CATALOGUE

AGRICULTURAL AND ENGINEERING COLLEGE RECORD

VOL. 16 No. 6

JUNE, 1918

WEST RALEIGH, N. C.

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NORTH CAROLINA STATE COLLEGE
OF
AGRICULTURE AND ENGINEERING

1917-1918

WEST RALEIGH

CALENDAR

1918

JANUARY

S	M	T	W	T	F	S
..	..	1	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
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MARCH

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APRIL

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MAY

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JUNE

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JULY

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AUGUST

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SEPTEMBER

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OCTOBER

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DECEMBER

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1919

JANUARY

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28	29	30	31	..	..	..

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COLLEGE CALENDAR

1918

Tuesday,	June	11.	Summer School begins. 8:30 a. m.
Tuesday,	September	3.	Entrance examinations at the College.
Wednesday,	September	4.	First Term begins; Registration Day.
Tuesday,	October	30,	Farmers' Course begins.
Thursday,	November	28.	Thanksgiving Day.
Friday,	December	20.	First Term ends.

1919

Tuesday,	January	7.	Second Term begins; Registration Day.
Sunday,	May	25.	Baccalaureate Sermon.
Monday,	May	26.	Annual Address.
Tuesday,	May	27.	Commencement Day. Annual Meeting of Trustees; Alumni Meeting.

BOARD OF TRUSTEES

GOVERNOR THOMAS WALTER BICKETT, *Ex Officio Chairman*

Name.	*Postoffice.*	*Term Expires.*
T. T. THORNE	Rocky Mount	March 20, 1919
C. W. GOLD	Greensboro	March 20, 1919
T. E. VANN	Como	March 20, 1919
P. S. BOYD	Mooresville	March 20, 1919
W. E. DANIEL	Weldon	March 20, 1921
W. H. RAGAN	High Point	March 20, 1921
W. B. COOPER	Wilmington	March 20, 1921
A. M. DIXON	Gastonia	March 20, 1921
M. B. STICKLEY	Concord	March 20, 1923
T. T. BALLENGER	Tryon	March 20, 1923
W. H. WILLIAMSON	Raleigh	March 20, 1923
O. L. CLARK	Clarkton	March 20, 1923
W. R. BONSAL	Hamlet	March 20, 1925
D. R. NOLAND	Crabtree	March 20, 1925
EVERETT THOMPSON	Elizabeth City	March 20, 1925
R. H. RICKS	Rocky Mount	March 20, 1925

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R. H. RICKS
O. L. CLARK
C. W. GOLD, *Secretary*

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R. H. RICKS
T. E. VANN
T. T. BALLENGER
D. R. NOLAND

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T. T. THORNE
W. H. RAGAN
C. W. GOLD

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A.B. 1885, University of North Carolina; C.E. 1890, LL.D. 1917, Lehigh University; LL.D 1917, Wake Forest College.

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Vice-President and Professor of Chemistry

A.B. 1883, A.M. 1885, D.Sc. 1917, Davidson College; Fellow in Chemistry, 1889-1890, Cornell University.

THOMAS PERRIN HARRISON

Professor of English, and Dean of the College

B.S. 1886, S. C. Military Academy; Ph.D. 1891, Johns Hopkins University.

CHARLES BURGESS WILLIAMS

Dean of Agriculture

B.S. 1893, M.S. 1896, N. C. State College of Agriculture and Engineering; Graduate Scholarship Student, Johns Hopkins University, 1896-7.

ROBERT E. LEE YATES

Professor of Mathematics

A.M. 1889, Wake Forest College.

THOMAS NELSON

Professor of Textile Industry

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B.S. 1886, M.S. 1887, Alabama Polytechnic Institute

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Professor of Electrical Engineering

A.B. 1890, Certificate in Electrical Engineering 1892, Johns Hopkins University

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B.S. 1904, M.E. 1909, Purdue University

GUY ALEXANDER ROBERTS

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B.Agr. 1899, B.S. 1900, University of Missouri; D.V.S. 1903, Kansas City Veterinary College

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Professor of Horticulture

B.S. 1910, Pennsylvania State College

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ZENO PAYNE METCALF
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THOMAS EVERETTE BROWNE
Professor of Vocational Education
A.B. 1902, Wake Forest College

WILLIAM ROSWELL CAMP
Professor of Agricultural Economics
B.A. 1909, Leland Stanford University

BENJAMIN FRANKLIN KAUPP
Professor of Poultry Science
M.S. 1909, Colorado Agricultural College; D.V.M., Kansas City Veterinary College

FREDERICK ADOLPHUS WOLF
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A.M., University of Nebraska; Ph.D., Cornell University.

LAWRENCE EARLE HINKLE
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B.A. 1911, University of Colorado; Graduate Student, University of Chicago, Princeton University

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THOMAS CLEVELAND REED
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B.S. (in Agr.) 1912, M.A. 1914, University of Missouri

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A.B. 1901, Trinity College; Ph.D. 1907, Johns Hopkins University

HENRY KNOX McINTYRE
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HARRY TUCKER *
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†Resigned.

