Ligon	Winder
Meadows, Charley Woodruff	Covington
Meadows, Herbert Doyle	Norcross
Meadows, William Roy	Norcross
Meriwether, William Gordon	Albany
Merkle, Augustus John Jr.	Savannah
Miller, Ernest Louridge	Greenville, S. C.
Miller, James Emmett	Woodland
*Miller, James Homer	Atlanta
Millican, Charles William Jr.	Birmingham
Mills, Seaborn Foster	Folkston
Mincey, Arthur Roy	Waynesboro
Minder, Robert Joseph	Athens
Miner, Leonard William	Gainesville
Mingledorf, Marvin Sisco	Savannah
Mitchell, Chauncey Clinton Jr.	Atlanta
Mitchell, James, Donald Jr.	Booneville, Miss.
Mitchell, Robert Eldridge	Barnesville
Moats, Marion Edward	Harrisville, W. Va.
*Monheimer, Walter	Smethport, Penna.
Montgomery, Henry Everett	Watkinsville.

Georgia School of Technology

NAME	ADDRESS
Moore, Benjamin Martin	Gainesville
*Moore, Bernice Waldo	Atlanta
Moore, Chesley	Carrollton
*Moore, Carl Benjamin	Macon
Moore, Charlie Dupree	Jenkinsburg
Moore, Frank	Statesboro
Moore, Frank Douglas	Jackson
Moore, MacDonell	Jacksonville, Fla.
Moore, Marion Ralph	Atlanta
Morgan, Buell Griffin	Rockmart
Morgan, Clifford Owen	Rockmart
Morgan, Dumah Harold	Carrollton
Morgan, Henry Durand	Atlanta
Morris, Calbraith Lamar	Augusta
Morris, John Renley	Atlanta
Morris, William Little	Columbus, Miss.
Moss, Thomas Leslie Jr.	Columbus
Mulherin, Joseph Augustus	Augusta
Murphy, Charles Edwin	Waycross
Murray, Edward Alexander	Atlanta
Nabers, Albert Mills	Saluda, S. C.
Nabers, Thomas Gilbert	Abbeville, S. C.
Nance, James Emmett	Bell Buckle, Tenn.
Napier, Leroy Munroe	Miami, Fla.
Nash, James Louie	Calhoun
Nash, Richard Russel	Smyrna
Neal, George Hendree	College Park
Neeson, Herbert Lyonel	Atlanta
Nesbitt, John Taylor	College Park
Newman, Frank Douglas	McDonough
Newton, Edward Taylor	Madison
Nixon, Robert Gray	Atlanta
Nottingham, William Marshall	Thomaston
Nunez, John Hale	Tampa, Fla.
Nussbaum, Herbert Hugo	Bainbridge
*Oliver, Warren Hondlett	Macon
O'Neal Charles Eldridge	Atlanta
O'Quinn, Barney Lovet	Atlanta
Otis, Walpole	Atlanta
Page, David Preston	Atlanta
Palin, Dwight Arthur	Albany
Palmour, Mark Allen	Atlanta
Parkins, William Durfee	Edison
Parr, Charles Herbert	Atlanta
Partee, Irwin Lamar	Cedartown
Patterson, George Frazer	Atlanta
Patton, Elmo Logan	Ben Hill
Paullin, Charles Seawell	Macon
Peabody, William Jandon	Columbus
*Peacock, Benjamin Bugg	Atlanta
Peacock, James Henry	Chattanooga, Tenn.
Penland, William Hoyt	Atlanta
Pennington, Carl Rufus	Tallahassee, Fla.
Percy, Walter Wells	Savannah
Perkins, Olin Frazier	Atlanta
Persons, John Henry	Talbotton

