

CATALOGUE

OF

The Clemson Agricultural College Of South Carolina



State Agricultural and Mechanical College

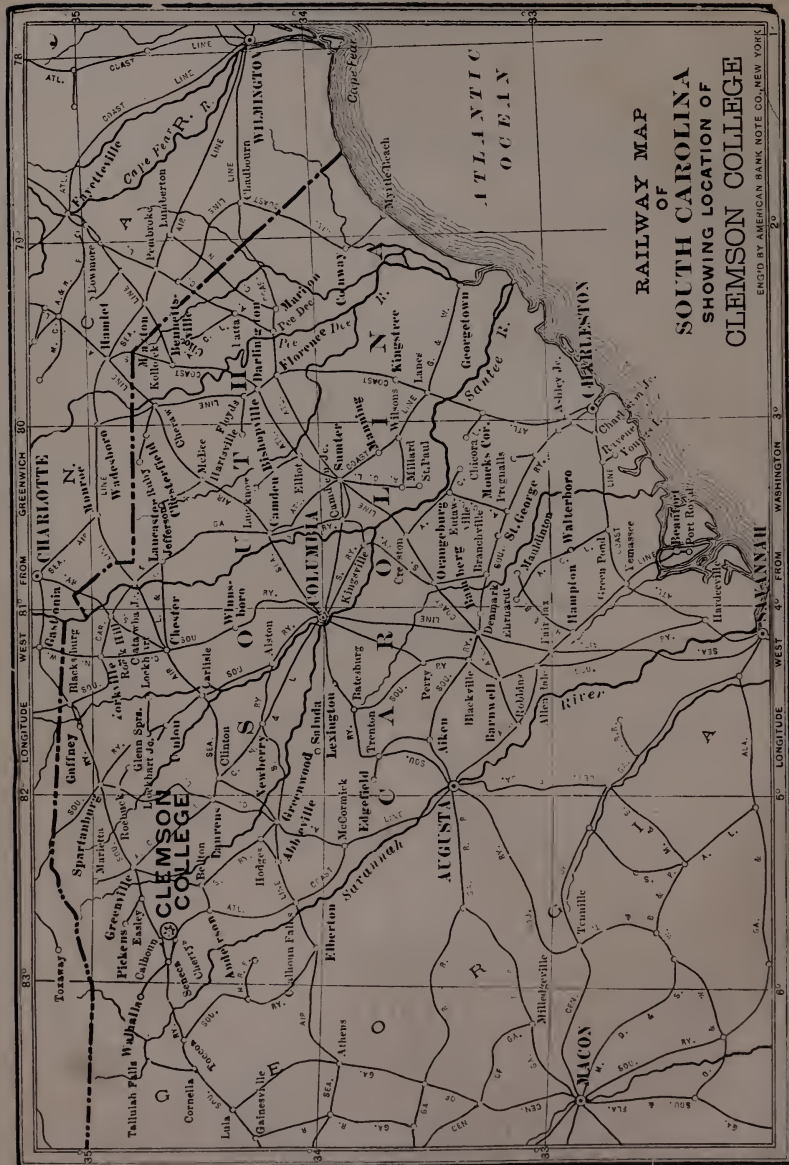
1913-1914

Telegraph and Post Office: Clemson College.
Express and Freight Offices: Calhoun.

Clemson College Print 1914

SC
LD1047
C6C

1913-1916



RAILWAY MAP
OF
SOUTH CAROLINA
SHOWING LOCATION OF
CLEMSON COLLEGE

ENG'D BY AMERICAN BANK NOTE CO. NEW YORK

CONTENTS

Calendar	5
Board of Trustees.....	6
Board of Visitors	7
Officers of the College	8
Historical Sketch	21
History of the College	26
Organization	28
Organization and Government	29
Admission of Students	35
Scholarships	42
Fees and Expenses	46
Grades, Reports, and Examinations	52
Irregular Courses, Change of Course, Make-up Work....	54
Degrees, Medals, and Honors	56
Courses of Study	59
Short Courses	72
Detailed Description of Courses of the	
Agricultural Department	80
Engineering Department	107
Chemical Department	126
Textile Department	130
Academic Department	137
Military Department	145
Grounds and Buildings	147
College Institutions	156
Athletics	161
Experiment Station	163
Public Service	165
Alumni Organization	169
Regimental Organization	170
Graduating Class	174
Student Roll	176
Summary of Students	204
Index	207

CALENDAR 1914

JULY

S	M	T	W	T	F	S
--	--	--	I	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	--
--	--	--	--	--	--	--

AUGUST

S	M	T	W	T	F	S
--	--	--	--	--	--	I
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	--	--	--	--	--

SEPTEMBER

S	M	T	W	T	F	S
--	--	I	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	--	--	--
--	--	--	--	--	--	--

OCTOBER

S	M	T	W	T	F	S
--	--	--	--	I	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NOVEMBER

S	M	T	W	T	F	S
I	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	--	--	--	--	--

DECEMBER

S	M	T	W	T	F	S
--	--	I	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	--	--

CALENDAR 1915

JANUARY

S	M	T	W	T	F	S
--	--	--	--	--	I	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	--	--	--	--	--	--

FEBRUARY

S	M	T	W	T	F	S
--	I	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	--	--	--	--	--	--
--	--	--	--	--	--	--

MARCH

S	M	T	W	T	F	S
--	I	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	--	--	--
--	--	--	--	--	--	--

APRIL

S	M	T	W	T	F	S
--	--	--	--	I	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	--
--	--	--	--	--	--	--

MAY

S	M	T	W	T	F	S
--	--	--	--	--	--	I
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	--	--	--	--	--

JUNE

S	M	T	W	T	F	S
--	--	I	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	--	--	--
--	--	--	--	--	--	--

JULY

S	M	T	W	T	F	S
--	--	--	--	I	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

AUGUST

S	M	T	W	T	F	S
I	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	--	--	--	--

SEPTEMBER

S	M	T	W	T	F	S
--	--	--	I	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	--	--

OCTOBER

S	M	T	W	T	F	S
--	--	--	--	--	I	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	--	--	--	--	--	--

NOVEMBER

S	M	T	W	T	F	S
--	I	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	--	--	--	--
--	--	--	--	--	--	--

DECEMBER

S	M	T	W	T	F	S
--	--	--	I	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	--
--	--	--	--	--	--	--

COLLEGE CALENDAR

Session of 1914-1915

1914

First Term

- Sept. 7—Cadet Majors, Captains and First Sergeants arrive.
 Sept. 8—All other old students arrive.
 Sept. 9—Opening of the 22d Session. Exercises begin at 8:30 a. m. Assignment to sections, etc.
 Sept. 10—Class work begins. Examinations for removal of conditions and make-up work.
 Sept. 11—Examinations for removal of conditions and make-up work.
 Sept. 12—Examinations for removal of conditions and make-up work.
 Sept. 15—New students arrive.
 Sept. 16—Class work and entrance examinations for new students begin.
 Oct. 1—One Year Agricultural Course begins.
 Oct. 24—First "month" of first term ends.
 Nov. 18—Stated meeting of the Board of Trustees.
 Nov. 26—Thanksgiving day. A holiday.
 Dec. 23—Examinations for first term end.
 Dec. 24—First day of the Christmas Holidays.

1915

Second Term

- Jan. 2—Second term begins. Students return by 11.30 p. m.
 Jan. 16—Annual public exercises of the Columbian Literary Society.
 Jan. 19—Lee's birthday. A holiday.
 Feb. 6—First "month" of second term ends.
 Feb. 22—Washington's birthday. A holiday.
 Feb. 22—Annual public exercises of the Palmetto Literary Society.
 Mar. 18—Calhoun's birthday. A holiday.
 Mar. 20—Second term ends.

1915

Third Term

- Mar. 21—Third term begins.
 Mar. 27—Annual public exercises of the Calhoun Literary Society.
 April 7—Stated meeting of the Board of Trustees.
 April 24—First "month" of the third term ends.
 May 5—Stated meeting of the Board of Visitors.
 May 29—Examinations for the Senior class end.
 May 31 to June 5—"Make-up" week for Senior class.
 June 5—Examinations for all other students end.
 June 6—Commencement exercises begin. Baccalaureate sermon. Closing exercises of the Y. M. C. A.
 June 7—Closing exercises of the Literary Societies. Military exercises. Address of the Alumni orator and Alumni meeting.
 June 8—Commencement day. Graduating exercises.

1915

* * * *

- July 7—Stated meeting of the Board of Trustees.
 July 9—Examinations for the award of scholarships and entrance examinations at each county seat.
 July 12—Last day for receiving scholarship applications.

(The Faculty reserves the right to make such changes in the above schedule as may seem necessary or desirable.)

BOARD OF TRUSTEES

Life Members

ALAN JOHNSTONE, President.....	Newberry, Newberry Co.
B. R. TILLMAN	Trenton, Edgefield Co.
M. L. DONALDSON	Greenville, Greenville Co.
J. E. WANNAMAKER	St. Matthews, Calhoun Co.
W. W. BRADLEY	Abbeville, Abbeville Co.
R. I. MANNING	Sumter, Sumter Co.
A. F. LEVER	Peak, Lexington Co.

Terms Expire 1916

E. T. HUGHES	Marion, Marion Co.
R. H. TIMMERMAN	Batesburg, Lexington Co.
S. T. McKEOWN	Cornwell, Chester Co.

Terms Expire 1918

J. J. EVANS	Bennettsville, Marlboro Co.
W. D. GARRISON	Charleston, Charleston Co.
I. M. MAULDIN	Pickens, Pickens Co.

STANDING COMMITTEES OF THE BOARD*

Executive Committee: Messrs. Donaldson, Bradley, McKeown, Mauldin, Hughes.

Finance Committee: Messrs. Mauldin, Donaldson, Bradley, Manning, Hughes.

Agricultural Committee: Messrs. Tillman, Wannamaker, Manning, Lever.

Fertilizer Committee: Messrs. Manning, McKeown, Wannamaker.

Entomological Committee—State Crop Pest Commission: Messrs Timmerman, Lever, McKeown.

Veterinary Committee: Messrs. Lever and Timmerman.

Scholarship Committee: Messrs. Bradley, Hughes, Timmerman.

* The President of the Board of Trustees is, *ex officio*, a member of all committees.

BOARD OF VISITORS**Sessions of 1913-1914, and 1914-1915**

First District—R. G. Rhett, Charleston, S. C.

Second District—S. T. Williams, Pleasant Lane, S. C.

Third District—Wyatt Aiken, Abbeville, S. C.

Fourth District—M. F. Ansel, Greenville, S. C.

Fifth District—J. L. Glenn, Chester, S. C.

Sixth District—Henry Mullins, Marion, S. C.

Seventh District—B. F. Taylor, Columbia, S. C.

Meeting: First Wednesday in May.

ADMINISTRATIVE OFFICERS

WALTER MERRITT RIGGS, B. S., E. M. E., LL. D.,
President

JOSEPH NELSON HARPER, B. S., M. Agr.,
Director of Agricultural and Experiment Station Departments

CHARLES STEBBINS DOGETT,
Director of Textile Department

SAMUEL BROADUS EARLE, A. M., M. E.,
Director of Engineering Department

RICHARD NEWMAN BRACKETT, Ph. D.,
Director of Chemical Department

W. W. LONG, M. S.,
State Agent and Superintendent of Extension Division

JOSEPH MICHAEL CUMMINS,
1st. Lieutenant 18th Infantry, U. S. Army—Commandant

ALEXANDER MAY REDFERN, B. S., M. D.,
Surgeon

* PAUL HAMILTON EARLE SLOAN, M. D.,
Treasurer and Secretary Board of Trustees

JAMES CORCORAN LITTLEJOHN, B. S.,
Registrar and Assistant to the President

SAMUEL WILDS EVANS,
Treasurer and Secretary Board of Trustees

KATHERINE BOCQUET TRESCOT,
Librarian

* Resigned Jan. 1, 1914.

OFFICERS OF INSTRUCTION

ACADEMIC DEPARTMENT

- CHARLES MANNING FURMAN, A. B.,
Emeritus Professor of English
- WILLIAM SHANNON MORRISON, A. B.,
Professor of History and Political Economy
- SAMUEL MANER MARTIN, B. S.,
Professor of Mathematics
- THOMAS GRAYSON POATS, M. E., E. E.,
Professor of Physics
- DAVID WISTAR DANIEL, M. A.,
Professor of English
- AUGUSTUS G. SHANKLIN, B. S.,
Associate Professor of Mathematics
- ARTHUR BUIST BRYAN, B. S., B. Litt.,
Associate Professor of English
- JOSEPH EVERETT HUNTER, B. S.,
Assistant Professor of Mathematics
- MARK EDWARD BRADLEY, A. B.,
Assistant Professor of English
- BURR HARRISON JOHNSTONE, A. B.,
Assistant Professor of Mathematics
- ANDREW BRAMLETT, B. S.,
Assistant Professor of Mathematics
- ALESTER GARDEN HOLMES, B. S.,
Assistant Professor of History
- LAWRENCE ANDREW SEASE, B. S.,
Assistant Professor of English
- BENJAMIN JOHNSTON WELLS, L. I., A. B.,
Instructor in Mathematics
- WILLIAM EUGENE SPEAS, A. B., A. M.,
Instructor in Physics
- FRANK FREDERICK COVINGTON, A. B., A. M.,
Instructor in English
- GEORGE MILTON CRUM, A. B.,
Instructor in English

OFFICERS OF INSTRUCTION

AGRICULTURAL DEPARTMENT

JOSEPH NELSON HARPER, B. S., M. Agr.,
Director

FRED HARVEY HALL CALHOUN, Ph. D.,
Vice Director—Professor of Geology and Mineralogy

CHARLES CARTER NEWMAN, B. S.,
Professor of Horticulture

MAURICE RAY POWERS, D. V. S.,
Professor of Veterinary Science

HENRY WALTER BARRE, B. S., M. A.,
Professor of Botany and Bacteriology

ALBERT FREDERICK CONRADI, B. S. A.,
Professor of Entomology and Zoology

WASHINGTON LAFAYETTE HUTCHINSON, M. S.,
Professor of Agronomy

RICHMOND LEE SHIELDS, B. S. A.,
Professor of Animal Husbandry and Dairying

THOMAS ELLISON KEITT, B. S.,
Professor of Soils

FRED M. ROLFS, Ph. D.,
Associate Professor of Botany and Bacteriology

JUNIUS MILTON BURGESS, B. S.,
Associate Professor of Dairying

FRANKLIN JACOB CRIDER, M. S.,
Associate Professor of Horticulture

WILLIAM ANDREW THOMAS, B. S.,
Assistant Professor of Entomology and Zoology

OLIN MITCHELL CLARK, B. S.,
Assistant Professor of Agronomy

DUANE B. ROSENKRANS, A. B.,
Assistant in Botany and Bacteriology

RALPH BROWNLEE LOWRY, B. S.,
Assistant in Agronomy and Farm Machinery

OFFICERS OF INSTRUCTION

ENGINEERING DEPARTMENT

- SAMUEL BROADUS EARLE, A. M., M. E.,
Director—Professor of Mechanical Engineering
- WALTER MERRITT RIGGS, B. S., E. M. E., LL. D.,
President—Consulting Professor of Engineering
- HALE HOUSTON, C. E.,
Professor of Civil Engineering
- RUDOLPH EDWARD LEE, B. S.,
Professor of Drawing and Designing, and College Architect
- FRANK TOWNES DARGAN, M. S.,
Professor of Electrical Engineering
- WILLISTON WIGHTMAN KLUGH, B. S.,
Assistant Professor of Drawing and Designing
- JOHN WEEMS GANTT,
Assistant Professor of Forge and Foundry Work
- STYLES TRENTON HOWARD, B. M. E.,
Assistant Professor of Machine Shop Work
- SAMUEL R. RHODES, B. S.,
Assistant Professor of Mechanical and Electrical Engineering
- WILLIAM WEST ROUTTEN,
Assistant Professor of Woodwork
- *FRANCIS RAYMOND SWEENEY, B. S.,
Assistant Professor of Civil Engineering
- **EDWARD LEWIS SHEPARD, B. S., C. E.,
Assistant Professor of Civil Engineering
- MAHLON THOMAS BIRCH, B. S.,
Instructor in Drawing
- DAVID NIVEN HARRIS, B. S.,
Instructor in Drawing
- DANIEL WILLIS SYLVESTER,
Instructor in Forge and Foundry
- HOWARD LINCOLN POTE,
Instructor in Woodwork

* On leave of absence. ** In place of Professor Sweeney.

OFFICERS OF INSTRUCTION

CHEMICAL DEPARTMENT

RICHARD NEWMAN BRACKETT, A. B., Ph. D.,
Director—Professor of Chemistry

MARK BERNARD HARDIN,
Emeritus Professor of Chemistry

DAVID HILL HENRY, B. S.,
Associate Professor of Chemistry

*GUY FLEMING LIPSCOMB, B. S.,
Assistant Professor of Chemistry

JOHN HARRIS MITCHELL, M. S.,
Assistant Professor of Chemistry

W. TUDOR PEARCE, M. S.,
Acting Assistant Professor of Chemistry

FLOYD HOMER EDMISTER, M. S.,
Instructor in Chemistry

BENJAMIN FREEMAN, B. S.,
Assistant in Chemistry

* Absent on leave, studying abroad.

OFFICERS OF INSTRUCTION**TEXTILE DEPARTMENT**

- CHARLES STEBBINS DOGGETT,
Director—Professor of Textile Chemistry and Dyeing
- CLAUDE WIGHTMAN McSWAIN, B. S.,
Assistant Professor of Weaving and Designing
- JAMES GROSBECK COMAN, B. S.,
Assistant Professor of Carding and Spinning
-

MILITARY DEPARTMENT

- JOSEPH MICHAEL CUMMINS, 1st. Lieut. 18th Infantry, U. S. A.,
Director—Professor of Military Science and Tactics
Commandant of Cadets
- THOMAS P. DUCKETT, B. S.,
Military Assistant to the Commandant
-

GRADUATE STUDENT ASSISTANTS

- C. M. HALL, B. S.,—Veterinary Division.
- F. M. MELLETT, B. S.,—Chemistry Department
- W. E. BOWERS, B. S.,—Director's Office Agricultural Department.
- J. L. SEAL, B. S.,—Botany Division.
- H. S. McGEE, B. S.,—Electrical Engineering Division.
- T. D. McALHANY, B. S.,—Physics Division.
- W. E. MORRISON, B. S.,—Heat, Light and Water Division
- P. S. HALE, B. S.,—Horticultural Division.

STANDING COMMITTEES TO THE PRESIDENT

Discipline.—The President, the Commandant, Brackett, Calhoun, Doggett, Earle, Furman, Hardin, Harper, Houston, Martin, Morrison.

Re-Examination and Promotions.—Martin, Brackett, Danil, Dargan, Doggett, Earle, Harper, Houston, Littlejohn, Morrison.

Entrance Requirements.—Daniel, Calhoun, Hutchinson, Littlejohn, Martin, Morrison, Sease.

Schedule.—Morrison, Bramlett, Bryan, Calhoun, Henry, Lee, McSwain, Poats.

Library.—Bryan, Calhoun, Earle, Henry, Keitt, McSwain.

Irregular Students.—Hunter, Burgess, Klugh, Lipscomb, Poats.

Catalogue.—Poats, Clark, Henry, Klugh, Littlejohn, McSwain.

Student Recreation.—Henry, Calhoun, Cummins, Holmes, Houston, Lipscomb.

Athletics.—Calhoun, Gantt, Henry, Johnstone, Poats.

Student Publications.—Bradley, Covington, Holmes.

Religious Services.—Earle, Bradley, Burgess, Holmes, Wells.

Chapel Music.—Daniel, McSwain, Routten, Sweeny.

Chapel Entertainments.—Daniel, Houston, Johnstone, Martin, Powers.

State Fair.—Howard, Burgess, Conradi, Cummins, McSwain, Shields.

Campus.—Houston, Barre, Newman.

Reception.—Harper, Brackett, Cummins, Daniel, Stackhouse.

Alumni.—Lee, Bryan, Burgess, Henry, Klugh.

Museum.—Calhoun, Barre.

Text Book.—Shanklin, Mitchell, Wells.

(The President is, *ex officio*, a member of each committee. The first named in each instance is chairman.)

OTHER OFFICERS AND EMPLOYEES

- FRANK GRENEKER DAVIS,
Bookkeeper
- FLOYD LANDON CARROLL,
Assistant Bookkeeper
- AUGUST SCHILLETTER,
Steward
- HARRY A. SLOAN,
Quartermaster for Cadets
- JAMES PERCIVAL LEWIS,
Supt. of Convicts and of Work on Roads and Campus
- L. BOYD BRANDON, B. S.,
Foreman of College Farm
- JOSEPH HEWER,
Superintendent of Construction and Repairs
- HENRY C. GOODMAN,
College Plumber
- ROBERT LOUIS SWEENEY, B. A.,
Secretary of Y. M. C. A.
- JOHN A. GOODWIN, B. S.,
Supt. of Coast Station, Summerville, S. C.
- R. E. CURRIN,
Supt. of Pee Dee Station, Florence, S. C.
- BURNS GILLISON,
Supt. of Experiment Station Farm
- HELEN C. BRADFORD,
Stenographer to Experiment Station
- MARGARET L. SADLER,
Stenographer to the President
- ETTA M. SADLER,
Stenographer to Agricultural Department
- ANNE ALLSTON PORCHER,
Assistant Librarian
- PAULINE HUGHS,
Stenographer to the Engineering Department
- MAYME STOKES,
Stenographer to Extension Division
- SAUMEL REUBENBAUM,
Stenographer to Extension Division
- EDWARD BERNARD ELMORE,
Clerk to the Commandant
- JULIA A. HOOK,
Mailing Clerk Experiment Station

SOUTH CAROLINA AGRICULTURAL EXPERIMENT
STATION

JOSEPH NELSON HARPER, B. S., M. Agr.,

Director and Agronomist

CHARLES CARTER NEWMAN, B. S.,

Horticulturist

HENRY WALTER BARRE, B. S., M. A.,

Botanist and Plant Pathologist

ALBERT FREDERICK CONRADI, B. Agr., M. S.,

Entomologist

THOMAS ELLISON KEITT, B. S.,

Chemist

RICHMOND LEE SHIELDS, B. S. A.,

Animal Husbandman

MAURICE RAY POWERS, D. V. S.,

Consulting Veterinarian

WASHINGTON LAFAYETTE HUTCHINSON, M. S.,

Associate Agronomist

FRED M. ROLFS, Ph. D.,

Associate Botanist and Plant Pathologist

FRANKLIN JACOB CRIDER, M. S.,

Associate Horticulturist

OLIN MITCHELL CLARK, B. S.,

Assistant in Agronomy

WILLIAM ANDREW THOMAS, B. S.,

Assistant Entomologist

WILLIAM BARRE AULL, B. S.,

Assistant to Botanist

LAWRENCE ORR WATSON, B. S.,

Experimental Field Pathologist

FRANK GREEN TARBOX, JR., B. S.,

Assistant in Agronomy

THOMAS ANDREW ROUSE, B. S. A.,

Assistant in Animal Husbandry

HENRY C. EAGERTON, B. S.,

Experimental Field Entomologist

CHALMERS JACKSON KING, B. S.,

Assistant in Chemistry

PUBLIC STATE WORK

JOSEPH NELSON HARPER, B. S., M. Agr.,
Director

EXTENSION WORK AND FARMERS' INSTITUTES

WILLIAM WILLIAMS LONG, M. S.,
Superintendent—State Agent of the Farmers' cooperative
Demonstration Work
WADE HAMPTON BARTON,
Assistant State Agent
J. T. WATTS,
Live Stock Expert
PAUL H. CALVIN,
Live Stock Expert
FRANK C. HARE,
State Poultry Organizer, U. S. Dept. of Agriculture
RALPH HEDGES MASON, B. S.,
Dairyman, U. S. Department of Agriculture
CHARLES FRANKLIN NIVEN, B. S., M. S.,
Assistant in Horticulture
SIDNEY S. RITTENBERG,
Agricultural Publicist
GEORGE MARSHALL ANDERSON, B. S.,
Assistant in Entomology

STATE CONTROL OFFICERS

DR. RICHARD NEWMAN BRACKETT,
State Chemist
ALBERT FREDERICK CONRADI, M. S.,
State Entomologist
HENRY WALTER BARRE, B. S., M. A.,
State Pathologist
WILLIAM ANDREW THOMAS, B. S.,
Assistant State Entomologist
DR. M. RAY POWERS
State Veterinarian
DR. ROBERT OLIVER FEELEY
Assistant State Veterinarian
DR. M. L. QUIGLEY
Assistant State Veterinarian
DR. W. A. BARNETT
Assistant State Veterinarian

FERTILIZER CONTROL

RICHARD NEWMAN BRACKETT, Ph. D.,
Chief Chemist

BENJAMIN F. ROBERTSON, B. S.,
Chemist (Fertilizer Analysis)

CLAUDE FURMAN INMAN, B. S.,
Assistant Chemist (Fertilizer Analysis)

COKE SMITH LYKES, B. S.,
Assistant Chemist (Fertilizer Analysis)

JOHN TREUTLEN FOY, B. S.,
Assistant Chemist (Fertilizer Analysis)

BENJAMIN FREEMAN, B. S.,
Assistant Chemist (Miscellaneous Analysis)

JOHN H. MITCHELL, M. S.,
Assistant Chemist (Nitrogen Availability)

F. M. MELLETT, B. S.,
Graduate Assistant (Nitrogen Availability)

HUGH MILTON STACKHOUSE,
Secretary Board of Fertilizer Control

MARGARET E. GASQUE,
Stenographer Board of Fertilizer Control

Fertilizer Inspectors

THERON T. EARLE,

C. B. FARIS,

D. L. GUNTER,

J. R. HARRIS,

D. E. HINSON,

GLENN G. INMAN,

J. M. HOWELL,

E. B. MARTIN,

M. P. McCALLA,

J. C. RAMPLEY,

M. E. RIVERS,

W. A. TEMPLETON,

J. H. WOODWARD.

DEMONSTRATION AGENTS

District Agents	Headquarters	Territory
Baker, Lucian L.	Bishopville	S. E. Part of State
Barton, Wade Hampton	Simpsonville	N. W. Part of State
Elliott, William R.	Winnsboro	Central Part of State
Local Agents	Post Office	County
L. B. Altman	Ridgeland	Jasper
F. H. Arrants	Camden	Kershaw
J. R. Blair	Sharon	York
T. A. Bowen	Pickens	Pickens
F. W. Carnell	Union	Union
W. B. Chitty	Olar	Bamberg
J. F. Claffy	Fort Motte	Calhoun
F. M. Crum	Orangeburg	Orangeburg
R. L. Cunningham	Chester	Chester
T. O. Epps	Kingstree	Williamsburg
J. F. Ezell	Spartanburg	Spartanburg
C. B. Faris	Greenwood	Greenwood
J. O. Finklea	Hyman	Florence
W. M. Frampton	Charleston	Charleston
G. A. Hanna	Gifford	Hampton
J. M. Hayes	Dillon	Dillon
Ashton Head	Aiken	Aiken
G. J. Hearsey	Beaufort	Beaufort
M. G. Holland	Walhalla	Oconee
B. M. Hudson	Pinopolis	Berkeley
R. H. Lemmon	Winnsboro	Fairfield
W. T. J. Lever	Blythewood	Fairfield
P. N. Lott	Johnston	Edgefield
D. L. McAlhany	St. George	Dorchester
F. McCluney	Gaffney	Cherokee
C. A. McFaddin	Manning	Clarendon
A. A. McKeown	Rock Hill	York
Colin McLaurin	Mullins	Marion
C. L. McManus	Lancaster	Lancaster
T. M. Mills	Prosperity	Newberry
J. B. Muldrow	Darlington	Darlington
J. M. Napier	Columbia	Richland
B. G. Price	Walterboro	Colleton
S. F. Reid	Abbeville	Abbeville
J. A. Riley	Georgetown	Georgetown
J. W. Rothrock	Pendleton	Anderson
A. M. Sanders	Barnwell	Barnwell
J. W. Shealy	Ballentine	Lexington
W. P. Stewart	Simpsonville	Greenville
D. L. Tarrant	Springfield	Orangeburg
W. J. Tiller	Chesterfield	Chesterfield
M. W. Wall	Horee	Horry
J. D. W. Watts	Laurens	Laurens
S. N. Welsh	Elliotts	Lee
J. F. Williams	Sumter	Sumter

MINISTERS FOR THE SESSION 1913-1914

BAPTIST	Rev. T. V. McCaul
EPISCOPAL	Rev. R. M. Marshall
METHODIST	Rev. J. M. Steadman
PRESBYTERIAN	Rev. W. H. Mills

COMMENCEMENT SPEAKERS—JUNE 1914**Baccalaureate Sermon**

K. G. Finlay, Columbia, S. C.

Commencement Address

Pres. W. O. Thompson,
Ohio State University, Columbus, Ohio.

HISTORICAL SKETCH

Thomas G. Clemson, after whom the College is named, was born in Philadelphia in April, 1807, and died at the Fort Hill home April 6, 1888.

In 1823, then scarcely 16 years old, he ran away from home, and, after spending some time in England, went to Paris, where he took up arms in the revolutions of that time. His gallantry brought him recognition and the friendship of prominent men, resulting in his being given a course in the celebrated School of Mines in Paris. In this school he remained four years, graduating with high honors.

While he was in Europe, his father died, leaving nothing to him in his will. Soon after this he returned to America, and establishing himself in Washington, practiced his profession of Mining Engineer, and accumulated a comfortable fortune. It was here that he met Miss Anna Marie, the eldest daughter of John C. Calhoun, and married her. Two children resulted from this union—a daughter, Floride, who afterwards became Mrs. Gideon Lee, of New York, and a son, John Calhoun Clemson.

Mr. Clemson was a strong advocate of the political doctrine of Mr. Calhoun, and when the war broke out, fearing arrest, he and his son escaped by night in a boat, and walking to Richmond, offered their services to President Davis. Mr. Clemson was assigned to the Trans-Mississippi Nitre Mining Department, where he served until the end of the war. His son was appointed a Lieutenant and assigned to active duty.

At the end of the war, Mr. Clemson with his family came to Pendleton and resided with Mrs. John C. Calhoun until her death in 1866.

Mr. Clemson was interested as far back as this date in the establishment of an Agricultural and Industrial College. In November 1886, a Committee was appointed, consisting of Hon. Thomas G. Clemson, Hon. R. F. Simpson and Col. W. A. Hayne, to appeal to their fellow citizens for "Aid to found an institution for educating our people in the Sciences, to the end that our Agriculture may be improved, our worn and impoverished soils be recuperated, the great natural resources of the South be developed."

In January 1867, at a meeting of the Pendleton Farmers' Society, Mr. Clemson addressed the body in "an able and most interesting and instructional discourse," and submitted in the form of a circular the appeal above referred to. The circular was written by Mr. W. H. Trescot, and closes with the words:

"Letters and contributions to be directed to the Hon. Thos. G. Clemson, LL. D., Chairman of the Committee, Pendleton, Anderson District, South Carolina."

Again in the minutes of the same Society, of which he was elected President in 1868, under date of Oct. 14, 1869, we find the following:

"The President, (Mr. Clemson), entertained the Society for half an hour on the subject of Scientific Agriculture, and the Importance of Scientific Agricultural Education."

These citations indicate an early interest on the part of Mr. Clemson in the great cause to which he later devoted his estate.

Previous to the war Mrs. John C. Calhoun had sold the Fort Hill place and negroes to her son, Col. Andrew P. Calhoun, taking in payment his bond and mortgage for \$40,200.00. At her death, she left a will, deeding to her daughter Mrs. Clemson, three-fourths of the value of this bond and mortgage, and to her granddaughter, who at the time of Mrs. Calhoun's death was Mrs. Gideon Lee of New York, the remaining one-fourth of the bond and mortgage.

Shortly after Mrs. Calhoun's death, Mrs. Thomas G. Clemson, after considerable costly litigation foreclosed the mortgage on the Fort Hill place, and at the sale of the property in Walhalla in January 1872, Mr. Clemson, as Trustee for his wife and daughter, bid it in for \$15,000†, and he himself paid out of his private funds about \$8,000 to cover lawyer's fees, court cost, etc.

In 1871, Mr. Clemson's daughter, then Mrs. Gideon Lee, died, and seventeen days later, his only son, John Calhoun Clemson, was killed in a railroad accident at Seneca. Left childless, Mrs. Clemson willed to her husband, Thomas G.

†See Title Book Oconee County, P. 177-f.

Clemson, all of her estate "absolutely and in fee simple."*

Mr. Clemson, in his will, left to his granddaughter, Floride Isabella Lee, \$15,000 to free the property, which by the same will was donated to the State, from any claim in equity that the granddaughter might have. This was, of course, in addition to one-fourth of the estate which descended to Miss Lee from her mother.

Neither by intention, nor by donation, nor by any form of hereditary transmission does it anywhere appear that John C. Calhoun had anything to do with the founding of the College which bears Clemson's name.

In 1875 Mrs. Clemson died, and on April 6, 1888, Mr. Clemson followed her to the grave, and was buried in the Episcopal church yard at Pendleton.

Mr. Clemson's will was bitterly contested by the Lee family, but was finally fully sustained by the Supreme Court. After the settlement of the will, the Trustees of the College bought from Miss Floride Isabella Lee her one-fourth of the estate which adjoined the tract given to the State by Mr. Clemson.

The following extracts are made from Mr. Clemson's will** in order to show clearly his purpose in offering his property to the State for the founding of the Clemson Agricultural College.

* * * * "Feeling a great sympathy for the farmers of this State, and the Difficulties with which they have to contend in their efforts to establish the business of agriculture upon a proper basis, and believing that there can be no permanent improvement in agriculture without a knowledge of those sciences which pertain particularly thereto, I have determined to devote the bulk of my property to the establishment of an Agricultural College upon the Fort Hill Place. My purpose is to establish an Agricultural College which will afford useful information to the farmers and mechanics; therefore it should afford thorough instruction in agriculture and the natural sciences connected therewith; it should combine, if practicable, physical with intellectual education, and should be a high seminary of learning in which the graduate of the common schools can commence, pursue and finish a course of studies termi-

*See Judge of Probate's Office, Oconee Co., Apartment 26, Package 287. **See Judge of Probate's Office, Oconee Co., Apartment 64, Package 671.

nating in thorough theoretic and practical instruction in those sciences and arts which bear directly upon agriculture. But I desire to state plainly, that I wish the Trustees of said institution to have full authority and power to regulate all matters pertaining to said institution, * * * * but to always bear in mind that the benefits herein sought to be bestowed are intended to benefit agriculture and mechanical industries." * * * *

"I therefore give * * * * the aforesaid Fort Hill place where I now reside, formerly the house of my father-in-law, John C. Calhoun, consisting of eight hundred and fourteen acres, more or less, in trust that whenever the State of South Carolina may accept said property as a donation from me, for the purpose of thereupon founding an Agricultural College, in accordance with the views I have hereinbefore expressed, (of which the chief justice of South Carolina shall be the Judge,) then my executor shall execute a deed of the said property to said State and turn over to the same all property hereinafter given as an endowment of said institution, to be held as such by the said State so long as it in good faith devotes said property to the purpose of the donation." * * * *

"The following named gentlemen, seven in number, shall be seven of the Board of Trustees, to-wit: R. W. Simpson, D. K. Norris, M. L. Donaldson, R. E. Bowen, B. R. Tillman, J. E. Wannamaker, and J. E. Bradley; and the State, if it accepts the donation, shall never increase the Board of Trustees to a number greater than thirteen in all, nor shall the duties of the said Board be taken away or conferred upon any other men or body of men. The seven Trustees appointed by me, shall always have the right, and the power is hereby given them and their successors, which right the Legislature shall never take away or abridge, to fill all vacancies which may occur in their number by death, resignation, refusal to act, or otherwise. But the Legislature may provide as it sees proper for the appointment or election of the other six Trustees, if it accepts the donation * * * * The name of this Institution is to be "The Clemson Agricultural College of South Carolina."

In the codicil to his will, Item 12, occurs the following significant statement:

"The desire to establish such a school or college as I have provided for in my said last will and testament, has existed with me for many years past, and many years ago I determined to devote the bulk of my property to the establishment of an Agricultural School or College. To accomplish this purpose is now the one great desire of my life."

In November 1889, the General Assembly of South Carolina passed the necessary acts authorizing the acceptance of the terms of Mr. Clemson's will, and the establishment of

the College. The following extracts are taken from the State laws relating to the College:

Section 1300: "The Honorable Thomas G. Clemson having departed this life on the sixth day of April, A. D. 1888, leaving of force his last will and testament * * * * wherein he devised and bequeathed the Fort Hill plantation, as well as all his other property, both real and personal, except certain legacies in the said will mentioned and provided for, all in trust to convey to the State of South Carolina when the said State shall accept the same for the purpose of establishing and maintaining an Agricultural and Mechanical College upon the aforesaid Fort Hill plantation upon the terms and conditions of said will, **the State of South Carolina hereby expressly declares that it accepts the devise and bequest of Thomas G. Clemson, subject to the terms and conditions set forth in his last will and testament.**" * * * *

"Section 1302: The said College shall be under the management and control of a Board of Thirteen Trustees composed of the seven members nominated by said will and their successors and six members to be elected by the Legislature in Joint Assembly."

"Section 1304: That it shall require a two-thirds vote of said Board of Trustees to authorize the expenditure of any moneys appropriated to said College by the State, or to authorize the sale or transfer or re-investment of any property or moneys arising from the sale of any property under the provisions of this Act."

"Section 1319: All the privilege tax on fertilizers heretofore required to be paid to the Commissioner of Agriculture shall in the future be paid to the Treasurer of the State, subject to the order of the Board of Trustees of the Clemson Agricultural College of South Carolina; and so much of the money so received as shall be necessary to defray the expenses of the Board in performing the duties now by this Act devolved upon them shall be thus used, and the balance shall go to the said College, for its erection and maintenance."

It will be seen from the above extracts that the State accepted in good faith the terms of Mr. Clemson's will, features of which were the maintenance of the College, the recognition of the self-perpetuating life membership appointed by Mr. Clemson, and the naming of the College after Mr. Clemson.

One of the early official acts of the Board was the passage of a rule that nine votes be required not only to appropriate money, as required by the State Law, but to elect any officer of the College as well. This rule was adopted that there might be no just criticism of domination by the Life Trustees.

HISTORY OF THE COLLEGE

The College was opened in July 1893, with an enrollment of 446 students. The session extended from the third Thursday in February to the third Thursday in December, with the idea of giving all students in Agriculture an opportunity to be instructed in the practical phases of that subject during the crop growing season.

On the night of May 22, 1894, the main College building was burned, but the regular work continued, and the building was promptly re-built.

The first graduating exercises were held in December 1896, the graduating class numbering thirty-seven,—fifteen in the Agricultural Courses, and twenty-one in the Engineering Courses. In the fall of 1897, the session was changed to begin the second Wednesday in September and close the second Wednesday in June, as it had been found inadvisable to operate the College through the hot summer months. The exercises of the second commencement, which would normally have occurred in December 1897, were held Feb. 6 to 9, 1898. The under-graduate classes were continued until June. It will be observed that, owing to the change from winter to summer vacation, there was no class graduated in 1897.

Since 1898 the annual commencement exercises have been held regularly in June, but the closing day was afterwards changed to the first Tuesday, instead of second Wednesday, and in the session of 1910-11 to the second Tuesday.

The College has been in continuous operation, and is now in its twenty-first session. During this time, the average enrollment has been 590, the total 12,390, and the total number of graduates, estimating the number for the present session at 78, is 1,011 distributed as follows:

In the Agricultural Courses 424; in the Engineering Courses 479; in the Textile Courses 108.

The table on the following page gives accurate information as to the attendance, number of graduates, etc.

Graduates by Courses

Session	Total Enrollment	Agriculture	Mech & Elec. Eng.	Civil Engineering	Chemistry & Geol.	Textile Industry	Total Graduates
1893	446	0	0	0	0	0	0
1894	635	0	0	0	0	0	0
1895	370	0	0	0	0	0	0
1896	350	15	22	0	0	0	37
'97-'98	*449	15	10	0	0	0	25
'98-'99	446	6	7	3	0	0	16
'99-'00	461	12	12	0	0	4	28
'00-'01	483	9	13	0	0	9	31
'01-'02	500	12	28	2	0	17	59
'02-'03	539	7	28	5	0	20	60
'03-'04	605	4	26	2	0	5	37
'04-'05	637	5	21	8	1	5	40
'05-'06	652	18	20	15	0	7	60
'06-'07	658	28	25	15	0	1	69
'07-'08	690	60	12	12	1	0	85
'08-'09	648	27	17	8	3	0	55
'09-'10	653	33	22	19	1	2	77
'10-'11	703	44	18	8	4	13	87
'11-'12	813	52	17	9	3	11	92
'12-'13	834	36	20	9	0	10	74
'13-'14	816	42	27	5	0	4	78
Total	12,390	424	345	121	13	108	1,011

By an act of the State Legislature in the session of 1904, and amended in the session of 1907, 165 beneficiary scholarships were established, of the value of \$100 per annum each, and free tuition, apportioned among the counties as are the members of the Senate and House of Representatives. This number has since been increased to 168, by the creation of three new counties.

* Feb. 8, to July 15, 1897 and Aug. 15, 1897 to June 8, 1898.

ORGANIZATION OF THE COLLEGE**1. Agricultural Department**

Agronomy

Geology and Mineralogy

Horticulture

Veterinary Science

Zoology and Entomology

Animal Husbandry and Dairying

Botany and Forestry

Soils

Extension Work and Farmers' Institutes

2. Engineering Department

Mechanical Engineering

Electrical Engineering

Civil Engineering

Drawing and Designing

Forge and Foundry Work

Machine Shop Work

Wood Work

3. Chemical Department

Chemistry

4. Textile Department

Textile Chemistry and Dyeing

Weaving and Designing

Carding and Spinning

5. Academic Department

English

History and Political Economy

Mathematics

Physics

6. Military Department

Military Science and Tactics

7. Agricultural Experiment Station

ORGANIZATION AND MODE OF GOVERNMENT

Board of Trustees. This Board assumes the legal responsibility of the institution, cares for its general interests, and directs its course by the enactment of all necessary by-laws and regulations.

The President is the executive head of the College, and has general supervision of all matters within and pertaining to the College, and is charged with executing all rules and regulations passed by the Board of Trustees.