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B.S. 1912, N. C. State College of Agriculture and Engineering

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Superintendent of Grounds and Buildings

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Vice-Director, Agronomist

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Chemist

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Entomologist

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Horticulturist

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Veterinarian

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Z. P. METCALF
Entomologist

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Marketing

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Poultry Investigator and Pathologist

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Plant Diseases

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S. O. PERKINS
Soil Survey

R. B. HARDISON
Soil Survey

E. S. VARMETTA
Soil Survey

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Assistant Entomologist

CHARLES L. SAMS
Beekeeping

[3] On leave.

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W. F. PATE
Agronomist in Soils

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Assistant Chemist

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Drainage Engineer

J. M. JOHNSON
Farm Management

.....
Drainage Engineer

R. O. CROMWELL*
Assistant in Plant Disease

A. C. FOSTER
Assistant in Plant Disease

J. E. ECKERT
Assistant Entomologist

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Dairy Farming

STANLEY COMBES
Dairy Experimenter

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Assistant in Cheese Work

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Assistant in Beef Cattle

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State Agent, Boys Club Work

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Corn Club Agent

ALLEN G. OLIVER
Poultry Club Agent

J. E. MOSES
Pig Club Agent

W. KERR SCOTT
Assistant, Boys' Club Work

MRS. J. H. HENLEY
Assistant in Home Demonstration Work

BOLLING HALL
Demonstration Horticulturist

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A. W. GREGORY
Assistant Chemist

E. C. BLAIR
Assistant Agronomist in Soils

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Assistant Director in Charge Mountain Station, Buncombe County, Swannanoa, N. C.

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C. E. CLARK
Assistant Director in Charge Coastal Plain Station, Edgecombe County, Rocky Mount, N. C.

H. BOCKER
Assistant Director in Charge Black Land Station, Wenona, Washington County, N. C.

L. B. JOHNSON
Assistant Chemist

.....
Assistant Chemist, Animal Nutrition

V. R. HERMAN [3]
Assistant Agronomist

S. J. KIRBY
Assistant Agronomist

S. F. DAVIDSON
Soil Survey

J. A. AREY [2]
Dairy Extension

GEORGE EVANS
Sheep Extension

F. R. FARNHAM [2]
Cheese Work

J. A. SLOSS
Field Agent, Beef Cattle Work

.....
Assistant Field Agent, Beef Cattle Work

C. S. JONES [6]
Assistant in Marketing

GORRELL SCHUMAKER
Assistant in Marketing

J. A. LIVINGSTON
Examiner in Rural Credits

W. E. WINTERMEYER
Assistant in Dairy Farming

R. A. JEHLE [3]
Assistant, Plant Diseases

A. F. BOWEN
Bursar and Purchasing Agent

The Experiment Station and the Extension Service are supported and conducted jointly by the College and the State Department of Agriculture. A joint committee from the Board of Trustees of the College and the Board of Agriculture, under agreement entered into by the Boards and authorized by an act of the Legislature in 1913, have direct charge of them.

---

1 In cooperation with the United States Department of Agriculture, States Relations Service.

2 In cooperation with the United States Department of Agriculture, Bureau of Animal Industry.

3 In cooperation with the United States Department of Agriculture, Bureau of Plant Industry.

4 In cooperation with the United States Department of Agriculture, Office of Roads and Rural Engineering.

5 In cooperation with the United States Department of Agriculture, Office of Farm Management.

6 In cooperation with the United States Department of Agriculture, Bureau of Markets and Rural Organizations.

DEMONSTRATION AGENTS

These agents are employed jointly by the College and the State Department of Agriculture and the United States Department of Agriculture.

C. R. HUDSON ..... State Agent ..... Raleigh

DISTRICT AGENTS

Name	*District*	*Postoffice.*
J. M. GRAY	Mountain	Asheville
E. S. MILLSAPS	Piedmont	Statesville
T. D. MCLEAN	Central	Aberdeen
R. W. FREEMAN	Eastern	Wilson
O. F. MCCRARY	Northeastern	Washington

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Name	*County*	*Postoffice*
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E. D. WEAVER	Buncombe	Weaverville
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M. C. VAUGHN	Craven	New Bern
J. E. CHANDLER	Currituck	Currituck
C. M. BRICKHOUSE	Dare	Manteo