Register of Students, 1922-1923

NAME	ADDRESS
Peters, John Lewis	Dublin
*Peters, John Walton Jr.	Selma, Ala.
Peters, Thomas Jefferson Jr.	Miami, Fla.
Petri, Lawrence Charles	Columbus
Phillips, Hoyt Coleman	Hapeville
*Phillips, James LeRoy	Atlanta
Phillips, Louie Wesley	Atlanta
Pike, Ralph Webster	Thomasville
Pirkle, Albert Gladstone	Norcross
*Pitcher, Franklin	Roswell
Pool, Willard Owen	Atlanta
Post, Roswell Davis	Chattanooga, Tenn.
Potts, John Henry	Newnan
Powell, Henry Edgar	Campbellton, Fla.
Powell, Howard Weldon	Salisbury, Md.
Powell, Theodore Roosevelt	Pooler
Preuit, Gordon	Leighton, Ala.
Price, Jack William	Atlanta
Prince, Harry Stephens	LaGrange
Prothro, Julian Davis	Aiken, S. C.
Pruitt, Samuel Yarbrough	Thomaston
*Race, George Watson	Amsterdam
Ragin, Robin Francis	Atlanta
Ragsdale, Tom Marshall	Durant, Miss.
Rainey, Louis Tayanlere	Columbus
Randolph, Joseph Donald	Jefferson
Rasnake, Waldo Emerson	Atlanta
Ratcliff, Wilbur Loving	Minden, La.
Rawlins, Victor Emanuel Jr.	Quitman
Rawls, Joseph Berry	Haralson
*Read, George Leslie	Jacksonville, Fla.
Reddy, Theodore George Jr.	Macon
Reeves, Robert Edwin	Chattanooga, Tenn.
Remaley, William Ash	Wyoming, Pa.
Reynolds, Alvin Dupre	Hawkinsville
Reynolds, Jay Ridley Jr.	Atlanta
Ricketson, James Lee	Warrenton
Ridgway, Hugh Davis	Royston
Ridolf, Joseph William	Savannah
Ritch, John Ralph	Valdosta
Ritch, Paul Brown	Powder Springs
*Riviere, James Andrew	Lake City, Fla.
Roberts, Emsley Clarke	Donaldsonville
Robeson, James Lee	Wilmington, N. C.
*Robinson, Jacob	Atlanta
Robinson, William Edward	East Point
Rockwell, Charles Samuel Jr.	Savannah
Rogentine, George Nicholas	Decatur
Rogers, William Edward	Memphis, Tenn.
Ross, John Bennett	Atlanta
Rouse, Roscoe King	Valdosta
Rumble, Emory Brown	Macon
*Rustin, William Carl	Savannah
Sadler, Paul W.	Hattiesburg, Miss.
Saffey, Wallace William	Belton, Texas
Saggus, Marshall Oliver	Crawfordville