The College is divided into seven departments, namely: Agricultural, Engineering, Chemical, Academic, Textile, Military, and Agricultural Experiment Station. A Director is at the head of each department, and is responsible to the President for its conduct and success. The departments comprise the various divisions indicated on the preceding page. The divisions are in the immediate charge of the professors, associate and assistant professors, and instructors of the respective departments. The President conducts all official business with each department through its Director.

The **General Faculty** shall consist of the President, Commandant, professors, associate and assistant professors.

This Faculty shall meet at least once a month, or whenever called by the President, and shall be an advisory body to the President on such matters connected with the instructional work of the College as may be brought before them.

The **Discipline Committee** shall consist of the President, the Commandant, the Directors of the Agricultural, Engineering, Chemical, and Textile Departments, and six professors nominated by the President and approved by the Board.

This committee shall try students charged with serious offenses, and shall be empowered to award such punishment for serious offenses as in their judgment shall be merited. The Commandant shall present the case to the committee, summon witnesses, and in general act as prosecuting attorney, but shall not vote in the findings.

In order to aid him in his executive duties the President appoints **committees** from the Faculty to which are assigned certain specified lines of work.

The students are allowed wide latitude in carrying on affairs which concern themselves, such as athletic, literary, musical and social organizations. The aim of the Faculty is to assist in every possible way in making these interests helpful to the student body as a whole. In these matters the disposition is to allow a reasonable amount of time for recreation, and to contribute as far as possible towards making the students contented and happy.

GOVERNMENT OF CADETS

Military Organization and Mode of Government

The following extracts from the Regulations for the Government of Cadets explain the organization and mode of government of the corps:

"1. The President of the College shall have the general command and government of the institution, watching over its administration, discipline and instruction.

"2. The Commandant of Cadets, under the President of the College, has immediate command and control of the corps of cadets in all that pertains to its organization, drill, military police, discipline and administration. He is charged with the instruction of the cadets in the theoretical military course and in all practical military exercises. He will prescribe the order in which the furniture, bedding, books, clothing, equipments, etc. shall be arranged throughout the barracks, and shall, in person, make a minute and thorough inspection of the rooms, furniture, arms and accoutrements, etc. of the cadets at least once each week, and make a report thereon to the President.

"3. The organization of the corps of cadets shall, as far as practicable, conform to that of a regiment of infantry of the Regular Army.

"4. The cadet officers and non-commissioned officers shall be appointed by the Commandant of Cadets, subject to the

approval of the President of the College. The selection for these positions shall be made from those cadets who have been most studious and soldier-like in the performance of their duties, and most exemplary in their general deportment.

"5. As a rule, the cadet captains and lieutenants shall be selected from the Senior class; the non-commissioned staff and the sergeants from the Junior class; and the corporals from the Sophomore class.

Leaves of Absence

I. Except in cases of emergency or necessity students will as a rule be granted leaves of absence only on authorized holidays. On such occasions no student will be granted a leave of absence:

(a) Who has recorded against him more than 20 demerits for the term.

(b) Who is not making satisfactory progress in his classes.

(c) Who has any confinements or extras to be served or who is under arrest.

(d) Who has abused any leave of absence previously given.

II. In case of a holiday, release from study hours will be given on the preceding evening, and study hours will be observed on the evening of the holiday. Leaves of absence must not interfere with the study hours.

III. All communications from parents requesting leaves of absence for their sons must be addressed and sent directly to "The Commandant" or to "The President," and must set forth **fully** the reasons for the request. No leave will be granted unless the reasons given are considered satisfactory and sufficient justification for any loss of time or absence from duty involved.

IV. An honorable discharge will be granted to students under age, **only** upon the written request of the parent or guardian, addressed directly to the President of the College. The parent need not give reasons for the request unless he cares to do so.

(The parent's request for an honorable discharge, which means severing the student's connection with the College, must be had in such form as to become a matter of permanent College record. Therefore a letter from a parent to a student expressing willingness for him to get an honorable discharge will not be accepted in lieu of the direct authorization above described. It is very important for the future interests of a student that the circumstances of his withdrawal from the College be made a matter of clear and permanent record.)

V. The President will not consider permits for leaves of absence unless they have first passed through the Commandant's Office.

A student who has been granted leave of absence and who stays over the time allowed, unless for sickness or other good and valid reasons acceptable to the President, will lose his place in the College, and will be required to file a new application for admission, and pay again the matriculation fee of \$5 before being allowed to re-enter. In case he has been sick, a certificate from the attending physician must be submitted, and no such certificate will be accepted unless the President or Commandant has been notified in advance of the date the cadet is due to return.

The President may at his discretion, and in lieu of re-matriculation and re-payment of fee, punish the offending cadet by arrest, extras, etc. according to the nature and degree of the offence.

General Regulations

The "Rules and Regulations for the Government of Cadets," a copy of which is furnished each cadet, contains the following:

"Cadets must at all times be respectful in their bearing to professors and other officers of the College.

"Cadets are subject to military discipline at all times, and are required to take part in drill, guard duty and other military exercises.

"All undergraduate students are required to board in the barracks, except those who live with their parents or relatives near enough to attend from their homes.

"No trunks, bags or boxes will be allowed in the rooms of cadets. Trunk rooms accessible at stated times are provided for storing trunks.

"The practice of hazing is positively forbidden. Any cadet indulging in this practice will be dismissed from the College.

"If any cadet shall consider himself wronged by another, or by any officer of the College, he has the right to complain thereof in writing to the President, who will examine into the complaint and take such measures for redressing the wrong as he may deem proper.

"All combinations of cadets for the purpose of censuring one of their number are prohibited; also all combinations to defeat the purpose of any regulation of the College.

"Cadets are forbidden to keep in their possession any fire-arms or other weapons not issued by the proper authority.

"The College rules require that all students be vaccinated, and parents are advised to have this done before sending their sons away from home.

"Any cadet who leaves barracks without authority between taps and reveille shall be dismissed.

"Cadets are positively forbidden to use, or have in their possession, intoxicating liquors of any description.

"Profanity and gambling are positively forbidden.

"The smoking of cigarettes is positively forbidden. During the hours from 9:00 A. M., to 1.00 P. M., and from 2.00 P. M., to 4:00 P. M., cadets will not be permitted to smoke on the campus or in the College buildings.

"Cadet 'limits' is defined as all the College lands with certain excepted places. Cadets not otherwise prohibited are permitted during release from quarters to be on the above mentioned grounds without special permission.

"Demerits will be awarded for every unremoved report, the number depending on the nature and the degree of the offense.

"Any cadet receiving 67 demerits during any term shall be brought before the Discipline Committee, and shall be dismissed or less severely punished.

"Cadets who receive no demerits for the period of thirty days will be given a credit of eight demerits, to be applied in removing any demerits that accrue during that term.

"For infraction of rules cadets are punished according to the gravity of the offense.

"Punishment consists of demerits and in addition, confinements (detention of cadet in his room), confinement to barracks or other specified limits, reprimands, extras, (walking equipped as sentinel), reduction to ranks (for officers and non-commissioned officers), arrest, close arrest, suspension, and dismissal from College.

"Punishment for ordinary offenses will be awarded by the Commandant of Cadets, and for serious offenses by the President or Discipline Committee, according to the nature of the case.

"The College has authority over students except while at home under the control of their parents. They are regarded as students of the College until dismissed, honorably discharged, graduated, or lose their places by reason of overstaying leaves of absence.

"The Commandant and his officers have the right to inspect anything in a cadet's room."

ADMISSION OF STUDENTS

GENERAL REQUIREMENTS

Candidates for admission must be sixteen years of age.

Students desiring to enter College should apply to the President or Registrar for application blanks, and these, properly filled out, should be returned to the Registrar as early in the summer as possible, and in no case later than August 14th.

Certificates of good moral character are required of all candidates; and if the candidate comes from another college, this certificate must show that he was honorably discharged.

In the admission of students who have met the requirements of the College, the following will be observed,—

1. Students must undergo a medical examination, and no student will be admitted who is not healthy and free from contagious diseases including tuberculosis.

2. Students will be apportioned among counties in proportion to representation in the House of Representatives, under the following rules and regulations:

(a) As between applicants of equal preparation, the eldest will have the preference.

(b) Other things being equal, the first applicants will receive permission to enter.

(c) When a county has not sent its quota, the places thus left shall be apportioned among the other applicants.

(d) Provided that if there is room in the barracks after the needs of the State have been met, students from other states may be admitted, and when once admitted may continue in College until the completion of their courses.

3. Applicants not entering within ten days after the opening of the session will have their rights in the place given to applicants next on the roll.

Students upon arrival at the College at the opening of the session must report at once to the Registrar's office and matriculate before they will be assigned to quarters in the barracks. No student will be admitted to any of the classes or

examinations of the College before matriculation and payment of fees. (See page elsewhere.)

Matriculation is equivalent to a pledge to conform to the rules of the College.

ADMISSION TO THE FRESHMAN CLASS

Every student is admitted to the Freshman class either on a high school certificate or on an examination.

Admission on Certificate.—Candidates sending a high school certificate are admitted to the Freshman class, provided the work as shown on the certificate consists of ten standard units. This certificate must be on the prescribed form furnished from the Registrar's Office.

Candidates coming from schools having ten or more grades will not be admitted to the Freshman class on certificate unless they have fully completed the work of the tenth grade. High school pupils are strongly urged to complete their home school before attempting to enter College.

Students coming from rural schools will be admitted on certificate, provided their certificate is satisfactory to the Entrance Committee or if they have completed the work equivalent to ten units.

To obtain a credit of one unit there must be five recitations per week for a term of thirty-six weeks and each recitation must be forty minutes long. The ten units must be taken from the following groups which are in accordance with the outlines of study as mapped out by the State Board of Education.

Group A

Subject	Units
English	3
Arithmetic—complete	0
Algebra to quadratics.....	1
Algebra through progressions	1-2
Plane Geometry	1

Group B

United States History	1
Greek and Roman History	1
English History	1

Group C

Physical Geography	1
Agriculture	1
Latin	2
Physiology	1
Botany	1

The ten units must be chosen from the above groups as follows:

Group A	4
Group B	1
Group C	3
Electives from A-B-C	2
	—
Total	10

Outlines of Unit Requirements

English Grammar and Grammatical Analysis 1 unit.

The work as given in Buehler's Grammar will be sufficient.

English Composition and Elementary Rhetoric—with enough literature to make 2 units.

This course should follow Brooks' English Composition, Book I.

Arithmetic—complete 0 unit.

Milne's Progressive, or one of a similar grade.

Algebra to quadratics 1 unit.

Algebra through progressions 1-2 unit.

Wells' Algebra for Secondary Schools is suggested as a suitable text.

Plane Geometry	1 unit.
The course must be the same as that outlined in Wells' New Plane Geometry.	
United States History	1 unit.
A text of the grade of Thompson's History.	
Greek and Roman History	1 unit.
Mediaeval and Modern History	1 unit.
A knowledge of any of the texts adopted by the State Board is required to obtain credits on these.	
English History	1 unit.
Montgomery's English History.	
Physical Geography	1 unit.
As presented in one of the modern text-books on this subject—as Tarr's. Field work required.	
Agriculture	1 unit.
For a credit of one unit the course should have been guided by some good text, as Duggar's Agriculture. Practical experience on the farm will also be counted toward this credit and where this experience has extended over two or more full years it may be accepted as fulfilling the requirements without the text-book study.	
Latin Grammar and Composition	1 unit.
First Latin Book.	
Four Books of Caesar's Gallic War or equivalent...	1 unit.
Physiology	1 unit.
A working knowledge of the course as given in a text of the grade of Ritchie's Human Physiology.	
Botany—with note book.....	1 unit.
Bailey's Elementary Botany should be followed in this course.	

Admission on Examination.—All other candidates will be required to stand the entrance examinations at their county seats or at the College. The entrance examinations are held at the county seats on the second Friday in July along with the scholarship examinations. Applicants are advised to stand the examinations then. Write for copies of old examination questions.

If an applicant passes on a majority of subjects at the county seat, he will be given at the College a re-examination upon those subjects in which he failed. If he is unprepared he will be saved the expense of a trip to Clemson.

A careful study of the work outlined below will greatly assist those preparing to take the examinations.

Agriculture.—This examination consists of practical questions that may be easily answered by any one living on the farm. For text-book work Dugger's Agriculture is recommended.

Algebra.—A thorough knowledge of the elementary principles of algebra is required. Students fail on entrance examinations and class work more frequently because of imperfect knowledge of the subject matter passed over, than because they have not gone far enough in the text-book. A thorough mastery of the subject as presented in Wells's Algebra for Secondary Schools, Part One, through quadratic equations will be considered adequate.

Plane Geometry.—As treated in Wells's New Plane Geometry or an equivalent. The usual theorems and constructions, including the general properties of plane rectilinear figures, the circle, and measurement of angles, similar polygons, areas, regular polygons, and the measurement of the circle. Much stress should be laid on the solution of original exercises.

English.—The entrance examination in English will be given on grammar, composition and rhetoric, and literature. The questions will be such as will test the student's knowl-

edge of the parts of speech, their inflections and uses, and of his ability to analyze sentences. These questions will be based on Buehler's English Grammar. The questions on composition and rhetoric will deal chiefly with the correctness and the clearness of sentences, and with the paragraph. A short composition will be required which will be graded especially as to spelling, punctuation, capitalization, and correctness of sentence structure. The purpose of the questions on literature will be to find how much the student has read and how intelligently and appreciatively. Since individual schools select whatever classics they wish to study, these questions will be so framed that the applicant may discuss the literature he has studied in his school. All work should be characterized by neatness.

Physical Geography.—This subject should be studied as presented in any modern text-book such as Tarr's.

History.—Applicants for the Freshman class should have a fair knowledge of any good General History. The book should be mastered by careful study, with recitations and frequent reviews based upon the text. The relations between history and geography should be constantly kept in view by the study of maps in the text-book, by the use of an historical atlas and by any other available maps.

For the entrance requirements to the One-year Agricultural Course see page elsewhere.

ENTRANCE EXAMINATIONS

Entrance Examinations are held during the second week of the opening of the session, September 16th to 18th, 1914, and all applicants for admission are expected to report promptly at the beginning of this period.

Examinations on the subjects required for entrance will be held on the dates shown in the following schedules beginning at 9 A. M., or 2 P. M.

For Admission to the Freshman Class

Mathematics—Wednesday, September 16, 1914, 2 P. M.

English—Thursday, September 17, 1914, 9 A. M.

Physiography—Thursday, September 17, 1914, 2 P. M.

History—Friday, September 18, 1914, 9 A. M.

Applicants will be notified of the results of their examinations at 10 A. M. Saturday, September 19, 1914.

For Admission to Advanced Standing

No student will be admitted to the Sophomore class unless he can present at least 10 hours credit of Sophomore theoretical work. Students desiring advanced standing must present a certificate showing in detail the work they have completed.

SCHOLARSHIPS

Statement of the State Laws and College Rules Governing the Award of Four-year Scholarships

1. Each county is allowed as many scholarships as it has representatives in the General Assembly. The total number for the State is one hundred and sixty-eight. The number of vacancies in any particular county can be learned by making inquiry of the President of Clemson College.

2. Scholarship students are required to take one of the Agricultural Courses, except that one scholarship per county is allowed in the Textile Course. Scholarship students are not permitted to take the Engineering Courses.

3. Each scholarship pays \$100.00 per session in cash, and allows free tuition, worth \$40.00 more. The regular scholarship is good for four consecutive years, unless terminated by the student's failure to maintain himself in his classes, and comply with the rules of the College.

4. The scholarships are awarded on competitive examinations. The examinations are conducted by the County Superintendents of Education at the county seats, on the second Friday in July, from 9 A. M. to 4 P. M.

5. The examination questions are prepared and the papers are graded by the Clemson Faculty. This Faculty reports the winners by number to the State Board of Education, and the State Board makes the award in conformity to the above recommendations.

6. The examinations are on the common school branches. An applicant must meet the entrance requirements of the Freshman class to pass.

7. The College has a right to reject any applicant, who in respect to age (16 years at the time of entering), examination papers, or in any other respect, fails to meet its requirements for admission.

8. The following are not eligible for scholarship appointments:

- (a) A person who during the current year has won or holds a scholarship at another State institution.
- (b) A person who has been in attendance at Clemson College or "any other institution of higher learning known as a College or University," provided however, that this condition shall not apply if there are no other eligible applicants for the scholarship.
- (c) A person who has forfeited a scholarship at Clemson College or any other State institution by failure to maintain himself.

9. No applicant shall be debarred from standing the examinations because he has failed to fill out the necessary certificate of financial inability as required by law, but this certificate must be in the hands of the President of Clemson College before the applicant can be considered eligible for a scholarship. (The blank certificate form can be obtained at any time from the President of Clemson College, or from the County Superintendent of Education on the day of the examinations.) It must reach the President not later than noon of July 12th, otherwise the applicant will be eliminated from the competition.

10. If a scholarship vacancy shall occur, and the county to which it belongs has no eligible applicant, the Clemson Faculty may fill the vacancy by awarding the scholarship to some eligible applicant from another county. However, any such appointment shall last not longer than one session.

Note.—Scholarship students will therefore have to deposit \$33.40 with the Treasurer at the beginning of the session.

Distribution of Scholarships

The one hundred and sixty-eight four-year scholarships provided in this institution by the Legislature are apportioned to the counties of the State according to law as follows:

Abbeville -----	4	Greenwood -----	4
Aiken -----	4	Hampton -----	2
Anderson -----	7	Horry -----	3
Bamberg -----	3	Jasper -----	2
Barnwell -----	4	Kershaw -----	3
Beaufort -----	3	Lancaster -----	3
Berkeley -----	3	Laurens -----	4
Calhoun -----	2	Lee -----	3
Charleston -----	9	Lexington -----	4
Cherokee -----	3	Marion -----	3
Chester -----	3	Marlboro -----	4
Chesterfield -----	3	Newberry -----	4
Clarendon -----	4	Oconee -----	3
Colleton -----	3	Orangeburg -----	6
Darlington -----	4	Pickens -----	3
Dillon -----	3	Richland -----	6
Dorchester -----	2	Saluda -----	3
Edgefield -----	3	Spartanburg -----	8
Fairfield -----	3	Sumter -----	4
Florence -----	4	Union -----	3
Georgetown -----	3	Williamsburg -----	4
Greenville -----	7	York -----	5

One-year Agricultural Scholarships

The holders of these scholarships are required to take the One-year Agricultural Course described elsewhere in this catalogue.

The Financial Certificate required of applicants for these scholarships is the same as that required for the regular four-year scholarships. The Act defining them is,—

“Sec. 1. **Beneficiary Scholarships for Clemson.**—There are hereby established and created fifty-one beneficiary agricultural scholarships in the Clemson Agricultural College of South Carolina, said scholarships to be of the value of one

hundred dollars (\$100) per annum, and free tuition, and to be awarded so that there shall be one scholarship to each county, and seven scholarships from the State at large.

"Sec. 2. To Whom Open—Examinations.—The said scholarships shall be open to any young man a native of South Carolina, eighteen (18) years old or over, who has spent not less than three (3) years in the active practice of farming, consideration being given to the need and worth of the applicant, and to his agricultural knowledge as shown by suitable examinations. All applicants shall stand such examinations as shall be prescribed by the proper authorities of the Clemson Agricultural College, and these examinations shall be held at the same time and in accordance with the general laws governing the examinations for other scholarship students.

"Sec. 3. Board of Education to Appoint.—The faculty of the said Clemson Agricultural College, or committee designated by the Board of Trustees for the purpose, shall recommend to the State Board of Education for appointment to the scholarships one of the young men who has successfully passed the examination and is otherwise qualified.

"Sec. 4. How Scholarships to Be Paid For—Term of Scholarships.—The said scholarships shall be paid from the income of the said Clemson Agricultural College as now provided by law, and each shall continue for a term not exceeding one year, or for such length of time as the beneficiary shall be able to maintain himself as a student of the college, and the said sum of (\$100) one hundred dollars per annum shall be placed to the credit of each beneficiary and applied to the payment of his board and other necessary expenses.

Note: The holders of these scholarships will be required to make a deposit of about \$17.95 with the College Treasurer at the beginning of the session. The exact amount of this deposit is determined by the cost of the uniform. See a full description of the One-year Agricultural Course and the costs as given elsewhere in this publication.

The Southern Railway Scholarship

William Wilson Finley Foundation

The Southern Railway gives to a young man, living in a county traversed by its lines (including the Blue Ridge Railway), a four-year agricultural scholarship which pays \$200.00 per year.

This scholarship is awarded by competitive examination. It will be open again in 1916.

Write to Mr. M. V. Richards, Land and Industrial Agent, Southern Railway, Washington, D. C. for full information, or to the President, Clemson College, S. C.

FEES AND EXPENSES

The regular fees for the session, not including tuition, are as follows:

Incidental fee	\$ 5.00
Medical fee	6.00
Breakage fee	3.00
All uniforms	29.40*
Board, washing, heat, light, etc.	90.00

Total\$133.40

These charges must be paid in quarterly instalments as follows:

September 9, 1914	\$ 65.90*
November 16, 1914	22.50
January 23, 1915	22.50
April 1, 1915	22.50

Total\$133.40

Tuition students pay \$10.00 per quarter additional. Free tuition is allowed only to South Carolina students.

* Varies slightly each year.

Medical Fee

The medical fee of \$6.00 which is paid by each student upon matriculation is intended to cover all ordinary cases of sickness and the treatment and medicines necessary. It is not intended to cover fees of doctors who may be called into consultation, or for performing operations, or for any medical or surgical attention away from the College.

Breakage

The breakage fee of \$3.00 is a deposit to cover damage or destruction of College property when individual responsibility can not be located. Any amount remaining to the credit of a student at the end of the session will be refunded. A student will be required to pay directly to the Treasurer for any damage done to College property for which he is personally responsible. The occupants of a room will be held responsible for any damage to property in the room.

Settlement of College Fees

Remittances should be made in cash, by money order, New York exchange, or by local check, made payable to S. W. Evans, Treasurer, Clemson College.

New Students are required to purchase two mattress covers @ \$1.00 each, \$2.00; two clothes bags @ 25c. each, 50c. These are regulation articles and are secured only at the Cadet Exchange. They will last for the entire course of four years and can often be bought second hand at less than the above figures.

Each student must bring with him four sheets, two blankets, one comfort, six towels, two pillow cases and one pillow. All beds are single width.

Each student is advised to provide himself with a rain coat and a pair of rubber shoes.

A fee of \$2.00 is charged for a diploma, payable before graduation.

Rules Governing Refunds to Students

Refunds will be made to students under the following rules:

1. Out of the amount deposited for a full set of uniforms, refunds will be made for any garments that are accepted by the Commandant as serviceable. Parents will be notified of the amounts refunded under this rule.

No refunds for uniforms will be made to students who withdraw from College after having ordered the uniforms. The uniforms will be sent to the cadet upon receipt of same.

2. The refund for board and laundry, heat, light and water will be at the rate of \$10.00 per month, but no refund will be made for interruptions of less than one month, or in cases of discharge issued less than one month from the end of the current quarter.

3. A refund of all moneys, except the incidental fee and 50c. per day for board, etc., will be made to any student who leaves College within ten days of the date of his matriculation, provided however that no refund can be made for uniform if same has been ordered.

4. Any balance of the \$3.00 breakage fee at the end of the session will be sent to parents after the close of the session in June.

5. No refund of medical fee (6.00) or for quarterly tuition payment, (\$10.00), will be made unless the student withdraws within ten days after matriculating.

6. In no case will the incidental fee be refunded to a student who has matriculated.

7. The College will not be liable for articles lost or stolen in the barracks.

8. The College will not be liable for lost or damaged laundry, unless reported within two days after date upon which laundry was due to be delivered, and then for not more than the depreciated value of such articles as have been lost or damaged.

Optional Expenses

The expenses above listed are all that is required by the College. For the information of parents the following list of regular optional expenses connected with student activities is given:

Subscription to the "Chronicle"	\$ 1.00
Subscription to the "Tiger"	1.00
Subscription to the "Annual"	2.50
Membership fee in the literary societies for new members	\$2.00-3.00
Membership fee in the literary societies for old members each year	1.00
Lyceum ticket	1.00
Membership fee Y. M. C. A.	2.00
Extra attractions such as "Glee Club," "Coburn Players," etc.	1.50
All athletic contests such as track meets, base ball and foot ball	\$3.00-\$5.00

List of Text-books and Material Needed Through The Freshman Class

These books may be purchased at a local book store before the student leaves home. They may be obtained most economically at the Cadet Exchange at the following cost when new. Usually there are also a number of second hand books which may be purchased much cheaper.

Engineering Course—First Term

Elements of Agriculture—Warren	\$1.00
Text-book in Algebra—Wells	1.25
Miklejohn's English Grammar.....	.75
Woolley's Handbook of Composition .....	.65
Sketch Book—Irving .....	.20
Spelling Book—Benson and Glenn .....	.30
Academic Dictionary—Webster	1.35
South Carolina History—Chapman .....	.70
Commercial Geography—Olin	1.00
Engineering Drawing—French	1.80
Drawing Board and Supplies	4.00
Drawing Instruments	\$9.60 up
Forge Shop Hammer .....	.38

Second Term

Plane and Solid Geometry—Durrell	1.20
Essentials of Ancient History—Wolfson	1.35
Lady of the Lake—Scott .....	.35

Third Term

Essentials in Medieval and Modern History—Harding	1.35
I. C. S. Pen Drawing .....	.75
Plane and Spherical Trigonometry—Rothrock	1.40

Agricultural Course—First Term

Elements of Agriculture—Warren	1.00
Text-book in Algebra—Wells	1.25
Miklejohn's English Grammar.....	.75
Woolley's Handbook of Composition .....	.65
Sketch Book—Irving .....	.20
Spelling Book—Benson and Glenn .....	.30
Academic Dictionary—Webster	1.35
South Carolina History—Chapman .....	.70
Commercial Geography—Olin	1.00

Mechanical Drawing—Anthony -----	1.40
Drawing Board and Supplies -----	3.50
Drawing Instruments -----	5.50 up
Forge Shop Hammer -----	.38
Rowe's Commercial and Industrial Bookkeeping -----	1.40

Second Term

Plane and Solid Geometry—Durrell -----	1.20
Essentials of Ancient History—Wolfson -----	1.35
Lady of the Lake—Scott -----	.35

Third Term

Essentials in Medieval and Modern History—Harding ----	1.35
I. C. S. Pen Drawing -----	.75
Plane and Spherical Trigonometry—Rothrock -----	1.40

Each student is required to have his own text-books, except in the case of brothers in the same class and course rooming together.

Free Tuition

AN ACT to Require the Authorities of all Institutions of Learning Supported or Controlled in Whole or in Part by the State, to Report to the General Assembly the Names of All Students at Such Institutions and Whether They are Pay, Beneficiary or Scholarship Students; and to Require the Auditors of All the Counties to Keep a Record and File of all Affidavits of Inability to Pay Tuition Made Before Them, as Now Required by Law.

Section 1. Be it enacted by the General Assembly of the State of South Carolina, That from and after the approval of this Act, the authorities of all colleges or institutions of learning supported in whole or in part by the State, shall report to the General Assembly at its annual meeting the names of all students, with the post office address of each and whether such students are pay, beneficiary or scholarship students.

Section 2. That the Auditors of the several Counties of this State be required to keep a record and file of all affidavits made before them, as now required by law, of inability on the part of the parent, guardian or trustee to pay tuition.

Section 3. That all Acts and parts of Acts inconsistent with this Act be, and the same are hereby, repealed.

Approved the 24th day of February, A. D., 1906.

In accordance with this law, residents of South Carolina are granted free tuition upon presentation of a certificate, signed by the county auditor.

Certificate blanks will be furnished upon application to the President.

A new certificate must be furnished each session.

Grades, Reports and Examinations

Reports of class standing and discipline are sent to the parents at intervals of approximately one and one half months throughout the session. During 1914-1915 these reports will be made up for periods ending on the following dates, and will usually be mailed to parents about one week later, **October 24, and December 23*, 1914; February 6 and March 20*, 1915; April 24 and June 5*, 1915.**

Dates marked with an asterisk are approximate, depending upon the time that the term examinations end. Grades sent out on these three dates are a combination of the examination grade with the average grade of two "months."

Examinations are held at the close of each term, and reports are sent to parents, giving the results of these examinations and also the averages of "monthly" grades in all subjects pursued by the student. The student must attain at least the pass-mark, 60 per cent., on both examination grade and term class mark in each term and in every subject in his course, in order to be entitled to promotion to the next higher class.

Rules for Re-examination and Promotion

1. No re-examination shall be granted to a student in a subject in which he has made a class mark of less than 60 per cent. for the term, or an examination mark of less than 40 per cent.

No student shall be allowed re-examination who makes less than 60 per cent. on more than three term examinations during the session, or more than two examinations for one term, provided that if all three failures are in the same subject, he may be allowed re-examination in one additional subject for one term.

2. A student who fails on re-examination or term class mark shall be required to take that work over with the class, and schedule it first.

3. A student who, for any reason, fails to take his re-examination at the scheduled time, shall not be allowed to take the examination except by permission of the General Faculty.

4. All re-examinations, except for Seniors, shall be held during the first five days of the session, provided, however, that if a student has missed all term examinations on account of sickness he may be granted re-examinations at special times suitable to the Faculty and to the instructors concerned.

5. A student who is granted special privileges to make up work shall report at the next scheduled period after the privilege is granted, and shall first make up the subjects in which he is deficient in the lower class. A list of such delinquents shall be furnished each instructor concerned.

6. A failure in practical work shall have the same weight as a failure in a theoretical subject.

7. A student taking the class over forfeits all previous records in that class.

8. No student may take a term or a class more than twice.

9. No student who has failed in more than one subject for the preceding year shall be promoted from one class to an-

other, and a student who is promoted with work behind shall be required to schedule first the subjects in which he is deficient.

10. No student who has work to make up shall be promoted to the Senior class.

11. No student who has work to make up in a subject shall be promoted in that subject.

Rules Governing Irregular Courses.—1. Diplomas are not issued to students in irregular courses, but a certificate of proficiency will be given when the work completed is deemed worthy of it.

2. Application for an irregular course must be accompanied by the written approval of the parent or guardian and of the directors of the departments in which the work is to be taken.

3. All irregular students are required to make a new application to the Faculty for an irregular course at the beginning of the College year.

4. Irregular students shall take not less than 26 hours of work of which not less than 12 hours shall be "theoretical" work.

5. A student below the Junior class shall not be granted an irregular course.

6. For students who have failed in the Junior class and who must take two years to graduate, the Junior subjects are regular.

Rules Governing Change of Course.—1. Students in the three upper classes are allowed one month from the date of their entrance to such class in which to make application to change course.

2. Change of course in the Freshman class will be granted only at the beginning of the second term, and petitions for such change must be presented within ten days after the opening of the second term.

Rules Governing Make-up Work.—I. No grades shall be given for absences, excused or unexcused, except as herein provided.

2. When for any reason except military duty a student is absent during a "month" from one-fifth or more of the total number of class periods in any theoretical subject, he shall be required within thirty days from return to duty to make up the work to the satisfaction of the instructor, the grade attained to be entered as the average grade for the period of absence.

3. All absences from practical work, except on account of military duty, shall be made up to the satisfaction of the instructor within thirty days from return to duty.

4. Any student failing to make up practical work at the appointed time shall be reported to the Military Department for punishment.

5. All absences from monthly reviews or examinations shall be made up. If absence is on account of military duty, it shall be made up in such regular schedule hour for the subject as the instructor may designate.

6. Students entering the Sophomore class or entering the Freshman class late, shall be given till the end of the following year to make up practical work. Students entering the Sophomore class in engineering courses may make up Freshman Agriculture by examination at the discretion of the Director of the Agricultural Department.

DEGREES, MEDALS AND HONORS

The degree of Bachelor of Science (B. S.) will be conferred on any student who satisfactorily completes one of the prescribed four-year courses of study, as tabulated on the following pages, and submits an approved thesis not later than June 1st of his Senior year. The course pursued is indicated on the diploma.

Distinguished Students.—Students who make an average grade of 90 per cent. or over for any session are designated as **distinguished**; provided, however, that the minimum grade on any subject shall not be less than 80 per cent. Students who attain to a certain standard fixed by the Faculty will have their names publicly announced, printed in one or more College publications, and notification will be sent to their parents.

The following students had no failures, no work to make up, and less than 20 demerits at the close of each term during the session of 1912-1913:

Agnew, E. H.	McCord, A. S.
Amme, D. A.	Norris, J. E.
Armstrong, F. E.	O'Dell, D. G.
Armstrong, G. M.	Odum, R. J.
Banks, D. H.	Pearlstine, L. C.
Banks, D. K.	Poole, R. F.
Berley, J. A.	Pressley, E. H.
Boone, J. E.	Quattlebaum, H. H.
Boone, T. E.	Sanders, J. W.
Camp, W. B.	Senn, P. H.
Dunlap, J. E.	Shannon, C. J.
Eleazer, J. M.	Simpson, D. M.
Ferguson, T. M.	Stewart, R. B.
Garris, E. W.	Stribling, J. W.
Garris, J. M.	Suggs, H. L.
Harris, G. L.	Tate, T. H.
Howell, V. M.	Thornton, R. P.
Hunter, W. J.	Wannamaker, H. L.
Jeffords, T. E.	Wannamaker, W. B.
Jenkins, R. F.	Warner, H. T.
Kyzer, E. D.	West, C. T.
May, L. A.	Woods, E. T.
Morrison, W. A.	Young, E. C.
McCall, P. L.	

A Blue Silk C. A. C. Flag is awarded in June of each year to the best drilled company, and is carried by it during the succeeding year.

Literary Society Medals.—It is customary for the three literary societies to award gold medals annually for excellence in debate, oratory, and declamation.

The medals for excellency in debate were won by W. H. Frampton, '13, Calhoun; C. P. Youmans, '13, Columbian; T. C. Haddon, '14, Palmetto.

In oratory by J. B. Douthit, '14, Calhoun; D. L. Cannon, '13, Columbian; A. C. Turbeville, '13, Palmetto.

In declamation by L. O. Campbell, '16, Calhoun; D. E. Swinehart, '15, Columbian; O. R. Bell, '16, Palmetto.

The Chronicle Medals.—The Chronicle, the monthly magazine published by the literary societies, also usually awards three gold medals, for the best story, the best poem, and the best essay contributed by students during the year.

Trustees' Medal.—The Board of Trustees has established a gold medal, to be awarded annually to the best speaker among the representatives of the literary societies at Commencement. These representatives are chosen by judges selected by the societies at the annual public exercises in Memorial Hall. The medal is awarded by judges selected by the Faculty. Won in 1913 by W. H. Frampton.

R. W. Simpson Medal.—A gold medal thus designated is awarded annually to the best drilled cadet in the Freshman, Sophomore or Junior class. This medal was won in 1913 by Cadet J. E. Glover, '15.

Norris Medal.—The following is from Col. Norris' will and covers the conditions upon which the medal is awarded:

"I give \$500. face value, Norris Cotton Mill stock, to the Trustees of Clemson Agricultural College of South Carolina, on condition, the dividend thereon shall be applied annually to the purchase of a gold medal, to be known as the 'Norris Medal,' to be awarded to the student of Clemson College

meriting the same at graduation, under such rules and conditions as may be prescribed by the said Board of Trustees, and which medal shall have engraved on it '**Honos habet onus**' (Honors bring responsibilities)."

The medal was awarded in 1913 to W. G. McLeod.

Appointments in the Army

Every institution with a military department in charge of a detailed officer of the Army is inspected annually by an officer of the General Staff.

As a result of these inspections, institutions are graded into classes, the designation "M. C." being given to the college in the highest class. This college is rated "M. C."

Ten colleges are rated annually as "Distinguished Colleges" and for each year that a college is so rated the President and Professor of Military Science and Tactics rate one member of the graduating class of that year as an "Honor Graduate," and the President of the United States authorizes the announcement that an appointment as second lieutenant in the Regular Army will be awarded annually to such "Honor Graduate" provided a vacancy exists. This "Honor Graduate" is excused from the mental examination required of ordinary candidates from civil life.

DEGREE COURSES

The College offers the following six regular courses of study, each leading to the degree of Bachelor of Science (B. S.), the course pursued being designated on the diploma.

AGRICULTURE

CHEMISTRY

MECHANICAL AND ELECTRICAL ENGINEERING.

CIVIL ENGINEERING

TEXTILE INDUSTRY

ARCHITECTURAL ENGINEERING

In addition to these courses, special shorter courses are offered in the Agricultural, the Engineering and the Textile departments, but these do not lead to any degree.

Course I. Agriculture

The course in Agriculture, supplemented by work in mathematics, English, political economy, history, and the natural sciences, allows no differentiation during the first three years. Its object is to give the student such a broad general knowledge of the subject that he will have a solid foundation for specialization in his Senior year and will be able to choose intelligently at the end of his Junior year which of the various branches he desires to study in more detail.

In the Senior year the student will elect a major and minors, the former requiring five hours per week of recitation work and six hours per week of laboratory each term, and the latter requiring two hours per week of recitation and two of practical or laboratory work the first term, and four hours per week of recitation and six of practical work the second and third terms.

Division A gives special attention to crops, soils, plant breeding, and farm machinery.

Division B, botany, prepares the student for experiment station work, investigation and teaching.

Division C, chemistry, fits the student for experiment station, fertilizer and general agricultural chemical work.

Division D, animal husbandry, embraces dairying, judging, breeding, feeding, and care of stock.

Division E, entomology, familiarizes the student with insects, especially those injurious to all kinds of plant life.

Division F, veterinary science, instructs in the elements of veterinary medicine and the care of animals.

Division G, horticulture, teaches gardening, fruit growing, truck raising and landscape gardening.

AGRICULTURE

Freshman Class

	Hours per week				Hours per week		
	1st Term	2nd Term	3rd Term		1st Term	2nd Term	3rd Term
Theoretical				Practical			
Mathematics (620,621,622) ...	5	5	5	Forge (371)	2	2	2
English (600)	5	5	5	Wood Work (391)	2	2	2
History (610,611,612)	3	3	3	Mechanical Drawing (342)	2	2	2
Agriculture (100)	2	2	2	Freehand Drawing (340)	2	2	2
				Botany (190, 191, 192)	2	2	4
				Bookkeeping (650, 651)	2	2	0
				Drill (661)	3	3	3
	<hr/>				<hr/>		
	15	15	15		15	15	15

Sophomore Class

Mathematics (621, 622)	2	3	0	Physics (633)	0	2	2
English (601)	3	3	3	Chemistry (401)	3	2	2
Chemistry (400)	3	3	3	Civil Engineering (322)	3	0	0
Physics (630)	3	3	3	Ento. and Zoo. (150, 151, 152)	4	4	2
Civil Engineering (321)	3	0	0	Botany (196, 195)	0	4	4
Ento. and Zoo. (150, 151, 152)	1	2	3	Agriculture (101)	0	0	2
Botany (196, 195)	0	1	1	Physiography (110)	2	0	0
Agriculture (101)	0	0	2	Drill (661)	3	3	3
	<hr/>				<hr/>		
	15	15	15		15	15	15

Junior Class

English (602)	2	2	2	Entomology (153)	2	0	0
History (613)	2	2	2	Chemistry (408)	3	3	3
Chemistry (404, 405)	2	2	2	Horticulture (120, 121)	2	0	2
Horticulture (120, 121)	2	0	2	Animal Husbandry (171) ..	0	0	3
Animal Husbandry (170, 171)	0	2	2	Dairying (182)	3	3	0
Dairying (181)	2	0	0	Vet. Science (141)	0	4	0
Vet. Science (140)	2	2	2	Agriculture (210, 102)	2	2	2
Agriculture (210, 102)	2	2	2	Forestry (194)	0	0	2
Mil. Science (660)	1	1	1	Drill (661)	3	3	3
	<hr/>				<hr/>		
	15	15	15		15	15	15

Senior Class

English (603)	2	2	2	Bacteriology (197)	4	0	0
Economics (614)	2	2	2	Drill (661)	3	3	3
Geology (114)	2	2	2		<hr/>		
Bacteriology (197)	2	0	0		7	3	3
	<hr/>				<hr/>		
	8	6	6	Major Subjects	6	6	6
Major Subjects	5	5	5	Minor Subjects	2	6	6
Minor Subjects	2	4	4		<hr/>		
	<hr/>				15	15	15
	15	15	15				

Course II. Chemistry

This course is intended to prepare the student for engaging in manufacturing operations involving chemistry, or for employment as chemist in commercial or fertilizer inspection laboratories, and in experiment station or U. S. Government service. A student completing this course satisfactorily will also be well equipped to undertake advanced work in chemistry and to teach the subject.

The first year of the course is the same as in Course I., Agriculture, (see pages 60 and 61). Beginning in the Sophomore year, and continuing throughout this course, increasing stress is laid upon chemistry, until in the Senior year all the practical work, with the exception of military drill, is devoted to analytical chemistry. With the above stated end in view the student will be given an opportunity to become familiar with many methods of analysis commonly used in commercial and general laboratory work. He will be permitted and encouraged to undertake as many such methods as he can perform without interfering with that indispensable fundamental instruction necessary for every properly trained analytical chemist.

The student is well grounded in English, German, mathematics, physics, mineralogy, chemical geology and chemistry, the emphasis being given to chemistry, especially during the last two years. German has been introduced into this course because a reading knowledge of this language is almost indispensable to the student who wishes to undertake advanced work in chemistry, or to stand examinations for positions in the U. S. Government service.

CHEMISTRY

Freshman Class

	Hours per week			Hours per week		
	1st Term	2nd Term	3rd Term	1st Term	2nd Term	3rd Term
Theoretical						
Mathematics (620,621,622) ...	5	5	5			
English (600)	5	5	5			
History (610,611,612)	3	3	3			
Agriculture (100)	2	2	2			
	15	15	15			
Practical						
Forge (371)	2	2	2			
Wood Work (391)	2	2	2			
Freehand Drawing (340) ..	2	2	2			
Mechanical Drawing (342) ..	2	2	2			
Botany (190,191,192)	2	2	4			
Bookkeeping (650,651)	2	2	0			
Drill (661)	3	3	3			
	15	15	15			

Sophomore Class

Mathematics (621,622,623,624) ..	5	5	5	Chemical Laboratory (401) ..	4	4	4
English (601)	3	3	3	Chemical Laboratory (402) ..	0	2	2
History (613)	3	2	0	Chemical Laboratory (402) ..	0	2	2
Chemistry (400)	3	3	3	Mechanical Drawing (343) ..	2	2	2
Physics (631)	2	2	2	Bacteriology (197)	4	0	0
Chemistry (402)	0	0	2	Physical Laboratory (634) ..	0	0	2
	16	15	15	Drill (661)	3	3	3
					13	13	15

Junior Class

Mathematics (627,628)	4	0	0	Assaying (407)	2	0	0
English (602)	2	2	2	Organic Laboratory (410) ..	0	4	2
Chemistry (404,405)	2	2	4	Chemical Laboratory (409) ..	6	6	6
Chemistry (406)	2	2	2	Physical Laboratory (635) ..	2	2	2
Physics (632)	2	2	2	Mineralogy (112)	2	2	2
German (640)	0	2	2	Drill (661)	3	3	3
Mineralogy (112)	2	2	2				
Mil. Science (660)	1	1	1				
	15	13	15				
					15	17	15

Senior Class

English (603)	2	2	2	Chemical Laboratory (416) ..	12	12	12
Economics (614)	2	2	2	Drill (661)	3	3	3
Chemistry (411)	2	2	2				
Chemistry (412,413)	2	2	2				
Metallurgy (414)	2	2	2				
Chemical Geology (115)	2	2	2				
German (641)	3	3	3				
	15	15	15				
					15	15	15

Course III. Mechanical and Electrical Engineering

This course is designed to fit young men for positions in the various departments of these professions. It attempts, by practical and theoretical instruction, to lay a solid scientific foundation upon which the student may build rapidly after graduation. The experience necessary to make a successful engineer can not be acquired in a college course, but the technical graduate usually distances his uneducated competitors in the acquirement of practical knowledge and experience.

Within the department are taught mechanics, and mechanical and electrical engineering. Along with the theoretical instruction in these subjects, practice is given in well equipped laboratories.

Shop instruction is given in carpentry, turning, and pattern-making; in moulding; chipping and filing, and the use of machine tools. The purpose of this instruction is not to turn out skilled artisans, but to train those faculties of mind which can best be reached through the work of the hand.

The work in drawing is made one of the features of the course.

MECHANICAL AND ELECTRICAL ENGINEERING

Freshman Class

	Hours per week				Hours per week		
	1st Term	2nd Term	3rd Term		1st Term	2nd Term	3rd Term
Theoretical				Practical			
Mathematics (620,621,622) ...	5	5	5	Forge (370)	3	3	3
English (600)	5	5	5	Wood Work (390)	4	4	4
History (610,611,612)	3	3	3	Freehand Drawing (340) ...	2	2	2
Agriculture (100)	2	2	2	Mechanical Drawing (341) ..	3	3	3
				Drill (661)	3	3	3
	<hr/>				<hr/>		
	15	15	15		15	15	15

Sophomore Class

Mathematics (621,622,623,624) ..	5	5	5	Drawing (343)	2	2	2
English (601)	3	3	3	Physics (624)	0	0	2
Chemistry (400)	3	3	3	Chemical Laboratory (401) ..	2	2	2
Physics (631)	2	2	2	Foundry (372)	2	2	2
Civil Engineering (323)	0	0	3	Descriptive Geometry (320) ..	2	2	0
History (613)	3	2	0	Civil Engineering (324)	0	2	2
				Wood Work (392)	2	2	0
				Drill (661)	3	3	3
	<hr/>				<hr/>		
	16	15	16		13	15	13

Junior Class

Mathematics (625,626)	5	3	3	Mechanical Drawing (345) ..	2	2	2
English (602)	2	2	2	Physical Laboratory (635) ..	2	2	2
Physics (632)	2	2	2	Machine Shop (380)	4	4	4
Electrical Eng. (310)	3	2	3	Practical Mechanics (381) ..	1	1	1
Mechanism (300)	2	0	0	Electrical Laboratory (311) ..	3	3	3
Mechanics (301)	0	3	2	Drill (661)	3	3	3
Geology (113)	0	2	2				
Mil. Science (660)	1	1	1				
	<hr/>				<hr/>		
	15	15	15		15	15	15

Senior Class

English (603)	2	2	2	Electrical Laboratory (313) ..	4	4	4
Economics (614)	2	2	2	Mechanical Laboratory (304) ..	4	4	4
Electrical Eng. (312)	5	5	5	Drawing (347)	4	4	4
Mechanics of Eng. (302) ..	2	2	0	Drill (661)	3	3	3
Mechanical Engineering (303) ..	3	4	5				
	<hr/>				<hr/>		
	14	15	14		15	15	15

Course IV. Civil Engineering

This course is intended to prepare young men for entrance upon professional practice in some of the many branches of civil engineering, and also to meet the needs of those who, having been engaged in engineering work without a course of instruction, desire to equip themselves for more successful competition with those who have had such instruction.

In connection with the technical studies, liberal training is given in English, history, economics, pure mathematics, and the physical sciences. The course will also be found to embrace about the same amount of drawing, shop work, mechanical engineering and mechanical laboratory practice as the other engineering courses.

The distinctive work pursued by students in this course includes the study of land surveying and plotting, topographic surveying and mapping; location, construction, and maintenance of roads, railroads, streets, and pavements; strength of materials, masonry construction, foundations on land and in water; analytic and graphic investigations of stresses in girders, roofs and bridges, and the design of these structures; the principles of hydraulics as applied to dams, reservoirs, canals, municipal water-works, and the development of water power.

CIVIL ENGINEERING

Freshman Class

	Hours per week				Hours per week		
	1st Term	2nd Term	3rd Term		1st Term	2nd Term	3rd Term
Theoretical				Practical			
Mathematics (620,621,622) ...	5	5	5	Forge (370)	3	3	3
English (600)	5	5	5	Wood Work (390)	4	4	4
History (610,611,612)	3	3	3	Freehand Drawing (340) ...	2	2	2
Agriculture (100)	2	2	2	Mechanical Drawing (341)	3	3	3
				Drill (661)	3	3	3
	15	15	15		15	15	15

Sophomore Class

Mathematics (621,622,623,624)	5	5	5	Mechanical Drawing (344)	2	2	2
English (601)	3	3	3	Physics (634)	0	0	2
Chemistry (400)	3	3	3	Chemical Laboratory (401)	2	2	2
Physics (631)	2	2	2	Foundry (372)	3	3	3
Civil Engineering (323)	0	0	3	Descriptive Geometry (320)	2	2	0
History (613)	3	2	0	Civil Engineering (324)	0	2	2
				Wood Work (392)	2	2	0
				Drill (661)	3	3	3
					13	15	13

Junior Class

Mathematics (625,626)	5	3	3	Mech. Drawing (346)	2	2	2
English (602)	2	2	2	Physical Laboratory (635)	2	2	2
Physics (632)	2	2	2	Machine Shop (380)	4	4	4
Civil Engineering (327)	3	2	3	Practical Mechanics (381)	1	1	1
Mechanism (300)	2	0	0	Civil Engineering (328)	3	3	3
Geology (113)	0	2	2	Drill (661)	3	3	3
Mechanics (301)	0	3	2				
Mil. Science (660)	1	1	1				
	15	15	15		15	15	15

Senior Class

English (603)	2	2	2	Civil Engineering (330)	4	4	4
Economics (614)	2	2	2	Mechanical Laboratory (304)	4	4	4
Civil Engineering (329)	5	5	5	Drawing (348)	4	4	4
Mechanics of Eng. (302) ..	2	0	0	Drill (661)	3	3	3
Mechanical Eng. (303)	3	4	5				
Electricity (314)	0	2	0				
	14	15	14		15	15	15

Course V. Textile Industry

The course in Textile Industry is designed to give the student sound training, both theoretical and practical, in the sciences upon which manufacturing processes are based. The curriculum of the course recognizes that in a profession of so many aspects a broad general cultivation, a liberal training in design, and a thorough knowledge of the underlying principles are necessary for its successful practice.

The first two years are taken up with a broad general training along scientific and mechanical lines, while from the beginning of the Junior year the work takes on a distinctly professional character. The practical work is carried on for the purpose of developing in the student habits of accurate observation, and of bringing to his consideration not only methods of fundamental importance, but also questions of economy of time, precision of results, and attraction to details.

This course does not presume to fit one for the management of a mill, but the graduate is in possession of such information, and has acquired such experience and knowledge that he may look forward to a successful career as manufacturer, mill architect, or technical chemist, provided he has the necessary energy, application and tact, and a willingness to begin at the bottom.

TEXTILE INDUSTRY

Freshman Class

	Hours per week				Hours per week		
	1st Term	2nd Term	3rd Term		1st Term	2nd Term	3rd Term
Theoretical				Practical			
Mathematics (620,621,622)	5	5	5	Forge (370)	3	3	3
English (600)	5	5	5	Wood Work (390)	4	4	4
History (610,611,612)	3	3	3	Freehand Drawing (340)	2	2	2
Agriculture (100)	2	2	2	Mechanical Drawing (341)	3	3	3
				Drill (661)	3	3	3
	<hr/>				<hr/>		
	15	15	15		15	15	15

Sophomore Class

Mathematics (621,622,623,624)	5	5	5	Foundry (372)	2	2	2
English (601)	3	3	3	Wood Work (392)	2	2	0
History (613)	2	0		Descriptive Geometry (320)	2	2	0
Chemistry (400)	3	3	3	Chemical Laboratory (401)	2	2	2
Physics (631)	2	2	2	Physical Laboratory (634) ..	0	0	2
Civil Engineering (323) ...	0	0	3	Civil Engineering (324)	0	2	2
				Mechanical Drawing (343)	2	2	2
				Drill (661)	3	3	3
	16	15	16		13	15	13

Junior Class

Mathematics (627,628)	4	0	0	Machine Shop (380)	2	2	2
English (602)	2	2		Practical Mechanics (381)	1	1	1
Designing (510)	2	2	2	Weaving (512)	4	4	4
Card. and Spin. (520,521,522)	2	2	2	Card. and Spin. (520,521,522)	2	4	4
Textile Chemistry (500) ...	0	2	3	Textile Chemistry (501) ...	3	2	2
Physics (632)	2	2		Drill (661)	3	3	3
Mechanism (300)	2	0	0				
Mechanics (301)	0	3	2				
Mil. Science (660)	1	1	1				
	15	14	14		15	16	16

Senior Class

English (603)	2	2		Card. & Spin. (523,524,525,526)	4	2	4
Economics (614)	2	2		Weaving (514)	4	4	4
Mechanical Engineering(303)	3	0	3	Mech. Laboratory (305)	0	3	2
Card. and Spin. (523,524,525)	2	3	2	Textile Chemistry (503)	4	4	2
Designing (511)	2	3	3	Drill (661)	3	3	3
Weaving (513)	2	2					
Textile Chemistry (502)	2	2	2				
Mill Economics (526)	0	0	2				
	15	14	15		15	16	15

Cuorse VI. Architectural Engineering

This course is established to comply with an increasing demand in the South for men trained in architectural design, building construction, and allied subjects. The course as planned covers a period of four years' study, of which the first two are devoted to technical subjects similar to the other engineering courses, except that drawing, and more especially descriptive geometry, are strongly emphasized in their special application to architectural drawing and rendering. It is recognized that architecture must be treated as an art, as well as a science, and as drawing and design are the most essential elements in an architect's professional work, the greatest possible amount of time is given to them in the Junior and Senior years. Throughout the entire course special attention is paid to the engineering branch of the architect's profession. A thorough study is made of the materials used in construction. Analytic and graphic investigations of stresses in girders, roofs, etc., are made in detail. The various systems of heating and lighting are also studied.

The successful architect must have, not only a thorough knowledge of design and building construction, but also a broad sympathy with all intellectual culture. In order to obtain this, the student is encouraged to read literature, history, and science.

Freshman Class

	Hours per week				Hours per week		
	1st Term	2nd Term	3rd Term		1st Term	2nd Term	3rd Term
Theoretical				Practical			
Mathematics (620,621,622) ...	5	5	5	Forge (370)	3	3	3
English (600)	5	5	5	Mechanical Drawing (341) ..	3	3	3
History (610,611,612)	3	3	3	Freehand Drawing (340) ...	2	2	2
Agriculture (100)	2	2	2	Wood Work (390)	4	4	4
				Drill (661)	3	3	3
	15	15	15		15	15	15

Sophomore Class

Mathematics (621,622,623,624) ..	5	5	5	Foundry (372)	0	2	0
English (601)	3	3	3	Chem. Laboratory (401)	2	2	2
Chemistry (400)	3	3	3	Physics (634)	0	0	2
Physics (631)	2	2	2	Arch. Drawing (351)	2	2	2
Descriptive Geom. (320) ..	0	0	2	Freehand Drawing (352) ..	2	3	4
History (613)	3	2	0	Descriptive Geometry (350) ..	4	3	2
				Drill (661)	3	3	3
	16	15	15		13	15	15

Junior Class

Mathematics (625,626)	5	3	3	Architectural Des. (354)	6	5	8
English (602)	2	2	2	Freehand Drawing (355)	4	2	0
Physics (632)	2	2	2	Civil Engineering (326)	0	3	0
Civil Engineering (325)	2	0	0	Min. Laboratory (111)	0	0	2
Bldg. Construction (353)	3	2	3	Physical Laboratory (635) ..	2	2	2
Mechanics (301)	0	3	2	Drill (661)	3	3	3
Geology (113)	0	2	2				
Mil. Science (660)	1	1	1				
	15	15	15		15	15	15

Senior Class

English (603)	2	2	2	Architectural Des. (361) ...	8	12	12
Economics (614)	2	2	2	Testing Laboratory (306) ..	4	0	0
History of Arch. (356)	2	2	2	Drill (661)	3	3	3
Mechanics of Eng. (302) ..	2	2	0				
Arch. Engineering (357)	4	2	4				
Bldg. Construction (358)	2	2	2				
Heat and Sanitation (359) ..	0	2	2				
Profes. Prac. (360)	1	1	1				
	15	15	15		45	15	15

SHORT COURSES

VII. One-year Agricultural Course

The purpose of the course is to teach the simple scientific principles upon which good farming rests. Its purpose is to take a young man already a farmer and make him a better farmer. It is not intended to train men who are without agricultural experience to become farmers, because such a task would be difficult, if not impossible to attain in a brief college course.

The One-year Agricultural Course is open to young men eighteen years old or over who, since they were ten years of age, have had at least five years experience on the farm.

The One-year Agricultural Course is not a substitute for the four-year degree course which is recommended to all who have time and means to take it.

The course will begin October 1st and end June 1st, and a certificate of proficiency will be given those who successfully finish the course and stand the final examinations.

The necessary preparation for the course is an elementary school education, including the subjects usually taught through the seventh grade.

In order to get the benefits of cheap board, short course students must live in barracks, and of necessity be subject to military control. For the sake of economy as well as for military reasons, they will wear the College uniform and in all respects deport themselves as do other cadets.

The cost of the course is as follows:

Board, laundry, heat, etc., at \$10 per month	\$80.00
Incidental fee	5.00
Medical fee	6.00
Breakage fee	3.00
Uniforms—2 coats, 2 pairs trousers and 1 cap	23.95*
<hr/>	
Total	\$117.95

This amount is payable as follows:

October 1st, upon matriculation	\$52.95*
November 16th, 1914	22.50
January 23d, 1915	22.50
April 2nd, 1915	20.00

Total \$117.95

Tuition students pay \$40.00,—\$10.00 additional per quarter. In accordance with the State law, residents of South Carolina are granted free tuition upon presentation of a certificate from the County Auditor. These certificates are issued upon affidavit made by the parent or the guardian to the effect that he or she is unable to pay tuition. The certificate blanks will be furnished by the President upon request.

Necessary books and supplies will cost about \$15.00 additional for the session.

Schedule of Subjects—One-year Agricultural Course

	Hours per Week		
	1st term	2nd term	3rd term
Theoretical			
Parliamentary Practice (604)	3	3	3
Bookkeeping (651)	3	3	3
Horticulture (136)	2	0	2
Agriculture (108)	2	2	2
Animal Husbandry and Dairying (187).....	3	3	3
Botany (193)	2	0	0
Entomology (168-169)	0	2	2
Farm Science (116).....	0	2	0
	<hr/>	<hr/>	<hr/>
	15	15	15

* Varies slightly each year.

	Hours per week		
	1st term	2nd term	3rd term
Practical			
Forge Work (373)	2	2	2
Woodwork (393)	2	2	2
Horticulture (136)	2	0	2
Agriculture (108)	2	2	2
Animal Husbandry (187)	2	2	0
Veterinary Science (146)	0	2	0
Botany (193)	2	0	2
Entomology (169)	0	0	2
Cotton Grading (527)	0	2	0
Drill (661)	3	3	3
	—	—	—
	15	15	15

A detailed description of the various subjects taught is given elsewhere.

VIII. Two-year Textile Course

To meet the demands of Southern conditions for a class of young men trained in the finer details of cotton manufacture, a special two-year course has been arranged to accommodate a limited number of students who may not be in a position to take the four-year textile course.

The course includes mathematics, English, freehand and mechanical drawing, carding, spinning, weaving and designing, is thoroughly practical, and allows the greater portion of the student's time to be devoted to the study of textiles in its several branches.

To pursue his course successfully the student must be well grounded in arithmetic, and should be capable of expressing his thoughts clearly in writing. The student seeking admission to this course must present himself at the College during the regular entrance examination period, September 16 to 18, 1914, and satisfy his instructors that he is prepared to undertake the work. No student will be admitted after that time. Students must be at least 18 years of age, and must have had

at least one year's experience in some cotton mill. Students who have failed in the regular degree courses will not be allowed to change to this course. No diploma is conferred upon the completion of this work, but the student receives a certificate showing that he has finished the course.

Schedule of Subjects—Two-year Textile Course

	Hours per Week		
	1st	2nd	3rd
First Year	term	term	term
Mathematics	5	5	5
Freshman English	5	5	5
Carding and Spinning (theory)	2	2	2
Carding and Spinning (practical).....	3	3	3
Mechanical Drawing	3	3	3
Mechanical Drawing	3	3	3
Weaving	6	6	6
Freehand Drawing	3	3	3
	—	—	—
	30	30	30
Second Year			
Mathematics	5	0	0
Sophomore English	3	3	3
Chemistry	3	3	3
Carding and Spinning (theory)	2	2	2
Carding and Spinning (practical)	6	6	6
Chemical Laboratory	2	2	2
Designing	2	3	3
Cloth Analysis and Jacquard Designing..	2	3	3
Weaving	5	8	8
	—	—	—
	30	30	30

Special Courses

Besides students in the regular undergraduate courses, there may be farmers and others of mature age, including graduates of other institutions, who desire to avail themselves of the special privileges offered by the College. To such persons the opportunity is offered, under the advice of the director of the department in which work is contemplated, to pursue special lines of study or investigation in any of the subjects taught in the College, provided attention can be given to them without detriment to the regular classes. Such special students will be admitted after they have satisfied the director of the department that they are qualified to pursue the work with profit.

Special students are excused from military duty, but are subject to the general regulations of the College requiring good conduct and diligent prosecution of course selected. They are not admitted to barracks, but rooms and board may be secured in the community at reasonable rates. They will be required to pay the usual fees, except the price of uniform and board in barracks.

The following Faculty regulations apply to these courses:

1. The course applied for must be such as to fully and profitably occupy the student's time.
2. The application must be accompanied by the written approval of parent or guardian and of instructors in all subjects included in the course.
3. Diplomas are not issued to students in special courses, but a certificate of proficiency will be given when the work completed is deemed worthy of it.

Farmers' Four-weeks Course

It is an established fact that a farm can no longer be run successfully in the old-time haphazard fashion. Science and brains skilfully applied to farming so increase the yield and improve its quality as to make some knowledge of the underlying principles of scientific farming essential to the successful farmer of today. While it is realized that the four-year

course is none too long to give a boy the foundation which will insure success in farming, it is clearly seen that there are many practical farmers who have neither the time nor the means to devote four years to a college course, who would be greatly benefited by a few weeks spent at the College. To meet such a demand the College offers a short course to be given during the summer months. On account of a short course given during the winter of 1914, this course will not begin until the summer of 1915. Much helpful information will be given as to recent improvements in machinery and methods. Agronomy, including plant growth, soil, fertilizers, tillage, implements and farm crops; animal husbandry, including breeds of animals, breeding, feeding, care of animals and stock judging; together with some work in horticulture, dairying, veterinary science, plant diseases and entomology, will comprise the course. Opportunity for special work in dairying, horticulture, or cotton grading, will be given to any desiring it.

Write to the Registrar for detailed information.

Postgraduate Textile Course

This course is, in general, a continuation of the degree course with the addition of such subjects as will lead to a proper understanding of industrial affairs. Frequent discussion of the subjects treated, and wide reading on assigned topics will be special features of the course. The subjects taken up will include combing, mule spinning, mill construction and organization, assembling of machinery, jacquard weaving, building of jacquard harnesses, loom fixing, designing, dyeing, manufacture and technical analysis of chemicals and other products used in the textile industry; and sociology in so far as it touches upon mill life, welfare work and labor problems.

Cotton Grading Course

This course begins with the winter term, (January 12, 1914,) and continues for four weeks. All of the important cottons of the world are studied, but most of the practice is with the

varieties grown in the United States, and especially those grown in South Carolina. Constant practice is given with a full line of samples—including the tinges and stains. A set of arbitrating samples is used for reference and comparison. The physical properties of the fibre are studied with a microscope, and its diameter, length, strength and other spinning qualities determined. The students are given the results of experiments made by the textile students with various grades. The cost of this course is \$10.00.

Special Course in Electrical Engineering

Students desiring to take a special course in electrical engineering should remember that no one can hope to become an electrical engineer who has not the necessary foundation in mechanical engineering, to which electrical engineering is a superstructure.

No special classes will be formed.

Students desiring to enter the Junior class will be expected to be prepared on mechanical drawing, physics and chemistry, and on mathematics. They will be expected to take with the Junior class, in addition to their electrical studies, physics, mechanics, mathematics, mechanical drawing and machine shop work. Without these additional branches the student will not be prepared for the more strictly engineering work of the Senior year.

To enter the Senior class, a student must be proficient in the work of the Junior year, in which physics and calculus are completed.

In addition to the electrical subjects prescribed for the Senior year, he must take—unless he is proficient along these lines—mechanics, mechanical engineering and laboratory, drawing, and machine design.

Students who are not prepared, or unwilling to take the other subjects necessary to the successful study of electrical engineering, will not be permitted to take a special course in this line.

DETAILED DESCRIPTION OF COURSES**1. Agricultural Department**

Agronomy (100-108)

Geology and Mineralogy (110-116)

Horticulture (120-136)

Veterinary Science (140-146)

Zoology and Entomology (150-169)

Animal Husbandry and Dairying (170-187)

Botany and Forestry (190-207)

Soils (210-211)

2. Engineering Department

Mechanical Engineering (300-306)

Electrical Engineering (310-314)

Civil Engineering (320-330)

Drawing and Designing (340-348)

Architectural Engineering (350-361)

Forge and Foundry Work (370-373)

Machine Shop Work (380-381)

Wood Work (390-393)

3. Chemical Department

Chemistry (400-416)

4. Textile Department

Textile Chemistry and Dyeing (500-503)

Weaving and Designing (510-514)

Carding and Spinning (520-527)

5. Academic Department

English (600-604)

History and Political Economy (610-614)

Mathematics (620-628)

Physics (630-635)

German (640-641)

Bookkeeping (650-651)

6. Military Department

Military Science and Tactics (660-661)

AGRICULTURAL DEPARTMENT**J. N. Harper, Director****AGRONOMY****Professor Hutchinson****Assistant Professor Clark****Assistant Lowry****100. Elements of Agriculture. (Hutchinson, Clark, Lowry)
Freshman Class; All Courses**

This course is outlined to serve not only as an introduction to the regular courses in agriculture, but, also, to give a comprehensive view of the subject to (1) students who will not be at the College longer than one year, (2) students in the Engineering and Textile Departments. The object is to familiarize these students with the simpler principles of plant growth, soils, fertilizers, farm crops, animal production, injurious insects, plant diseases, and farm management.

Text-book:—Elements of Agriculture—Warren.

Two periods per week throughout session.

**101. Farm Machinery. (Lowry)
Sophomore Class; Course I.**

The students in this course are made familiar with the principles and uses of tillage, seeding, harvesting, and haying machinery. Much attention is given to the simplicity, efficiency, and durability of the various machines studied.

Text-book:—"Farm Machinery and Farm Motors," by Davidson and Chase.

Two periods theoretical and one practical per week during third term.

**102. Farm Crops. (Hutchinson)
Junior Class; Course I.**

A study of cotton, grain, and root crops, their composition, value, uses, cultivation and improvement. A course in cotton grading is given.

Text-book: "Southern Field Crops."—Duggar.

Two periods theoretical and one practical per week during third term.

103. Plant Breeding. (Hutchinson)**Senior Class; Course I. (Elective)**

A course dealing with the improvement of such field crops as cotton, corn, wheat, oats and the important forage crops. Variation, selection and hybridization are studied.

Text-books: First term—"Plant Breeding."—De Vries. Second term—"Mendelian Inheritance."—Darbishire.

Two periods theoretical per week during first term, two periods theoretical and one practical per week during second term.

104. Farm Crops. (Hutchinson and Clark)**Senior Class; Course I. (Elective)**

A course in the production and handling of the principal forage crops, grains, and miscellaneous crops. Also a course in seed testing.

Text-books: "Field Crops."—Wilson. "The Study of Corn."—Shoesmith.

Two periods theoretical and one practical per week during first term.

105. Farm Motors and Concrete Construction. (Lowry)**Senior Class; Course I. (Elective)**

A study of farm motors with special attention to gas, oil and alcohol engines. Concrete construction involving the operations of mixing and placing cement for farm purposes.

Text-books: "Farm Machinery and Farm Motors."—Davidson & Chase. "Concrete and Farm Buildings."—Sanders.

One period theoretical and one practical per week during first term.

106. Farm Drainage. (Lowry)**Senior Class; Course I. (Elective)**

In this course the student makes a detailed study of the various phases of farm drainage as applied to both small and large areas. Field work is given in the mapping of drainage areas, the construction of terraces, and open ditches, and in the laying of tile.

Text-book: "Engineering for Farm Drainage."—Elliott.

One period theoretical and one practical per week during second term.

107. Farm Management. (Hutchinson)**Senior Class; Course I. (Elective)**

This course is intended to teach the principles of successful agriculture and how to successfully operate an individual farm. Such topics as land, labor, capital, farm buildings, and machinery, choice

of a farm, types of farming, marketing farm produce, and co-operation are considered.

Text-book: "Farm Management."--Warren.

Two periods theoretical per week during second term; three periods theoretical and three practical per week during third term.

108. Agriculture. (Hutchinson and Lowry)

Course VII

This course embraces lectures and laboratory studies of the more important physical properties of soils and their modification, soil fertility, fertilizers, manures, and crop rotation; class room and field work dealing with the planting, cultivation, harvesting, uses and improvement of the most important farm crops; lecture and laboratory work dealing with the assembling of farm implements, their use and handling, cement work, rope splicing, and handy farm devices.

Text-book: Elements of Agriculture.—Warren.

Two periods theoretical, one period practical per week throughout session.

Division Rooms and Equipment.—The class room, the laboratory, and the office of the Agronomy Division are located on the first floor of the Agricultural Hall. The laboratory is supplied with the necessary equipment for the study of the various types of farm crops and the testing of seed for purity and germination.

The farm machinery building is well supplied with agricultural machinery and implements, such as the following: Reapers and binders, corn harvesters, mowers, hay rakes, single and double-row corn planters, cotton planters, ensilage cutter, shredder, gasoline engine, various kinds of mold board and disc plows, riding and walking cultivators, harrows and weeders, and fertilizer and grain drills.

GEOLOGY AND MINERALOGY

Professor Calhoun

110. Physiography. (Calhoun)

Sophomore Class; Course I.

A laboratory course designed to give the student an adequate conception of the use of the meteorological instruments, weather maps, and the general elementary principles of meteorology and climatology.

One period practical per week during first term.

111. Elementary Mineralogy. (Calhoun)

Junior Class; Course VI.

This course consists of laboratory study of the common economic

and rock-making minerals, the common rocks, and the various natural structural materials. The physical properties of minerals are studied and practice is given in the determination of unknown specimens of both minerals and rocks.

Text-book: "Rocks and Minerals of South Carolina."—Calhoun.

One period practical per week during third term.

112. Mineralogy. (Calhoun)

Junior Class; Course II, and as a minor for those who elect major in Chemistry

A comprehensive course in crystallography, physical and chemical mineralogy, and systematic descriptive and determinative mineralogy. Crystallography is taught by lectures and text-book, with laboratory work based on the collections of models and natural crystals; also physical, optical, and chemical properties of minerals, and descriptive mineralogy, covering the more important mineral species. Much of the laboratory work is devoted to the determination of minerals by means of their physical and chemical properties, by comparison with labeled specimens of the systematic collection, and by the use of unlabeled collections for practice in identifying minerals at sight. This course gives a sufficient knowledge of mineralogy for the geologist, metallurgist, mining engineer, or chemist, and will enable the student to identify readily all but the rarer minerals.

Text-book: "Mineralogy."—Moses and Parson.

Two periods theoretical and one practical per week throughout session.

113. Engineering Geology. (Calhoun)

Junior Class; Courses III., IV., VI.

The course in Engineering Geology lays special emphasis on the recognition of common economic rocks and minerals together with their use and adaptability for engineering purposes. Structural geology is studied with especial reference to that portion which deals with problems of excavation and quarrying. Geological and topographic maps are examined with the needs of the engineer in mind.

Text-book: "Geology."—Barrow and Blackwelder.

Two periods theoretical per week during second and third terms.

114. Agricultural Geology. (Calhoun)

Senior Class; Course I.

In this course geology is considered in its practical relation to agriculture. The student becomes familiar with the soil-making

rocks and minerals, the influence of the various mineral constituents in rocks on the texture of soil, the natural mineral fertilizers, and the formation of soils from rocks. The question of the relation of underground water to wells, springs and artesian wells, to drainage problems and to soil water is studied. The classes of soils derived from rivers, wind action and glacier deposits are taken up. The principles and methods of making soil maps are explained. Topographic and geological maps are studied chiefly with reference to agricultural problems.

Text-book: "Geology"—Barrow and Blackwelder.

Two periods theoretical per week throughout session.

115. Chemical Geology. (Calhoun)

Senior Class; Course II.

In this course structural geology, the theory of ore deposits, and the economic side of geology are emphasized. Special stress is laid upon the action of underground water in forming ores and veins. The theories of the formation of various classes of rocks are considered and special attention is given to that side of historical geology which enables the chemist to recognize certain horizons which carry minerals and ores of economic importance.)

Text-book: "Geology."—Barrow and Blackwelder.

Two periods theoretical per week throughout session.

116. Farm Science. (Calhoun)

Course VII

This course in elementary farm science is designed to teach such simple principles of physics, chemistry, geology, and meteorology as are necessary to a full understanding of the other courses offered. It will also enable the student to have a better comprehension of experiment station and Government bulletins and of many common every day problems of farm life.

Text-book: Elements of Farm Science.—Barber.

Two periods theoretical per week during second term.

Division Rooms and Equipment.—The Division of Geology and Mineralogy occupies three rooms on the second floor of the Agricultural Building.

The systematic collections contain about 2,500 labelled specimens of rocks, minerals and fossils. These are exhibited in glass cases in the laboratory and the museum, and are available to students and the public. A collection of the minerals and rocks of South Carolina is a prominent feature of the exhibit. There is also an unlabeled collection of minerals for practice in identifying species at sight; and unlabeled collections of the most important minerals are provided

for determinative work in the laboratory.

The laboratory is supplied with water and gas and all apparatus and reagents necessary for the determination of minerals by means of their chemical and physical properties.

The class room is supplied with large physical wall maps of the world and of all continents, a complete series of topographic contour maps, furnished by the United States Geological Survey, an 18-inch terrestrial globe, a 20-inch relief globe, a set of geological and geographical relief models, and over a thousand lantern slides, stereographs and photographs.

The geographical department of the College library contains the principal standard works of reference in geology and mineralogy, and receives all the publications of the United States Geological Survey as issued, including annual reports, monographs, geologic folios, and bulletins.

HORTICULTURE

Professor Newman

Associate Professor Crider

Assistant Niven

120. Practical Pomology. (Newman and Crider)

Junior Class; Course I.

A course designed to give students a practical knowledge of fruit growing and at the same time serve as foundation work for those electing to take advanced pomology. It embraces a study of orchard location, the selection of site and soils, choice of varieties, preparing the land, laying off the orchard, methods of securing and planting trees, cultivation, fertilizing, pruning and harvesting. The practical work includes budding and grafting, making of orchard plaas, laying out the orchard, planting, pruning and spraying as applied to the leading fruits of South Carolina. The text is supplemented by lectures.

Text-book: Popular Fruit Growing—Green.

Reference-book: Principles of Fruit Growing—Bailey.

Two periods theoretical and one period practical per week during first term.

121. Home Vegetable Gardening. (Newman and Crider)

Junior Class; Course I.

A course dealing largely with the home garden and serving as an introduction to vegetable growing as a business. The work consists in the principles and practices of variety selection; germinative tests; sowing of seeds; transplanting; cultivation; fertilizing and handling manures; manipulation of tools; harvesting and storing. A special

feature of the course is the assignment of individual plots to each student to be planted and cared for as part of the practical work. The text will be supplemented by lecture.

Text-book: Southern Gardener's Practical Manual—Newman.

Two periods theoretical and one period practical per week during third term.

122. Commercial Pomology. (Crider)

Senior Class; Course I. (Elective)

A course embracing the care of fruit trees, the management of orchards and the handling of fruit as applied to commercial fruit growing. Problems of pruning, spraying, cultivation, inter-cropping, cover crops, frost prevention and fertilizing are studied. Also the most approved methods of harvesting, grading, packing, transportation, marketing, storing and the construction of cold storage plants. All the fruits of commercial importance are considered in this course including pome, stone, bush and small fruits, as well as the brambles, nuts, citrus and other sub-tropical and tropical fruits. As an additional feature of the course, visits are made to commercial orchards in the vicinity of the College, thus bringing the student in touch with actual orchard operations. The text is supplemented by lecture.

Text-books: Fruit Harvesting Marketing and Storing—Waugh. American Fruit Culturist—Thomas.

References: Bush Fruits—Chard. Small Fruit Culturist—Fuller. Nut Culture—Fuller.

Two periods theoretical and one period practical per week throughout session.

123. Systematic Pomology. (Crider)

Senior Class; Course I. (Elective)

A study of the history of American horticulture; the origin, evolution and relationship of our cultivated fruits, and the classification, nomenclature and description of the varieties best adapted to the home and commercial orchard. Trees representing the different species of our leading fruits are observed with reference to their characteristic habits of growth and fruit bearing. Practice is given in describing and identifying varieties of fruits and nuts, placing exhibits and fruit judging. For this study, fruits will be collected from the College orchard and other parts of the State. The text is supplemented by lecture and reference work.

Text-books: Evolution of our Native Fruits—Bailey. Systematic Pomology—Waugh.

References: Cyclopedia of Horticulture—Bailey. Apples of New York—Beach. Plums and Grapes of New York—Hedrick.

One period theoretical and one period practical per week during first and second terms.

124. Truck Farming and Market Gardening. (Newman and Crider)
Senior Class; Course I. (Elective)

A course dealing with the principles and practices of commercial vegetable growing on large areas and the methods employed in more intensive culture. Special attention is paid to the trucking industry of South Carolina and the possibilities embodied in its further development. The problems of capital, labor, methods of selling, manuring, irrigation, tools and shipping facilities are fully treated. Attention is also given to the history and botanical relationship of varieties relative to their commercial value. Practice in harvesting, grading and packing vegetables for market is an additional feature of the course. The text is supplemented by lecture and reference.

Text-book: Garden Farming—Corbett.

Reference: Principles of Vegetable Gardening—Bailey. Up-to-date Truck Growing in the South—Davis. Vegetable Gardening—Watts.

Two periods theoretical and one period practical per week during first term.

125. Vegetable Forcing. (Crider)
Senior Class; Course I. (Elective)

A course treating of the principles and practice of forcing vegetables in the greenhouse, hotbed and cold frame with the aim of getting them on the market early and increasing the winter supply for home use. Practice is given in the construction of hot beds and cold frames, glazing, making of paper pots, seed-sowing, transplanting and the care of growing plants. A special study is made of the vegetables adapted to forcing and the advantages of growing them with protection. The text is supplemented by lecture.

Text-book: Forcing Book—Bailey.

Two periods theoretical and one period practical per week during second term.

126. Plant Breeding. (Newman)
Senior Class; Course I. (Elective)

A study of the application of the principles of breeding to the improvement of fruits, vegetables and ornamental plants. Special attention is given to breeding for quality and disease resistance. The discussion of the methods of breeding is accompanied by practical work in the orchard, garden and greenhouse where experiments are made in cross pollination, hybridizing and tests of the self-sterility of varieties. The theoretical work is given by lecture.

Reference: Plant Breeding—Davenport. Plant Breeding—Bailey.

Two periods theoretical and one period practical per week during third term.

127. Landscape Gardening. (Crider)**Senior Class; Course I. (Elective)**

A course which treats of the fundamental principles of landscape art with reference to the improvement and beautifying of country places, school and public grounds. A study is made of the characters and habits of ornamental trees, shrubs and herbaceous perennials and their adaptation to landscape design. Practice consists in mapping, designing plans and specifications, laying out of drives and walks, designating areas for planting, preparing and planting flower beds, making lawns and planting ornamental trees and shrubs.

Text-book: Landscape Gardening—Kemp, revised by F. A. Waugh.

Reference: Landscape Gardening—Waugh. Landscape Gardening—Parsons.

Two periods theoretical and one period practical per week during third term.

128. Tree Surgery. (Crider)**Senior Class; Course I. (Elective)**

A course embodying the study and practice of the most approved methods of caring for trees and shrubs. It includes the technical details of pruning and the treatment of fungus diseases affecting the body and branches of trees. Practice is given in the treatment of wounds and decaying parts of trees and in the means of preventing tree injury. Theoretical work is given by lecture.

Reference: The Tree Doctor—Davey.

One period theoretical and one period practical per week during third term.

129. Floriculture. (Crider)**Senior Class; Course I. (Elective)**

A course dealing with the culture of flowers for cutting and for greenhouse and outdoor planting. It includes the preparation and mixing of soils, seed sowing, making and rooting cuttings, potting of young plants and the handling of bulbs. In addition, methods of pruning and re-potting old plants, execution of simple designs and the arrangement of cut flowers and foliage plants in building decoration are treated. The text is supplemented by lecture.

Text-book: Practical Floriculture—Henderson.

Two periods theoretical, one period practical per week during third term.

130. Greenhouse Management. (Crider)**Senior Class; Course I. (Elective)**

A course which embraces the study of the location, arrangement, heating, different forms of construction and the general care required in the management of greenhouses. The student is instructed in the

practical operations of bench construction, glazing, watering, ventilation, care of furnaces, fumigation and other methods of controlling disease and insects that affect greenhouse plants.

Text-book: Greenhouse Management—Taft.

Reference: Greenhouse Construction—Taft.

One period theoretical and one period practical per week during third term.

131. Nursery Management. (Newman)

Senior Class; Course I. (Elective)

A course in the establishment and maintenance of nurseries. The different methods of propagation are compared with reference to commercial adaptation. Successful methods of planting, labelling, treatment of young growing trees and the management of nursery lands are carefully studied. Also the storing of trees and the construction of storage cellars. Practice is given in the planting out of nursery stock, heeling in, grading and packing trees for shipment.

The theoretical work will be given by lecture.

Reference: The Nursery Book—Bailey.

Two periods theoretical, one period practical per week during second term.

132. Canning and Handling of By-products. (Crider)

Senior Class; Course I. (Elective)

A course in the establishment operation and management of canneries, including a study of horticultural by-products and the fruits and vegetables especially adapted to canning. The different methods of canning, evaporating, drying and manufacture of vinegar and fruit juices are studied, together with the buildings, machinery and apparatus necessary for successful work. Practice is given in the preparation of fruits and vegetables for canning and the details of operating a commercial cannery. The theoretical work is given by lecture.

Two periods theoretical, one period practical per week during first term.

133. Research and Experiment Station Practice. (Newman)

Senior Class; Course I. (Elective)

A course offered for those Seniors who contemplate following college, station, or Government work, or for those students desiring training in research technique. A study is made of experiment station methods, and problems are assigned which will give the students experience in the laboratory, greenhouse, field and library. The theoretical work is given by lecture.

One period theoretical and one period practical per week during third term.

134. Current Literature. (Crider)**Senior Class; Course I. (Elective)****(Open only to students taking their major in Horticulture)**

A study of current horticultural literature, including a review of magazines, journals, station bulletins and the United States Government publications. The horticultural reading room is well equipped for work of this nature.

One period per week throughout session.

135. Thesis.**Senior Class: Course I.**

Each student electing horticulture as a major is required to select some specific line of research in this subject and submit the same to the head of the division by October first. The results must be written up for a thesis.

136. Horticulture. (Crider)**Course VII.**

A course intended to familiarize the student with practical methods of successful fruit and vegetable growing for home use. The first term is devoted to the study of fruit culture, including budding and grafting, selection of orchard sites, choice of varieties, laying off, planting, cultivating, fertilizing, pruning, and spraying orchard. In the third term vegetable gardening is taken up and work is given in variety selection, seed testing, preparation of the land, seed sowing, transplanting, cultivation, rotation, handling of tools, fertilizing and any special treatment necessary for the leading vegetables. Each student is required to plant and cultivate a plot of ground according to the most approved methods of handling the home vegetable garden.

Text-books: How to Make a Fruit Garden.—Fletcher; Practical Gardener's Manual.—Newman.

Two periods theoretical, one period practical per week during first and third terms.

Division Rooms and Equipment.—The facilities of instruction in horticulture include lecture rooms, reading room, laboratory, seed and implement house and practical work room; orchards of all the leading fruits; plantings of vegetables, small fruits and ornamental plants; a nursery of fruit and ornamental trees; greenhouses, hot beds, cold frames and a commercial cannery. The division is also well equipped with tools, implements and apparatus for giving practical work.

The main office of the division is located in the Agricultural Hall; the other offices, lecture room, laboratory and reading room are in

the Dairy Building. The work room is on the basement floor of the Agricultural Hall. One greenhouse is located on the campus and the other in the Horticultural Grounds, where also are the seed and implement house, hot beds, cold frames and cannery.

The laboratory and work room are supplied with packing tables, work benches and other equipment for instructional work. They are used for practice in all manner of propagation of plants; the study of buds and twigs of fruit and ornamental plants; the study of vegetables, fruits and nuts; the design of greenhouse structures; landscape plans and specifications; seed testing; and of sorting, grading and packing horticultural products.