Georgia School of Technology

NAME	ADDRESS
Saks, Julien David	Anniston, Ala.
*Salzer, Karl Roberts	Jacksonville, Fla.
Sampson, George Jr.	Thomasville
Sarsfield, Lynn	Asheville, N. C.
Savage, Mills Spencer	Crest View, Fla.
*Scarborough, Pope Jones	Anniston, Ala.
Schell, Algernon Erwin	East Point
Schell, William Lee Jr.	Atlanta
Sessions, George Hazlehurst	Marietta
Sessions, Thomas Brumby	Marietta
Shaddix, Homer Cecil	Nauvoo, Ala.
Sharp, Thomas Allan	Darlington, S. C.
Sheppard, Mobley	Atlanta
Shumate, Mason Dekle	Thomasville
Sibley, Louis Frank	Alma
Siegel, Harry	Atlanta
Simpson, Key Jr.	Savannah
Singleton, Walter LeRoy	Miami, Fla.
Skinner, Walter Davis	Jacksonville, Fla.
Smalley, Joseph Ferdinand	Thomson
Smedley, Asa Jeffries	Atlanta
Smith, Albert Marion	Brunswick
Smith, Cleon Emmette	Graymont
Smith, Charles Paine	Valdosta
Smith, Clarence Wallace	Clayton
Smith, D. J.	McDonough
Smith, Emory Harwell	Eastman
Smith, Ernest Thomas	Milledgeville
Smith, Howard Frederick	Woodhaven, L'g Isl., N. Y.
Smith, Hal Lafayette	Atlanta
Smith, James Thomas	Carnegie
Smith, John William	Americus
Smith, Lawson George	Roanoke, Ala.
Smith, LeRoy Harden	Atlanta
Smith, Moreland	Decatur
Smith, Wray Boyd	Blundale
Smith, William Cheney	Silver Creek
Smith, William Murphy	Atlanta
Smith, William Royall	Alta Vista, Va.
*Smullian, Abe Harry	Atlanta
Snowden, William Estel Jr.	Elberton
Solomon, Lloyd Franklin	Cordele
Sowder, Marion Garnett	East Radford, Va.
Sowell, Alonzo Graham	Atlanta
Spooner, Franklin Aubrey	Donaldsonville
Stakely, James Owen	Eufaula, Ala.
*Stalker, W. Grant	Camp Eustis, Va.
Staples, LeRoy Augustus	Alexandria, La.
Starnes, Uriah Lease, Jr.	Atlanta
Steckert, William Henry	Gainesville, Fla.
Stein, Jack Clarence	Atlanta
Stephens, Ernest Leslie	Adairsville
*Stephens, John Wallace	Rome
Stephens, John William	West Palm Beach, Fla.
Stephens, Linton Cicero	Tennille
Stephenson, Ernest Lee	Covington

Register of Students, 1922-1923

NAME	ADDRESS
Stewart, Jack Aaron	Atlanta
Stovall, Byron Wooten	Elberton
Stowe, Norvell Read	Atlanta
*Street, Harry Virgil	Atlanta
Stribling, Asa Bush	Atlanta
Stribling, Sam Greer	Rolling Fork, Miss.
Strickland, James Olin	Pembroke
Strickland, Willis Howard Jr.	Richland
Strickler, Givings Brown	Atlanta
Striplin, Walter Andrew	Gadsden, Ala.
Stroup, Quay D.	York, S. C.
*Sturges, Edgar Copeland	Chicago, Ill.
Sturgis, Bradford Kent	Dublin
Sweet, Henry	Atlanta
Taylor, William Grimsley	Atlanta
Terrell, Judson Timothy Jr.	Adairsville
Terry, George Rogers	Savannah
Thomas, Logan Edward	Atlanta
*Thomas, Samuel Morgan	Searcy, Ark.
Thompson, Bernice	McCall, S. C.
Thompson, Edwin Sylvester	Atlanta
Thompson, Neill Parson	Fairmont, N. C.
Thrasher, Barton Edmonds III	Plains
Timberlake, Garnett Royal	Bogalooosa, La.
*Tomlinson, John Sherrod	Marietta
Toole, Wycliffe David	Augusta
Toretsky William	Chattanooga, Tenn.
*Traber, John Paul	Atlanta
*Traylor, George Hamilton	LaGrange
Tull, Lloyd Harrison	Plainview, Texas.
Tully, Daniel Curtis	Savannah
Turner, Joseph Warren	Thomasville
Virgin, Charles Wadsworth	Montgomery, Ala.
*Wagener, Frederick William Jr.	Summerville, S. C.
Wages, John Thomas Jr.	Macon
Walker, Charles Benjamin	Lyerly
Walker, Collins Frank	Macon
Walling, Leonard Bennett	Leesburg, Fla.
Walsh, Thomas Edward	Atlanta
Walthall, Esmond	Atlanta
Wardlaw, Andrew Bowie	Columbia, S. C.
*Ware, William McLeod	Columbus
Warnock, Rosco	Stilson
Warren, Leonard Prince	Vicksburg, Miss.
Waters, Earl Crandall	Perth Amboy, N. J.
Waters, Howard Lewis	Atlanta
Waters, William Emory	Millen
Watkins, Robert Lee	Decatur
Watson, William Roy	Lithonia
Watterson, John Gaylen Jr.	Continental, Ohio.
Wayne, William Tucker	Atlanta
Ware, John Houston Jr.	Atlanta
Weaver, Otto Lee	Natchitoches, La.
Weintraub, David	Waynesboro
Welch, Paul Dean	Atlanta
Wells, Boyd Donald	Watkinsville