The greenhouses are both large structures well arranged and equipped for work in floriculture and vegetable forcing for which purpose they are largely used. They contain more than two thousand large pot plants of various kinds and several thousand small plants used for outdoor planting. The hot beds and cold frames are of various types for home use and commercial purposes, and serve to give instruction in vegetable forcing.

The cannery is well equipped with apparatus for commercial canning, is used for instructional purposes and for canning fruits and vegetables for the College dining hall.

The horticultural reading room contains all the leading magazines, journals and reference works pertaining to horticulture, as well as the station and United States Government publications. It is intended for use by students specializing in horticulture to give them a broader view of the subject and to enable them to keep in touch with current horticultural information.

VETERINARY SCIENCE

Professor Powers

Assistants: Feeley, Quigley and Barnett

140. Veterinary Anatomy and Physiology (Powers.)

Junior Class; Course I.

This course consists of a series of lectures on anatomy, followed by the study of physiology.

The course in anatomy, which is arranged as an introduction to the study of physiology and stock judging, includes the study of skeletons, and the principal articulations, muscles of locomotion, and the organs of the circulatory, respiratory, digestive, generative and urinary apparatus. Skeletons, models, charts, and dissected specimens are used in this course.

The course in physiology treats of the functions of the various organs of the bodies of domestic animals.

Text-book: Veterinary Physiology.—F. Smith.

Two periods per week throughout session.

141. Physiological Laboratory. (Quigley and Barnett)

Junior Class; Course I.

A laboratory course in physiology.

Text-book: "Exercises in Physiology."—A. Fish.

Two periods per week during second term.

142. Diseases of Animals. (Powers)

Senior Class; Course I. (Elective)

This course consists of a series of lectures on contagious and non-contagious diseases of animals. The first half of the term is devoted to the study of the non-contagious diseases, special attention being given to cause and prevention. The free clinic given each week gives opportunity for students to study many of these diseased conditions.

Two periods theoretical per week throughout session.

143. Veterinary Clinics. (Powers, Feeley, Quigley and Barnett)

Senior Class; Course I.

A free clinic is held at the Veterinary Hospital every Monday afternoon of the session. These clinics are liberally patronized by the stockmen of the surrounding country, and the material thus secured affords practical work in the surgery and the treatment of diseases. Many patients are kept in the hospital for treatment.

One period practical per week throughout session.

144. Veterinary Anatomy (Powers)

Senior Class; Course I. (Elective)

This course is supplementary to the work given in the Junior year and is intended for students who desire to attend a veterinary college after graduation, and for those interested in the study of anatomy.

Text-book: Anatomy—Scisson.

Two periods theoretical and one period practical per week throughout session.

145. Histology (Powers)

Senior Class; Course I. (Elective)

In this course students are required to secure tissues from animals and to cut, stain, and mount preparations. The study of simple tissues is followed by the study of all the important organs of the animal body.

One period practical per week throughout session.

146. Veterinary Science. (Powers)**Course VII.**

This is a short practical course taking up the simple diseases of animals and the methods of treatment.

Reference book: *Veterinary Study for Agricultural Students*—Reynolds.

One period practical per week during second term.

Division Rooms and Equipment.—The Veterinary Hospital is described in the account of "Grounds and Buildings" at another place in the catalogue.

The class room, laboratories and the office of the Veterinary Division are located in the Veterinary Hospital. The laboratories are supplied with microscopes, incubators, sterilizers, chemicals, skeletons, anatomical specimens, plaster casts, and other equipment for class work.

ZOOLOGY AND ENTOMOLOGY

Professor Conradi

Assistant Professor Thomas

150. General Zoology.—(Thomas)**Sophomore Class; Course I.**

This course consists of a study of the fundamental principles of life, including structure, habits and life history of the invertebrate animals. Special emphasis is given the economic aspect, lectures and laboratory dissections of type forms.

Text-book: *Zoology*.—Daugherty.

One period theoretical and two periods practical per week during first term.

151. Vertebrate Zoology. (Thomas)**Sophomore Class; Course I.**

A continuation of the work of the preceding term. In this the student becomes familiar with the general anatomy, physiology, and ecology of typical vertebrate types, together with a general knowledge of the laws of development.

Text-book: *Zoology*.—Daugherty.

Two periods theoretical and two periods practical per week during second term.

152. General Entomology. (Thomas)**Sophomore Class; Course I.**

An introduction to entomology. This course embraces the ele-

mentary principles of entomology including theoretical and laboratory work on the structure and relationship of insects.

Text-book: Entomology.—Sanderson and Jackson.

Three periods theoretical and one period practical per week during third term.

153. Economic Entomology. (Conradi)
Junior Class; Course I.

A practical study of field crop insects and the methods of controlling them. This is mainly a field course and considers principally the effect of fall plowing, cleaning of terraces and cleansing and cover crops. The student is shown why these various operations are recommended.

One period practical per week during first term.

154. Forest Entomology. (Conradi)
Senior Class; Course I. (Elective)

A consideration of the insects attacking forest and shade trees. In this course the life histories, habits and methods of work are studied, together with the parasites and the control methods employed.

Two periods theoretical and one period practical per week during first term.

155. Insects Affecting Stored Products. (Conradi)
Senior Class; Course I. (Elective)

A consideration of the life history, habits and parasites of the insects affecting stored products. In this course the methods of storing are carefully studied and practical demonstrations are given in the fumigation of cribs.

Two periods theoretical and one period practical per week during first term.

156. Insect Anatomy and Histology. (Conradi)
Senior Class; Course I. (Elective)

(Open only to students taking their major in Entomology)

This course consists of the dissecting of specimens together with methods of staining in section.

One period practical during first and second terms.

157. Disease-carrying Insects. (Conradi)
Senior Class; Course I. (Elective)

A consideration of the insects known to carry diseases as well as those that are suspected. It consists of lectures and laboratory

periods on the life history, habits and natural enemies, together with demonstrations for practical control.

One period theoretical and one period practical per week during second term.

158. The Animal Parasites. (Conradi)

Senior Class; Course I. (Elective)

This course consists of laboratory practice on the external and internal animal parasites including the lice, mites and nematodes. The student is given practical work in the field and stables in order to thoroughly familiarize himself with the methods for controlling them.

One period practical per week during second term.

159. Current Literature. (Conradi)

Senior Class; Course I. (Elective)

(A required course open only to students taking their major in Entomology).

This course consists of review of current entomological literature, comprising the magazines, journals and station bulletins, and the United States Government publications.

One period theoretical per week throughout session.

160. Fumigation Methods. (Conradi)

Senior Class; Course I. (Elective)

This course deals especially with the fumigation methods employed in the nursery, greenhouse, and in the orchards. The laboratory is equipped with apparatus for practical demonstration.

One period theoretical per week during second term.

161. Quarantine Methods. (Conradi)

Senior Class; Course I. (Elective)

A consideration of the various laws now in force in the several states together with the methods employed for preventing the dissemination of injurious insects.

One period theoretical per week during second term.

162. Field Crop Insects. (Conradi)

Senior Class; Course I. (Elective)

This is a practical course considering the insects attacking field crops outdoors. The work consists mainly of investigations in the field upon the work of certain insects assigned to the students. Careful consideration is given to culture and farm management as applied to the control of field insects.

One period practical per week during third term.

163. Truck Crop Insects. (Conradi)**Senior Class; Course I. (Elective)**

This course considers the various insects affecting vegetable crops. The lectures are supplemented by laboratory periods as well as field practice upon typical insects assigned to the students. The work is supplemented by demonstrations in the field of control methods, especially the application of insecticides and the manipulation of spray machinery.

Two periods theoretical and one period practical per week during third term.

164. Orchard Insects. (Conradi)**Senior Class; Course I. (Elective)**

A thorough consideration of the insects affecting the apple, pear and stone fruits. The student is given thorough practice in the laboratory in reference to the structure of spraying apparatus, and each student is required to carry out a complete program in the orchard for the control of the various insects destroying the tree and the fruit.

Two periods theoretical and one period practical per week during third term.

165. Economic Ornithology. (Conradi)**Senior Class; Course I. (Elective)**

(Not open to minors).

A study of the relation of birds to insects.

One period practical per week during third term.

166. Field Methods. (Conradi)**Senior Class; Course I. (Elective)**

(Open to majors only).

A study of methods for studying insects under field conditions for the purpose of devising control methods.

One period practical per week during first and third terms.

167. Insectary Methods. (Conradi)**Senior Class; Course I. (Elective)**

(Open to majors only).

The adaptation of breeding apparatus to life history studies and preliminary laboratory control methods.

One period practical per week throughout session.

168. Entomology. (Conradi)**Course VII.**

In this course the student considers such elementary insect structure and insect habits as will enable him to understand the work that

follows. This course includes the study of spraying, dusting, and fumigating apparatus. Field work is given on the winter habits of field insects together with practical work in controlling insects which destroy stored products.

Two periods theoretical per week during second term.

169. Orchard and Garden Insects. (Conradi)

Course VII.

In this course the principal orchard and garden insects are studied. Careful attention is given to the life history and control of these insects. The practical work of this course gives thorough and detailed instruction on the application of sprays for controlling insects. It includes a comparative study of the essential parts of the spray pumps and accessories. Each student is required to work out a practical problem using an orchard, garden, or shade tree grove within this State.

Two periods theoretical and one period practical during third term.

Division Rooms and Equipment

General Laboratory.—This laboratory is located on the second floor of Agricultural Hall, and is equipped with simple and compound microscopes, dissecting instruments, lantern slides, models and charts. A new locker system has been installed and the laboratory is also provided with the most modern laboratory tables. The laboratory chairs are all adjustable in order to provide comfort to the student. This feature of the laboratory prevents physical unrest during long laboratory periods.

Insectary.—The insectary is located on the ground floor of Agricultural Hall, and is equipped with the various types of ordinary breeding cages; also the various types of root, parasite and ant cages; several types of Berlese collecting apparatus are provided, as well as a system of temperature and moisture control for biological purposes. A complete system of spray and fumigating apparatus is housed in the insectary.

Field Laboratories.—Two field laboratories are in operation and the student has access to the methods employed in these laboratories as well as the current records.

Office and Research Laboratory.—The main office and research laboratory of this division is located on the second floor of Agricultural Hall. The office is equipped with modern record systems for operating laboratory, office and field work. The laboratory is equipped with compound microscopes, photographic outfit, microtome, binocular, dark ground illuminator and incubators. The entomological collections are kept on this floor. The economic forms,

arranged according to food plants, are kept in the museum while the systematic and research collections are kept in standard Schmitt boxes in the laboratory.

A carefully selected entomological library is kept in the main office.

ANIMAL HUSBANDRY AND DAIRYING

Professor Shields

Associate Professor Burgess

Assistant Rouse

170. Types and Breeds of Horses, Mules and Beef Cattle. (Rouse) Junior Class; Course I.

Origin and characteristics of types and breeds of horses, mules, and beef cattle.

Text-book: Types and Breeds of Farm Animals.—Plumb.

Two periods theoretical per week during second term.

171. Types and Breeds of Dairy Cattle, Sheep and Swine. (Rouse) Junior Class; Course I.

Origin and characteristics of types and breeds of sheep and swine. Practical work in judging live stock by use of score card and comparison of individuals.

Text-book: Types and Breeds of Farm Animals.—Plumb.

Two periods theoretical and one period practical per week during third term.

172. Principles of Breeding. (Rouse) Senior Class; Course I. (Elective)

General principles of breeding and application to the breeding of farm animals. Practical work in pedigree construction.

Text-book: Breeding Farm Animals.—Marshall.

Two periods theoretical and one period practical per week during first term.

173. Animal Breeding. (Shields and Rouse) Senior Class; Course I. (Elective)

This course is an advanced study in breeding, and includes practical problems in heredity that are applicable to the breeding of farm animals.

Text-book: Principles of Breeding.—Davenport.

Two periods theoretical and one period practical per week during second term.

174. Stock-farm Management. (Shields)**Senior Class; Course I. (Elective)**

Live stock management and its relation to soil fertility.

Two periods theoretical and one period practical per week during third term.

175. Principles of Feeding. (Rouse)**Senior Class; Course I. (Elective)**

A study of the laws of nutrition and the character and composition of feeding stuffs. Laboratory work consists in computing rations and in judging live stock.

Text-book: Feeds and Feeding.—Henry.

Two periods theoretical and one period practical per week during first term.

176. Feeding Animals. (Rouse)**Senior Class; Course I. (Elective)**

This course is an advanced study of feeds and feeding, in which practical experiments with the different kinds of live stock are carefully considered.

Text-book: Feeds and Feeding.—Henry.

Two periods theoretical and one period practical per week during second term.

177. Beef Production. (Shields)**Senior Class; Course I. (Elective)**

General principles of production, systems of management, handling and feeding of beef animals. Text supplemented by discussion and analysis of literature on subjects from station bulletins.

Text-book: Beef Production.—Mumford. Station bulletins.

One period theoretical and one period practical per week during first term.

178. Pork Production. (Shields)**Senior Class; Course I. (Elective)**

Management, breeding and feeding of hogs for the production of pork. Theoretical study supplemented by discussion and analysis of station publications dealing with various experiments on the subject.

Text-book: Station bulletins.

Two periods theoretical and one period practical per week during second term.

179. Horse and Mule Production. (Shields)**Senior Class; Course I. (Elective)**

Productive horse and mule husbandry, care and management being

emphasized. Text and lecture supplemented by discussion and careful analysis of available literature on the subject.

Text-book: Productive Horse Husbandry.—Gay.

Two periods theoretical and one period practical per week during third term.

180. Animal Conformation and Stock Judging. (Shields and Rouse)
Senior Class; Course I. (Elective)

A careful study of type and breed conformation and comparative judging. This course is offered only to students who have taken the preceding courses in which live stock judging is considered.

Text-book: Judging Live Stock.—Craig.

Two periods theoretical and two periods practical per week during third term.

181. Milk and Its Products. (Burgess)
Junior Class; Course I.

The object of this course is to give the student a thorough knowledge of the sanitary conditions necessary in the production and handling of milk; pasteurization; milk testing; dairy machinery, manufacture of butter, cheese, and ice cream, and marketing same.

Text-book: Creamery Butter Making.—Michels.

Two periods theoretical per week during first and second terms.

182. Practical Work in Creamery. (Burgess)
Junior Class; Course I.

Cream separation and ripening; pasteurization of milk and cream, bottling milk; butter and cheese making; milk testing; butter and cheese scoring.

One period practical per week during first and second terms.

183. Milk Hygiene. (Burgess)
Senior Class; Course I. (Elective)

Relation of milk to disease. A study of city milk laws.

Two periods theoretical per week during first term.

184. Herd Record Work and Dairy-farm Management. (Burgess)
Senior Class; Course I. (Elective)

A study of dairy herds based on milk and feeding records; dairy farming and its relation to soil fertility, selection of breeding stock; raising of calves.

Two periods theoretical and one period practical per week during second term.

185. Barn, Silo, and Dairy Construction. (Burgess)
Senior Class; Course I. (Elective)

A study of practical dairy farm equipment; methods and cost of construction; crops for silage.

Two periods theoretical and one period practical per week during third term.

186. Advanced Testing and Butter Judging. (Burgess)
Senior Class; Course I. (Elective)

Butter, cheese, and other milk products tested and judged; determination of preservatives of milk.

One period practical per week during first term.

187. Animal Husbandry and Dairying. (Shields and Burgess)
Course VII.

The course in animal husbandry is a practical consideration of the different types and breeds of farm animals, a careful study being given to those breeds best suited to Southern conditions. A study of practical methods of feeding, the fundamental principles of breeding and judging of farm animals.

The course in dairying embraces practical work in the use of cream separators, the manufacture of butter and the use of the Babcock Test in testing milk and its products. The essentials of successful dairy farm management are carefully considered.

Text-books: *Beginners in Animal Husbandry*.—Plumb; *Dairy Farming*.—Michels.

Three periods theoretical and one period practical per week during first and second terms; three periods theoretical per week during third term.

Division Rooms and Equipment.—The live stock equipment available for studying types and breed characters, comparative judging, etc., consists of a large herd of pure bred and high grade Jerseys, about forty head of high grade Holstein-Friesians, one pure bred Holstein-Friesian bull of excellent merit, and several good specimens of pure bred Ayrshire, Shorthorn, Hereford and Aberdeen-Angus cattle; an excellent herd of Berkshires and several specimens of Duroc-Jersey, Poland China, Essex and Tamworth swine; also a few horses of the following breeds: Percheron; German Coach; and Standard-Bred; one American Bred jack and a varying number of mules from mares of different types.

The dairy laboratories are supplied with equipment for milk testing, butter making and cheese making. Students are furnished with apparatus for testing milk; the Farm Dairy Laboratory is supplied with various makes of cream separators, churns, etc.

BOTANY AND FORESTRY**Professor Barre****Associate Professor Rolfs****Instructor Rosenkrans****190. Elementary Phanerogamic Botany. (Rosenkrans)****Freshman Class; Courses I, II.**

A preliminary practical course in phanerogamic botany consisting of the morphological study of angiosperms from flowers through the entire growth of the plant to the production of flowers. The student's knowledge is made his own through laboratory work and simple investigations. The students have access to a very full line of fresh and preserved botanical material when the course demands its use.

One period practical per week during first term.

191. Elementary Cryptogamic Botany. (Rosenkrans)**Freshman Class; Courses I, II.**

A course in the study of algae, fungi, bryophytes, pteridophytes, and gymnosperms. The broad principles of nutrition, reproduction, growth, sex, adaptation and evolution are illustrated. The students will secure some material from the field for study, although much will be furnished in the laboratory and class room.

One period practical per week during second term.

192. Systematic Botany. (Rosenkrans)**Freshman Class; Courses I, II.**

A course in the taxonomic and ecological features of this region with a laboratory and field study of the main types of angiosperms. A great number of plants are identified and classified and special emphasis is laid upon the distinguishing characteristics of the principal families of the plant kingdom.

Text-book: Gray's New Manual of Botany, or Gray's Field, Forest and Garden Botany.

Two periods practical per week during third term.

193. Botany. (Barre and Rosenkrans)**Course VII**

This course is intended to give a working knowledge of plants and their requirements for life and reproduction, with special reference to their improvement by cross breeding. The care and improvement of the farm woodland will be considered.

Some time will be devoted to the study of the diseases of farm crops, and methods for control and prevention will be considered; this includes directions for the preparation and application of the

more common spray mixtures. Members of the class will be supplied with an abundance of material, both fresh and preserved, for the practical work.

Text-book: *Beginners' Botany*.—Bailey.

Two periods theoretical, one period practical per week during first term; one period practical per week during third term.

194. Elements of Forestry. (Barre)

Junior Class; Course I

A lecture, field, and laboratory course dealing with the general principles of forestry, together with the practical methods applied in lumbering, forest propagation and conservation.

Text-book: *Green's Principles of American Forestry*.

One period practical per week during third term.

195. Plant Physiology. (Barre)

Sophomore Class; Course I.

A study of the structure and functions of plants, the object being to teach the student how plants live and grow and why they are dependent on certain physical factors as light, water, air, etc.

Text-book: *Duggar's Plant Physiology*.

One period theoretical and two periods practical per week during third term.

196. Plant Pathology. (Rolfs and Rosenkrans)

Sophomore Class; Course I.

A systematic study of fungi with special reference to species causing diseases of economic plants. The students are taught to recognize the more common diseases, particularly in the early stages; and the whole question of prevention and practicable remedies is fully discussed. Methods of isolating, artificially cultivating and inoculating with disease-causing organisms will be considered.

Text-book: *Stevens and Hall's Diseases of Economic Plants*.

One period theoretical and two periods practical per week during second term.

197. General Bacteriology. (Rolfs)

Senior Class; Course I.

Sophomore Class; Course II.

A brief study of the general character, habits and work of bacteria is followed by practical work in growing, mounting and determining them. Soil and dairy bacteria are given special attention. The principal bacterial contagious diseases and methods of prevention are considered briefly in the class work.

Text-book: *Frost and Campbell's General Bacteriology*.

Senior Class: Two periods theoretical and two periods practical per week during first term.

Sophomore Class: Two periods practical per week during first term.

198. Animal Bacteriology. (Rolfs)

Senior Class; Course I. (Elective)

This course treats of pathogenic bacteria and dairy bacteriology more in detail. The principal contagious bacterial diseases of animals are studied.

Lectures.

Two periods theoretical and two practical per week during second term.

199. Soil Bacteriology. (Rolfs)

Senior Class; Course I. (Elective)

This course is designed to meet the needs of those students who wish to specialize in bacteriology or in soils and soil fertility.

Lectures.

Two periods theoretical and two practical per week during third term.

200. Diseases of Field Crops. (Barre)

Senior Class; Course I. (Elective)

A detail study of the common and destructive diseases of cotton, corn and other field crops.

Lectures.

Two periods theoretical and one period practical per week during first term.

201. Diseases of Truck Crops and Ornamental Plants. (Barre)

Senior Class; Course I. (Elective)

A detail study of the diseases of garden and truck crops and ornamental plants. Designed for those students who specialize in horticulture.

Lectures.

Two periods theoretical and one period practical per week during second term.

202. Advanced Plant Pathology. (Barre)

Senior Class; Course I. (Elective)

A study of special diseases and of methods of investigation in vogue in plant pathology.

Lectures.

Two periods theoretical and one period practical per week during third term.

203. Plant Physiology. (Barre)**Senior Class; Course I. (Elective)**

A greenhouse and laboratory course in the study of plant behaviour under controlled conditions.

Lectures.

Two periods theoretical and one practical per week during second term.

204. Ecology. (Barre)**Senior Class; Course I. (Elective)**

A study of the relation of the plant to its habitat.

Lectures.

Two periods theoretical and one practical per week during first and third terms.

205. Taxonomy. (Barre)**Senior Class; Course I. (Elective)**

A systematic study of the seed plants of this region.

Lectures.

Three periods theoretical and two periods practical per week throughout session, or one period theoretical and one practical per week throughout session.

206. Mycology. (Barre)**Senior Class; Course I. (Elective)**

A systematic study of fungi. This course is given for those students who wish to specialize in plant pathology.

Lectures.

Three periods theoretical and two periods practical per week throughout session, or one period theoretical and one period practical per week throughout session.

207. Forestry. (Barre)**Senior Class; Course I. (Elective)**

A study of the fundamental principles of forestry, together with a detail study of the forests of this region. This course is designed to meet the needs of students who wish to specialize in forestry.

Lectures.

Three periods theoretical and two periods practical per week throughout session.

Division Rooms and Equipment.—The laboratories and classrooms are located on the first floor of the Agricultural Hall. They contain a good equipment for satisfactory work in botany, forestry and bacteriology, including twenty-five dissecting microscopes, forty-two compound microscopes, microscope slides, lantern

slides and charts, Zimmerman and Minot rotary microtomes, embedding baths, balances, incubator, Arnold and Kock sterilizers, autoclaves, dry ovens, anaerobic apparatus. The students have access to a small botanical and bacteriological library.

A creditable beginning has been made in collecting a herbarium. The herbarium has been installed in new insect-proof cases on the museum balcony. The general collection includes the Anderson herbarium of 2,500 mounted specimens, about 700 mounted specimens of American violets, and 1,000 mounted specimens of flowering plants of Central New York, as well as a set of the F. V. Coville plants, of New York State. The South Carolina herbarium contains over 1,200 mounted specimens, representing the South Carolina flora, and is kept separate from the general herbarium.

Some material has been collected and placed in the museum for exhibition purposes, but as soon as these collections are completed they will be used as demonstration material for classwork.

SOILS

Professor Keitt

210. Soils. (Keitt)

Junior Class; Course I.

This course is a scientific study of the soil, not from one point of view, but in all of its relations to plant production, developing the inter-dependence of geological, chemical, bacteriological, and physical relationships. It deals with the soil as a reservoir for water, as a medium for root development, as a source of nutrients, as a home of organisms, in its relation to heat, air, and, lastly, man's relation to the soil.

A laboratory course is also given, being confined almost exclusively to the physical properties of the soil.

Text-books: Soils.—Lyon and Fippin; The Physical Properties of Soils.—McCall.

Two periods theoretical and one period practical per week during first and second terms.

211. Soil Fertility. (Keitt)

Senior Class; Course I. (Elective)

The purpose of this course is to study the systems of permanent agriculture and the conditions under which plant foods can be conserved, whether in the form of soil compounds, barnyard manures, or commercial fertilizers, and at the same time used with the greatest efficiency and economy in the production of crops. The results of

field tests at the different experiment stations are included in the study.

Text-book: Soils, Fertility and Permanent Agriculture.—Hopkins.
Two periods theoretical per week during third term.

Division Rooms and Equipment.—The Soil Physics laboratory is located on the ground floor of the Agricultural Hall and is provided with apparatus for the determination of water contents, absorptive capacity, water holding power, and other physical properties of soils and for performing experiments in evaporation, percolation, capillarity, and for making mechanical analyses.

ENGINEERING DEPARTMENT

S. B. Earle, Director

MECHANICAL ENGINEERING

Professor Earle

Associate Professor Rhodes

Assistant Professor Howard

300. Mechanism. (Howard)

Junior Class; Courses III, IV, V.

Spur, bevel, and screw gearing, belt gearing; lobed and elliptic wheels; epicyclic trains; ratchet motions; link motions; quick return motions; cam motions.

Text-book: Keown's Mechanism.

Two periods per week during first term.

301. Mechanics. (Howard and Houston)

Junior Class; Courses III, IV, V, VI.

Motion, forces, velocity, force systems, moments of forces, general principles and methods of solving problems both analytically and graphically.

Text-book: To be announced.

Three periods per week during second term; two periods per week during third term.

302. Mechanics. (Earle)

Senior Class; Courses III, IV, VI

Two hours per week during the first two terms are given to the study of pure mechanics, center of gravity, moments of inertia, work, energy, power, elasticity, resilience, strength of engineering materials, and hydraulics.

Text-book: Boyd's Strength of Materials.

Two periods per week during first and second terms.

Note:—Two hours practical Electrical Engineering is given to Civil Seniors in place of second term Mechanics.

303. Mechanical Engineering. (Earle)

Senior Class; Courses III, IV, V.

Study of the design and construction of steam boilers, heaters, pumps and injectors; theory of simple, compound and triple expansion steam engines; steam turbines, gas and gasoline engines; hot air engines; air compressors and motors; ice and refrigerating machinery; transmission of power; specifications and the law of contracts; theory of the strength of engineering materials; graphical and analytical solution of problems.

Text-books: Ripper's Steam Engine; Kimball and Barr's Elements of Machine Design; Roe's Steam Turbines; Poole's Gas Engine.

Three periods per week during first term; four periods per week during second term; five periods per week during third term.

Course V: Three periods per week during first term only.

304. Mechanical Laboratory. (Earle and Rhodes)

Senior Class; Courses III, IV.

Study, use and calibration of water-meters, weirs, steam gauges, indicators, dynamometers, calorimeters; tests of fuel and lubricants; tests of building materials, as iron, wood, brick, cement, etc.; setting the valves of the plain slide-valve and automatic cut-off steam engines; indicator practice; horsepower and efficiency tests of steam, gasoline and hot-air engines, steam turbines, air-compressors and motors, and centrifugal pumps; efficiency trials of steam boilers, superheaters; duty trial of steam pumps and of College pumping engines; test of refrigerating plant.

Reference-books: Carpenter's Experimental Engineering; Smallwood's Mechanical Laboratory Methods.

Two periods per week throughout session.

305. Mechanical Laboratory. (Rhodes)

Senior Class; Course V.

Study, use and calibration of steam gauges; indicators; calorimeters; tests of building material, as iron, wood, brick, cement; setting the valves of plain and slide valve and automatic cut-off engines. Practice in running and testing water motors; steam engines; steam turbines; gasoline engines; pumps; firing and testing steam boilers.

Reference-books: Carpenter's Experimental Engineering; Smallwood's Mechanical Laboratory Methods.

One period per week during second and third terms.

306. Testing Laboratory. (Rhodes)**Senior Class; Course VI.**

Testing strength of materials in tension, compression, bending, etc. The above includes cast and wrought iron, wood, cement, reinforced concrete, stone, etc. So far as possible, the standard methods of making these tests are followed.

Two periods per week during first term.

Division Rooms and Equipment

The laboratory is situated on the ground floor of the Engineering Building, and occupies a room 52 by 60 feet, and contains the following equipment:

For Steam Engineering.—One 15 H. P. horizontal, locomotive type boiler; one 6-H. P. Erie, plain slide valve steam engine, throttling governor; one 5-H. P. vertical engine built by students; one 15-H. P. Payne high speed automatic cut-off engine; one Corliss cross compound engine, arranged to run either condensing or non-condensing and with either or both cylinders with high pressure steam; one 7-K. W. Curtis steam turbine non-condensing, direct connected to a two-pole interpole direct current compounded generator, with necessary switchboard and instruments; one Wheeler surface condenser, with combined air and circulating pumps; one set steam gauge testing apparatus; one Carpenter's separating calorimeter; two Carpenter's throttling calorimeters; six steam engine indicators of various makes; four injectors; two draft gauges; seven steam gauges.

For Hydraulic Engineering.—One power triplex pump; one Pelton water motor; two hydraulic rams; three duplex pumps of different makes; a centrifugal pump; two weirs; one hook gauge; one altitude gauge.

For Compressed Air.—One Clayton air compressor, water jacketed; one improved air motor.

For Fuel and Lubricants.—One Carpenter's coal calorimeter with scales, balances and oxygen generating device; one standard viscometer; one Thurston friction tester.

For Testing Materials.—One 100,000-pound Olsen automatic vertical testing machine driven by 5-H. P. Westinghouse electric motor, and fitted for either tension or compression; one Fairbank's cement testing machine; one Vicat needle with proper sieves and moulds; one graduated flask for determining specific gravity; one moist closet for storage; one 3,000-pound transverse testing machine.

The laboratory also contains a 5-II. P. Otto gasoline engine; one Ericsson hot air engine; a 6-H. P. transmission dynamometer, grad-

uated to read horse-power direct and built by students; four platform scales; four spring balances; seven mercury thermometers; one electrical resistance thermometer; two Bristol thermo-couples for reading temperature to 2,000 and 2,900 degrees F. respectively. All apparatus is so arranged that it may be used for separate or combined tests. Besides the apparatus in this room, the apparatus in the Power Station, the pumping stations and refrigerating plant are available for instruction and tests.

ELECTRICAL ENGINEERING

Professor Dargan

Associate Professor Rhodes

Mr. McGee

310. Electricity and Magnetism. (Dargan)

Junior Class; Course III.

Principles of electricity and magnetism including electric circuit, magnetic circuit, instruments and measurements, direct current dynamo, capacity, inductance, etc.

Use of the slide rule is required in courses 310 to 314 inclusive.

Three periods per week during first and third terms; two periods per week during second term.

311. Electrical Laboratory. (Rhodes and McGee)

Junior Class; Course III.

Experimental verification of the fundamental laws of electricity and magnetism, including tests and calibration of instruments; measurement of current, resistance, electromotive force, capacity, permeability, the operation of dynamos, etc. The student is required to study the theory as well as the manipulation of the experiments and to express his complete study of each experiment in a carefully prepared, written report.

Text-book: Riggs, Kyser, and Dargan's "Electrical Laboratory Experiments."

One period per week throughout session.

312. Electrical Engineering. (Dargan)

Senior Class; Course III.

First term:—Continuation of the study of direct current apparatus, including direct current dynamo design. Second and third terms: Study of alternating current machinery and apparatus, with applications to light and power. The design of a dynamo with a full set of drawings, or the equivalent in some other problem is required as part of this course and course 347 in Mechanical Drawing.

Text-books: Vols. I and II Franklin and Esty's "Elements of Electrical Engineering"; "Standard Handbook for Electrical Engineers;" Mimeograph notes and Riggs' "Dynamo Design."

Five periods per week throughout session.

313. Electrical Laboratory. (Dargan and McGee)

Senior Class; Course III.

Care, operation, and testing of direct and alternating current dynamos and apparatus. In addition to the laboratory apparatus, tests are made on the Power Plant and other electrical equipment of the College each year.

Text-book: Riggs and Dargan's "Electrical Engineering Experiments."

Two periods per week throughout session.

The above courses are supplemented by papers and discussions, in which both Faculty and students participate, at the regular monthly meetings of the Clemson College Branch of the American Institute of Electrical Engineers.

314. Electricity. (Rhodes)

Senior Class; Course IV.

Fundamental principles of electrical engineering as applied to civil engineering given during the second term to civil engineering students.

Text-books: Mimeographed Notes.

Two periods per week during second term.

Division Rooms and Equipment

This division occupies two single-story brick buildings.

Electrical Instrument Laboratory.—This is a separate building, especially designed for delicate instrument work. Its equipment contains the following instruments and apparatus: Leeds and Northrup potentiometer with certified standard resistance for measuring both current and potential; Kelvin deka ampere balance; Weston laboratory standard voltmeter with multipliers; Becker analytical balance and weights; two 1-6-H. P. Crocker Wheeler motors; sixteen galvanometers (including tangent, Kelvin, D'Arsonval and ballistic instruments); nine standard resistance sets; three standard resistance and Wheatstone bridge sets; dial decade standard test set; four meter-wire bridges; one magnetometer; two standard condensers; commercial condensers; Weston and Carhart-Clark standard cells; ammeters; voltmeters; rheostats; keys; switches; storage cells; primary cells, and other miscellaneous apparatus; also a quantity of special apparatus made in the College shops and laboratories.

The instruments in the above equipment are from such makers as Elliot Brothers; Nalder Brothers, Leeds and Northrup, Queen and Company, Weston Electrical Instrument Company, etc.

Dynamo Laboratory.—This building is 37 by 80 feet, with basement. The main floor is divided into a lecture room 35 by 25 feet, and a laboratory 35 by 53 feet. The basement contains a supply room and a large dark room.

The lecture room has raised seats, and is equipped with instruments, illustration models and other demonstration apparatus, including an electro-magnet capable of supporting the weight of two tons.

The dynamo laboratory equipment contains the following instruments:

Voltmeters.—Six Weston, six General Electric Co. Thomson, one Jewell, one Whitney, one Ayrton and Perry, one Hoyt, one Kelvin electrostatic, one Cardew.

Ammeters.—Three Weston, five Weston millivoltmeters with current shunts, twelve General Electric Co. Thomson, one General Electric Co. hot wire, one Westinghouse portable, one Siemens Electro-dynamometer, one Jewell.

Wattmeters.—Four Weston indicating, two General Electric Co. Thomson indicating, two General Electric Co. Thomson recording, one General Electric Co., induction.

Miscellaneous Instruments.—Two Schaeffer and Budenberg portable tachometers, speed counters, stop watches, current and potential transformers for instruments, etc.

Direct Current Dynamos.—17-K. W. Lundell, 15-K. W. Mather, 2 1-2-K. W. Crocker-Wheeler, two 2-K. W. Kester, 15-H. P. Kester, 10-H. P. Kester,

Arc Lighting Apparatus.—Brush and Thomson-Houston generators, a General Electric Company constant current transformer, open and inclosed arc lamps.

Alternating Current Apparatus.—15-K. W. General Electric Company, single, two, three and six phase revolving field generator, complete with marble switch board and full set of indicating instruments. 7 1-2-K. W. General Electric Company single, two and three phase rotary converter, 7-K. W. three phase converter built by students. General Electric Company single, two and three phase induction motors, three 3-K. W. and three 5-K. W. constant potential transformers. General Electric Company condensers, assortment of coils, models, etc.

Miscellaneous.—50-H. P. high speed McEwen automatic engine, 3-ton portable crane, prony brake, rheostats, circuit breakers, switches, fuse testing apparatus, lightning arresters, etc.

The dark room is equipped with apparatus for high potential, high frequency and X-Ray work, and a Deshler-McAlister central station photometer with rotating stand for incandescent lamp testing.

The machinery in the dynamo laboratory is driven by the 50-H. P. engine and by motors. Steam and electric power for these is furnished by the central Power Plant, described on another page. Students have access to this plant, and to other electrical equipment of the College. They are thus enabled to study the practical working of a combined electrical power, light and heating plant and to study the problem of power distribution and utilization from a practical example.

CIVIL ENGINEERING

Professor Houston

Assistant Professor Sweeny*

Assistant Professor Shepard**

320. Descriptive Geometry. (Shepard)

Sophomore Class; Courses III, IV, V, VI.

Study of the representation of points, lines, planes, surfaces and solids, and of their relations; tangencies, intersections and developments; numerous original exercises.

Text-book: Low's Practical Solid or Descriptive Geometry, Parts I and II.

Courses III, IV, V: Two periods per week during first and second terms.

Course VI: Two periods per week during third term.

321. Plane Surveying. (Shepard)

Sophomore Class; Course I.

This course includes the general principles and fundamental operations of surveying with compass, level and transit.

Text-book: Breed and Hosmer's Principles and Practice of Surveying, Vol. I.

322. Plane Surveying. (Shepard)

Sophomore Class; Course I.

Field practice is given in actual surveys of tracts of land, the area computed and plats drawn. Practice is given in laying out and dividing up land, and in locating irregular boundaries; differential and profile leveling; and the running of contours.

One period per week during first term.

* Away on leave. ** In place of Prof. Sweeny.

323. Plane Surveying. (Shepard)**Sophomore Class; Courses III, IV, V.**

This course includes the general principles and fundamental operations of surveying with compass, level and transit.

Text-book: Breed and Hosmer's Principles and Practice of Surveying, Vol. I.

Three periods per week during third term.

324. Plane Surveying. (Shepard)**Sophomore Class; Courses III, IV, V.**

Field practice is given in actual surveys of tracts of land, the area computed and plats drawn. Practice is given in laying out and dividing up land, and in locating irregular boundaries; differential and profile leveling; and the running of contours.

One period per week during second and third terms.

325. Plane Surveying. (Houston)**Junior Class; Course VI.**

This course includes the general principles and fundamental operation of surveying, special attention being drawn to the subjects bearing directly on the work of the architect.

Text-book: Breed and Hosmer's Principles and Practice of Surveying, Vol. I.

Two periods per week during first term.

326. Practical Surveying. (Houston)**Junior Class; Course VI.**

Field practice is given with the compass, transit, and level. Contour maps made; volumes of earth computed; building sites staked out; batter board set; elevations given, etc.

One period per week during second term.

327. Higher Surveying. (Houston)**Junior Class; Course IV.**

In the first term the fundamentals are reviewed; the theory of the stadia, plane table, solar transit, and other instruments taken up. City, hydraulic, and photographic surveying.

Text-book: Breed and Hosmer's Principles and Practice of Surveying, Vol. I.

Two periods per week during first term.

In the second and third terms railway engineering is studied.

Text-book: Webb's Railway Construction.

Two periods per week during second term, and three periods per week during third term.

328. Higher Surveying. (Houston)**Junior Class, Course IV.**

Practical exercises are given with the transit, plane table, planimeter, sextant and other instruments, and the student is taught to adjust the same.

In the railway engineering, practice is given in laying out simple and compound curves; curves approached by a spiral; setting of slope stakes, with the computation of volume of earth; actual location from a paper location on contour map, etc.

One period per week throughout session.

329. General Civil Engineering. (Houston)**Senior Class; Course IV.**

This course includes a study of building material, mechanics of construction, derivation of practical formulas, masonry construction, foundations on land and in water, stability of walls and arches; analytical investigation of stresses in various forms of roof trusses and bridges, the field and office work in railroad construction; location and construction of country roads and city pavements; hydrostatics, motion of water in pipes and channels, determinations of discharge of streams by current meter and weirs, water power developments, water supply and the disposal of sewerage. In addition, the student is required to hand in a thesis on some engineering work. This necessitates additional field work, and outside study. The College Library furnishes valuable books of reference.

Text-books: Fieberger's Civil Engineering; Merriman and Jacoby's Roofs and Bridges, Vol. I.

Five periods per week throughout session.

330. General Civil Engineering (Practical) (Houston)**Senior Class; Course IV.**

Practical problems bearing on the theoretical work are given, with additional work in careful mapping, river gaugeing, railway computations, etc.

Two periods per week throughout session.

Division Rooms and Equipment

The collection of field instruments contains the following:

Two complete transits with solar attachments; three engineer's transits; four railroad compasses; two six-inch vernier compasses; one precise level; three twenty-inch wye levels; one dumpy level; two architect's levels; one convertible architect's level; one drainage level; one Locke hand level; one binocular hand level; two stadia hand levels, with a supply of self-reading and target rods. One complete plane table; a Price current meter, with steel boat and truck;

sextant; aneroid barometer; flag poles; tapes; chains and all necessary accessories.

The office equipment includes planimeter, slide rules and drafting instruments.

DRAWING AND DESIGNING
(Includes Architectural Engineering)

Professor Lee

Assistant Professor Klugh

Instructor Birch

Instructor Harris

340. Freehand Drawing. (Klugh, Harris, and Gantt)
Freshman Class; All Courses

Short lectures on the principles and processes of freehand drawing, with individual criticism. Required exercises in sketching from geometrical figures, singly and in groups, both in pencil outline and pencil rendering; pencil rendering from casts; grade exercises in pen and ink rendering, drill in line drawing, composition and proportion, comparative measurements, principles of perspective.

Text-book: Zaner's "Pen Art Portfolio."

One period per week throughout session.

341. Mechanical Drawing. (Birch, Harris, and Gantt)
Freshman Class; Courses III, IV, V, VI.

Exercises in the use of instruments, lettering, geometrical drawing, conventional representation of metals and materials, orthographic projection; shop drawings from text made to scale; conventional use of lines; standard conventions for threads, details of standards (threads, bolts, rivets, pipe, gear teeth, etc.). Dimensioning to reduced scale, working drawings from sketches; detail (shop) drawings from actual engine parts; assembly drawings from details of above; designing, tracing and blueprinting.

Text-book: French's "Engineering Drawing."

One period per week throughout session.

342. Mechanical Drawing. (Birch and Harris)
Freshman Class; Courses I, II.

Exercises teaching the uses of instruments, freehand lettering such as used more frequently, most important geometrical problems, exercises explaining third angle projection, plans and elevations of farm buildings, tracing and blueprinting.

Text-book: Anthony's "Mechanical Drawing."

One period per week throughout session.

343. Mechanical Drawing. (Klugh)

Sophomore Class; Courses II, III, V.

Continuation of course No. 341; intersection and development of surfaces, isometric drawing, linear perspective, working drawing of machines or parts of machines from model, instruction in drafting room practice, construction of screw threads, proportion of bolts and nuts, elementary machine design, tracing and blueprinting.

Text-book: French's "Engineering Drawing."

One period per week throughout session.

344. Mechanical Drawing. (Klugh)

Sophomore Class; Course IV.

First and second term's work identical with course No. 343, shades and shadows, working drawings of machines, topographical drawing, tracing and blueprinting.