Georgia School of Technology

NAME	ADDRESS
Wells, Buford Russell	Watkinsville
Wertz, Thomas Reid	Thomasville
Wheary, Joseph Warren	Williamson, W. Va.
Whiddon, Jared Irvin	Thomasville
White, Causey Leon	Decatur
White, Howard Jr.	Macon
*White, James Culbert	Decatur
Whitehurst, William Mayberry	Dublin
Whiteman, Edgar Robinson	Atlanta
Wilcox, John Walter	Emory University
Wilde, George William	Atlanta
Wilder, Thomas Atwood	Macon
Wilding, Charlie Otis	Columbus
Wilhoit, James Newton	Atlanta
*Wilkins, James Drewry, Jr.	Greensboro, N. C.
Will, Albert Jordan	Atlanta
Willcox, Floyd Franklin	Fitzgerald
Williams, Fred Landis Jr.	Atlanta
Williams, Ivan	Little Rock, Ark.
Williams, Louis Alexander	Macon
Williams, Melvin Ritchie	Milledgeville
Williams, Orval Everett	Little Rock, Ark.
Williams, Orion Jordan	Cordele
Williams, Paul Edward	Jackson, Miss.
Willingham, William Crosby	Chattanooga, Tenn.
Willis, Elisha James	Bainbridge
Wilson, Cato	Leslie
Wilson, Hugh Wesley	Atlanta
Wilson, James Bell	Atlanta
Wilt, Arthur Frederick	Eustis, Fla.
Wimberley, Arthur Pardee	Bainbridge
*Wimberly, Joseph Johnston	Brunswick
Wine, Lyndon Reynolds	Camp Eustis, Va.
*Winer, Meyer	Chattanooga, Tenn.
Winkler, Marion Mayers	Biloxi, Miss.
Woodbury, Robert Taliaferro	Atlanta
Woods, John Lee	Crossett, Ark.
Woodside, Ralph Mason	Charlotte, N. C.
Woosley, William Bryant	Shelbyville, Tenn.
Wright, Frank Augustus	Americus
Wycoff, Douglas	Little Rock, Ark.
Yeoman, Solomon Joseph	Leesburg

SPECIAL ARCH. NO 1

Cobb, William Clifton	Byington, Tenn.
Dunbar, Barney Savage	Augusta
Felker, William	Dalton
Fisher, Russell Theodore	Frankfort, Ind.
Moore, Arthur Alonzo	Houston, Texas.
Russey, George Serrine Jr.	Atlanta
Seki, Suekicki	Atlanta
Woods, Sidney Stark	Atlanta

SPECIAL ARCH. NO. 2

Bradbury, Abraham Thomas	Atlanta
*Dawson, Marion Taylor	Atlanta

Register of Students, 1922-1923

SPECIAL UNCLASSIFIED

NAME	ADDRESS
Davis, Oscar Goldsmith	Atlanta
Edwards, James Thomas	Fayetteville
Goembel, William Philip	Creston, Ohio.
Harper, Marvin Henry	Albany
Mull, James William	Atlanta
James, Roy Andrew	Quincy, Ill.
Crowe, Wylie Williams	Atlanta