Text-book: French's "Engineering Drawing."

One period per week throughout session.

345. Mechanical Drawing. (Klugh)

Junior Class; Course III.

Applied principles of mechanism; practical problems involving link motion, quick return motions, cams, gearing, couplings, etc.; working drawings; tracing and blueprinting.

Text-books: Keown's "Mechanism." French's "Engineering Drawing."

One period per week throughout session.

346. Mechanical Drawing. (Klugh)

Junior Class; Course IV.

First and second term's work the same as No. 345; titles, platting, topographical drawings, map drawing, tracing and blueprinting.

Text-books: Keown's "Mechanism." French's "Engineering Drawing."

One period per week throughout session.

347. Mechanical Drawing. (Lee)

Senior Class; Course III.

Design of various parts of machines; details of steam engine, gas engines, and electrical machinery; drawings for current work in shops. Design drawings required in graduation thesis.

No text-book. Reference books on machine design, and instructor's notes.

Two periods per week throughout session.

348. Mechanical Drawing. (Lee)**Senior Class; Course IV.**

Railroad and map drawing, plans and details of buildings, trusses, bridges, etc. Design drawing required in graduation thesis.

No text-book. Reference books and instructor's notes.

Two periods per week throughout session.

350. Descriptive Geometry. (Lee and Shepard)**Sophomore Class; Course VI.**

Theory and practice in drafting room are combined. Problems relating to points, lines, planes; to tangents and normals; to cylindrical, conical, and warped surfaces; to sections, intersections and development; to shades and shadows, and perspective.

Text-books: Low's "Practical Solid Geometry." Parts I and II. McGoodwin's "Shades and Shadows."

Two periods per week during first term; one period per week during second and third terms.

351. Architectural Drawing. (Lee and Klugh)**Sophomore Class; Course VI.**

Lettering, drawing of simple architectural details, giving their correct design and proportion, drawing and rendering of The Orders.

Text-book: Ware's "American Vignola."

One period per week throughout session.

352. Freehand Drawing. (Klugh and Harris)**Sophomore Class; Course VI.**

Flat and graded washes; pencil, charcoal, and pen renderings from casts of sculpture and architectural subjects; sketching details of campus buildings.

One period per week during first and second terms; two periods per week during third term.

353. Building Construction. (Lee)**Junior Class; Course VI.**

Study of building materials, their uses and forms; masons', carpenters', plasterers', and painters' work. Estimates and specifications.

Text-books: Kidder's "Building Construction and Superintendence," Parts I and II, and "Architects' and Builders' Pocket Book."

Three periods per week during first and third terms; two periods per week during second term.

354. Architectural Design. (Lee)**Junior Class; Course VI.**

Application of "The Orders;" details of doors, windows, etc.;

floor plans, elevations, and sections of complete buildings. Problems in design in the more important historic styles.

Two periods per week during first and second terms; three periods per week during third term.

355. Freehand Drawing. (Harris)

Junior Class; Course VI.

Rendering of architectural details and subjects in pen and ink, instruction in use of brush and color primarily with the view of rendering architectural detail, ornament, and complete buildings.

Two periods per week during first term; one period per week during second term.

356. History of Architecture. (Lee)

Senior Class; Course VI.

Study of historic styles and monuments of architecture, ancient, mediaeval, and modern. This course is given by illustrated lectures and text-book. The student is required to do research work in the library.

Text-book: Hamlin's "History of Architecture."

Two periods per week throughout session.

357. Architectural Engineering. (Lee)

Senior Class; Course VI.

Strength of materials in tension, compression, and shearing. Strength of beams, stiffness, deflection, best cross-sections, built up sections; columns of wood, cast iron, steel, etc.; riveted joints; arches; foundations; walls; footings; plain and reinforced concrete. Fire-proofing of buildings.

Text-book: To be announced.

Four periods per week during first and third terms; two periods per week during second term.

358. Building Construction. (Lee)

Senior Class; Course VI.

Continuation of No. 353. Estimates and specifications, superintendence, etc.

Text-books: "Building Construction and Superintendence" Parts I and II, Kidder. Kidder's "Architects' and Builders' Pocket Book."

Two periods per week throughout session.

359. Heat and Sanitation. (Lee)

Senior Class; Course VI.

Study of the various systems of heating and ventilating buildings, together with the apparatus used in each, such as boilers, fans, etc. Plumbing of buildings, including water and sewerage.

Two periods per week during second and third terms.

360. Professional Practice. (Lee)**Senior Class; Course VI.**

Lectures and discussions on professional ethics, competitions, contracts, laws, etc.; and the study of the specific requirements of certain classes of buildings, such as school houses, churches, libraries, and hospitals.

One period per week throughout session.

361. Architectural Design. (Lee)**Senior Class; Course VI.**

Study and design of large compositions rendered in water colors and other mediums. Plans and details of the heavier type of building; steel construction, reinforced concrete, etc.

Three periods per week throughout session.

Division Rooms and Equipment

This division occupies seven rooms on the second floor of the Engineering Building. The freehand drawing is done in two of these rooms, which are well equipped with tables, shades, wood and plaster models and casts. Two rooms are used by the Mechanical and Agricultural Freshman Class in mechanical drawing, one by the Sophomore Class in mechanical drawing, and one large room by the Junior and Senior Classes in mechanical drawing, and the other as an office for the Drawing Division and the College Architect.

The drawing prescribed for the Architectural Engineering students is also carried on, temporarily, in these rooms. In addition to the above, a small room is used as combined class room and reading room for the Architectural Engineering students. A complete file of all the important architectural magazines is kept and a permanent display of building material is installed.

From time to time exhibits of student work from the leading architectural schools are held.

Adjoining the rooms mentioned above are two others, well equipped with frames and apparatus for the printing by electricity and sunlight. The drafting rooms were designed for their purposes and are of good size, well lighted, and equipped with individual lockers for about 500 students and drafting tables for from 20 to 50 students at a time in each room.

All of the rooms contain a large number of parts of various machines which are used as models. Several automobile firms have recently loaned or donated entire engines or automobile parts, complete or in sections, and blueprints, which are invaluable to the student in his work. The best student work is displayed on the walls of the rooms.

Each student is required to own a complete outfit of drawing tools, such as set of instruments, board, T-square, and other material. This outfit must be first-class in every respect, and must be approved by the instructor in charge, and no second-hand or inferior tools will be permitted to be used by an Engineering student; the Agricultural Freshmen, however, may use the cheaper instruments. Students are incapable of judging drawing instruments and make a mistake in buying low-priced instruments which appear to be of good quality, but are inferior and will not give good service, soon necessitating the purchase of another set. Students are advised to buy these tools at the Cadet Exchange where they can see samples and make selections. On account of the large number of sets of instruments bought by the College each year, a very large discount is obtained which is given to the student. The more expensive and less used instruments are kept in the office for the use of students needing them.

FORGE AND FOUNDRY

Assistant Professor Gantt

Instructor Sylvester

370. Forge Work. (Gantt and Sylvester)

Freshman Class; Courses III, IV, V, VI.

This course embraces all the fundamental principles of forging, such as reducing, upsetting, bending, shouldering, squaring, punching, welding, chamfering, and assembling. The third term is devoted to tempering, annealing, and forging steel. During the first term each exercise is explained and demonstrated by the instructor. Each student is supplied with a working drawing of each exercise.

One period per week throughout session.

371. Forge Work. (Sylvester)

Freshman Class; Courses I, II.

This course is identical with No. 370 for the first two terms. During the third term, work more directly related to the upkeep of a farm is given, such as open fire brazing, plow sharpening, horse shoeing, riveting, tempering and annealing steel.

One period per week throughout session.

372. Foundry Work. (Gantt)

Sophomore Class; Courses III, IV, V, VI.

This course is designed to give the student a comprehensive idea of the underlying principles in foundry practice, such as the uses of moulders tools, tempering sand, making facings, dry sand core making, mixing iron, charging and operating a cupola. A variety of patterns are furnished for cape and drag, and pit moulding. During

the second term one month is given to brass casting, and brazing by the Ferro-fix process.

The practical instruction is supplemented by text.

Text-book: Richard's "Elementary Foundry Practice."

One period per week throughout session.

Course VI.—One period per week during second term.

373. Forge Work. (Gantt and Sylvester)

Course VII.

During the first two terms this course consists in a carefully graded system of 14 exercises, embracing the fundamental principles of forging. The third term is devoted entirely to the practical problems that are encountered in the upkeep of a farm. During this term work is given in annealing and tempering steel, riveting, brazing in the open fire, sharpening plows, and horse shoeing.

A number of demonstrative lectures are given on the physiology of the hoof, factors that influence the form and style of going, fitting the shoe and the correcting of faulty gaited animals. An exhibit of all the different kinds of shoes manufactured is on hand and used in this course; also a complete and thoroughly modern equipment is used.

One period per week throughout session.

Division Rooms and Equipment

The Forge Shop is located in a wing of the Engineering Building, and occupies a room 37 by 98 feet. The equipment is installed under two separate systems. One system consists of 18 Buffalo down-draft forges; 18 eagle anvils equipped with all necessary small tools; a 60-inch exhaust fan; a No. 4 direct-connected pressure blower; a drill press; an emery grinder; a bending cone; a Buffalo iron shear; two swage blocks, a vise and work bench. The other system consists of 18 Sturtevant down-draft forges; 18 Eagle anvils thoroughly equipped with small tools; a 60-inch exhaust fan, direct-connected, a No. 4 pressure blower, direct-connected, and a blackboard for special drawings.

The Foundry occupies a space of 43 by 76 feet, and is free from posts and other obstructions. It is equipped with a 26-inch Victor Colliat's cupola; a No. 7 pressure blower; a Millett core oven; a large Paxon brick core oven; a two-ton post crane; eight molders' benches with tools for eighteen students; also, a case of special tools, a full equipment of hand, bull, and truck ladles.

The brass foundry is equipped with an 18-inch furnace; a drying stove; clamps, flasks, tongs, and graphite crucibles for making and pouring moulds. Also one Ferro-fix brazing machine with full equipment for doing diversified case-iron brazing.

MACHINE SHOP
Assistant Professor Howard

380. Machine Shop. (Howard)

Junior Class; Courses III, IV, V.

The object of the course is to give to the student a knowledge of the elementary principles of machine shop work, and as much skill as may be acquired in the time available.

Very close measurements are required all the way through the course, and the shop is equipped with suitable measuring apparatus for giving this practice.

Bench work is done first. Demonstration of proper methods of preparing and handling tools is given by the instructor and the students follow with work in chipping, filing, scraping, and polishing, under close supervision of the instructor in charge.

Bench work is followed by full explanations of the engine lathe, and demonstration of the operations involved in doing simple turning. Lectures on machinists' tools are given before the machine work is begun.

The students progress from simple turning on the engine lathe through the more difficult operations, and thence to the drilling machine, shaper, planer, milling machine, and grinding machine.

All of the practice pieces are made according to blue prints.

Some machinist tools are made toward the end of the year, such as hammers, punches, plumb bobs, surface gages, etc.

Lectures covering various phases of machine shop work are given during the year.

Courses III and IV: Two periods per week throughout session;

Course V: One period per week throughout session.

381. Practical Mechanics. (Howard)

Junior Class; Courses III, IV, V.

A course of lectures covering some of the practical problems of engineering will be given the Junior Class throughout the session.

These lectures will include explanations of principles of machine shop work, discussion of materials used in engineering, their preparation, cost, etc., and manufacturing processes involved in the making of articles with which students come into daily contact.

One period per week throughout session.

Division Rooms and Equipment

The Machine Shop occupies the ground floor and part of the basement of the southwest wing of the Engineering Building, the main floor being 45 by 100 feet, lighted from one end and both sides, and steam heated.

The equipment is as follows: suitable benches and vises for chip-ping, filing, etc., and for assembling machines; one 18-inch 12-foot engine lathe; one 18-inch 8-foot engine lathe; eleven 14-inch 6-foot engine lathes; one 10-inch 4-foot turner's lathe; one 15-inch 8-foot speed lathe; two universal milling machines; two 18-inch vertical drilling machines; one 28-inch vertical drilling machine; one 22-inch 6-foot planer; one universal tool and cutter grinder; one 10-inch by 32-inch universal grinding machine; one 14-inch shaping machine; one 10-inch slotting machine; one 22-inch wet emery tool grinder; one twist drill grinder; one dry emery grinder; one 36-inch grind-stone; one power hack saw; one fan blower; forge, anvil, and set of smith's tools.

Twelve sets of tools in portable cases are provided for the use of the students, each set containing an assortment of chisels, files, cutting tools for lathe work, hammer, monkey wrench, steel scales, screw driver, spring calipers, dividers, scriber, rule, center punch, center gauge, one-inch micrometer caliper, oil can and cotton waste.

A tool room is located in one end of the shop, in which is kept an extensive assortment of tools, some of which are: a set of twist drills from 1-16 to 2 inches; a set of machinist hand reamers from 1-8 to 4 inches; a set of Morse standard taper reamers; a set of taper pin reamers; a set of internal and external caliper gauges from 1-4 inch to 2 1-2 inches; a set of U. S. standard taps and dies from 1-16 to 1 1-4 inches; a set of clamps, dogs, lathe, planer and shaper tools, milling machine cutters and emery wheels; a center grinder; standard gauges; and internal and external micrometer calipers from 0 to 6 inches.

A supply of steel and brass, and a large assortment of screws, bolts, nuts, etc., are kept in stock.

All of the machines are driven from one line shaft, running the full length of the shop, and driven by a 15-horse power electric motor that was built in the shop.

Artificial lighting is accomplished by means of four arc lamps.

WOOD WORK

Assistant Professor Routten

Instructor Pote

390. Wood Work. (Routten and Pote)

Freshman Class; Courses III, IV, V, VI.

A course including both bench and lathe work. The course consists of a series of graded exercises designed to give the student a thorough knowledge of the principles involved in woodwork; to teach the use of planes, saws, chisels, etc.; to teach the command of the

more commonly used tools and turning operations of lathe work, including face plate and chucking work.

Advanced exercises in cabinet and furniture making are introduced in this course, which involve exercises in dove-tailing, tenon and mortise joints, including polishing, finishing, etc. The third term is devoted to the construction of elementary exercises in pattern making, which is the preparatory course to No. 392.

Two periods per week throughout session.

391. Wood Work. (Routten and Pote)

Freshman Class; Courses I and II.

This course is very similar to number 390, except that after the completion of the several graded exercises the student is given such work as would be of interest to Agricultural students.

One period per week throughout session.

392. Pattern Making. (Routten)

Sophomore Class; Courses III, IV, V.

This course consists of exercises in pattern making with special reference to the principles involved. The student is required to work entirely from machine drawings and to make the necessary allowances for finish, shrinkage, and draft. The latter part of the course involves the construction of large and more complicated patterns and lectures on commercial shop methods and practices.

One period per week during first and second terms.

393. Wood Work. (Routten)

Course VII.

Practice in the use of hand tools, such as planes, saws, chisels, etc., a series of exercises in bench work calculated to show the construction of mortices, dove-tails and joints, followed by a demonstration of all the machines in the planing shop. Instruction will be given, illustrated by black-board diagrams, upon proper methods of the various farm constructions, such as gates and buildings, with special reference to roofs and their supporting frame work.

It will not be the aim of this course to turn out finished carpenters, but to endeavor to give each man elementary practice, and to teach him the fundamental principles of woodwork such as are used in construction and repairs on the farm.

One period per week throughout session.

Division Rooms and Equipment

The **Woodwork Division** consists of two shops, both on the ground floor. The first, 37 by 100 feet, is divided into two class rooms, both of which are supplied from one well equipped tool room.

The Freshman classroom contains eight turning lathes, and fifteen work benches, each supplied with a full set of tools.

The Sophomore classroom is equipped with eight turning lathes with tools, eighteen work benches, and ninety sets of bench tools, a separate set for each student. This room also contains a large pattern lathe, one 30-inch band saw, one jig saw, two grindstones, and one universal trimmer.

The other shop is equipped with planing mill machinery, consisting of a double-roll planer, one rip saw, one cross cut table saw, one swinging cut-off saw, one lathe with 12-foot bed, one jointer, one moulding machine, one tenoning machine, one doubleheaded shaper, one single spindle carver and shaper, one mortising and boring machine, one re-saw, one swinging arm sand papering machine, and an assortment of benches, clamps, glue pots, etc.

This shop is 40 by 100 feet, and is driven by a 20 H. P. electric motor. Each classroom also has its individual motor drive. A lumber yard and steam dry kiln adjoins.

CHEMICAL DEPARTMENT

R. N. Brackett, Director

CHEMISTRY DIVISION

Professor Brackett

Associate Professor Henry

Assistant Professor Lipscomb*

Assistant Professor Mitchell

Acting Assistant Professor Pearce

Instructor Edmister

Assistant Freeman

400. General Chemistry. (Brackett and Henry)

Sophomore Class; All Courses

Text-book: Newell's Inorganic Chemistry for Colleges.

Three periods per week throughout session.

401. Chemical Laboratory. (Pearce and Edmister)

Sophomore Class; All Courses

Introductory work and qualitative analysis.

Text-book. Whitmore's Chemistry Manual and Loose-leaf Note Book.

Course I: One period per week throughout session.

Course II: Two periods per week throughout session.

Courses III, IV, V, VI: One period per week throughout session.

* Absent on year's leave, studying abroad.

402. Chemical Laboratory. (Pearce)

Sophomore Class; Course II.

Qualitative analysis.

Text-book: Noyes and Smith's Elements of Qualitative Analysis.

Two periods theoretical per week during third term; one period practical per week during second and third terms.

403. Chemical Laboratory. (Pearce)

Sophomore Class; Course II.

Inorganic preparations.

Text-book: Blanchard's Synthetic Inorganic Chemistry.

One period per week during second and third terms.

404. Agricultural Chemistry. (Brackett)

Junior Class; Courses I and II.

Text-book: Johnston's Elements of Agricultural Chemistry, edited by Cameron and Aikman.

Two periods per week during first term.

405. Organic Chemistry. (Brackett)

Junior Class; Courses I, II.

Text-book: Moore's Outlines of Organic Chemistry.

Course I: Two periods per week during second and third terms.

Course II: Two periods per week during second term; four periods per week during third term.

406. Physical Chemistry. (Pearce)

Junior Class; Course II.

Text-book: Jones' Introduction to Physical Chemistry.

Two periods per week throughout session.

407. Chemical Laboratory—Assaying. (Mitchell)

Junior Class; Course II.

Text-book: Notes on Assaying.

One period per week during first term.

408. Chemical Laboratory. (Mitchell and Pearce)

Junior Class; Course I.

Quantitative analysis.

Text-books: Lincoln and Walton's Quantitative Analysis; Methods of Association of Official Agricultural Chemists (Bulletin).

One period per week throughout session.

409. Chemical Laboratory. (Pearce)**Junior Class; Course II.**

Quantitative analysis.

Text-book: Lincoln and Walton's Quantitative Analysis.

Two periods per week throughout session.

410. Chemical Laboratory. (Pearce)**Junior Class; Course II.**

Organic preparations.

Text-book: Moore's Experiments in Organic Chemistry.

Two periods per week during second term; and one period per week during third term.

411. Industrial Chemistry. (Brackett)**Senior Class; Course I, Division C, (Elective major); Course II.**

Text-book: Thorp's Outlines of Industrial Chemistry.

Two periods per week throughout session.

412. History of Chemistry. (Brackett)**Senior Class; Course I, Division C, (Elective major); Course II.**

Text-book: Bauer's History of Chemistry.

Two periods per week during first and second terms.

413. Stochiometry. (Brackett)**Senior Class; Course I, Division C, (Elective major); Course II.**

Text-book: To be selected.

Two periods per week during third term.

414. Metallurgy. (Brackett)**Senior Class; Course II.**

Text-books: Wysor's Metallurgy; Hiorn's Mixed Metals; Notes on Alloys.

Two periods per week throughout session.

415. Chemical Laboratory. (Mitchell)**Senior Class; Course I, Division C, (Elective major)**

Miscellaneous quantitative analysis.

Text-books: Methods of Association of Official Agricultural Chemists (Bulletins); Standard reference books on quantitative analysis.

Two periods per week throughout session.

416. Chemical Laboratory. (Mitchell)**Senior Class; Course II.**

Miscellaneous quantitative analysis.

Text-books: Methods of Association of Official Agricultural Chemists (Bulletins); Standard reference books on quantitative analysis.

Four periods per week throughout session.

Division Rooms and Equipment

Two substantial brick buildings, of about the same dimensions, each consisting of two stories and a basement, and connected on the first and second floors by glass covered passages, are devoted to the work of this Department. Both buildings are well ventilated, heated by steam and lighted by electricity.

The entire south building is devoted to academic work. On the first floor of this building there are six rooms:—one is used as class room; one as a balance room for students; one is a stock distributing room, in which a small amount of stock is kept, and communicates by a stairway with the main stock room in the basement below; the remaining three rooms are employed as laboratories for Seniors, Juniors, and postgraduates. These laboratories can accommodate 64 students, 33 at a time, and are suitably equipped with the necessary work tables, hoods, water and gas. On the second floor of this building there are three rooms:—one is used as a laboratory for Sophomores, first year students in General Chemistry; one for Junior students in analytical chemistry; and the third small room as a balance room for Juniors. Like the laboratories on the first floor, these laboratories are suitably equipped for chemical laboratory work. The basement of this building contains three rooms:—one a stock room; one a store room for boxes, etc.; in the third room is installed the air pump and mixer of the gas machine which supplies this building.

The north building serves partly for academic work and partly for the analytical work of the Chemical Analysis Division of the Public State Work of the College. The first floor of this building is all given up to the latter work. There are nine rooms on this floor:—one is used as the Director's office; one as a laboratory for water analysis and miscellaneous analytical work; one for the nitrogen availability work in connection with the fertilizer inspection analysis, and adjoining this laboratory is a balance room; the five rooms on the other side of the wide hall extending the full length of the building are devoted to the analysis of fertilizers, three of them being equipped as laboratories for the determination of phosphoric acid, potash and ammonia, one being used as a balance room and the last as store room for fertilizer samples. The laboratories for fertilizer analysis, including the nitrogen availability work, are well equipped for carrying on efficiently a large amount of work simultaneously. The phosphoric acid room has, in addition to the usual equipment, a stirring machine run by a motor for use in volumetric determinations. The potash laboratory contains an electric drying oven. The ammonia room has facilities for carrying on twenty-two digestions and distillations at the same time. The nitrogen availability labora-

tory also has a duplicate of this equipment for digestions and distillations. On the second floor of this building there are six rooms:—two are used as lecture rooms, one of which can accommodate 170 students and the other 49; two rooms are used as preparation rooms in connection with lecture experiments; one as a library, and one as a reading room. The library contains several hundred volumes of standard books on chemistry, a dozen journals, and many valuable pamphlets and bulletins, and is open to students as well as to members of the Department and of the College Faculty.

In addition to the usual equipment of apparatus and chemicals, a beginning has been made in procuring apparatus necessary for work in physical chemistry. The present equipment for physical work includes:—a thermostat, fitted with mercury regulator and heating coils, keeping a constant temperature within 0.01 degree C; a rotating machine for work on solubilities; and apparatus for conductivity measurements, vapor density and molecular weight determinations.

TEXTILE DEPARTMENT

C. S. Doggett, Director

TEXTILE CHEMISTRY AND DYEING

Professor Doggett

500. Textile Chemistry—I. (Doggett)

Junior Class; Course V.

This course includes the study of the manufacture, properties and technical analysis of the most important inorganic chemicals used in the textile industry; organic chemistry, aliphatic series.

Text-book: Cohen's Organic Chemistry.

Two periods per week during second term; and three periods per week during third term.

501. Textile Chemistry—II. (Doggett)

Junior Class; Course V.

Preparation of chemical products, inorganic and organic, the processes used being based, so far as possible, upon the methods used on the large scale; technical analysis.

One period per week throughout session.

502. Textile Chemistry—III. (Doggett)

Senior Class; Course V.

Organic chemistry, carbocyclic series; general principles of organic synthesis; enzymic chemistry; bleaching; dyestuffs, their manufacture,

properties, application and identification; mechanical equipment of bleaching, dyeing and finishing establishments.

Text-books: Cohen's Theoretical Organic Chemistry; Huebner's Bleaching and Dyeing of Vegetable Fibrous Materials.

Two periods per week throughout session.

503. Textile Chemistry—IV. (Doggett)

Senior Class; Course V.

Preparation and study of the reactions of a typical set of aliphatic and aromatic compounds, including several dyestuffs and complex bodies; bleaching, dyeing, calico printing; color matching; assay of dyestuffs and materials used in sizing and finishing.

Text-book: Collins & Co.'s Record Book.

Reference books: Schulz and Julius's Organic Coloring Matters; Allen's Commercial Organic Analysis; Georgievic's Chemical Technology of Textile Fabrics; Knecht, Rawson and Rosenthal's Manual of Dyeing; Cain and Thorp's Synthetic Dyestuffs; Lafar's Technical Mycology.

Two periods per week during first and second terms, and one period per week during third term.

Division Rooms and Equipment

The work in the textile chemistry and dyeing is carried on in an experimental laboratory and a practical dyehouse. These are equipped with the necessary apparatus and chemicals for instruction in organic chemistry, scouring, bleaching, dyeing, mercerizing, printing, etc.

The experimental laboratory is fitted with appropriate work-tables, furnishing accommodations for 64 students, working by detachments. Each table is supplied with the necessary arrangements for gas and water, and drawers and lockers in which may be stored apparatus and unfinished experiments.

The dye house contains nine dye vats, four fitted with copper heating coils, one for peroxide bleaching, one Schaum & Uhlinger self-balancing hydro-extractor; one model vacuum dyeing machine with steam engine attached; one Birch sample dyeing machine with electric motor attached; one calico printing machine; one mercerizing machine for yarn; one steaming and ageing box; one Butterworth jigger; three jacketed copper kettles; one Psarski dyeing machine.

WEAVING AND DESIGNING**Assistant Professor McSwain****510. Designing—I. (McSwain)****Junior Class; Course V.**

A study of the foundation and derivative weaves used in making cloth, and the shedding mechanisms required to make them. The maximum number of ends per inch to be used with a given size yarn and a certain weave. Shrinkage of yarns in weaving with any sley, picks per inch, weave and yarn number. Method of making combination dobby weaves, and the drawing in and chain drafts for same. Calculations for harness eyes, in warp, and reed number for any construction and width. This work is supplemented by the analysis of numerous samples of cloth of domestic and foreign manufacture.

Two periods per week throughout session.

511. Designing—II. (McSwain)**Senior Class; Course V.**

A study of color designing. A study of different commercial fabrics, with special reference to the machines required to manufacture same. Plain and fancy gauze and leno, with attachments used in making same. Broken, skip, entwining, corkscrew, fancy and pointed twills. Honeycombs, granites, crepe, extra warp and extra filling. Double cloth, pile fabrics, swivel, lappet and numerous special weaves. Jacquard designing and tie-ups.

Two periods per week during first term, and three periods per week during second and third terms.

512. Weaving—I. (McSwain)**Junior Class; Course V.**

Practical instruction is given in loom fixing, and the operation of different looms in the weave room. Special attention is given to the best settings to be obtained for an economical amount of power consumed by each loom together with tests showing the maximum speeds for different width looms on different patterns.

Two periods per week throughout session.

513. Weaving—II. (McSwain)**Senior Class; Course V.**

With the aid of drawings, charts and actual loom attachments a study is made of the different looms such as two, three, four and five harness cam looms; dobby shedding mechanisms; jacquards; drop box looms; loose reed motions; extra selvage motions, plain, tape and center; take-up and let-off motions; automatic looms and special attachments for special weaves.

A study is also made of warp preparation for grey and colored goods, which includes a detailed study of beam and ball warping and slashing.

Two periods per week throughout session.

514. Weaving—III. (McSwain)

Senior Class; Course V.

Actual production of patterns from original designs and samples on dobbies, box looms and jacquards. The students are required to make up their own designs, make calculations for reed widths and numbers, ends in warps, dressing of patterns, building pattern chains, cutting and lacing jacquard cards and to set the machines to produce same.

Text and Reference Books: Fox's Mechanism of Weaving; Holmes' Cotton Cloth Designing; Ivey's Loom Fixing; Posselt's Technology of Textile Design; Posselt's Jacquard Machine Analyzed and Explained.

Two periods per week throughout session.

Equipment

Winding.—One W. W. Altemus & Son, bobbin winder; one Atwood-Morrison Company, bobbin winder; one Geo. W. Payne & Co., skein winder; one Steele 2 drum ribbon loom quiller.

Braiding.—One New England-Butt Co., 16 bobbin circular braider; one New England-Butt Co., 13 bobbin flat braider.

Dressing.—One Davis and Furber dresser; one Davis and Furber jack spooler.

Slashing.—One Lowell Machine Shop single cylinder slasher.

Warping.—One Draper Co., beam warper; one Draper Co., ball warper.

Beaming.—One Entwistle beamer.

Jacquard Card Cutting.—One John Royle, French index, foot piano cutter.

Hand Looms.—Seventeen 14 inch hand looms with 4 by 4 box motions and 30 harness shedding engines, arranged for 4 beam work.

Power Looms.—One 40 inch Northrop loom with 16 harness Stafford dobby; one 28 inch Northrop loom with steel harness warp stop motion; one 36 inch Mason gingham loom with 4 by 1 box motion; one Mason 44 inch loom with 20 harness dobby; one Mason cam loom arranged for 2, 3, 4, and 5 harness; one Crompton and Knowles 30 inch loom with 20 harness dobby, leno attachment and arranged for 3 beam work; one Crompton and Knowles 30 inch loom with Halton 624 hook, double lift, single cylinder jacquard; one Crompton and Knowles 40 inch "gem" loom with 30 harness dobby and 4 by 4 box motion; one Crompton and Knowles 26 inch terry towel loom

with 16 harness dobby and 3 by 1 box motion; one Crompton and Knowles 64 inch loom, 4 by 1 box motion; 624 hook, double lift, single cylinder jacquard; one Whitin cam loom arranged for 2, 3, 4 and 5 harness; one Whitin duck loom; one Crompton and Knowles 30 inch loom with 16 harness dobby and 2 by 2 box motion; two Kilburn and Lincoln 36 inch cam looms; one Crompton and Knowles 30 inch loom with 416 hook, single lift, swing cylinder jacquard; one E model Draper loom, 28 inch, with steel harness warp stop motion; one 28 inch E model Draper loom with "string" warp stop motion; one 28 inch E model Draper loom with lacy top rig, tape selvage motion, arranged for 2, 3, 4 and 5 harness; one K model Draper loom with 20 harness dobby, double filling fork, feeler, single thread warp stop motion, arranged for two beam work; one Crompton and Knowles 4 bank, 4 shuttle ribbon loom, mounted with 416 hook, double lift, single cylinder jacquard; one Stafford "Ideal" 40 inch loom.

This division is equipped with a limited supply of slasher combs, loom reeds, harness frames, heddles, cotton harness, pick gears, 4 drawing-in frames and numerous samples of domestic and foreign manufactured cloth.

CARDING AND SPINNING

Assistant Professor Coman

520. Cotton Grading, Opening and Mixing, Pickers. (Coman) Junior Class; Course V.

A study of the physical properties of cotton to ascertain the grade, color, length of staple, and general spinning qualities. Mixing and the reasons therefor. The effect of blending on the resultant yarn. The machines and processes in the picker room, including the arrangement of machinery, construction of the machines, settings, speed, drafts, production, and calculations.

Two periods per week during first term (theoretical); one period per week during first term (practical).

521. Cards, Railway Heads and Drawing Frames. (Coman) Junior Class; Course V.

A study of the purpose of carding, construction of cards, setting, draft, speed of parts, production and calculations. The use of railway heads, and when this machine is a desirable one. The purpose of drawing, settings, weighting, production and calculations. A comparison of the merits of common and metallic rolls.

Two periods per week during second term (Theoretical); Two periods per week during second term (Practical).

522. Fly Frames. (Coman)**Junior Class; Course V.**

Purpose of this class of machines. Construction, care and operation. Distinction between slubbers, intermediates, fine roving and jack frames. Calculations for draft, twist, lay and tension gears. The construction of cones. Hanks and numbers.

Text-book: International Correspondence School series. Vol. 76.

Two periods per week during third term (Theoretical); Two periods per week during third term (Practical)

523. Combers. (Coman)**Senior Class; Course V.**

Sliver lap machine; ribbon lapper; comber. The purpose of the process; construction, operation and care of machines. Adjusting and timing. Calculations.

Two periods per week during first half of first term (Theoretical); Two periods per week during first half of first term (Practical)

524. Spinning Frames and Mules. (Coman)**Senior Class; Course V.**

Construction, comparison and operation of the leading makes of ring spinning frames. Size of rings, size of travelers, speed of spindles and of front rolls. Calculations.

Mule spinning: its desirability compared with ring spinning. A study of the construction and practice in the operation of the mule.

Two periods per week during last half of first term and first half of second term (Theoretical); Two periods per week during last half of first term and first half of second term (Practical).

525. Yarn Manipulation. (Coman)**Senior Class; Course V.**

Spooling, reeling, twisting and beaming. The making of special yarns. Fancy yarns. Schedules of machinery for mill equipment for various classes of product. Arrangement of machines, and a study of mill plans.

Text-book: International Correspondence School series, Vol. 77, and Parker's Cotton Mill Calculations.

Two periods per week during last half of second term (Theoretical) Two periods per week during last half of second term (Practical).

526. Mill Economics. (Doggett, McSwain, Coman)**Senior Class; Course V.**

Production vs. quality. Cost systems in spinning, weaving and finishing departments. Labor, power, superintendence and fixed charges. Utilization of waste. Business management.

Two periods per week during third term (Theoretical); Two periods per week during third term (Practical)

527. Cotton Grading. (Coman)**(Elective)**

One term's work in studying the properties of cotton as to grade, color, length of staple and spinning value.

Two afternoons each week are required. Additional time given those desiring it.

Division Rooms and Equipment

Picker Room.—Pickers—One Atherton automatic feeder; one Atherton breaker lapper; one Atherton finisher lapper. Pickers are equipped with Brown-St. Onge patent adjustable grid bars.

Card Room.—Cards—One Mason 40-inch revolving top flat card.

Double Carding Process.—One Saco & Pettee 40-inch breaker card; one Saco & Pettee 20-inch improved lap winder; one Saco & Pettee 40-inch finisher card.

Combing.—One Mason sliver lapper; one Mason, six head, ribbon lapper; one Mason, six head, comber.

One Whitin Sliver lapper; one Whitin four head, ribbon lapper; one eight head, Whitin high speed comber.

Railway Heads.—One Saco & Pettee railway head, with evener motion, stop motion and metallic rolls; one Mason railway head, with evener motion, stop motion and metallic rolls.

Drawing Frames.—Two Saco & Pettee drawing frames four deliveries, stop motions, metallic rolls; one Mason draw frame, four deliveries, stop motions and metallic rolls.

Fly Frames.—One Saco & Pettee 12 by 6 inch, 40-spindle slubber, with latest differential motion; one Saco & Pettee 6 by 3 inch, 80-spindle, fine roving frame, with latest differential motion; one Woonsocket 6 by 2 1-2 inch, 96-spindle jack roving frame, with Daly's improved differential motion.

Ring Spinning.—One Saco & Pettee combination warp and filling ring spinning frame, 128 spindles; one Mason combination warp and filling ring spinning frame, 112 spindles; two Fales & Jenks combination warp and filling ring spinning frames, 80 spindles each, designed for spinning fine counts, two Whitin combination warp and filling ring spinning frames, 80 spindles each.

Mule Spinning.—One Mason self-acting spinning mule, 120 spindles, 1 3-4 inch gauge, with all latest improvements.

Spooling.—Two Draper spoolers 40 spindles each; one Saco & Pettee spooler, 72 spindles; one Barber-Coleman automatic knitter, one Byrd automatic knitter.

Twisting.—One Draper combination wet and dry twister, 48 spindles; two Fales & Jenks wet twisters, combination filling and taper top wind; 70 spindles each.

Winding.—One universal cone and tube winder.

Reeling.—One D. A. Tompkins adjustable reel, 50 spindles; one Draper 54-inch reel, 50 spindles.

Miscellaneous Equipment.—Fairbanks scales; model of Daly's differential motion (complete); models of Campbell's ball bearing rolls; Brown & Sharpe roving reel; Brown & Sharpe yarn reel; Brown & Sharpe scales and weights; Charlotte Supply Co's. skein tester; model of "Eagle" cotton gin; Fred B. Howe twist counter.

Department Library

For the use of students and instructors, a reading room in the Textile building has been fitted up and is furnished with some of the more important books of reference relating to the textile industry, and also with the leading periodicals relating to the subject. All journals and periodicals are contributed. There is also in this room an exhibit of the work done by the students in the different divisions of the department, and an equipment of old machinery, illustrating the methods used before the introduction of power machinery. The room is open every week-day throughout the session.

ENGLISH

Professor Daniel

Associate Professor Bryan

Assistant Professors Bradley and Sease

Instructors Covington and Crum

600. English. (Bradley, Sease, Covington, and Crum.)

Freshman Class; All Courses

This course, while it presupposes a knowledge of the fundamentals of grammar, syntax, and orthography, nevertheless embraces a review, during the first term, of the former subject together with combined exercises in the latter two, running throughout the year. In addition to these, there is given a course in composition and rhetoric, embracing the sentence, diction, reproduction, and letter writing. Students are taught the use of dictionaries, encyclopedias, and other books of reference. From the dictionary there is also a specific study of prefixes and suffixes together with their derivatives. A full course of supplementary reading is required, and practice is given in the writing of abstracts of the books read. Original theme work is begun as soon as the student has had sufficient experience in the various kinds of reproduction to be able to express his own thoughts in a manner measurably clear. Written exercises are required weekly.

Text-books: Composition and Rhetoric (to be selected); Woolley's Hand-Book of Composition and Rhetoric; Irving's "Sketch-

Book; Scott's "Lady of the Lake"; Webster's Academic Dictionary; Webster's Secondary School Dictionary, or a book of higher grade; Meiklejohn's English Grammar, and twelve or more English classics as may be assigned.

Five periods per week throughout session.

601. Composition-Rhetoric and American Literature. (Bryan and Bradley)

Sophomore Class; All Courses

The study of composition and rhetoric is pursued throughout the session, two hours a week being devoted to the subject. The work of the first term comprises a study of the whole composition, the development of the paragraph, a review of punctuation, and a careful study of the grammatical and rhetorical construction of sentences. The work of the second term takes up the consideration of the kinds of writing, attention being given to narration and description. Some work in versification is also given in this term to enable the students the better to study and enjoy poetry. The third term is given chiefly to exposition, and argumentation and public speaking. During all three terms themes are required weekly or oftener, and the themes are rewritten after criticism by the instructor. This theme work aims, not merely at correctness of expression, but also at practical effectiveness in expression. Many of the themes are discussed in class, and consultations are held with students for individual discussion.

One hour a week during the entire session is given to the study of American literature. The historical development of the literature, the influences that gave distinctive characteristics to the literature of each period, the lives of the chief writers, a critical study of selections from each, and a class-room reading of many other selections make up the principal work of the literature course. A supplementary reading course embracing some of the best works of the leading American authors and a few English authors is required, and written reports upon these are made by the students. Every effort is made to inspire the students with a love for good literature, and special inducements are offered to those who do reading in addition to that required of all.

Text-books: Scott & Denney's New Composition-Rhetoric; Lewis' Specimens of the Forms of Discourse; Painter's American Literature; and ten or more such classics as may be assigned.

Three periods per week throughout session.

602. English Literature. (Daniel and Bryan)

Junior Class; All Courses

The work in English in the Junior year comprises a general his-

torical survey of English literature from the Anglo-Saxon period to the Victorian age. A careful class-room study is made of one or more selections from representative authors of each period, and parallel reading from other writers is required. The selections—made from ballads, different forms of poetry, the drama, prose fiction, and the essay—illustrate the stages of growth, the development of the literature. A few lectures are given on the development of the kinds of literature, but most of the time is spent in an appreciative study and interpretation of the selections—the interpretation seeking to show how the author's creation reveals his own life and thought, and reflects the spirit of his age. Parallel readings are required, on which both oral and written reports are made.

Composition work is kept up throughout the year. Short exercises are frequently written in the class period, and essays of considerable length are required once a month.

Text-books: "Twelve Centuries of English Poetry and Prose" by Newcomer and Andrews; Long's English Literature.

Two periods per week throughout session.

603. Studies in Shakespeare, Tennyson, and Browning. (Daniel)

Senior Class; All Courses.

The first and second terms of the Senior year are given to studies in Shakespeare. Lectures are given on the development of the drama and on the life of Shakespeare. Four plays—"Julius Caesar," "Hamlet," "Macbeth," and "Othello"—are studied closely in the class period. The class discussions deal with the notes and textual criticism only so far as these are necessary to a clear understanding and a genuine appreciation of the play. The thought content, the delineation of character, and the style are stressed. Fine passages are committed to memory and quoted in class. Other plays are given for parallel reading.

In the third term a few representative poems of Tennyson, Browning, and Arnold are studied, and essays by Carlyle and Macaulay are read. Parallel readings are also required. Lectures are given on the nature and the kinds of poetry.

Monthly essays are required from all Seniors throughout all three terms. Instruction is given to individuals and to groups in the art of debate and public speaking. Personal conferences are held with a view to directing special reading.

The course in English is strengthened by the excellent work of the three literary societies, which have the hearty support of the English faculty.

Text-books: "Twelve Centuries of English Poetry and Prose," by

Newcomer and Andrews; the Arden texts of the plays studied in class.

Two periods per week throughout session.

604. Parliamentary Practice. (Daniel)

Course VII.

A course intended to aid the student in the writing of business letters and in the proper use of the English language both written and spoken. A portion of the time will be devoted to a course in parliamentary practice for the purpose of equipping the student for effective leadership in public meetings, farmer's institutes, church and Sunday School work, social gatherings, and committee service. the training is intensely practical. The students issue calls for meetings, organize, and transact business under the supervision and direction of the instructor, who criticises and corrects and points out ways of facilitating the work of the meeting. Students preside in turn over the meetings and thus learn by practice the rules of parliamentary procedure. Practice is given in writing resolutions, committee reports, motions, petitions, and in the keeping of minutes. Simple questions are discussed briefly with the view of assisting the student in gaining the power of thinking clearly and speaking forcefully while on his feet.

HISTORY AND POLITICAL ECONOMY

Professor Morrison

Assistant Professor Holmes

610. South Carolina History. (Morrison and Holmes)

Freshman Class; All Courses

Text-book: Chapman's History of South Carolina.