SPECIAL T. E. NO. 1

Anderson, John Madison	West Point
Bagwell, Hearst Blakey	Winder
Binns, Arnold Lumpkin	Atlanta
Brewster, James David	Newnan
Burke, William Arthur Jr.	Ogeechee
*Edwards, James Frank	Atlanta
Finn, Samuel Lawrence	Atlanta
Foster, Carlyle Hamilton	Dalton
Grobli, John Henry	Atlanta
Hanson, Albert Sidney	Macon
Heard, Maurice Earl	Lanette, Ala.
Jordan, Courtland Cooper	Atlanta
Macintyre, Robert Bertrand A. C.	Atlanta
McCall, Marvin Mather	Opelika, Ala.
McGlothlin, John Albert	Chattanooga, Tenn.
Roane, Robert Watson	Atlanta
Rosenberg, Louis	Atlanta
Rudderman, Ike Marvin	Atlanta
*Sens, Charles Lee	Cameron, Texas.
Statham, Richmond Grubbs	Americus
Stewart, William Arthur	Atlanta
Thompson, Joseph Rodgers	Greenville, Texas.
Wideman, James Henry	Fitzgerald
Young, Robert Barton	Cedartown

SPECIAL T. E. NO. 2.

Barnett, John Hardman	Commerce
Carnes, Zack St. Elmo	Atlanta
*Converse, Stanley Witherell	Bridport, Vt.
Greer, Andrew Washington Jr.	Griffin
Henderson, Isaac Harmon	Anderson, S. C.
Hill, Joseph Hugh	West Point
Hinton, Golden Sanders	Dacula
Jarrett, James Baxter	Center
Jenkins, Sterling Perry	Midland
Johnson, Earle Griggs	Atlanta
Jordan, Charles Dexter	Columbus
Lewis, James Donald	Concord
*Lyle, Lee Harold	Atlanta
Newton, Ernest Dudley	Jackson
Newton, William Aris	Jackson
Orrell, Eugene D.	Wilmington, N. C.
Purks, William Warren	Cedartown
Stone, James Cyrel	McDonough
Upchurch, George Vance	Athens
Whelchel, Homer	Ashburn

Georgia School of Technology

SUMMARY OF ENROLLMENT

Senior Class	263	Carried forward	1821
Junior Class	358	Night School of Com.	440
Sophomore Class	449		
Freshman Class	690	Total Collegiate	2261
Special Architects	10	Evening School	
Special Textile	44	of Applied Science	145
Unclassified	7	Summer School	362
		Rehabilitation Non-Collegiate	599
Total College Day Courses	1821	Total	3367
		Less Duplicates	314
		Total net enrollment	3053

PROFESSION OR OCCUPATION OF PARENTS OF STUDENTS IN COLLEGE DAY COURSES

Merchants	265	Workmen	13
Farmers	201	Insurance Agents	29
Manufacturers	95	Cotton Merchants	27
Salesmen	65	Ministers	17
Railway & Tel. Emp.	85	Automobile Dealers	14
Physicians	56	Accountants	25
State and City Officers	36	Teachers	16
Engns. and Architects	51	Dentists	11
Bankers	33	Newspaper Men	15
Lawyers	34	Miscellaneous	172
Real Estate	38	Not given	487
Contractors	36		
		Total	1821

GRADUATES BY DEPARTMENTS

Graduates in Mechanical Engineering	532
Graduates in Electrical Engineering	470
Graduates in Textile Engineering	131
Graduates in Civil Engineering	166
Graduates in Engineering Chemistry	61
Graduates in Chemistry	12
Graduates in Architecture	62
Graduates in Commerce	63
Bachelor of Science	5
Total	1502

THE UNIVERSITY OF GEORGIA

The complete organization of the University of Georgia is as follows:

THE UNIVERSITY AT ATHENS.

1. The Franklin College.

The College of Arts.

Established in 1881, offering the Degree of Bachelor of Arts, and including: (1) General Courses in the Liberal Arts. (2) Special Courses.

II. The State College of Agriculture and the Mechanic Arts.

The College of Science.

Established in 1872, offering the Degree of Bachelor of Science; and including the following courses: (1) General Science Course; (2) Civil Engineering Course; (3) The Electrical Engineering Course; (4) The Agricultural Course; (5) The One-Year Agricultural Course; (6) The Winter Course in Agriculture; (7) The Experiment Station (at Experiment); (8) The Farmers' Institutes.

III. The Graduate School.

Offering the following degrees: (1) Master of Arts; (2) Master of Science; (3) Civil and Mining Engineering.

IV. The Law Department.

Offering the Degree of Bachelor of Laws: Two-years' Course.

V. The University Summer School.

Founded in 1903. Five Weeks' Session, offering courses in: (1) Common School Branches; (2) Pedagogy and Related Subjects; (3) High School Studies; (4) Selected College Studies.

VI. The College of Pharmacy.

Offering the Degree of Graduate of Pharmacy. A Two-Years' Course. For catalogue of any of the above, write to

DAVID C. BARROW, Chancellor,
Athens, Ga.

The North Georgia Agricultural College, Dahlonega, Ga.

Established 1871, offering the Degrees of Bachelor of Arts, Bachelor of Science, Bachelor of Instruction, Bachelor of Business Science, having the following schools: Philosophy, Pedagogy, Courses in Science (including Agriculture), French, Department of Business, Military Department. For catalogue, apply to

M. D. DuBOSE, President,
Dahlonega, Ga.

Georgia School of Technology

The Medical College, Augusta, Ga.

Established in 1829. A Full Four Years Course in Medicine.
For catalogue apply to

WILLIAM HENRY DOUGHTY, JR., M. D., F. A. C. S., Dean,
Augusta, Ga.

Georgia School of Technology, Atlanta, Ga.

Established 1888, offering the Degrees of Bachelor of Science in Mechanical Engineering, in Civil Engineering, in Electrical Engineering, in Textile Engineering, in Engineering Chemistry, in Architecture, in Commerce, and in Industrial Education, and having the following departments: Mathematics, Engineering Chemistry, Chemistry, Mechanical Engineering, Experimental Engineering, English Physics, Civil Engineering, Electrical Engineering, Modern Languages, Textile Engineering, Geology, Highway Engineering, Automobile Engineering, Machine Design, Architecture, Commerce, Military Science and Industrial Education. For catalogue apply to

M. L. BRITTAİN, President,
Atlanta, Ga.

Georgia Normal and Industrial College, Milledgeville, Ga.

Established in 1889, offering the following diplomas: Normal Diplomas, Collegiate Diplomas, and the following Certificates of Proficiency: In Bookkeeping, Stenography, Dressmaking, Freehand Drawing; organized in the following departments: Normal Department, Normal and Industrial Arts, Collegiate Department, Physical Training Industrial Department, Department of Domestic Science, Department of Music and Fine Arts.

For catalogue apply to

MARVIN M. PARKS, President,
Milledgeville, Ga.

State Normal School, Athens, Ga.

Established 1891, having the following courses: Common School Course, one year; Graduate School, three years; including the following schools: Literature, English, Elementary Science, Mathematics, History, Geography, Latin, Art, Educational and Manual Training, Penmanship, Psychology, Pedagogy, Domestic Science.

JERE M. POUND, President.

The South Georgia State Normal College, Valdosta, Ga.

(For Girls.)

Established 1906. An institution of collegiate rank, providing both general and special training. The courses are designed primarily to meet the needs of those who expect to fill positions as teachers in the public schools of the State.

R. H. POWELL, President,
Valdosta, Ga.

University Organization

Georgia Industrial College for Colored Youths, at College, Near
Savannah, Ga.

Established 1890, and organized in the following schools: English, Pedagogy, Mathematics, Science, Agriculture, Manual Training, including Mechanical Drawing, Wood Working, and Iron Working Department of Trades, Carpentry, Blacksmithing, Masonry, Painting, Tailoring, Shoemaking, Sewing.

R. R. WRIGHT, President,
College, Ga.

For catalogues of the several institutions mentioned, address the presidents, whose names are given above; for catalogues of the entire university organization, address

DAVID C. BARROW, Chancellor,
Athens, Ga.

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