Three periods per week during first half of first term.

611. Commercial Geography. (Morrison and Holmes)

Freshman Class; All Courses

Text-book: Olin's Commercial Geography.

Three periods per week during second half of first term.

612. General History. (Morrison and Holmes)

Freshman Class; All Courses

Text-books: Wolfson's Essentials in Ancient History; Harding's Essentials in Mediaeval and Modern History.

Three periods per week during second and third terms.

613. United States History, (a); Civics, (b). (Morrison and Holmes)
Sophomore Class; Courses II, III, IV, V, VI.

Junior Class; Course I.

(a) Text-book: Hart's Essentials in American History.

(b) Text-book: Smith's Training for Citizenship.

Sophomore—Three periods per week during first, and two periods per week during second term.

Junior—Two periods per week throughout session.

614. Political Economy and Sociology. (Morrison)

Senior Class; All Courses

Text-books: Seager's Economics, Briefer Course; and Ellwood's Sociology and Modern Social Problems (Revised).

Two periods per week throughout session.

MATHEMATICS

Professor Martin

Associate Professor Shanklin

Assistant Professors Hunter, Johnstone, Bramlett

Instructor Wells

620. Algebra. (Shanklin, Hunter, Johnstone, Bramlett and Wells)
Freshman Class; All Courses

Review of involution, evolution, theory of exponents and quadratics; theory of quadratic equations, simultaneous quadratic equations, indeterminate equations, ratio, proportion and variation.

This course presupposes a thorough knowledge of arithmetic and algebra through elementary quadratics (see requirements for admission).

Text-book: Well's Text-book in Algebra.

Five periods per week during first term.

621. Geometry. (Shanklin, Hunter, Johnstone, Bramlett, and Wells)
Sophomore Class; All Courses.
Freshman Class; All Courses

Rectilinear figures; circles; similar figures; comparison and measurement of surfaces of polygons; regular polygons and circles; plane and solid angles; polyhedrons; cylinders and cones; spheres; spherical polygons and pyramids; volume.

Special attention is given to the formation, on the part of the student, of the habit of clear and accurate reasoning and concise expression.

Text-book: Durell's Plane and Solid Geometry.

Freshman Class—Five periods per week during second and two periods per week during third term.

Sophomore Class—Three periods per week during first term.

622. Trigonometry. (Martin, Shanklin, Hunter, Johnstone and Bramlett)

Freshman Class; All Courses

Sophomore Class; All Courses

Measurements of angles; trigonometric functions; solution of the right triangle; general formulae; solution of oblique triangles; miscellaneous problems; spherical right triangles; formulae for spherical oblique triangles.

Text-book: Rothrock's Plane and Spherical Trigonometry.

Freshman Class—Three periods per week during third term.

Sophomore Class—Two periods per week during first term.

623. Higher Algebra. (Martin, Shanklin, Hunter, Johnstone and Bramlett)

Sophomore Class; Courses II, III, IV, V, VI.

Progressions; binominal theorem; theory of limits; convergency; divergency; and summation of series; undetermined coefficients; continued fractions; determinants; theory of equations.

Text-book: Well's Text-book in Algebra.

Five periods per week during first half of second term.

624. Analytic Geometry. (Martin, Shanklin, Hunter, Bramlett)

Sophomore Class; Courses II, III, IV, V, VI.

Cartesian and polar systems of co-ordinates; discussion and construction of loci; the straight line; transformation of co-ordinates; circle; parabola; ellipse; hyperbola; general equation of the second degree involving two variables; higher plane curves; solid analytic geometry; systems of co-ordinates; equation of the plane; the straight line in space; surfaces of the second order.

Text-book: Tanner & Allen's Brief Course in Analytic Geometry.

Five periods per week during second half of second term and all of third term.

625. Differential Calculus. (Martin, Hunter)

Junior Class; Courses III, IV, VI.

Differentiation of algebraic functions; transcendental functions; successive differentiation and development of functions; functions of two variables; tangents and asymptotes; envelopes.

Text-book: Snyder and Hutchinson's Calculus (Revised Edition).

Five periods per week during first term; three periods per week during second and third terms.

626. Integral Calculus. (Martin and Hunter)**Junior Class; Courses III, IV, VI.**

Elementary forms of integration; rational fractions; integration of irrational fractions; successive reduction; integration of functions of two variables; geometrical applications; rectification of curves; cubature of volumes.

Text-book: Snyder and Hutchinson's Calculus (Revised Edition).

Three periods per week during second and third terms.

627. Differential Calculus. (Bramlett)**Junior Class; Courses II, V.**

Differentiation of algebraic functions; transcendental functions; successive differentiation and elementary applications of derivatives.

Text-book: Townsend & Goodenough's Essentials of Calculus.

Four periods per week during first half of first term.

628. Integral Calculus. (Bramlett)**Junior Class; Courses II, V.**

Elementary forms of integration with applications of integration to geometry and mechanics.

Text-book: Townsend & Goodenough's Essentials of Calculus.

Four periods per week during last half of first term.

PHYSICS**Professor Poats****Instructor Speas****Mr. McAlhany****630. Principles of Physics. (Poats)****Sophomore Class; Course I.**

A complete course in the principles of physics, arranged with special reference to the needs of Agricultural students.

Text-book: Millikan & Gale's First Course in Physics.

Three periods per week throughout the session.

631. General Physics. (Poats)**Sophomore Class; Courses II, III, IV, V, VI**

Properties of matter, physical measurements, mechanics of solids, liquids, and molecules, work, mechanical energy, and heat.

Text-book: Millikan & Gale's First Course in Physics.

Two periods per week throughout the session.

632. General Physics. (Poats)**Junior Class; Courses II, III, IV, V, VI.**

Electricity and magnetism, sound, and light.

Text-book: Reed and Guthe's College Physics.

Two periods per week throughout session.

633. Physical Laboratory. (Speas and McAlhany)**Sophomore Class; Course I.**

Experimental verification of the principles of theoretical physics taught in course 630. Careful quantitative experiments are required, and a neat record of the work is kept in every case.

One period per week during second and third terms.

634. Physical Laboratory. (Speas and McAlhany)**Sophomore Class; Courses II, III, IV, V, VI.**

A course of experiments paralleling the work of theoretical course 631.

One period per week during third term.

635. Physical Laboratory. (Speas and McAlhany)**Junior Class; Courses II, III, IV, VI**

This course covers electricity and magnetism, sound, and light. It completes the series of experiments following those of 634. The grade of the work is somewhat more advanced, and the student is put upon his own resources to a greater extent.

One period per week throughout session.

Division Rooms and Equipment

The Physics Division is located in the Academic Building, and occupies three connecting rooms. The lecture room is 33 by 33 feet and seats comfortably a class of fifty. The laboratory rooms are 23 by 33 feet, and 21 by 27 feet, the latter being a basement room. Provision is made for gas, water, light and power in all these rooms. The Division is further provided with a great variety of apparatus for both lecture and laboratory purposes.

GERMAN**Professor Doggett****640. German I. (Doggett)****Junior Class; Course II.**

The essentials of German grammar, collateral reading; German prose composition.

Two periods per week during second and third terms.

641. German II. (Doggett)**Senior Class; Course II.**

Study of German words and idioms; German-English cognates; translation of literary and scientific German.

Text-book: Paul V. Bacon's German Grammar for Beginners; Hasting's Studies in German Words; Bacon's Im Vaterland; Bacon's

German Composition; Goethe's *Die neue Melusine*; Manley-Carl Schurz *Lebenserinnerungen*, or other text of equal difficulty; Walentin's *Grundzuege der Naturlehre*.

Reference books: Bellows' German Dictionary; Eberhard-Lyon's *Synonymisches Handwoerterbuch*.

Three periods per week throughout session.

BOOKKEEPING

Instructor Wells

650-651. *Bookkeeping*. (Wells)

Freshman Class; Courses I, II.

The course in bookkeeping is designed to give the students a good working knowledge of the subject. It has been introduced with a special view to enable Agricultural students to keep neat and accurate accounts of all business transactions relative to the farm. The course seeks to familiarize the student with business methods in keeping accounts with parties, firms, banks, etc., and he is given abundant practice in making out business papers, of ordinary occurrence, and in making trial balances, balance sheets, statements, etc.

Text-book: Sadler and Rowe's "*Commercial and Industrial Bookkeeping*."

Two periods per week during first and second terms.

MILITARY DEPARTMENT

1st Lieut. J. M. Cummins, U. S. Army, Director and
Commandant of Cadets

MILITARY SCIENCE AND TACTICS

Lieutenant Cummins, Professor

660. *Military Science and Tactics*. (Cummins)

Junior Class; All Courses

Infantry drill regulations; school of the soldier, school of the squad, school of the company, school of the battalion.

Field service regulations; the services of information orders, the service of security, marches and convoys, shelter, combat.

Small arms firing regulations; instruction preliminary to gallery and range practice.

Lectures on company administration, camp sanitation.

Lectures on and exercises in map reading.

One period per week throughout the session.

661. Practical Military Science. (Cummins)**All Classes; All Courses.**

Infantry drill, close and extended order; advance and rear guards and outposts; marches; patrolling; attack and defense of positions; ceremonies; guard duty; intrenchments.

Senior Class; All Courses.

Company administration, military engineering features, tactical walks, gallery practice, range practice.

Three periods per week throughout session.

GROUND AND BUILDINGS

Location.—The College is located on the Fort Hill homestead of John C. Calhoun, on the dividing line between Oconee and Pickens counties, in the picturesque foothills of the Blue Ridge. It has an elevation of 800-feet above sea level, and commands an excellent view of the mountains to the north and west, some of which attain an altitude of nearly five thousand feet. The climate is invigorating and healthful, and the surroundings are in every way favorable to the highest physical and mental development.

The College is one mile from Calhoun, a station on the main line of the Southern Railway, and two miles from Cherrys, on the Blue Ridge Railroad. By means of these roads and their connections, the College is easily accessible from all parts of the State. It is connected by telegraph and long-distance telephone with all parts of the country. The post office is conveniently situated on the campus, and receives five daily mails.

Campus and Farm.—The College grounds occupy about 1544 acres of land, including the campus, sites of buildings and residences, the College farm, and the Experiment Station grounds. The campus, including about 200 acres, is laid out in walks, drives and lawns, and is shaded by a beautiful grove of native forest trees.

BUILDINGS FOR GENERAL PURPOSES

Academic Building

The Academic Building is a three story brick structure, 100 by 132-feet, trimmed with gray sandstone. It contains 21 rooms, including recitation rooms, library and reading rooms, literary society halls, physical laboratory, and the offices of the President, the Commandant, the Treasurer, and a reception room. Adjoining this building is Memorial Hall, the College Chapel, which has a seating capacity of about one

thousand. It is used for religious services and as an assembly room. In the tower of this building is a tower clock. The building is provided with steam heat and electric lights.

Library.—In the Academic Building is a series of rooms especially constructed for the use of the library. There are now upon the shelves 11,937 volumes, classified under the various heads of literature, history, biography, science and reference books. In addition to these in the general library, there are 1,493 volumes in the Experiment Station and department libraries of the College. There are also about 6,200 Government publications and 300 reference books, together with about 10,000 pamphlets. The library is supported by an annual appropriation, and the number of books is added to each year.

In connection with the library there is a reading room in which the students have access to 71 of the leading monthly periodicals, 24 weekly, the principal daily papers of the State, many of the county papers, and 25 agricultural papers.

The Clemson Relics.—A collection of thirty-seven oil paintings, collected by Mr. Clemson, chiefly in Holland, together with a number of additional portraits, may be seen in the reception room of the Academic Building.

The Calhoun Mansion

The former residence of John C. Calhoun, is kept in honor of his memory, in accordance with the provisions of Mr. Clemson's will.

The Calhoun Relics.—Several pieces of furniture and other interesting relics, formerly the property of Mr. Calhoun, are carefully preserved in the Calhoun Mansion, where they may be seen by visitors to the College.

Residences

Ten two-story brick buildings, nine six-room cottages, and thirty-five smaller houses, all situated on the campus, furnish residences for professors and other officers of the College.

Clemson Club Hotel

The Hotel, a frame building with two eight-room annexes, situated on a hill overlooking the campus, is operated by several members of the Faculty. In addition to furnishing a home for the members of the club, it is open the entire year to a limited number of transients.

Barracks

The cadet barracks comprise three large brick buildings. One is four stories high and contains 197 rooms for students, two Y. M. C. A. rooms and a large Y. M. C. A. assembly hall. In the basement of this building is the dining hall 134 by 44 feet and the kitchen 50 by 37-feet.

The second building is 199 by 42-feet, and contains 104 rooms. The third building is 45 by 190-feet and contains 111 rooms. These buildings are heated by steam and lighted by electricity, and have an abundant supply of pure water. The rooms in the barracks are furnished with single-width iron cots and other necessary appointments. The dining hall is well supplied with table linen, silverware, and china, and the kitchen is furnished with modern culinary appliances.

The bathrooms and closets are located in brick buildings apart from the barracks and connected with them by covered gangways.

The Power Station

The central power and heating plant contains two 150 H. P. Stirling water-tube boilers, and two 100 H. P. Lombard return tubular boilers, with the necessary pumps, feed water heaters, and other auxiliary apparatus.

The power equipment consists of one 114 H. P. Fleming side-crank engine, direct connected to a 70 K. W. 2,300 volt, three-phase alternator with direct connected exciter, and one 122 H. P. Fleming four-valve engine, direct connected to a three-wire 75 K. W. direct-current generator.

A 75 K. W. rotary converter is used to convert from one kind of service to another.

The switchboard equipment consists of three standard blue Vermont panels, and three black enameled slate panels, all equipped with the latest and best electrical instruments and appliances. The alternator is connected to the rotary converter through the 25 K. W. transformer. All the machinery is of the General Electric Company's make.

The building is 40 by 80-feet, is a single story of brick and cement blocks, with metal roof.

The plant complete cost about \$25,000, and is in every way modern and up-to-date. It furnishes steam heat for the barracks and other College buildings, and electric lights and power to every department of the College and the residences of the community. Two pumping stations, situated about one-half mile distant, are electrically operated from this plant. These pumping plants have both steam and electric pumps and an aggregate capacity of 1,200 gallons per minute.

The Hospital

The Hospital, located about a quarter of a mile from the barracks, is a wooden building, especially designed for the purpose. It is lighted by electricity, and has a thorough sewerage system. It is in the immediate charge of the Surgeon, who is assisted by an experienced matron and nurse, thus insuring the best personal attention to each patient.

The Laundry

This is a brick building especially constructed and fitted with the improved machinery of a modern steam laundry, and is operated exclusively for the students.

AGRICULTURAL BUILDINGS

The Agricultural Hall is a building 146 by 94-feet, in colonial style, and constructed of red side-cut brick, with columns and trimmings of oolitic limestone. It is furnished with a complete system of electric lights, water and sewer connections, and steam heat; provides class rooms and laboratories for instruction in agriculture, horticulture, soil

physics, botany and bacteriology, zoology and entomology, geology and mineralogy, and offices and laboratories for the Experiment Station. It also contains the museum and gymnasium hall.

The Dairy Building is built of red brick, and is one of the most modern and best equipped buildings of its kind to be found anywhere in the country. It contains the offices of the Animal Husbandry and Dairy Division, the Extension Division, and a number of large, well lighted, properly ventilated class rooms and laboratories together with a large assembly room for farmers' meetings and Short Course work. It is splendidly equipped with the latest modern machinery for manufacturing dairy products, separating, testing, and marketing milk, experimental work, and for teaching modern methods of dairying.

The New Dairy Barn will accommodate both the Experiment Station and College herds. It is large enough to hold 120 cows with separate box stalls for bulls and young stock, and all the feed required for these animals.

There are also four large cement silos conveniently located for feeding. The floors are of cement with cork brick for the cattle to lie on. The lighting, ventilation, sanitation, stanchions, stalls, and the equipment for cleaning and feeding and handling the milk are the most modern to be found in the country.

The Veterinary Hospital is a two-story frame building 48 by 65-feet, with basement 18 by 30-feet. It is furnished with electric lights, hot and cold water, and is heated by means of stoves. The basement contains a store room. The class room, office, pharmacy and a well equipped clinic and operating room are on the first floor. A laboratory for class work, a private laboratory and a store room for supplies are on the second floor.

A laboratory for the preparation of anti-hog-cholera serum,

buildings for hogs, feed, etc., are on land adjacent to, but at a safe distance from the Veterinary Hospital.

Farm Buildings.—The College farm is provided with commodious barns and other farm buildings of modern design, which are described more fully in connection with the equipment for instruction in agronomy.

ENGINEERING BUILDINGS

The Mechanical Engineering Building is a substantial brick structure containing about 35,000 square feet of floor space. On the first floor are mechanical laboratory, machine shop, wood shops, forge shop, and foundry. On the second floor are the offices and the drawing and designing rooms. The third floor is devoted to class rooms and to the Division of Civil Engineering.

The Electrical Instrument Laboratory is a brick building of special design, arranged especially for delicate instrument work.

The Dynamo Laboratory is a modern brick structure 37 by 80-feet. Besides containing the dynamo electric machinery for instructional use it also contains the electrical engineering lecture room.

TEXTILE BUILDING

This building is a brick structure of modern cotton mill design, 168 by 75-feet. It is of the slow-burning type, built according to fire insurance regulations, after plans of an experienced mill engineer. The building, although designed for educational and experimental purposes, containing office, lecture-rooms and laboratories, retains the more prominent features of a typical Southern cotton mill. This affords the student an opportunity of gaining many points of valuable information in connection with mill construction, along with the manipulation of cotton fibres and the study of cotton mill processes and operations.

The first floor is occupied by the picking, carding and spinning machinery, a lecture-room, the main office an exhibit room and the departmental library. The machinery on this floor is driven by two electric motors, one a 30-H. P., 220-volt, direct-current Westinghouse motor, driving the carding machinery, and a 20-H. P., 220-volt, direct-current General Electric Company motor, driving the spinning machinery.

The second floor is occupied by two weave rooms, three lecture-rooms, laboratory for organic chemistry, an office and two store rooms. The power looms on this floor are driven by a 20-H. P., 220-volt, direct-current General Electric Company motor.

The basement, which is situated under the north end of the building is occupied by the dye-house and laboratory for industrial chemistry.

The building is equipped with a system of "Vortex" humidifiers from the American Moistening Company; steam-heating system and automatic fire-sprinklers from the D. A. Tompkins Company; shafting, pulleys and hangers from Jones & Laughlin, Ltd., and from T. B. Wood's Sons.

CHEMICAL BUILDINGS

Two substantial brick buildings of about the same dimensions, each consisting of two stories and a basement, and connected on the first and second floors by glass-covered passage-ways, are devoted to chemical work. The north building serves partly for academic work and partly for the analytical work of the Chemical Analysis Division of the Public State Work of the College. The entire south building is devoted to academic work. Both buildings are well ventilated, heated by steam, and lighted by electricity.

FERTILIZER CONTROL BUILDING

This is a three-story brick building, situated near the south chemical building, and containing the offices of the Secretary of The Board of Fertilizer Control, fertilizer tag rooms, etc.

The Clemson College Post Office occupies the ground floor of this building.

The Printery which is located in the north basement of the Textile Building is equipped as follows: One Babcock regular drum cylinder printing press, 22 by 27 inch bed; two Chandler & Price job presses; one Chandler & Price cutter; one Morrison stitcher; two perforators; one letter folder; two Hammond cabinets; two imposing stones; one No. 1 model linotype machine with supply of matrices for same; a supply of type, furniture, etc. All the machines are driven by individual motors. The College reports, bulletins and miscellaneous stationery are printed here, much of the work being done by students.

The Gymnasium.—A large room in the basement of the Agricultural Hall has been set aside for a gymnasium. The room is equipped with carefully selected apparatus including horizontal bars, parallel bars, spring boards, traveling rings, flying rings, climbing rope, horse, buck, low parallels, trapezes, pulleys, weights, floor mats and take-off board.

The gymnasium is to give year-round training to those students interested in athletics, so that they will keep in good condition for work on the athletic teams. It is also designed for students who do not take other forms of exercise, but depend on the gymnasium for their only means of physical development. The work is not required but is enjoyed by a large number of students. A member of the Faculty superintends the work and directs the exercises.

The Museum.—On the first floor of the Agricultural Hall is the Museum of Natural History. It is furnished with large cases containing the collections of the geologist, the entomologist, the botanist, the agriculturist, the agronomist, and the horticulturist. These exhibits are of especial interest to people of the State because they embrace the minerals and rocks of South Carolina; birds of South Carolina, insects common to the State, especially those injurious to vegetable life;

fungus diseases of plants; and grains and fruits of the State. There are also objects of historical interest on account of their association with John C. Calhoun and Thomas G. Clemson.

The General Water Supply is collected from springs and surface streams, and pumped from two stations into a stand-pipe one hundred feet high, having a capacity of 130,000 gallons. From this it is distributed through mains to the various College buildings and to all parts of the campus. This water is used for fire protection, sewerage, etc.

The Drinking Water Supply is pumped from a bold spring through the barracks, in a continuous stream. It is thus furnished fresh, pure and cold. This and all sources of water supply are kept under constant and strict surveillance, and the waters are frequently analyzed as a precaution against contamination.

The Sewer System.—All of the larger buildings and most of the residences are connected with an adequate sewer system, which empties into the Seneca River more than half a mile from the campus.

Light and Heat.—All of the College buildings and most of the residences on the campus are lighted by electricity furnished from the central power station. The nine principal College buildings are heated by steam.

COLLEGE INSTITUTIONS

Religious Exercises

Chapel Service.—There is preaching every Sunday morning in the various churches or in the College chapel by ministers of the different denominations, and morning prayer services are conducted during the week by a resident minister or a member of the Faculty. All students are required to attend these exercises unless specially excused.

Students must attend the churches of which they are members, or with which they have been affiliated at home. However, special permission can be obtained for any particular Sunday to attend elsewhere.

Sunday School.—Sunday Schools, at which attendance is voluntary, meet every Sunday morning, and students are encouraged and urged to attend.

Young Men's Christian Association.—The College Young Men's Christian Association is fundamentally a Christian organization, with four great objects, which are as follows: To lead students to become disciples of Jesus Christ as their divine Lord and Saviour; to lead them to join the church; to promote growth in Christian faith and character, and to enlist and train them in Christian service.

At Clemson the association has supervision and direction of all the religious activities of the College except the Sunday Schools, the Sunday morning services, and the daily chapel exercise. The activities include a religious service on Sunday evening, a mid-week prayer-meeting on Wednesday evening, daily prayer service just after breakfast, and a series of special evangelistic meetings from time to time. In November the Week of Prayer is appropriately observed conjointly with the college men of America.

Among the most important of the activities of the Y. M. C. A. is the extension work among the rural Sunday Schools, and the welfare work in one of the cotton mills of the com-

munity. This work is conducted by the cadets under the direction of the General Secretary, and it has resulted in great good to the cadets themselves, as well as to the people among whom they work.

The Bible department of the Y. M. C. A. offers three courses of study; one in the life of Christ; one in the life of St. Paul; and one in the Old Testament. These classes meet on Sunday evening and are led by students who are prepared for this work through training classes led by members of the Faculty, the local ministers and the General Secretary. During the past year 297 cadets were enrolled in 24 of these group classes. This department also conducts Bible institutes and special training conferences. A week's series of Bible lectures, delivered by some recognized Biblical scholar, does much to stimulate study and research in the Christian religion.

The department of missions has general supervision of all the missionary activities of the College, and, like the Bible department, is pursuing a broad educational policy. The conditions and needs of the non-Christian world, and how these conditions are being improved and the needs supplied, are brought to the attention of the students through addresses, literature, and study classes. A small but select library is kept in the office of the General Secretary, where it is always accessible to the members.

The Secretary has general supervision of all the work of the organization. He has no official connection with the College, either as a disciplinarian or instructor.

All students should know the Secretary personally, for his unique position enables him to be of service to students in many ways. Owing to the change which has been made in the location of the Y. M. C. A. quarters, the Secretary will now be found in one of the rooms in the new story of barracks No. 1. Students are welcome to his room at all times; and he is there for their convenience.

Care of the Sick

The Surgeon is one of the regular officers of the College, and his special duty is to look after the health of the students. He also has charge of the Hospital, and supervises all matters pertaining to the sanitation of barracks.

At a regular appointed time every day, students who so desire may consult the Surgeon, and those who are sick are cared for by experienced nurses in the College Hospital. In case of necessity students are allowed to consult the Surgeon at any time, or send for him, as may be required.

The Surgeon cannot undertake to notify parents every time a student reports to the Hospital for medicine, or for rest on account of some slight complaint. However, they may rest assured that they will be promptly notified of sickness of any consequence. In case of serious illness the Surgeon will telegraph them.

Student Employment

The question is often asked if a student cannot help pay his way through College by obtaining employment. At Clemson College a student is kept so busy with his classes and military duties that little time remains for paid labor. Since the College is not located in a city, the opportunities for getting employment are practically limited to waiting on the tables in the dining hall. From thirty to forty young men are utilized in this work, which requires ten minutes before each meal, and which does not interfere with any regular College work. The price paid is from three to four dollars per month. These positions are within the authority of the Steward, and do not usually go to new students. Occasional opportunities for work are furnished in the various Departments, but not in sufficient number to materially help a cadet to defray his expenses.

A student is not advised to attempt any large amount of work, even if it could be obtained, because his time at College is too valuable for him to spend it in trying to work his way through, unless that be absolutely necessary. It would

be better policy for him to borrow the money that is necessary to supplement what he has, rather than seek to earn it, because by such a policy he would have time to devote to reading and to the various student activities, all of which have great educational value.

Literary Societies

Three literary societies, the Calhoun, the Columbian, and the Palmetto, furnish a valuable supplement to the work of the College. These societies afford facilities for practice in debate, oratory, declamation and essay writing, and their members acquire valuable knowledge of parliamentary law and usage. The meetings are held weekly, on Friday evenings. An annual contest is also held by each society, at which there are debates, orations and declamations by the students.

On these occasions a representative is chosen from each society to enter the contest for the Trustees' Medal at commencement. The societies themselves also award medals annually to the best debater, orator, and declaimer.

The societies occupy halls in the Academic Building, which are furnished with carpets and opera chairs, and are maintained entirely by the students. A small initiation fee is charged, and small monthly dues to meet running expenses. All students are advised to join one of these societies.

State Oratorical Contest.—The societies also send a representative to the annual contests of the South Carolina Intercollegiate Oratorical Association, which includes the following institutions: Furman University, Wofford College, Clemson Agricultural College, Presbyterian College of South Carolina, Erskine College, Newberry College, South Carolina Military Academy, and University of South Carolina.

Publications by the Students

The Clemson College Chronicle, a monthly magazine designed to encourage literary work among the students, is published jointly by the literary societies during the College session.

The **Annual**, an illustrated volume, is published under the auspices of the Senior Class.

There is also **The Tiger**, published weekly, which is devoted largely to athletics, and **The Agricultural Journal**, published quarterly by the Agricultural Seniors.

The Clemson College Branch of the American Institute of Electrical Engineers

This is composed of instructors and students belonging to this national institution. This branch is maintained with the aim of acquainting the students with current engineering practice and problems.

The Science Club

The Clemson College Science Club was organized for the purpose of promoting knowledge of the progress of the natural sciences, theoretical and applied. Public meetings are held every month, at which subjects of general scientific interest are discussed by members of the Faculty and others.

The Clemson Biological Club

This club is open to members of all the faculties of Clemson College and to all students. Its object is to stimulate interest in biological subjects, and to keep its members fully abreast of current biological work and thought.

A regular meeting is held once each week in the Agricultural Hall.

Lecture Course

A lecture course, employing some of the best talent on the American platform, is provided every session. These lectures are delivered in Memorial Hall, at a cost to students of one dollar for the course. During the session of 1913-1914 the following lectures and concerts were given:

Richmond Pearson Hobson.

Killarney Girls.

Chicago Glee Club.

Schuman Quintette.

Skovgaard Concert Company.

Booth Lowery.

New York Artists Concert Company.

Boston Musical Club.

And others.

The Cadet Exchange

The College maintains a book and supply store known as the Cadet Exchange, where students may purchase textbooks, drawing instruments and other student supplies at reduced prices.

College Athletics

It is the policy of the College to sanction and encourage athletics so long as they do not interfere with studies and other duties. Football, baseball and track are the most popular sports, and it is assumed that parents are willing for their sons to participate in these games unless the President is definitely notified to the contrary. The athletic teams are permitted to take a few trips each season, usually on Saturday, to play intercollegiate games. The College is a member of the Southern Intercollegiate Athletic Association (S. I. A. A.) and of the South Carolina Intercollegiate Athletic Association (S. C. I. A. A.)

Athletic Council.—The Southern Intercollegiate Athletic Association has placed the athletic interests at each college under the supervision of an athletic council, consisting of members of the faculty and the student body. This council consists of nine members—two members of the faculty, the president and the secretary-treasurer of the local athletic association, elected by the students, and three members of the faculty chosen by the faculty, and four class presidents.

Intercollegiate Athletics.—For the regulation of intercollegiate athletics, the Faculty has adopted the following rules:

1. No student who has a class mark of less than 60 per cent. in more than eight hours of work in any one term shall

be allowed during the ensuing term to take part in any inter-collegiate contest. Demerits shall be considered in the record, and more than forty demerits shall count as a failure in two hours of class work. Changing from one course to another, or from a regular to an irregular course, shall not interfere with the operation of this rule.

2. No graduate student shall participate in intercollegiate athletics unless he is taking at least twenty hours of work per week of as high grade as the graduate work given in other institutions of similar rank.

3. The football team shall be allowed a maximum of ten days absence from the campus during the session for games away from the College; the baseball team shall be allowed a maximum of ten days; the track team and basket ball team six days; the tennis team or any other organization hereafter sanctioned shall be allowed a maximum of four days absence during each session. Saturday afternoons, Sundays, and holidays shall not count as days.

4. No one contestant or representative shall be allowed to leave the campus for more than twenty days during the session.

5. No member of an athletic team shall be eligible for a managerial position in any other branch of sport.

6. No team shall be allowed to leave the College grounds to participate in any match game unless accompanied by a member of the Faculty, who shall be responsible to the Faculty for the conduct of the players and coaches while away from the College. Such representative shall be appointed by the chairman of the Faculty Athletic Committee, and his expenses shall be included in the expenses of the trip.

7. It shall be the duty of the Faculty Athletic Committee to see that the foregoing rules and regulations are strictly enforced.

THE SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION

The Agricultural Experiment Station of South Carolina is a department of Clemson College. The experiment station at present consists of the main station, which is located at Clemson, and two substations, one in the coast region, located at Summerville, and one in the Pee Dee section, located at Florence. The main offices and laboratories of the station occupy the second floor of the Agricultural Hall, while the station experiment farm, consisting of about 200 acres, is east of and adjoining the College campus. The investigations dealing with the fundamental principles of agricultural sciences and with the application of such principles to practical agricultural operations are carried on in the laboratories and on the experiment station farm at Clemson. The experiments looking to the adaptation of such scientific data accumulated here and elsewhere to the conditions peculiar to certain sections of the State are carried on at the sub stations and at branch laboratories established in certain sections of the State for this purpose.

It is the aim of the experiment station to carry on research work on problems which have a direct practical bearing on the agriculture of the State. With this end in view elaborate experiments relative to the best methods of procedure under various conditions with the principal plants and animals have been undertaken. As progress is made with such experiments the results obtained are given out to farmers in the form of bulletins, circulars and personal letters. Since the establishment of the station 173 such bulletins and 25 circulars have been published and sent free to every farmer in the State who desired them.

Aside from the research work and the publication of results obtained from such research the experiment station performs various other duties. Among these might be mentioned the entomological and pathological inspection work which aims to protect the farms, orchards and gardens of the State

against the introduction of injurious insects and diseases; the biological and soil survey of the State; and the cooperative experimental work carried on with hundreds of farmers in the State. The technically trained experts of the station staff are regarded as authority on their several specialties and they are constantly giving out information relating to the various lines of agricultural endeavor. More than fourteen thousand personal and circular letters are written annually to residents of the State giving technical information to individuals on special subjects. The station staff also aids in disseminating agricultural knowledge by cooperating with the Extension Division of the College in holding farmers' institutes and by meeting with the farm demonstration agents and giving to them technical information which they in turn carry through the demonstration work direct to the farmers.

Close cooperation is maintained with the various research bureaus of the National Department of Agriculture and with the departments of the College. The laboratories are always open to the inspection of the students and other people of the State. The same is true of the experiment station farm. There is always opportunity for a limited number of students to secure work in the various divisions of the station and to assist in the research work carried on by the members of the station staff.

All publications of the experiment station are sent free upon request to any resident of the State. Requests for these should be addressed to J. N. Harper, Director, Clemson College, S. C.

PUBLIC SERVICE

In addition to the usual teaching work, Clemson College expends over \$100,000 annually for public service along the following lines:

Fertilizer Inspection and Analysis.—The work of fertilizer inspection and analysis is under the supervision of the Board of Control consistig of Richard I. Manning of Sumter, chairman; S. T. McKeown of Cornwell, and J. E. Wannamaker of St. Matthews. The work of inspection is under the immediate supervision of H. M. Stackhouse, Secretary of the Board of Control.

There are thirteen **inspectors** to look after this feature of the work in different parts of the State.

The work of analysis is carried on by the special corps of expert chemists attached to the Chemical Department and under the supervision and direction of Dr. R. N. Brackett, Chief Chemist.

The work consists of the analysis of commercial fertilizers, as provided for by the Fertilizer Law of the State. This Division also undertakes the analysis of waters, ores, minerals, and other naturally occurring materials, except soils (which are analysed by the Experiment Station), portions of human bodies in cases of suspected poisoning, as provided for by law, and the analysis of home-mixed fertilizers. All the work of this Division is done free of charge.

The annual cost of the fertilizer inspection and analysis is about \$35,000.

Agricultural and Textile Scholarships.—The College maintains 168 four-year agricultural and textile scholarships, and fifty-one one-year agricultural scholarships. Each scholarship is worth \$100 and free tuition. The cost of these scholarships is paid out of the fertilizer tax, as the State makes no appropriation therefor.

The annual cost of these scholarships, including advertising, expense of holding examinations, etc., is about \$23,000.

Veterinary Inspection and Tick Eradication—This interest is under the supervision of a committee of the Board of Trustees composed of A. F. Lever, of Washington, D. C., and R. H. Timmerman, of Batesburg.

The work is carried on by the Veterinary Division of the Agricultural Department. Dr. M. R. Powers, head of the division, is State Veterinarian. The work includes the control of contagious diseases, eradication of the cattle tick which transmits Texas fever, and the supervision of shipments of live stock into the State. Much of this work is required by legislative enactment, but the cost comes out of the regular income of the College, and amounts to nearly \$13,000 a year.

Entomological and Pathological Inspection.—This work is carried on under the direction of the State Crop Pest Commission, of which R. H. Timmerman is the Chairman. This commission is selected by the Board of Trustees from its members.

The **State Entomologist** is Prof. A. F. Conradi, head of the Division of Entomology, and the **State Pathologist** is Prof. H. W. Barre, head of the Division of Botany and Forestry.

The work of these officers consists in the control of contagious plant diseases and insect pests. The State Entomologist has also supervision of all nursery stock sold within the State.

The cost of these lines of work is approximately \$3,200.

Division of Extension Work and Farmers' Institutes.—This division together with the **Farmers' Cooperative Demonstration Work** conducted jointly by the U. S. Department of Agriculture and the College, is under the supervision of Mr. W. W. Long.

The Extension Work includes farmers' institutes, demon-

stration trains, correspondence courses, press bulletins, spraying and orchard demonstration, etc.

For the Demonstration Work the State is divided into three districts, each presided over by a District Agent, and in practically every county there is a local agent who looks after the crop demonstrations. Under the direction of the local agents, farmers are induced to plant certain acreage and cultivate in accordance with expert directions.

The local agents also assist the College in its various other lines of public service.

The College contributes \$20,500 annually to carrying on the demonstration and extension work in South Carolina.

The Boys' Corn Club Work.—This is also carried on jointly by the U. S. Department of Agriculture, and the College, as a feature of the demonstration work. Mr. W. W. Long is in charge of this particular line of work.

Cooperative Experimental Work.—This work is carried on under the supervision of Mr. J. N. Harper, Director of the Agricultural Department and Experiment Station. About 200 farmers are enrolled in this important line, which includes a repetition of many of the experiments conducted at the parent experiment station located at the College. The demonstration work seeks to apply known and thoroughly tried and approved methods to farming, but the cooperative experimental work is intended to verify new facts and laws under the various soil and climate conditions in South Carolina.

The cost of conducting this work is approximately \$3,000 per annum.

Branch Experiment Stations.—In order to reinforce the main experiment station located at the College, two additional branch stations have already been established, one at Drainage, in the coastal plain, and another near Florence, in the Pee Dee section. One other will be located in the Sand Hill section of the State.

These stations are devoted primarily to experiment work. They will also form centers of dissemination for the information which the College has to give to the people. The College expended \$20,000 in the purchase of land for the Pee Dee station and expends \$10,000 annually for its maintenance and development.

Miscellaneous.—In addition to the above regular lines of activity, the College manufactures at cost the **South Carolina flag** in a number of different sizes, makes annually an exhibit at the State Fair, and expends a small amount for textile instruction in some of the neighboring mill villages. The total cost of these activities is about \$2,500.

ALUMNI ORGANIZATION

Clemson College Alumni Association

- D. H. HENRY, '98, President.
J. M. NAPIER, '08, First Vice-President.
W. M. ROSEBOROUGH, '08, Second Vice-President.
D. E. EARLE, '03, Third Vice-President.
H. W. BARRE, '05, Secretary.
I. E. HUNTER, '96, Treasurer.
GEO. H. WARREN, '08, Alumni Orator of 1914.

There are Alumni Chapters in the following cities:

New York, N. Y.
Pittsburgh, Pa.
Washington, D. C.
Schenectady, N. Y.
Greenville, S. C.
Charleston, S. C.
Rock Hill, S. C.
Pittsfield, Mass.
Atlanta, Ga.
Columbia, S. C.

A **Register of Graduates** has recently been published as a separate bulletin, and will be revised from time to time. Graduates and friends of the institution are requested to co-operate in keeping this record as nearly accurate as possible. The following is the information desired: name, address, year of graduation, and occupation. This should be sent to the Secretary of the Clemson College Alumni Association.

REGIMENTAL ORGANIZATION

1913-'14

JOSEPH M. CUMMINS

1st Lieutenant, 18th Infantry, U. S. A.

Commanding

REGIMENTAL STAFF

R. B. Ezell	-----	Captain and Adjutant
T. W. Thornhill	-----	Captain and Quartermaster
B. P. Barron	-----	Captain and Commissary

NON-COMMISSIONED STAFF

P. H. Senn	-----	Sergeant Major
J. E. Glover	-----	Quartermaster Sergeant
E. H. Pate	-----	Color Sergeant
R. N. Benjamin	-----	Color Sergeant

 CADET BAND

H. L. Smith	-----	1st. Lieutenant and Chief Musician
C. L. Vaughan	-----	Drum Major
O. H. Beymer	-----	Sergeant
J. S. Moore	-----	Sergeant
F. L. Bunker	-----	Sergeant
H. M. Adams	-----	Corporal

FIRST BATTALION

MAJOR A. R. BOYD

L. C. Pearlstine	----- 1st Lieutenant and Battalion Adjutant
W. L. Perry	----- 2nd Lieutenant and Battalion Quartermaster and Commissary
C. J. Shannon	----- Sergeant Major

Co. A**Co. B****Co. C****Co. D****CAPTAINS**

H. L. Parker	E. R. Gilmore	F. H. Robertson	A. L. Edwins
--------------	---------------	-----------------	--------------

LIEUTENANTS

D. K. Banks	J. R. Todd	C. C. Thornton	J. E. Fletcher
J. W. McLure	H. S. Boozer	B. R. Lever	W. D. Wood

1st SERGEANTS

W. A. Bigby	G. L. Harris	J. H. Trescot	W. O. Davis
-------------	--------------	---------------	-------------

SERGEANTS

W. B. Wannamaker	R. B. Stewart	R. P. Thornton	M. A. Smith
H. L. Wannamaker	W. H. Arthur	J. D. Jones	E. L. Randle
W. A. Taylor	C. G. Bennett	D. D. Buyck	R. H. Johnson
E. P. DuVernet	A. L. Shealy	W. D. Arthur	J. R. Clark

CORPORALS

C. S. Anderson	S. C. Stribling	J. B. Kendrick	T. E. Boone
R. J. Odom	H. L. Suggs	L. W. Funk	J. W. Stribling
J. T. Mallard	T. H. Siddall	F. E. Armstrong	J. W. Boyleston
D. H. Banks	T. D. Padgett	T. P. Moore	D. T. Duncan
E. T. Woods	H. H. Quattlebaum	D. M. Simpson	M. T. Johnson
W. B. Sharp	R. D. Poore	C. S. Major	D. A. Amme

SECOND BATTALION

MAJOR F. H. McDONALD

M. W. Hunter 1st Lieutenant and Battalion Adjutant
F. P. Salter 2nd Lieutenant and Battalion
Quartermaster and Commissary
T. M. Cathcart Sergeant Major

Co. E

Co. F

Co. G

Co. H

CAPTAINS

J. A. Berley E. M. Byrd W. F. Lachicotte E. H. Pressley

LIEUTENANTS

C. R. Emerson	T. G. Harris	T. B. Rogers	B. M. James
R. H. Ridgill	C. E. DesChamps	J. M. McIntosh	J. N. McBride

1st SERGEANTS

F. Osborne J. J. Murray, 1st E. S. Lachicotte G. E. Berley

SERGEANTS

F. D. Stribling	R. B. Cureton	R. G. Kennedy	E. O. McMahan
T. E. Jeffords	T. A. Jennings	W. A. Teal	F. S. Barnes
S. W. Hutto	W. W. Caughman	J. B. Monroe	J. W. Sanders
N. G. Thomas	H. H. Dukes	R. G. Causey	R. D. Poore

CORPORALS

J. H. Culclasure	M. L. Barre	W. F. Wright	J. P. Harrall
A. A. Patjens	C. A. Vincent	A. M. Dickson	J. M. Heldman
P. M. Pitts	R. S. Oliver	L. O. Campbell	R. F. Poole
A. B. Carwile	J. D. Clark	L. A. May	W. B. Camp
V. M. Howell	F. O. Berry	R. M. O'Neal	E. H. Tate
D. G. O'Dell	J. F. Berry	T. C. Witherspoon	E. G. Bynum

THIRD BATTALION

MAJOR J. E. DUNLAP

G. M. Armstrong ----- 1st Lieutenant and Battalion Adjutant
F. S. Johnston ----- 2nd Lieutenant and Battalion
Quartermaster and Commissary
L. LeGrand ----- Sergeant Major

Co. I

Co. K

Co. L.

Co. M

CAPTAINS

J. C. Barksdale J. T. Woodward F. J. Jervey T. C. Haddon

LIEUTENANTS

A. P. Gandy	G. R. Morgan	F. C. Dantzler	D. D. Tinsley
J. W. Willis	H. R. Stender	W. A. Reeves	W. T. P. Sprott

1st. SERGEANTS

W. J. Hunter S. M. Richards P. C. Crayton B. L. Hamilton

SERGEANTS

J. H. Carmichael	J. C. Cannon	D. R. Hopkins	D. E. Barnett
E. G. Kittles	F. M. Connor	V P. Corbett	H. W. Muldrow
D. W. Evans	W. K. Magill	G. J. Lawhon	E. W. Garris
H D. Barker	W. A. Rowell	W. G. Williams	

CORPORALS

J. P. Jeter	E. H. Agnew	J. C. Richter	W. T. Patrick
T. M. Ferguson	J. J. Sitton	W. H. Creighton	N. L. DuRant
C. E. Littlejohn	E. D. Kyzer	A. S. McCord	J. M. Jackson
J. R. Wise	H. C. Wannamaker	F. M. Haddon	J. M. Garriss
C. L. Kirven	S. W. Haigler	C. T. West	R. F. Wright
W. L. McMillan	W. E. McMahan	J. M. Eleazer	S. E. Jeffords

GRADUATING CLASS, JUNE 1913

(Where the names of the county and city are the same the name of the city is not repeated, only the street address is given.)

Name and Course	County	Residence
Anderson, G. M. Agri. II	Abbeville	Antreville
s Auld, I. D. Agri. II	Charleston	Mt. Pleasant
Banks, W. D. Agri. II	Calhoun	St. Matthews
Barnwell, J. W. Jr., Civil	Charleston	48 S. Bay
Berry, M. D. Mech. Elec.	Greenville	Lawton Ave.
Blackmon, L. R. Mech. Elec.	Lancaster	Kershaw
Boggs, J. K. Civil	Pickens	Liberty
Bomar, H. J. Mech. Elec.	Spartanburg	221 Kennedy
s Bouson, F. W. Agri. III	Charleston	11 Wentworth
s Bowers, W. E. Agri. III	Kershaw	Kershaw
s Boylston, H. G. Agri. II	Barnwell	Elko
Britt, W. B. Mech. Elec.	Abbeville	McCormick
s Brodie, J. E. Agri. III	Aiken	Earle
Brown, S. K. Mech. Elec.	Florence	Hyman
s Cannon, D. L. Agri. III	Spartanburg	283 S. Liberty
Carpenter, P. M. Agri. I	Greenville	R. No. 2, Marietta
Coles, M. Agri. II		Jacksonville, Fla.
s Davis, T. F. Agri. II	Richland	Killian
Dunlap, C. K. Civil	Anderson	Belton, Bx. 163
Erwin, J. O., Jr. Text.	Spartanburg	E. Main
Evans, A. B. Mech. Elec.	Charleston	70 Ashley Ave.
Evans, A. J., Jr. Civil	Dillon	Dillon
Fant, R. W. Text.	Anderson	River St.
Fitzsimmons, J. C. Civil	Charleston	65 Legare St.
s Frampton, W. H. Agri. III	Charleston	212 Ashley
s Frick, G. E. Text.	Lexington	Chapin
Gentry, T. C. Mech. Elec.	Clarendon	Summerton
Gilmore, W. C. Text.	Union	Santuc
Hagood, H. A. Civil	Spartanburg	N. Church
Hale, P. S. Agri. III	Charleston	Mt. Pleasant
Hall, J. D. Mech. Elec.	Pickens	Central
s Hanahan, J. E. Text.	Charleston	R. No. 1, Johns Island
Harrison, S. E. Text.	Greenville	Simpsonville
s Herbert, W. W. Agri. II	Newberry	Newberry
Heriot, H. A. Mech. Elec.	Lee	Oswego
s Hiers, J. L. Agri. III	Hampton	Hampton

NOTE: s—Indicates Scholarship Student

Name and Course	County	Residence
s Hodges, F. Agri. III -----	Greenwood -----	Greenwood
s Hutson, L. D. Agri. III -----	Aiken -----	Aiken
Kangeter, J. H. Mech. Elec. ----	Charleston -----	31 Hasell
Kennerly, H. S. Agri. I -----	Greenwood -----	1026 Main St.
s King, C. J. Agri. III -----	Lancaster -----	Lancaster
King, J. F. Agri. III -----	Charleston -----	108 Wentworth
s Kyser, W. T. Agri. II -----	Lexington -----	Lexington
Lachicotte, A. H. Agri. II, ----	Georgetown -----	Waverley Mills
s Lathrop, F. H. Agri. II -----	Orangeburg -----	Orangeburg
Lawton, M. S. Mech. Elec. ----	Barnwell -----	Allendale
Magill, J. A. Agri. II -----	Abbeville -----	Abbeville
McAlhany, T. D. Civil -----	Dorchester -----	St. George
McGee, H. S. Mech. Elec. ----	Anderson -----	Honea Path
McIntyre, D. Mech. Elec. ----	Marion -----	Marion
s McLeod, W. G. Agri. III -----	Darlington -----	Hartsville
s Mellett, F. M. Agri. III -----	Sumter -----	Mullins
Morrison, W. E. Mech. Elec. ----	Chester -----	Chester
s Meyers, P. E. Agri. II -----	Berkeley -----	Cordesville
Newman, W. W. Mech. Elec. ---	Chesterfield -----	R. No. 2, McBee
Park, A. D. Mech. Elec. ----	Fairfield -----	Winnsboro
s Patrick, C. S. Agri. I -----	Cherokee -----	R. No. 2, Gaffney
Pearce, G. H. Agri. I -----	Edgefield -----	Johnston
Pearson, J. F. Mech. Elec. ----	Orangeburg --	R. No. 2, Orangeburg
s Pennell, R. E. Text. -----	Anderson -----	Belton
Provost, E, T, Mech. Elec. -----	827 E. Ave., York, Nebraska	
Rabb, S. W. Text. -----	Greenville -----	Greenville
Rivers, H. F. Mech. Elec. ----	Charleston -----	Charleston
Robison, R. Text. -----	Greenville -----	Greers
s Seal, J. L. Agri. I -----	Greenwood -----	Greenwood
Sloan, D. M. Mech. Elec. ----	Greenville -----	125 James
Smarr, W. L. Agri. II -----	York -----	Sharon
Stokes, C. E. Agri. II -----	Laurens -----	Mountville
Stoudemire, C. E. Text. -----	Lexington -----	Chapin
Todd, J. N. Civil -----	Oconee -----	Seneca
s Turbeville, A. C. Agri. II -----	Charleston -----	222 Ashley
Wilson, T. B. Civil -----	Aiken -----	R. No. 3, Augusta, Ga.
Yeargin, B. F. Agri. I -----	Laurens -----	Gray Court
Youmans, C. P. Agri. III -----	Barnwell -----	Fairfax

NOTE: s—Indicates Scholarship Student

SENIOR CLASS

(Where the names of the county and city are the same the name of the city is not repeated, only the street address is given.)

Name and Course	County	Residence
s Armstrong, G. M. Agri. A	Barnwell	Barnwell
Baker, C. W. Agri. A	Marion	Marion
Banks, D. K. Mech. Elec.	Calhoun	St. Matthews
Barksdale, J. C. Agri. A.	Laurens	P. O. Bx. 151, Laurens
Barron, B. P. Civil	York	Yorkville
Berley, J. A. Agri. E.	Newberry	Pomaria
Boozer, H. S. Mech. Elec.	Newberry	1935 Harrington St.
Boyd, A. R. Agri. E.	Abbeville	Mt. Carmel
Brawley, W. F. Mech. Elec.	Chester	Chester
Brown, G. H. Mech. Elec.	York	Rock Hill
Bryant, V. F. Civil	Orangeburg	8 Whitman
Byrd, E. M. Mech. Elec.	Darlington	Society Hill
Carson, J. L. Agri. A	Spartanburg	S. Church
Chambliss, H. E. Mech. Elec.		Hardinsburg, Kentucky
Cox, R. E. Agri. A	Abbeville	Abbeville
Dantzler, F. C. Agri. D	Orangeburg	Holly Hill
Dantzler, M. A. Mech. Elec.	Calhoun	Cameron
DesChamps, C. E. Mech. Elec.	Sumter	Sumter
s Dunlap, J. E. Agri. C.	Darlington	Hartsville
Douthit, J. B. Agri. D	Anderson	Pendleton
Edwins, A. L. Mech. Elec.	Orangeburg	Orangeburg
Emerson, C. R. Mech. Elec.	Greenwood	Hodges
Erwin, J. W. Text.	Spartanburg	E. Main
Ezell, R. B. Agri. E	Spartanburg	Forest St.
Fletcher, J. E. Mech. Elec.	Marlboro	McColl
Gandy, A. P. Agri. A	Darlington	Dovesville
Gilmore, E. R. Agri. C	Union	Santuc
s Haddon, T. C. Agri. A	Greenwood	Hodges
Hanvey, E. Agri. A	Abbeville	Troy
Harris, T. G. Agri. A	Laurens	R. No. 1, Owings
Harrison, J. F. Agri. A	Spartanburg	Moore
Hood, R. S. Mech. Elec.	Sumter	Sumter
Hunter, M. W. Mech. Elec.	Pickens	Liberty
s Jackson, B. M. Agri. D	Sumter	Hagood
Jackson, R. Text.	Spartanburg	Wellford
James, B. M. Civil	Greenville	402 E. Washington
Jervey, F. J. Mech. Elec.	Charleston	71 Rutledge

NOTE: s—Indicates Scholarship Student

Name and Course	County	Residence
s Johnston, F. S. Agri. C -----	Florence -----	Florence
Jones, B. M. Mech. Elec. -----	Newberry -----	Newberry
Lachicotte, W. F. Mech. Elec. --	Georgetown -----	Waverley Mills
Lever, B. R. Text. -----	Lexington -----	Chapin
Lewis, A. P. Agri. A -----	Oconee -----	Clemson College
s McBride, J. N. Agri. A -----	Florence -----	Florence
McDonald, F. H. Mech. Elec. ---	Charleston -----	38 Henrietta
McDonald, J. W. Mech. Elec. ---	Edgefield -----	Parksville
s McIntosh, J. M. Agri. C -----	Richland ---	Columbia, 1631 Richland
McLure, J. W. Civil -----	Union -----	Union
Morgan, G. R. Mech. Elec. -----	Greenville -----	305 E. North St.
Oetzel, J. G. Mech. Elec. -----	Union -----	Union
s Parker, H. L. Agri. E -----	Spartanburg -----	Roebuck
Pearlstine, L. C. Civil -----	Calhoun -----	St. Matthews
Perry, W. L. Mech. Elec. -----	Richland --	Columbia, 1518 Was'n'ton
s Pressley, E. H. Agri. A -----	Chester -----	Chester
s Reeves, W. A. Agri. A -----	Fairfield -----	Longtown
Rice, W. H. Agri. C -----	Bamberg -----	Denmark
s Ridgell, R. H. Agri. C -----	Clarendon -----	Manning
Robertson, F. H. Mech. Elec. --	Charleston -----	27 Montague St.
s Rogers, T. B. Mech. Elec. -----	Williamsburg -----	Vox
s Salter, F. P. Agri. C -----	Edgefield -----	Trenton
Schilletter, A. E. Agri. A -----	Oconee -----	Clemson College
Schilletter, W. A. Agri. A -----	Oconee -----	Clemson College
Smith, H. L. Text. -----	Anderson -----	1804 S. Main
s Sprott, W. T. P. Agri. C -----	Clarendon -----	Foreston
Stanford, A. G. Mech. Elec. ----	Charleston -----	25 Montague
Stender, H. R. Agri. C -----	Charleston -----	54 Hasell
Thornton, C. C. Mech. Elec. ----	Laurens -----	Mountville
Thornhill, T. W. Mech. Elec. ----	Dorchester -----	Summerville
Tinsley, D. D. Mech. Elec. ----	Spartanburg -----	White Stone
Todd, J. R. Agri. E -----	Abbeville -----	Due West
Usher, A. B. Agri. A -----	Marlboro -----	R. 2, Gibson, N. C.
Ward, A. H. Agri. A -----	Florence -----	Timmons ville
Wells, J. H. S. Agri. D -----	Spartanburg -----	Clifton
Wilkerson, W. B. Agri. A -----	York -----	Hickory Grove
s Willis, J. W. Agri. A -----	Saluda -----	Saluda
Witherspoon, J. T. Agri. D -----	Clarendon -----	Mayessville
s Woodward, J. T. Agri. D -----	Aiken -----	Aiken
Wood, W. D. Agri. A -----	Greenville -----	Greer

NOTE: s—Indicates Scholarship Student

JUNIOR CLASS

(Where the names of the county and city are the same the name of the city is not repeated, only the street address is given.)

Name and Course	County	Residence
Arthur, W. D. Agri. -----	Union -----	Union
s Arthur, W. H. Agri. -----	Winchester, Va.	
s Barker, H. D. Agri. -----	Oconee -----	Tamassee
s Barnett, D. E. Agri. -----	Laurens -----	Laurens
Barnes, F. S. Mech. Elec. -----	York -----	Rock Hill
Barnett, M. S. Mech. Elec. -----	York -----	Clover
Benjamin, R. N. Mech. Elec. -----	Greenwood -----	Greenwood
Bennett, C. G. Mech. Elec. -----	Lancaster -----	Lancaster
Berley, G. E. Mech. Elec. -----	Newberry -----	Pomaria
Beymer, O. H. Mech. Elec. -----	Spartanburg -----	Elford Terrace
Bigby, W. A. Civil -----	Anderson -----	Williamston
Boggs, L. A. Mech. Elec. -----	Pickens -----	Liberty
Bomar, W. M. Mech. Elec. -----	Spartanburg -----	Kennedy St.
s Bostick, B. Agri. -----	Beaufort -----	Beaufort
Briggs, G. R. Agri. -----	Greenwood -----	Greenwood
Bristol, H. W. Mech. Elec. -----	Beaufort -----	Washington St.
Bunker, F. L. Mech. Elec. -----	Pickens -----	Easley
Buyck, D. D. Mech. Elec. -----	Calhoun -----	St. Matthews
Byers, J. L. Text. -----	Orangeburg -----	Orangeburg
Campsen, G. E. Civil -----	Charleston -----	2 Glebe St.
s Cannon, J. C. Agri. -----	Greenville -----	Simpsonville
Carmichael, J. H. Mech. Elec. -----	Edgefield -----	Edgefield
Cathcart, T. M. Agri. -----	Fairfield -----	Winnsboro
Caughman, K. G. Civil -----	Richland -----	Columbia, 1013 Sumter
s Caughman, W. W. Agri. -----	Lexington -----	Lexington
Causey, R. G. Agri. -----	Berkeley -----	Pinopolis
Clark, J. R. Agri. -----	Lexington -----	Chapin
s Connor, F. M. Agri. -----	Colleton -----	Smoaks
s Corbett, V. P. Agri. -----	Sumter -----	Horatio
Crayton, P. C. Text. -----	Anderson -----	Anderson
s Creecy, P. J. Agri. -----	Clarendon -----	Manning
Cureton, R. B. Civil -----	Greenville -----	Greenville
Darby, J. T. Agri. -----	Richland -----	Eastover
s Davis, W. O. Agri. -----	Georgetown -----	Georgetown
s Dukes, H. H. Agri. -----	Dorchester -----	St. George
DuVernet, E. P. Mech. Elec. -----	Greenville -----	R. No. 1, Greenville
Edmonds, M. Mech. Elec. -----	Richland -----	R. No. 1, Columbia
s Evans, D. W. Agri. -----	Calhoun -----	Cameron

NOTE: s—Indicates Scholarship Student

Name and Course	County	Residence
s Folk, C. E. Text. -----	Newberry -----	Pomaria
Foster, J. C. Agri. -----	Spartanburg -----	White Stone
s Garris, E. W. Agri. -----	Colleton -----	Round
Gee, C. F. Mech. Elec. -----	Richland -----	R. No. 3, Columbia
Glover, J. E. Mech. Elec. -----	Orangeburg -----	16 Doyle St.
Hamilton, B. L. Mech. Elec. -----	Oconee -----	Seneca
s Harris, G. L. Agri. -----	Oconee -----	Westminster
s Hoffman, G. P. Agri. -----	Fairfield -----	Blythewood
s Hopkins, D. R. Agri. -----	Greenville -----	Fountain Inn
s Hough, T. C. Agri. -----	Spartanburg -----	Landrum
s Hunter, W. J. Text. -----	Pickens -----	Liberty
Hutto, S. W. Agri. -----	Orangeburg -----	Vance
Iler, C. B. Mech. Elec. -----	Greenville -----	Greenville
Jeffords, T. E. Arch. -----	Darlington -----	250 Broad
Jennings, T. A. Agri. -----	Orangeburg -----	Cope
Jeter, W. R. Agri. -----	Union -----	Carlisle
Johnson, R. H. Agri. -----	Union -----	Mt. Tabor
Jones, J. D. Text. -----	Sumter -----	R. No. 3, Sumter
Jones, T. M. Mech. Elec. -----	Richland -----	Columbia, 1431 Pendleton
Kennedy, R. G. Civil -----	Orangeburg -----	R. No. 1, Orangeburg
Kittles, E. G. Civil -----	Hampton -----	Brighton
s Lachicotte, E. S. Text. -----	Georgetown -----	Waverley Mills
s Lawhon, G. J. Agri. -----	Florence -----	Timmons ville
Lawson, C. S. Chem. -----	Spartanburg -----	231 Spring
s LeGette, F. C. Agri. -----	Marion -----	R. No. 7, Centenary
LeGrand, L. Arch. -----	Sumter -----	207 N. Main
Lunney, G. W. Mech. Elec. -----	Darlington -----	Darlington
s Magill, W. K. Agri. -----	Abbeville -----	Abbeville
Marchant, J. L. Text. -----	Greenville -----	Greer
Martin, G. D. Agri. -----	Spartanburg -----	Cowpens
McBain, J. M. Arch. -----	Spartanburg -----	Pacolet
McCall, P. L. Mech. Elec. -----	Darlington -----	R. No. 2, Society Hill
s McCullough, J. Text. -----	Williamsburg -----	Benson
McEachern, D. H. Mech. Elec. -----	Dillon -----	Hamer
McMahan, E. O. Agri. -----	Oconee -----	Richland
s Miley, J. Agri. -----	Hampton -----	R. No. 1, Brunson
Mitchell, B. S. Agri. -----	Anderson -----	Honea Path
Monroe, J. B. Agri. -----	Marion -----	Marion
s Moore, G. F. Agri. -----	Florence -----	Mars Bluff
Moore, J. S. Agri. -----	Anderson -----	149 Marie

NOTE: s—Indicates Scholarship Student

Name and Course	County	Residence
Muldrow, H. W. Agri. -----	Darlington -----	Darlington
s Murray, J. J. 1st, Mech. Elec. --	Abbeville -----	Abbeville
Newton, J. L. Agri. -----	Anderson -----	Pendleton
Norris, J. E. Agri. -----	Orangeburg -----	Vance
s Osborne, F. Agri. -----	Spartanburg -----	150 W. Main
s Pate, E. H. Agri. -----	Lee -----	R. No. 5, Bishopville
Patterson, J. A. Mech. Elec. ---	Barnwell -----	Allendale
Peeples, J. W. Civil -----	Charleston -----	Meggetts
s Poore, R. D. Agri. -----	Anderson -----	Belton
s Ragsdale, W. G. Text. -----	Fairfield -----	Winnsboro
Randle, E. L. Mech. Elec. -----	Sumter -----	116 N. Washington
Richards, S. M. Agri. -----	Kershaw -----	Liberty Hill
Rickenbaker, D. M. Civil -----	Orangeburg -----	86 Sellars
Rivers, W. J. Mech. Elec. -----	Richland -----	R. No. 2, Eastover
s Rosa, J. T. Agri. -----	Georgetown -----	617 Prince
Rowell, W. A. Agri. -----	Marion -----	R. No. 1, Centenary
s Sanders, J. W. Agri. -----	Chester -----	R. No. 2, Richburg
Seegars, E. H. Mech. Elec. ----	Darlington -----	R. No. 2, Hartsville
Senn, P. H. Agri. -----	Newberry -----	Silver Street
s Shannon, C. J. Text. -----	Chesterfield -----	Jefferson
s Shealy, A. L. Agri. -----	Newberry -----	Prosperity
Sheppard, G. J. Civil -----	Edgefield ----	R. No. 2, McCormick
Sherrill, S. S. Mech. Elec. -----	Charlotte, N. C.,	605 N. Graham
Simmons, B. F. Agri. -----	Orangeburg -----	Rowesville
s Simpson, J. A. Agri. -----	Chester -----	Richburg
Smith, G. W. Agri. -----	Anderson -----	Townville
Smith, J. M. Text. -----	Anderson -----	Starr
Smith, M. A. Mech. Elec. -----	Florence -----	R. F. D. 1, Lake City
Smith, M. R. Agri. -----	Anderson -----	Pendleton
Smith, P. N. Mech. Elec. -----	Anderson -----	Pendleton
Smoke, A. S. Agr. -----	Calhoun -----	St. Matthews
Sprott, J. R. Mech. Elec. -----	Clarendon -----	Manning
Stewart, R. B. Mech. Elec. -----	Anderson -----	Pelzer
s Stribling, F. D. Agri. -----	Spartanburg -----	Enoree
s Sullivan, J. D. Agri. -----	Laurens -----	Laurens
Swinehart, D. E. Civil -----		Las Cascadas, Panama
s Tarrant, L. R. Agri. -----	Greenwood -----	1135 E. Cambridge
Taylor, W. A. Arch. -----		Dadeville, Ala.
Teal, W. A. Agri. -----	Chesterfield -----	Middendorf
Thomas, N. G. Agri. -----	Orangeburg -----	Cope

NOTE: s—Indicates Scholarship Student

Name and Course	County	Residence
s Thornton, R. P. Agri. -----	Laurens -----	Mountville
Thrower, J. R. Arch. -----	Chesterfield -----	Cheraw
Trescot, J. H. Mech. Elec. -----	Anderson -----	Pendleton
Trott, H. R. Arch. -----	Charleston -----	Mt. Pleasant
s Trotter, A. M. Agri. -----	Kershaw -----	Camden
s Vaughan, C. L. Agri. -----	Darlington -----	Darlington
Wannamaker, H. L. Civil -----	Calhoun -----	R. No. 1, St. Matthews
Wannamaker, W. B. Agri. -----	Calhoun -----	R. No. 2, St. Matthews
Ward, J. Mech. Elec. -----	Georgetown -----	614 Prince St.
Watson, D. J. Mech. Elec. -----	Anderson -----	R. No. 2, Anderson
White, D. L. Civil -----	Chesterfield -----	Jefferson
Williams, L. E. Mech. Elec. -----	Charleston -----	152 Spring St.
Williams, W. G. Mech. Elec. ---	York -----	Yorkville
Wood, J. T. Text. -----	Greenville -----	Greer

SOPHOMORE CLASS

(Where the names of the county and city are the same the name of the city is not repeated, only the street address is given.)

Name and Course	County	Residence
Acker, E. G. Agri. -----	Anderson -----	1039 S. Main St.
Adams, H. M. Eng. -----	Edgefield -----	Meriwether
Agnew, E. H. Agri. -----	-----	Canon, Ga.
Albrecht, C. H. Eng. -----	Orangeburg -----	Hampton St.
Amme, D. A. Eng. -----	Charleston -----	King St.
Anderson, C. S. Eng. -----	Barnwell -----	Donora
s Anderson, F. C. Agri. -----	Abbeville -----	Antreville
Anderson, V. T. Agri. -----	Spartanburg -----	Spartanburg
Andrews, N. Z. Agri. -----	Clarendon -----	R. No. 1, Manning
s Armstrong, F. E. Agri. -----	Laurens -----	R. No. 2, Owings
Banks, D. H. Eng. -----	Calhoun -----	St. Matthews
Barre, M. L. Eng. -----	Lexington -----	Lexington
Berry, F. O. Eng. -----	Greenville -----	River St.
Berry, J. F. Eng. -----	Greenville -----	Greenville
s Blackmon, J. F. Eng. -----	Lancaster -----	Lancaster
Blackwell, F. Y. Eng. -----	Marion -----	Marion
Blair, J. D. Eng. -----	Fairfield -----	R. No. 3, Winnsboro
Boone, T. E. Agri. -----	Orangeburg -----	Rowesville
Boyd, P. O. Eng. -----	York -----	Fort Mill

NOTE: s—Indicates Scholarship Student

Name and Course	County	Residence
Boylston, J. W. Eng. -----	Orangeburg	R. No. 1, Springfield
Brackett, N. C. Agri. -----	Oconee	Clemson College
s Brown, H. F. Agri. -----	Cherokee	Limestone St, Gaffney
Byers, E. H. Agri. -----	Marion	Marion
s Byers, W. V. Eng. -----	Orangeburg	S. Broughton
Bynum, E. G. Eng. -----	Richland	R. No. 2, Eastover
s Byrd, D. E. Eng. -----	Darlington	Society Hill
Caldwell, A. G. Eng. -----	Cherokee	Blacksburg
s Camp, W. B. Agri. -----	Cherokee	R. No. 3, Gaffney
Campbell, C. C. Agri. -----	Richland	R. No. 3, Columbia
Campbell, L. O. Eng. -----	Dorchester	Summerville
s Cannon, L. B. Agri. -----	Anderson	R. No. 1, Honea Path
s Carwile, A. B. Agri. -----	Abbeville	R. No. 5, Abbeville
s Chatham, F. W. Agri. -----	Greenwood	R. No. 2, Ninety Six
s Cheatham, R. J. Eng. -----	Abbeville	R. No. 1, Abbeville
Clark, J. D. Chem. -----	Lee	Lynchburg
Colvin, J. S. Eng. -----	Chester	Chester
s Connor, B. Agri. -----	Barnwell	R. No. 1, Barnwell
Cook, J. L. Eng. -----	Lancaster	R. No. 1, Taxahaw
Cox, M. E. Eng. -----	Abbeville	Abbeville
Creighton, W. H. Eng. -----	Aiken	North Augusta
s Culclasure, J. H. Agri. -----	Calhoun	R. No. 1, Swansea
Dibble, A. C. Agri. -----	Orangeburg	38 E. Glover St.
Dicks, W. H. Eng. -----	Barnwell	Dunbarton
s Dickson, A. M. Agri. -----	Darlington	R. No. 2, Darlington
Dukes, T. E. Eng. -----	Orangeburg	162 S. Broughton St.
Duncan, D. T. Eng. -----	Greenwood	Ninety Six
DuRant, N. L. Eng. -----	Clarendon	R. No. 1, Alcolu
Eleazer, J. M. Agri. -----	Richland	Chapin
Fain, P. Eng. -----		Murphy, N. C.
Faris, J. C. Agri. -----	York	R. No. 1, Rock Hill
s Ferguson, T. M. Agri. -----	York	R. No. 1, Clover
Folger, D. F. Eng. -----	Pickens	Central
Frazier, A. D. Agri. -----		342 Gordon St., Atlanta, Ga.
Funk, L. W. Eng. -----	Darlington	Darlington
Flournoy, J. E. Agri. -----		R. No. 1, Macon, Ga.
s Garris, J. M. Agri. -----	Colleton	R. No. 1, Round
Garrison, E. H. Agri. -----	York	R. No. 4, Rock Hill
Glenn, R. H. Agri. -----	York	Yorkville
Glenn, T. L. Agri. -----	York	Yorkville
s Green, M. C. Agri. -----	Greenville	Greenville

NOTE: s—Indicates Scholarship Student

Name and Course	County	Residence
Going, H. R. Eng. -----	Union -----	Main St.
s Haddon, F. M. Agri. -----	Greenwood -----	R. No. 3, Hodges
Haigler, S. W. Agri. -----	Calhoun -----	R. No. 1, Cameron
s Hamlin, J. C. Agri. -----	Anderson -----	228 W. Franklin St.
Harmon, G. D. Eng. -----	Richland -----	1725 Main St., Columbia
Harrall, J. P. Eng. -----	Chesterfield -----	Cheraw
Harris, G. G. Agri. -----	Anderson -----	Belton
s Heiss, G. Agri. -----	Marlboro -----	Clio
Heldman, J. M. Eng. -----	Spartanburg -----	318 Pine St.
Hellams, R. B. Agri. -----	Greenville -----	411 College St.
Henderson, J. R. Agri. -----	Charleston -----	14 Broad St.
Hollowell, J. W. Eng. -----	Richland --	6 Gibbes Court, Columbia
Howell, V. M. Agri. -----	Dorchester -----	St. George
Hyman, W. H. Agri. -----	Florence -----	Hyman
Jackson, J. M. Eng. -----	Marlboro -----	Bennettsville
Jeffords, R. L. Eng. -----	Darlington -----	250 W. Broad
Jeffords, S. E. Agri. -----	Florence ---	R. No. 4, Timmons ville
Jeter, J. P. Eng. -----	Union -----	Santuc
Johnson, M. T. Eng. -----	Union -----	Mt. Tabor
Johnson, W. E. Engr. -----	Dorchester -----	St. George
s Kendrick, J. B. Agri. -----	York -----	R. No. 2, Clover
Kirven, C. L. Agri. -----	Darlington -----	Darlington
s Kyzer, E. D. Agri. -----	Lexington ---	R. No. 2, Lexxington
Laidlaw, R. E. Agri. -----	-----	Marion, N. C.
s Leland, A. M. Agri. -----	Charleston -----	McClellanville
Lemmon, D. G. Agri. -----	Lee -----	R. No. 1, Elliot
Leslie, W. E. Agri. -----	Abbeville -----	Abbeville
s Littlejohn, C. E. Agri. -----	Union -----	Jonesville
Livingston, A. H. Agri. -----	Orangeburg -----	R. No. 2, North
Loadholt, J. T. Eng. -----	Barnwell -----	Fairfax
Loftis, W. P. Agri. -----	Oconee -----	R. No. 3, Westminster
Logan, J. R. Eng. -----	York -----	Yorkville
Lowery, T. M. Eng. -----	Oconee -----	Seneca
s Lyles, N. P. Agri. -----	Lexington -----	R. No. 1, Steedman
s Major, C. S. Agri. -----	Anderson -----	R. No. 6, Anderson
Mallard, J. T. Eng. -----	Greenville -----	1207 Pendleton
Mallory, W. W. Agri. -----	-----	425 Bull St., Savannah, Ga.
Martin, P. A. Eng. -----	Oconee -----	R. No. 2, Westminster
Mather, E. W. Agri. -----	Charleston -----	92 Broad St.
May, L. A. Eng. -----	Richland, --	1313 Sumter St., Columbia
McConnell, H. S. Agri. -----	Anderson -----	R. No. 1, Anderson

NOTE: s—Indicates Scholarship Student

Name and Course	County	Residence
s McConnell, R. M. Agri. -----	Williamsburg -----	Kingstree
s McCord, A. S. Agri. -----	Greenwood -----	Hodges
McDaniel, C. T. Eng. -----	Anderson -----	R. No. 1, Anderson
McDermid, G. C. Agri. -----	Charleston -----	218 Rutledge Ave.
McKeown, H. S. Agri. -----	Chester -----	Cornwell
s McMahan, W. E. Agri. -----	Oconee -----	R. No. 1, Seneca
McMillan, W. L. Agri. -----	Abbeville -----	Abbeville
s Mellett, R. R. Agri. -----	Sumter -----	R. No. 2, Sumter
Miley, C. H. Agri. -----	Hampton -----	R. No. 1, Brunson
Mims, S. L. Agri. -----	Clarendon -----	Pinewood
s Moore, J. H. Agri. -----	Florence -----	R. No. 1, Mars Bluff
s Moore, T. P. Eng. -----	York -----	Yorkville
Morrison, W. A. Agri. -----	Oconee -----	Clemson College
Murph, C. R. Agri. -----	Spartanburg -----	White Stone
s Myers, F. O. Agri. -----	Orangeburg -----	41 Windsor St.
s Neil, W. H. Eng. -----	Beaufort -----	Chisholm
Nicholson, W. W. Eng. -----	Fairfield -----	Woodward
Nowell, A. E. Eng. -----	Charleston -----	324 Meeting St.
s O'Dell, D. G. Agri. -----	Pickens -----	Liberty
Odom, R. J. Eng. -----	Marlboro -----	McColl
Oliver, R. S. Eng. -----	Dillon -----	Hamer
s O'Neal, R. M. Agri. -----	Anderson -----	R. No. 4, Pendleton
s Padgett, T. D. Agri. -----	-----	Union Mill, N. C.
Parker, J. E. Agri. -----	Aiken -----	Graniteville
Patjens, A. A. Eng. -----	Charleston -----	Mt. Pleasant
Patjens, H. K. Eng. -----	Charleston -----	Mt. Pleasant
s Patrick, W. T. Agri. -----	Orangeburg -----	R. No. 4, Bowman
Pettigrew, W. F. Agri. -----	Florence -----	10 E. Pine
Pickens, W. A. Agri. -----	Anderson -----	R. No. 4, Easley
Pitts, P. M. Eng. -----	Sumter -----	R. No. 3, Sumter
s Poole, R. F. Agri. -----	Laurens -----	R. No. 3, Gray Court
Poulnot, J. M. Eng. -----	Charleston -----	117 Rutledge Ave.
Prince, G. E. Agri. -----	Greenville -----	224 Whitner St.
Quattlebaum, H. H. Eng. -----	Aiken -----	Aiken
Ragsdale, R. E. Eng. -----	Anderson -----	Pelzer
Reaves, R. H. Agri. -----	Clarendon -----	R. No. 2, Alcolu
Rhoad, J. St. C. Eng -----	Bamberg -----	R. No. 2, Branchville
Rice, C. A. Eng. -----	Richland --	1319 Heidt St., Columbia
Richbourg, J. W. Eng. -----	-----	310 7th St., Augusta, Ga.
s Richter, J. C. Agri. -----	Greenwood -----	110 New Market
Rosa, D. D. Eng. -----	Georgetown -----	617 Prince

NOTE: s—Indicates Scholarship Student

Name and Course	County	Residence
Ross, A. E. Agri. -----	Pickens -----	Clemson College
Rowell, R. C. Eng. -----	Bamberg -----	Bamberg
Scoville, E. N. Eng. -----	Orangeburg -----	31 Doyle St.
Sharp, W. B. Eng. -----	Abbeville -----	Mt. Carmel
Shiver, H. E. Chem. -----	Oconee -----	Clemson College
Siddall, T. H. Eng. -----	Sumter -----	18 Harby St.
s Simpson, D. M. Eng. -----	Anderson --	N. Main St., Honea Path
Sitton, J. J. Eng. -----	Anderson -----	Pendleton
Sloan, A. H. Eng. -----	Pickens -----	Clemson College
s Smith, W. C. Agri. -----	Barnwell -----	Williston
s Sowell, H. E. Agri. -----	Lancaster -----	Lancaster
Stribling, J. W. Text. -----	Oconee -----	Seneca
Stribling, S. C. Agri. -----	Oconee -----	Richland
Suggs, H. L. Eng. -----	York -----	Yorkville
Tate, T. H. Eng. -----	R. No. 2, Union Mills, N. C.	
Thomas, W. P. Eng. -----	Spartanburg -----	Trough
s Thornton, S. F. Agri. -----	Laurens -----	Mountville
Townsend, W. B. Eng. -----	Marlboro -----	Bennettsville
Tribble, R. M. Eng. -----	Oconee -----	Seneca
Tyler, G. R. Arch. -----	Aiken -----	Windsor
Verner, L. W. Agri. -----	Oconee -----	Seneca
Vincent, C. A. Agri. -----	Florence -----	R. No. 1, Mars Bluff
Wallace, D. R. Eng. -----	Newberry -----	R. No. 1, Kinards
Wannamaker, H. C. Eng. -----	Orangeburg -----	61 Glover St.
Ward, C. W. Agri. -----	Florence ---	R. No. 4, Timmons ville
s Washington, P. M. Agri. -----	Laurens -----	R. No. 1, Ware Shoals
Webb, St. C. Eng. -----	Anderson -----	701 S. McDuffie St.
West, C. T. Agri. -----	Richland -----	Ridgewood, Columbia
Williams, B. N. Agri. -----	Greenwood -----	Gaines
Williams, K. A. Chem. -----	York -----	Yorkville
Williamson, R. E. Agri. -----	Darlington ---	R. No. 3, Darlington
Williamson, S. Eng. -----	Lancaster -----	Lancaster
Winters, E. S. Agri. -----	Darlington -----	Society Hill
s Wise, J. R. Agri. -----	Saluda -----	Saluda
Witherspoon, S. M. Agri. -----	Clarendon -----	R. No. 2, Mayesville
Witherspoon, T. C. Agri. -----	Anderson -----	R. No. 5, Anderson
Woods, E. T. Eng. -----	Lexington -----	R. No. 3, Lexington
Wright, R. D. Eng. -----	Newberry -----	1710 College St.
Wright, R. F. Eng. -----	Newberry -----	1901 Harrington Ave.
Wright, W. F. Eng. -----	Laurens -----	R. No. 3, Laurens
s Young, E. C. Agri -----	Laurens -----	R. No. 2, Clinton

FRESHMAN CLASS

Name and Course	County	School Where Prepared	Residence
s Adams, J. P., Agric.	-----	N. Augusta	H. S.
	Aiken -----	R. No. 2, N. Augusta	
s Alford, J. L., Agric.	-----	Marion	H. S.
	Dillon -----	R. No. 1, Latta	
Allison, H., Engr.	-----	Brevard,	N. C.
Arthur, H. T., Engr.	-----	Columbia	H. S.
	Charleston -----	29 New Street	
Arthur, E. J., Engr.	-----		
	Union -----	Union	
Atkinson, F. W., Engr.	-----	Dower Institute	
	Aiken -----	R. No. 3, Augusta, Ga.	
Atkins, J. P., Engr.	-----		
	Darlington -----	Hartsville.	
Atkinson, J. E., Eng.	-----	Dower Institute	
	Aiken -----	R. No. 3, Augusta, Ga.	
Bailey, H. E., Text	-----	Anderson F. S.	
	Anderson -----	Box 378, Anderson	
s Bailey, A. W., Agric.	-----	Edisto	H. S.
	Charleston -----	R. No. 1, Edisto Island	
Baldwin, H. L., Engr.	-----	Clemson Prep.	
	Union -----	Mt. Tabor	
Barksdale, B. C., Agric.	-----	Trinity Ridge	
	Laurens -----	Laurens	
Barnett, P. G., Agric.	-----	Clemson Prep.	
	Oconee -----	R. No. 4, Westminster	
Barron, A. A., Engr.	-----	Yorkville	H. S.
	York -----	Yorkville	
Barron, W. W., Engr.	-----	Ebenezer	H. S.
	York -----	R. No. 4, Rock Hill	
Baskin, J. L., Agric.	-----	Lowndesville	H. S.
	Abbeville -----	R. No. 2, Lowndesville	
Bass, N. B., Engr.	-----		
	Williamsburg -----	Lanes	
Bates, D. L., Engr.	-----	Hyatt Park	H. S.
	Richland -----	1840 Main, Columbia	
s Beard, W. Q., Text.	-----	Honea Path	H. S.
	Anderson -----	Honea Path	
Beasley, L., Agric.	-----		
	Lee -----	R. No. 5, Bishopville	

Name and Course	County	School Where Prepared	Residence
Berry, L. C., Engr.	Chesterfield	R. No. 1, Cheraw	
Bethune, R. M., Agric.	Kershaw	Bethune H. S.	
Bishop, W. C., Engr.	Spartanburg	Pleasant Grove	
Bivens, J. L., Engr.	Dorchester	R. No. 4, Inman	
Black, E. W., Agric.	Barnwell	Carlisle F. S.	
Blake, R. S., Engr.	Greenwood	R. No. 2, Ridgeville	
Blankenship, B. C.,	York	Williston H. S.	
s Bonner, W. C., Agric.	Spartanburg	Williston	
Bowen, R. A., Agric.		Davidson College	
Boyd, C. D., Engr.	Newberry	Ninety Six	
s Brandon, J. D., Agric.	York	Blankenship, B. C.,	
Brondan, T. B., Agric.	York	R. No. 1, Fort Mill	
s Breland, B., Agric.	Colleton	Chesnee Graded S.	
s Brice, M. M., Agric.	Sumter	Chesnee	
s Britt, J. A., Agric.	Greenville	Lanier H. S.	
Britt, J. B., Engr.	Abbeville	Macon, Ga.	
Brockington, J. H., Engr.	Williamsburg	Newberry College	
s Brown, J. M., Text.	Richland	1221 Glenn St.	
s Bruce, E. C., Agric.	Bamberg	McConnellsville H. S.	
Buice, F. T., Engr.	York	R. No. 1, McConnellsville	
s Buice, W. E., Text.	Spartanburg	Clemson Prep.	
		R. No. 1, McConnellsville	
		Bethel	
		Colleton	
		R. No. 2, Ruffin	
		Wedgefield Graded S.	
		Sumter	
		Wedgefield	
		Princeton H. S.	
		R. No. 1, Princeton	
		McCormick	
		Fowler	
		Wayside Rural	
		R. No. 1, Bookman	
		Bamberg H. S.	
		Bamberg	
		Hickory Grove H. S.	
		R. No. 1, Hickory Grove	
		Inman H. S.	
		Inman	

Name and Course	County	School Where Prepared	Residence
s Buie, T. S., Agric.	-----	Patrick Graded S.	-----
	Chesterfield	-----	Patrick
Bull, B. C., Agric.	-----	Holly Hill	-----
	Orangeburg	-----	R. N. 1, Vance
s Bull, N. M., Agric.	-----	Elloree Graded	-----
	Orangeburg	-----	R. No. 2, Vance
Burnett, D. E., Engr.	-----	Furman Fitting S.	-----
	Greenwood	-----	R. No. 4, Greenwood
Burns, G. M., Engr.	-----	Clemson Prep.	-----
	Anderson	-----	R. No. 4, Anderson
Burns, P. M., Agric.	-----	Roberts School	-----
	Anderson	-----	R. No. 4, Anderson
s Bush, D. W., Agric.	-----	Hopkins Graded S.	-----
	Richland	-----	R. No. 1, Hopkins
Cain, D. J., Agric.	-----	Bethel School	-----
	Sumter	-----	R. No. 2, Sumter
Caldwell, A. J., Agric.	-----	Monk Institute	-----
	Spartanburg	-----	Campobello
Caldwell, D. W., Engr.	-----	Lake City. H. S.	-----
	Williamsburg	-----	Lake City
Caldwell, M. G., Engr.	-----	-----	-----
	-----	Charlotte, N. C.	-----
Campbell, A., Engr.	-----	Summerville H. S.	-----
	Charleston	-----	28 Broad St.
s Casky, A. J., Agric.	-----	Douglas Rural	-----
	Lancaster	-----	R. No. 3, Lancaster
Cathcart, J. L., Agric.	-----	Mt. Zion Institute	-----
	Fairfield	-----	Winnsboro
Cox, J. M., Agric.	-----	-----	-----
	Abbeville	-----	Abbeville
Craig, H. E., Engr.	-----	-----	-----
	Greenwood	-----	238 Grace St.
Craig, J. M., Agric.	-----	Anderson F. S.	-----
	Anderson	-----	R. No. 2, Pendleton
Crumpler, D., Engr.	-----	Latta H. S.	-----
	Dillon	-----	Latta
Culp, W. C., Engr.	-----	Lancaster H. S.	-----
	Lancaster	-----	R. No. 4, Lancaster
Daly, B. T., Engr.	-----	Columbia H. S.	-----
	Richland	-----	1626 Gervais St., Columbia
Davis, G. H., Agric.	-----	8-----	Troy School

Name and Course	County	School Where Prepared	Residence
	Greenwood		Troy
Dean, C., Engr.			
	Spartanburg		Spartanburg
Dennis, C. M., Engr.			Newberry College
	Newberry		1721 Johnstone St.
s Derham, J. P., Agric.			Clemson Prep.
	Horry		Greene Sea
Derrick, M. G., Agri.			Cedar Grove School
	Lexington		R. No. 3, Leesville
Dick, J. B., Agric.			Hartsville H. S.
	Darlington		Hartsville
Doar, E. M., Engr.			
	Georgetown		R. No. 1, Georgetown
Dougherty, A. M., Engr.			North H. S.
	Orangeburg		North
Drake, J. A., Agric.			Bethany
	Anderson		R. No. 2, Honea Path
Dugar, F. W., Engr.			Y. M. C. A. Summer
	Charleston		23 Archdale St.
Earle, B. R., Engr.			Landrum H. S.
	Spartanburg		Landrum
s Elliott, R. F., Agric.			Panola
	Clarendon		R. No. 1, Silver
Ellis, A., Agric.			
	Abbeville		R. No. 5, Abbeville
Ellis, L. C., Engr.			Grover H. S.
			Grover, N. C.
Farnum, C. O., Agri.			
	Orangeburg		R. No. 1, Jamison
Fletcher, C., Engr.			McColl H. S.
	Marlboro		R. No. 2, McColl
s Floyd, F. E., Agric.			Burroughs School
	Marion		R. No. 2, Nichols
s Folk, J. C., Agric.			Denmark H. S.
	Bamberg		R. No. 1, Denmark
Ford, O. E., Agric.			Clover H. S.
	York		Clover
s Fowler, L. B., Agric.			N. Greenville Acad.
	Greenville		R. No. 2, Tigerville
Foy, S. A., Agric.			Starks Univ. School
			Eufaula, Ala.

Name and Course	County	School Where Prepared	Residence
Freeman, T. I., Agri. -----	Larzens -----	R. No. 4, Honea Path	
s Freenman, W. T., Agric. -----	Orangeburg -----	Orangeburg H. S.	
	Orangeburg -----	Orangeburg	
Frierson, D. P., Engr. -----	Williamsburg -----	P. M. A.	
Fulmer, J. W., Engr. -----	Lexington -----	R. No. 1, Chapin	
Furman, J. C., Agric. -----	Oconee -----	Clemson Col. H. S.	
s Gaines, H. E., Engr. -----	Anderson -----	Honea Path H. S.	
s Galloway, H. A. Agric. -----	Dillon -----	Dalcho School	
s Garrison, E. B., Agric. -----	York -----	R. No. 3, Yorkville	
	York -----	Yorkville H. S.	
Garrison, W. H., Agric. -----	Anderson -----	Clemson Prep.	
Garrett, C. S., Engr. -----	Laurens -----	Laurens H. S.	
	Laurens -----	Laurens	
Garvin, L. G., Agric. -----	Anderson -----	Pendleton H. S.	
	Anderson -----	Pendleton	
Gaulden, C. J., Engr. -----	York -----	R. No. 3, Yorkville	
s Gee, J. G., Agric. -----	Richland -----	Edgewood	
	Richland -----	R. No. 3, Columbia	
s Glover, C. B., Text. -----	Aiken -----	Downer Institute	
	Aiken -----	R. No. 3, Augusta, Ga.	
Goodwin, T. E., Agric. -----	Greenville -----	N. Greenville Acad.	
	Greenville -----	R. No. 3, Travellers Rest	
s Gordon, W. W., Agric. -----	Oconee -----	Clemson Col. H. S.	
	Oconee -----	Clemson College	
s Graham, S. W., Text. -- -----	Dillon -----	Dillon H. S.	
	Dillon -----	Dillon	
Grant, F., Agric. -----	Abbeville -----	R. No. 1, Mt. Carmel	
Grohmann, C. E. L., Engr. -----	Aiken -----	Aiken H. S.	
	Aiken -----	Aiken	
Hammond, G. B., Engr. -----	Aiken -----	Clemson Prep.	
	Aiken -----	Kathwood	

Name and Course	County	School Where Prepared	Residence
Hankinson, J. C., Agric.	-----	Clemson Prep.	-----
	Aiken -----	R. No. 1, Windsor	-----
s Hardee, F. W., Agric.	-----	Burroughs H. S.	-----
	Horry -----	R. N. 1, Conway	-----
Hardin, T. B., Text.	-----	-----	-----
	Chester -----	R. No. 2, Chester	-----
Harmon, H. M., Engr.	-----	Summerville H. S.	-----
	Berkeley -----	R. No. 2, Summerville	-----
Harling, J. T., Engr.	-----	S. C. C. I.	-----
	Edgefield -----	Edgefield	-----
s Harris, C. G., Agric.	-----	Fairforest H. S.	-----
	Spartanburg -----	R. No. 3, Spartanburg	-----
Harris, H., Agric.	-----	Union H. S.	-----
	Union -----	Union	-----
Harrison, B. W., Agric.	-----	-----	-----
	Oconee -----	Walhalla	-----
Hay, W. S., Engr.	-----	Shelby, (N. C.) H. S.	-----
	York -----	Rock Hill	-----
Henry, G. F., Agric.	-----	Clover H. S.	-----
	York -----	R. No. 2, Bowling Green	-----
Henry, H. S., Agric.	-----	Clover H. S.	-----
	York -----	Bowling Green	-----
Herron, R. H., Agric.	-----	Starr H. S.	-----
	Anderson -----	R. No. 1, Starr	-----
Herron, W. C., Agric.	-----	Starr H. S.	-----
	Anderson -----	R. No. 1, Starr	-----
Hester, S. M., Agric.	-----	-----	-----
	Pickens -----	R. No. 2, Easley	-----
Hiott, G. F., Engr.	-----	Clemson Prep.	-----
	Colleton -----	R. No. 1, Round	-----
Hobbs, K. O., Engr.	-----	Blacksburg H. S.	-----
	Cherokee -----	Blacksburg	-----
Hoffmeyer, G. M., Engr.	-----	Wofford College	-----
	Florence -----	R. No. 2, Florence	-----
Holley, E. B., Engr.	-----	Aiken H. S.	-----
	Aiken -----	Aiken	-----
Holroyd, C. E., Arch.	-----	-----	-----
	Williamsburg -----	Kingstree	-----
Hopkins, E. I., Agric.	-----	Spartanburg H. S.	-----
	Union -----	R. No. 2, Jonesville	-----

Name and Course	County	School Where Prepared	Residence
Horne, J. F., Engr.	Edgefield	Johnston H. S.	Johnston
Horne, W. P., Engr.	Florence	Wofford F. S.	Cartersville
Horton, H. C., Agric.	Richland	Hyatt Park H. S.	1308 Pickens St.
Houston, F. M., Engr.	Richland	Hyatt Park H. S.	1424 Washington St.
Howell, W. F., Agric.	York	Bethesda	R. No. 1, Rock Hill
s Howell, W. F., Agric.	York	Bethesda	R. No. 1, Rock Hill
Howle, A. J., Agric.	Darlington	Clemson Prep.	R. No. 1, Society Hill
Humphreys, J. D., Engr.	Abbeville	Furman F. S.	Donalds
Hunter, J. E., Engr.	Richland	Columbia H. S.	122 S. Hampton St. Columbia
s Hunter, W. E., Agric.	Newberry	St. Luke	R. No. 2, Prosperity
Hutchins, W. D., Agric.	Pickens	Liberty H. S.	Liberty
s Hutson, W. M., Agric.	Aiken	Aiken Inst.	1935 Park Ave.
Hydrick, G. B., Text.	Orangeburg	Carlisle F. S.	R. No. 1, North
Jefferies, W. N., Agric.	Cherokee	R. No. 1, Pacolet	
Jenkins, J. G., Text.	Charleston	Presbyterian College	R. No. 1, Enterprise
Jenkins, J. H., Engr.	Beaufort	Ridgeland H. S.	R. No. 1, Ridgeland
Jeffords, J. E., Engr.	Florence	Florence H. S.	3095 Church St.
Jennings, O. R., Agric.	Orangeburg	Clemson Prep.	R. No. 1, Cordova
Jennings, R. H., Engr.	Orangeburg	P. M. A.	15 Whitman St.
Johnson, R. E., Engr.	Pickens	Easley H. S.	Easley

Name and Course	County	School Where Prepared	Residence
Johnson, W. B., Engr.	Pickens	Easley H. S.	Easley
Jones, A. C., Engr.	Sumter	R. No. 1, Sumter	
Jordan, T. M., Engr.	Fairfield	Mt. Zion Inst.	Winnsboro
Kenney, F. M., Engr.	Edgefield	Johnston H. S.	Johnston
Kennedy, P. B., Engr.	Abbeville	S. C. C. I.	Abbeville
Kennedy, W. P., Agric.	Greenwood	Clemson Prep.	
King, E. E., Engr.	Richland	R. No. 2, Troy	Hyatt Park H. S.
Kirkpatrick, R. M., Agric.	York	Bullock Creek	2903 Main St., Columbia
Kirven, J. L., Agric.	Darlington	Darlington H. S.	Dovesville
s Kolb, E. C., Agric.	Sumter	Bethel School	R. No. 2, Sumter
Laurens, A., Engr.	Charleston	Charleston H. S.	7 Legare St.
Lawton, W. H., Engr.	Hampton	Garnett Graded S.	Garnett
Lay, J. F., Engr.	Anderson	Pendleton H. S.	Pendleton
s Lemmon, W. T., Agric.	Lee	Lynchburg H. S.	R. No. 1, Elliott
Lewis, R., Agric.	Oconee	Clemson Graded S.	Clemson College
s Lightsey, O. P., Agric.	Hampton	Brunson H. S.	R. No. 1, Brunson
Ligon, A. C., Text.	Oranegburg	Orangeburg H. S.	Orangeburg
Link, J. C., Agric.	Abbeville	R. No. 4, Abbeville	
Littlejohn, F. A., Agric.		Univ. of S. C.	Albany, Ga.
Littlejohn, S., Engr.	Union	Jonesville H. S.	Jonesville

Name and Course	County	School Where Prepared	Residence
s Long, E. W., Agric.	Prosperity	H. S.	
	Newberry	R. No. 3, Prosperity	
s Long, J. H., Agric.	Pleasant Plain		
	Lancaster	R. No. 3, Kershaw	
Lyles, J. D., Agric.	Green Brair		
	Fairfield	R. No. 1, Rockton	
MsCalla, L. H. Agric.	Riverside Mil. Acad.		
	Anderson	Starr	
s McCord, M. M., Agric.	McCord's School		
	Greenwood	R. No. 1, Hodges	
McGee, R. C., Engr.	Honea Path H. S.		
	Anderson	Honea Path	
McHugh, F., Engr.	Greenville H. S.		
	Greenville	119 Richardson St.	
McKenzie, D. W., Engr.	Olanta H. S.		
	Florence	R. No. 1, Lake City	
McKie, J. G., Engr.			
	Edgefield	Meriwether	
s McMahan, A. S., Agric.	Golden Grove		
	Greenville	R. No. 3, Piedmont	
McSweeney, W. M., Engr.	Hampton H. S.		
	Hampton	Hampton	
s McSwiney, F. D., Agric.	Meggetts Graded S.		
	Charleston	Martin's Point	
Manigault, C. E., Engr.	Hyatt Park H. S.		
	Richland	1319 Park St., Columbia	
Marshall, P. G., Agric.	Columbia H. S.		
	Richland	1817 Senate Ct., Columbia	
Marvin, J. P., Agric.	Hendersonville H. S.		
	Colleton	R. No. 1, Whitehall	
Matthews, W. A., Engr.	Clover H. S.		
	York	Clover	
Melhuish, J. C., Agric.	Berkhamstead S., England		
	Beaufort	Kobe, Japan	
Medlock, F. E., Engr.	Fork Shoals H. S.		
	Laurens	R. No. 1, Laurens	
Mears, W. A., Engr.	Bethel School		
	Oconee	R. No. 1, Westminster	
Meyers, J. H., Engr.	College of Charleston		
	Charleston	130 Wentworth St.	

Name and Course	County	School Where Prepared	Residence
Middelthun, J. G., Engr.	-----	Greenwich, Va.,	H. S.
-----	-----	Otter Creek, Fla.	-----
Mitchell, J. M., Agric.	-----	Mt. Pleasant	-----
-----	Charleston	-----	Mt. Pleasant
Monroe, D. E., Agric.	-----	Marion H. S.	-----
-----	Marion	-----	Marion
Moore, B. S., Engr.	-----	Cowpens H. S.	-----
-----	Spartanburg	-----	Cowpens
Moore, E. K., Engr.	-----	Geneva College, Pa.	-----
-----	-----	Saluda, N. C.	-----
Morrah, U. W., Agric.	-----	Clemson Prep.	-----
-----	Abbeville	R. No. 1, Willington	-----
Murray, J. J., 2nd, Engr.	-----	Edisto H. S.	-----
-----	Charleston	R. No. 1, Edisto Island	-----
Nelson, P. B., Agric.	-----	-----	-----
-----	Clarendon	R. No. 1, Manning	-----
s Nimitz, H. J. Agric.	-----	Charleston H. S.	-----
-----	Charleston	18 N. Alexander St.	-----
Norman, A. I., Engr.	-----	Concord, (N. C.)	H. S.
-----	Oconee	-----	Seneca
Odom, A. T., Agric.	-----	Clemson Prep.	-----
-----	Marlboro	R. No. 2 Gibson	-----
Oliphant, R. A., Agric.	-----	Union H. S.	-----
-----	Union	-----	Union
O'Hagan, V. B., Engr.	-----	Clemson Prep.	-----
-----	Charleston	171 Meeting St.	-----
Padgett, A. E., Engr.	-----	S. C. C. I.	-----
-----	Edgefield	-----	Edgefield
Padgett, J. I., Engr.	-----	S. C. C. I.	-----
-----	Edgefield	-----	Edgefield
Page, L. A., Agric.	-----	-----	-----
-----	Marlboro	Blenheim, R. No. 2	-----
Pearce, R. R., Engr.	-----	Hyatt Park H. S.	-----
-----	Richland	830 Elmwood Ave.	-----
Peay, J. B., Engr.	-----	Mt. Zion Inst.	-----
-----	Fairfield	-----	Bucklick
Pennell, E. C., Agric.	-----	Bethany	-----
-----	Anderson	R. No. 1, Belton	-----
s Poole, E. C., Text.	-----	Gaffney H. S.	-----
-----	Cherokee	-----	Gaffney

Name and Course	County	School Where Prepared	Residence
Price, L. F., Engr.	Darlington	Columbia H. S.	Hartsville
Pruitt, A. R., Agric.	Anderson	320 W. Franklin St.	
Pruitt, V. O., Agric.	Anderson	Starr H. S.	Starr
s Quinn, W. R., Agric.	Cherakee	Gaffney H. S.	R. No. 8, Gaffney
Reaves, F. M., Engr.	Fairfield	Longtown Graded S.	R. No. 1, Longtown
Ramsay, S. I., Text.	Greenville	732 E. Washington	
Reaves, G. H., Agric.	Marion	Mullins H. S.	Mullins
Refo, H. C., Engr.	Chester	Chester H. S.	Chester
Rich, J. S., Agric.	Williamsburg	Wofford F. S.	R. No. 1, Lanes
s Richards, A. J., Agric.	Kershaw	Liebrty Hill H. S.	Liberty Hill
Rivers, E. L., Agric.	Charleston	P. M. A.	R. No. 1, Charleston
s Robertson, T. B., Agric.	Spartanburg	C. M. O.	Spartanburg c/o Hotel Finch
s Rowell, S. T., Text.	Bamberg	Bamberg H. S.	Bamberg
Russell, J. A., Text.	Anderson	Clemson Prep.	Autun
Ryan, C. M., Agric.	Sumter	Sumter H. S.	Wedgefield
Sams, R. H., Agric.	Spartanburg	Wofford F. S.	S. Church St.
Sanders, H. H., Engr.	Sumter	Clemson Prep.	Hagood
Sanders, H. L., Text.	Sumter	Clemson Prep.	Hagood
Schachte, A. B., Engr.	Charleston	Charleston H. S.	198 1-2 Calhoun St.
Schirmer, W., Agric.	Charleston	Charleston H. S.	27 Smith St.
Seabrook, C. G., Engr.		Savannah H. S.	Savannah, Ga.

Name and Course	County	School Where Prepared	Residence
Seegars, C. R., Agric.	Darlington	Hartsville H. S.	R. No. 2, Hartsville
Sellars, A. R., Engr.	Charleston	101 Meeting St.	
Shearer, W. A., Engr.	Anderson	506 Marshall Ave.	
Shields, H. L. B., Agric.	Spartanburg	R. No. 2, Cherokee	
s Simon, B., Text.	Charleston	Charleston H. S.	58 St. Phillips St.
Singley, L. K., Engr.	Newberry	Prosperity H. S.	R. No. 3, Prosperity
Slaughter, W. T., Engr.	York	Hickory Grove H. S.	Hickory Grove
Sloan, E. D., Engr.	Fairfield	Mt. Zion Inst.	Winnsboro
Smith, J. E., Text.	Spartanburg	Woodruff H. S.	Woodruff
s Solomons, S. R., Agric.	Jasper	Clemson Prep.	R. No. 1, Ridgeland
s Sowell, L. C., Agric.	Lancaster	Lancaster H. S.	Lancaster
Speissegger, H. B., Engr.	Charleston	Charleston H. S.	90 Church St.
Spellmeyer, H. E., Agric.	Greenville	Y. M. C. A. Summer	Greenville
Steadman, B. K., Agric.	Calhoun	St. Matthews H. S.	Clemson College
Steele, J. H., Agric.	York	Clemson Prep.	R. No. 4, Rock Hill
Stevens, J. G., Engr.	Berkeley	R. No. 1, Monks Corner	
Stevens, W. P., Agric.	Edgefield	Johnston H. S.	R. No. 4, Johnston
Stover, W. W., Engr.	Greenville	Greenville H. S.	585 N. Main St.
s Suggs, W. G., Agric.	York	Rock Hill H. S.	R. No. 8, Yorkville
Tarbox, G. L., Engr.	Georgetown	Winyah H. S.	Georgetown

Name and Course	County	School Where Prepared Residence
Tarbox, H. G., Engr. -----	Winyah H. S.	
Georgetown -----	Georgetown	
Thieker, F. H., Engr. -----	Winyah H. S.	
Georgetown -----	Georgetown	
Tison, J. A., Agric. -----	Aallendale H. S.	
Barnwell -----	Allendale	
Tucker, F. M., Agric. -----	Woodruff H. S.	
Spartanburg -----	R. No. 3, Woodruff	
Turner, W. W., Engr. -----	Johnston H. S.	
Edgefield -----	Johnston	
Vernon, J. E., Engr. -----	Columbia H. S.	
Richland -----	R. No. 3, Columbia	
s Walker, H., Agric. -----	Beaufort H. S.	
Beaufort -----	Beaufort	
Walker, R. B., Text. -----	Hyatt Park H. S.	
Richland -----	1322 Gervais St., Columbia	
Ward, W. C., Engr. -----	McClellanville H. S.	
Charleston -----	McClellanville	
Wardlaw, F. H., Engr. -----		
Abbeville -----	R. No. 4, Abbeville	
Warriner, L. R., Agric. -----	St. Davids Acad.	
Darlington -----	Society Hill	
Webb, C. W., Agric. -----		
Anderson -----	207 W. Franklin St.	
Weinberg, H. J., Engr. -----	Union	
Sumter -----	Wedgefield	
Wells, A. C., Engr. -----	Bethel School	
Sumter -----	R. No. 2, Sumter	
West, W. D., Engr. -----	Furman F. S.	
Greenville -----	Box A, Greenville	
West, W. R., Engr. -----	Greenville H. S.	
Greenville -----	505 Perry Ave.	
Wessinger, A. D., Engr. -----	Chapin H. S.	
Lexington -----	R. No. 1, Chapin	
White, J. K., Engr. -----		
Edgefield -----	R. No. 2, McCormick	
White, W. J., Engr. -----	Purity School	
Chester -----	R. No. 6, Chester	
s White, W. T., Agric. -----	Palmer School	
Marion -----	R. No. 1, Centenary	

Name and Course	County	School Where Prepared Residence
Whitten, W. C., Agric.	Anderson	R. No. 4, Pendleton
Wiehl, E. A., Engr.	Aiken	Aiken Inst. 1709 Colleton Ave.
Wilkerson, S. H., Agric.	York	Hickory Grove H. S. R. No. 1, Hickory Grove
Wilkes, T. F., Engr.	Chester	R. No. 2, Chester
Wilkins, R. S., Engr.	Spartanburg	Cowpens H. S. Cowpens
Wilkinson, T. B., Engr.	Bamberg	Denmark H. S. Denmark
Wilkins, W. C., Agri.	Spartanburg	Cowpens H. S. Cowpens
Willingham, H. E., Agric.	Fairfield	Broad River School Blairs
s Willis, H. H., Text.	Spartanburg	Boiling Springs H. S. R. No. 1, Clifton
Willoughby, W. J., Engr.	Williamsburg	Clemson Preparatory Scranton
s Williams, W. C., Agric.	Berkeley	Holly Hill School Eutawville
s Witsell, F. L., Agric.	Charleston	Charleston H. S. 6 Court House Square
Worthy, H. C., Engr.	Chester	Wilksburg School R. No. 1, Union
Wood, H. E., Engr.	Oconee	Seneca H. S. Seneca
Wood, J. B., Agric.	Laurens	Princeton H. S. Laurens
Wrigley, M., Engr.		Gresham H. S. Macon, Ga.
Wright, C. R., Engr.	Anderson	Honea Path H. S. Honea Path
Wright, W. E., Engr.	Darlington	Hartsville
Zimmerman, M. L., Text.	Greenville	S. C. C. I. Greer

PREPARATORY CLASS

Name	County	Residence
Adams, J. R. -----	Edegfield -----	R. No. 1, Colliers
Belk, W. S. -----	York -----	Fort Mill
Chaplin, T. G. -----	Calhoun -----	R. No. 1, Swansea
Cooper, T. W. -----	Richland -----	R. No. 2, Blythewood
Cousar, J. L. -----	Clarendon -----	New Zion
Covington, R. N. -----	Richland -----	Jacobs
Godwin, W. Z. -----	Florence -----	R. No. 1, Lake City
Gooding, P. -----	Hampton -----	R. No. 1, Hampton
Graham, J. Y. -----	Florence -----	R. No. 2, Scranton
Gray, B. M. -----	Laurens -----	R. No. 2, Owings
Hardin, A. -----	Abbeville -----	Lowndesville
Harris, J. D. -----	Greenville -----	R. No. 6, Greenville
Hill, L. G. -----	Florence -----	R. No. 1, Bannockburn
Isbell, C. J. -----	Oconee -----	R. No. 1, Townville
Kinsey, J. W. -----	Colleton -----	R. No. 1, Smoaks
Kittles, T. J. -----	Hampton -----	R. No. 1, Garnett
Lester, W. M. -----	Newberry -----	R. No. 1, Prosperity
Lybrand, H. E. -----	Aiken -----	R. No. 1, Samaria
Marshall, M. J. -----	York -----	Rock Hill
Martin, J. G. Jr. -----	Fairfield -----	Strother
Martin, R. L. -----	Fairfield -----	R. No. 1, Strother
Messervy, P. J. -----	Charleston -----	Elkton, Florida
Middleton, J. A. -----	Pickens -----	Clemson College
Montgomery, I. P. -----	Clarendon -----	R. No. 2, Mayesville
Morrison, R. V. -----	Charleston -----	McClellanville
Muckenfuss, A. A. -----	Dorchester -----	R. No. 2, Ridgeville
McFadden, E. A. -----	Clarendon -----	R. No. 2, Mayesville
McFadden, P. D. -----	Clarendon -----	R. No. 4, Mayesville
McIntosh, H. E. -----	Clarendon -----	R. No. 1, New Zion
McIntyre, J. E. -----	Kershaw -----	R. No. 1, Lugoff
McLean, L. G. -----	Chesterfield -----	Jefferson
Nelson, P. H. -----	Clarendon -----	R. No. 1, Alcolu
Peebles, J. D. -----	Beaufort -----	Bluffton
Phillips, C. C. -----	Cherokee -----	Gaffney
Ransey, C. G. -----	Aiken -----	R. No. 3, Augusta, Ga.
Richardson, C. M. -----	Marion -----	Centenary
Rhett, W. P. -----	Dorchester -----	Summerville
Rippy, H. C. -----	Oconee -----	R. No. 2, Seneca
Sanders, E. P. -----	Sumter -----	R. No. 1, Dalzell
Seigler, P. R. -----	Aiken -----	Eureka

Name	County	Residence
Spiers, W. J. -----	Berkeley -----	Ferguson
Sullivan, M. L. -----	Lee -----	Elliott
Truluck, T. J. -----	Sumter -----	Motbridge
Warner, O. E. -----	Greenwood --- R. No. 2, Greenwood	
Williamson, D. R. -----	Darlington --- R. No. 3, Darlington	
Worley, S. -----	Horry -----	R. No. 2, Nichols
Wilson, J. L. -----	Chester -----	Lowryville

ONE-YEAR AGRICULTURAL COURSE

Name	County	Residence
Atkins, R. S. -----	Greenwood --- R. No. 4, Greenwood	
Baxley, J. T. -----	Barnwell -----	Blackville
s Bearden, J. R. -----	Spartanburg --- R. No. 3, Wellford	
s Belger, R. M. -----	Hampton -----	R. No. 1, Hampton
s Bell, P. E. -----	Abbeville -----	R. No. 1, Antreville
Brockman, J. B. -----	Greenville -----	Greer
Brown, E. C. -----	Newberry -----	Newberry
s Campbell, T. M. -----	Dorchester --- R. No. 2, Ridgeville	
s Clayton, J. M. -----	Bamebrg -----	R. No. 1, Ehrhardt
Dargan, J. F. -----	Darlington --- R. No. 3, Darlington	
s Ellenburg, C. E. -----	Pickens -----	R. No. 3, Liberty
Fowler, W. W. -----	Spartanburg --- R. No. 1, Woodruff	
s Friday, T. A. -----	Fairfield -----	R. No. 1, Fairfield
Furse, G. H. -----	Clarendon --- R. No. 2, Summerton	
Garrison, J. H. -----	Greenville -----	R. No. 7, Greenville
s Green, E. B. -----	Florence --- R. No. 4, Timmons ville	
s Hamer, R. R. -----	Marlboro -----	Tatum
s Harrelson, J. S. -----	Horry -----	R. No. 2, Nichols
s Herlong, J. D. -----	Calhoun --- R. No. 3, St. Matthews	
Holliday, F. G. -----	Horry -----	Gallivants Ferry
s Jones, H. T. -----	Marion -----	R. No. 1, Nichols
Lanham, G. F. -----	Edgefield -----	R. No. 2, Edgefield
Ligon, J. R. -----	Fairfield -----	R. No. 3, Blackstock
s Locke, E. J. -----	Chester -----	R. No. 1, Rodman
s Long, J. E. -----	Newberry --- R. No. 3, Prosperity	
s Lott, A. -----	Aiken -----	R. No. 1, Monetta
Lyles, J. S. -----	Fairfield -----	Wallaceville
s Malphrus, E. R. -----	Jasper -----	Ridgeland
Manly, J. T. -----	Laurens --- R. No. 2, Gray Court	
s Mann, D. C. -----	Pickens -----	R. No. 2, Pickens

Name	County	Residence
Mims, S. W. -----	Dorchester ----	R. No. 1, Harleyville
s McElveen, A. V. -----	Lee -----	Lynchburg
s McCall, J. S. -----	Darlington ----	R. No. 2, Society Hill
s McClimon, H. T. -----	Spartanburg -----	R. No. 5, Greer
McGowan, L. D. -----	Laurens -----	Cross Hill
s McLeod, R. E. -----	Lee -----	R. No. 1, Bethune
Oxner, E. Q. -----	Saluda -----	R. No. 2, Leesville
s Patterson, E. A. -----	Marlboro ----	R. No. 1, Bennettsville
Rivers, R. -----	Chesterfield ---	R. No. 1, Chesterfield
s Robbins, W. K. -----	Anderson ----	R. No. 2, Anderson
s Salley, O. J. -----	Orangeburg -----	R. No. 1, Neeses
s Seawright, J. A. -----	Abbeville -----	R. No. 2, Donalds
s Sellers, T. J. -----	Chesterfield --	R. No. 2, Chesterfield
Shealy, H. -----	Lexington -----	R. No. 2, Leesville
Sprott, E. P. -----	Clarendon -----	Foreston
s Staley, E. I. -----	Calhoun -----	North
Stanley, V. B. -----	Marion -----	R. No. 1, Centenary
Stucky, F. -----	Lee -----	R. No. 5, Bishopville
s Thornley, E. M. -----	Berkeley -----	Moncks Corner
Varn, M. B. -----	Colleton -----	R. No. 1, Islandton
Vaughan, W. E. -----	Darlington --	R. No. 2, Timmons ville
Wallace, M. G. -----	-----	Felix, Alabama
Webb, J. S. -----	Saluda -----	Chappells
Weston, C. T. -----	Richland -----	R. No. 1, Congaree
s Wingard, G. S. -----	Lexington -----	R. No. 1, Lexington

TWO-YEAR TEXTILE COURSE

Name	County	Residence
Culp, B. D. -----	York -----	Fort Mill
Goldsmith, J. N. -----	Greenville -----	Piedmont
Jones, R. -----	Richland --	916 Maple St., Columbia
Riser, W. E. -----	Saluda -----	Leesville
Robison, J. A. -----	Greenville -----	Greer
Still, F. L. -----	Lancaster -----	Lancaster
Tuten, E. J. -----	Hampton -----	R. No. 1, Hampton

SPECIAL AND IRREGULAR STUDENTS

Name and Course	County	Residence
Blake, W. E. Eng. -----	Spartanburg -----	782 E. Main St.
Burch, W. E. Agri. -----		Dublin, Ga.
Burnett, G. N. Eng. -----	Greenwood ----	R. No. 2, Greenwood
Davis, C. K. Eng. -----	Newberry -----	1209 Drayton St.
DeLorme, B. K. Agri. ----	Sumter -----	Sumter
Franklin, J. Agri. -----	Abbeville -----	R. No. 1, Willington
Jenkins, W. H. Agri. ----	Charleston ----	R. No. 1, Enterprise
Latimer, J. R. Eng. -----	Abbeville -----	R. No. 4, Honea Path
Mellet, F. M. Post. Grad.	Oconee -----	Clemson College
Reubenbaum, S. Agri. ---	Pickens -----	Clemson College
Rothell, C. Agri. -----		R. No. 1, Lexington, Ga.
Simpson, J. W. Eng. -----	Anderson -----	223 W. Church St.
Spencer, D. O. Eng. -----	Chesterfield -----	Cheraw
Todd, J. G. Civil -----	Oconee -----	Seneca
Wright, G. P. Eng. -----	Newberry -----	1901 Harrington St.

FARMERS' FOUR-WEEKS COURSE

Name	County	Residence
Ackerman, F. Agri. -----	Colleton -----	R. No. 1, Cottageville
Dale, E. M. Agri. -----	Beaufort -----	Beaufort
Davis, A. D. Agri. -----	Pickens -----	Liberty
Davis, D. G. Agri. -----	Pickens -----	R. No. 3, Liberty
Gaillard, A. P. Jr. Agri. --	Greenwood ----	R. No. 2, Ninety Six
Gaillard, W. B. Agri. -----	Pickens -----	R. No. 1, Liberty
Harris, J. West, Agri. ---	Spartanburg -	R. No. 3, Spartanburg
Jowers, J. C. Agri. -----	Chesterfield -----	Angelus
Knight, J. W. Agri. -----	Chesterfield -----	Angelus
Merritt, D. W. Agri. -----	Anderson -----	R. No. 2, Piedmont
Monsen, G. A. Agri. -----	Hampton -----	Estill
Mozingo, A. P. Agri. ----	Darlington -----	Darlington
Murph. T. D. Agri. -----	Spartanburg -----	White Stone
Player, E. D. Agri. -----	Clarendon ----	R. No. 1, New Zion
Richey, C. H. Agri. -----	Anderson -----	R. No. 2, Piedmont
Tate, R. Agri. -----	Greenville -----	Travellers Rest
Thomas, R. P. Agri. -----	Pickens -----	Dacusville

COTTON GRADING COURSE

Harris, J. J. -----	Anderson -----	Pendleton
---------------------	----------------	-----------

GENERAL SUMMARY OF STUDENTS
By Classes and Courses

C L A S S	AGRICULTURE	MECH. & ELEC. ENG.	CIVIL ENG.	ARCH. ENGR.	TOTAL	TEXTILE INDUSTRY	CHEMISTRY	GRAND TOTALS
SENIOR	42	27	5		32	4		78
JUNIOR	64	37	12	6	55	12	1	132
SOPHOMORE	95				84	1	3	183
FRESHMAN	135				129	19		283
SPEC. & IRREG.	7				8	7		22
O. Y. AGRI.	55							55
FOUR WEEKS	18							18
PREPARATORY								47
TOTALS	416				307	43		818

SUMMARY OF STUDENTS

By Counties in South Carolina

Abbeville	26
Aiken	18
Anderson	56
Bamberg	8
Barnwell	10
Beaufort	6
Berkeley	5
Calhoun	14
Charleston	41
Cherokee	9
Chester	14
Chesterfield	13
Clarendon	21
Colleton	9
Darlington	28
Dillon	6
Dorchester	9
Edgefield	17
Fairfield	18
Florence	23
Georgetown	10
Greenville	34
Greenwood	26
Hampton	11
Horry	6
Jasper	3
Kershaw	5
Lancaster	10
Laurens	23
Lee	9
Lexington	14
Marion	12
Marlboro	11
Newberry	21
Oconee	31
Orangeburg	33
Pickens	21
Richland	36
Saluda	4

Spartanburg	45
Sumter	21
Union	18
Williamsburg	9
York	37
<hr/>	
Total South Carolina	795

By States

South Carolina	795
North Carolina	8
Georgia	9
Alabama	3
Florida	1
Panama	1
Japan	1
<hr/>	
Total	818

In addition to the above 818 there were 17 other young men to matriculate, but were not permitted to enter College on account of insufficient preparation. This would give the total number of matriculates 835

INDEX

	Page
Absence, Leaves of	31
Absences	55
Academic Building	147
Academic Department	28, 137
Administrative Officers	8
Admission of Students	35
Admission on Certificate	36
Admission on Examination	39
Admission to Advanced Standing	41
Agricultural Buildings	150
Agricultural Courses	60, 72, 76
Agricultural Department	23, 80
Agricultural Hall	150
Agricultural Journal	160
Agricultural Scholarships	42, 165
Agronomy Equipment	82
Agronomy Instruction	80
Alumni Organization	169
American Institute of Elec. Eng., Clemson College Branch.....	160
Animal Husbandry and Dairying Equipment.....	101
Animal Husbandry and Dairying Instruction	98
Annual	160
Appointments in the Army	57
Architectural Engineering Course	70
Architectural Engineering Instruction	116
Athletics	161
Attendance by Sessions	27
Bacteriology Instruction	103
Band	170
Barns	151, 152
Barracks	149
Biological Club	160
Board of Fertilizer Control	165
Board of Trustees	6, 29
Board of Visitors	7
Bookkeeping	145
Botany and Forestry Equipment	105
Botany and Forestry Instruction	102
Boy's Corn Club Work	167
Branch Experiment Stations	167
Cadet Exchange	161

	Page
Calendars -----	4, 5
Calhoun Mansion -----	148
Calhoun Relics -----	148
Campus -----	147
Carding and Spinning Equipment -----	136
Carding and Spinning Instruction -----	134
Care of the Sick -----	158
Chapel Service -----	156
Chemical Buildings -----	153
Chemical Department -----	28, 126, 165
Chemistry Course -----	62
Chemistry Equipment -----	129
Chemistry Instruction -----	126
Chronicle -----	159
Civil Engineering Course -----	66
Civil Engineering Equipment -----	115
Civil Engineering Instruction -----	113
Committees of the Board of Trustees -----	6
Committees to the President -----	14, 30
Clemson Relics -----	148
Clemson Will -----	23
College Institutions -----	156
Cooperative Experimental Work -----	167
Cotton Grading Course -----	177
Cotton Grading Instruction -----	136
County Scholarship Apportionment -----	44
Courses of Study, Degree -----	59
Dairy Building -----	151
Dairying Instruction -----	98
Degrees, Medals, and Honors -----	56
Demonstration Agents -----	17, 19
Demonstration Work, Farmers' Cooperative -----	166
Departments and Divisions of the College -----	28
Designing and Weaving Equipment -----	133
Designing and Weaving Instruction -----	132
Detailed Description of Courses -----	79-146
Diploma -----	47
Discipline Committee -----	14, 29
Distinguished Students -----	56
Distribution of Scholarships -----	44
Drawing and Designing Equipment -----	120
Drawing and Designing Instruction -----	116

	Page
Drinking Water Supply	155
Dyeing and Textile Chemistry Equipment	131
Dyeing and Textile Chemistry Instruction	130
Dynamo Laboratory	152
Engineering Buildings	152
Engineering Department	28, 107
Electrical and Mechanical Engineering Course	64
Electrical Engineering Equipment	111
Electrical Engineering Instruction	110
Electrical Engineering, Special Course	78
Electrical Instrument Laboratory	152
Employment for Students	158
English Instruction	137
Entomological and Pathological Inspection	166
Entomology and Zoology Equipment	97
Entomology and Zoology Instruction	93
Entrance Examinations	41
Entrance Requirements	35
Examination Questions	39
Examinations	52
Expenses and Fees	46
Experiment Station	28, 163
Experiment Station Officers	16
Extension Work and Farmers' Institutes	166
Extension Work Officers	17
Faculties	9-13
Faculty, General	29
Farm	147
Farm Buildings	152
Farmers' Four-weeks Course	76
Farmers' Institutes and Extension Work	166
Fertilizer Control Building	153
Fertilizer Control Officers	18
Fees and Expenses	46
Flag, Blue C. A. C.	57
Forestry Instruction	102
Forge and Foundry Equipment	122
Forge and Foundry Instruction	121
Free Tuition	51
General Regulations	32
Geology and Mineralogy Equipment	84
Geology and Mineralogy Instruction	82

	Page
German	144
Grades and Reports	52
Graduates by Courses	27
Graduating Class, June 1913	174
Grounds and Buildings	147
Gymnasium	154
Heat	149, 155
Historical Sketch	21
History and Political Economy Instruction	140
History of the College	26
Honors, Degrees, and Medals	56
Horticulture Equipment	90
Horticulture Instruction	85
Hospital	150, 158
Hotel	149
Instruction, Subjects of	80-146
Irregular Courses and Students	54
Laundry	150
Leaves of Absence	31
Lecture Course	160
Library	148
Light and Heat	149, 155
Literary Societies	159
Location of the College	147
Machine Shop Equipment	123
Machine Shop Instruction	123
Make-up Work	55
Map of South Carolina	2
Mathematics Instruction	141
Mechanical and Electrical Engineering Course	64
Mechanical Engineering Equipment	109
Mechanical Engineering Instruction	107
Medals, Degrees, and Honors	56
Military Organization and Mode of Government	30
Military Science and Tactics Instruction	145
Mineralogy Instruction	82
Ministers	20
Miscellaneous Public Service	168
Museum	154
Officers of Administration, Instruction, etc.,	8-20
One-year Agricultural Course	72
One-year Agricultural Scholarships	44

	Page
Oratorical Contest	159
Organization and Government of the College	23, 29
Physics Equipment	144
Physics Instruction	143
Political Economy Instruction	140
Postgraduate Textile Course	77
Post Office	154
Power Station	149
President	29
Printery	154
Promotion	52, 53
Publications by Students	159
Public Service	165
Public State Work Officers	17-19
Quarterly Dues	46
Re-examination Rules	53
Refunds to Students	48
Regimental Organization	170
Regulations, General	32
Religious Exercises	156
Reports and Grades	52
Requirements for Admission	35
Residences	148
Scholarships	42, 165
Science Club	160
Settlement of College Fees	47
Sewer System	155
Short Courses	72
Sick, Care of	158
Soils Equipment	107
Soils Instruction	106
Southern Railway Scholarship	46
Special Courses	76
State Control Officers	17
Student Roll	176
Students, Summary of	204
Subjects of Instruction	80-146
Sunday School	156
Text-books, Cost of for Freshmen	50
Textile Building	152
Textile Chemistry Instruction	130
Textile Department	28, 130

	Page
Textile Industry Courses	68, 74, 77
Textile Scholarships	42, 165
Tick Eradication	166
Tiger	160
Trustees	6, 29
Unit Requirements for Admission	37
Veterinary Hospital	151
Veterinary Inspection	166
Veterinary Science Equipment	93
Veterinary Science Instruction	91
Water Supply	155
Weaving Instruction	132
Wood Work Equipment.....	125
Wood Work Instruction	124
Young Men's Christian Association	156
Zoology Instruction	93