Name	*County*	*Postoffice*
W. G. Yeager	Davidson	Lexington
W. F. Reece	Davie	Mocksville
F. N. McDowell	Duplin	Kenansville
M. R. McGirt	Durham	Durham
Zeno Moore	Edgecombe	Whitakers
Bruce Anderson	Forsyth	Winston-Salem
C. H. Stanton	Franklin	Louisburg
J. B. Steele	Gaston	Gastonia
R. W. Gray	Graham	Robbinsville
J. A. Morris	Granville	Oxford
D. J. Middleton	Greene	Snow Hill
E. H. Anderson	Guilford	Greensboro
N. B. Stevens	Halifax	Enfield
O. Odum	Harnett	Coats
W. H. Ferguson	Haywood	Waynesville
Frank Fleming	Henderson	Hendersonville
E. W. Gaither	Hertford	Winton
R. N. Looper	Hoke	Raeford
Jesse Murray	Hyde	Swan Quarter
G. E. Dull	Iredell	Statesville
J. M. McClung	Jackson	Sylva
A. M. Johnson	Johnston	Smithfield
N. K. Rowell	Jones	Trenton
R. R. McIver	Lee	Sanford
W. T. Kyzer	Lenoir	Kinston
W. L. Smarr	Lincoln	Lincolnton
J. L. Thurman	McDowell	Marion
W. E. Gross	Macon	Franklin
W. R. Hoots	Madison	Marshall
J. L. Holliday	Martin	Williamston
Charles E. Miller	Mecklenburg	Charlotte
J. W. Lindley	Mitchell	Bakersville
C. S. McLeod	Montgomery	Troy
P. T. Farabow	Moore	Carthage
H. S. Pool	Moore (Sandhills)	Aberdeen
G. D. Burroughs	Nash	Nashville
J. P. Herring	New Hanover	Wilmington
W. M. Wall	Northampton	Jackson
Grover Dickey	Onslow	Jacksonville
H. L. Chance	Orange	Hillsboro
J. W. Williamson	Pamlico	Bayboro
G. W. Falls	Pasquotank	Elizabeth City

Name	*County*	*Postoffice*
R. T. MELVIN	Pender	Burgaw
FRAZIER ROGERS	Perquimans	Hertford
W. C. WARREN	Person	Hurdle Mills
J. E. DODSON	Pitt	Greenville
J. R. SAMS	Polk	Columbus
D. S. COLTRANE	Randolph	Asheboro
W. J. ISBELL	Richmond	Rockingham
DR. A. H. KERR	Robeson	Lumberton
S. S. STABLER	Rowan	Salisbury
F. S. WALKER	Rockingham	Reidsville
C. C. PROFFITT	Rutherford	Rutherfordton
H. L. BOYD	Sampson	Clinton
S. J. LENTZ	Stanly	Norwood
J. H. SPEAS	Stokes	Danbury
E. S. MILLSAPS, JR.	Surry	Dobson
R. E. LAWRENCE	Transylvania	Brevard
W. M. LAUGHINGHOUSE	Tyrrell	Columbia
T. J. W. BROOM	Union	Monroe
J. A. GOODWIN	Vance	Henderson
W. H. CHAMBLEE, JR.	Wake	Wakefield
F. B. NEWELL	Warren	Warrenton
R. W. JOHNSTON	Washington	Plymouth
V. G. MARTIN	Wayne	Goldsboro
A. G. HENDREN	Wilkes	Straw
B. T. FERGUSON	Wilson	Wilson
M. W. MACKIE	Yadkin	Yadkinville
F. E. PATTON	Yancey	Burnsville

MILITARY ORGANIZATION

COMMANDANT OF CADETS

CAPTAIN ROBERT E. L. SPENCE, United States Army, Retired

CADET LIEUTENANT COLONEL

JOHN R. HOUSER

CADET MAJORS

W. C. JONES
W. T. COMBS

REGIMENTAL STAFF

T. A. BELK, Captain and Adjutant
G. B. BLUM, Captain and Quartermaster
T. B. ELLIOTT, Captain and Commissary
E. B. GARRETT, Additional Captain, Unassigned

REGIMENTAL NONCOMMISSIONED STAFF

J. N. SUMMERELL, Regimental Sergeant-Major
A. L. HUMPHREY, Regimental Quartermaster Sergeant
Z. T. KOONCE, Regimental Supply Sergeant
C. W. WHITE, Regimental Color Sergeant

BATTALION STAFF

W. L. SHUPING, 1st Lieut. and Bat. Adjt. 1st Bat.
P. W. PRESSLY, 1st Lieut. and Bat. Adjt. 2d Bat.
W. C. MURRELL, 2d Lieut. and Bat. Qm. and Com.

SUPPLY COMPANY

P. B. FLEMING, Captain
J. M. BARNHARDT, First Sergeant
M. G. JAMES, Sergeant
B. D. GLENN, Sergeant
J. G. HICKS, Corporal
H. C. WARWICK, Corporal
J. A. NORTHCOTT, Corporal

BAND

H. H. GORDON, Captain
R. L. LEWIS, Chief Musician
W. M. VERNON, First Sergeant

D. H. HALL, Sergeant
J. F. LEWIS, Sergeant
C. F. HENDRICKS, Sergeant
T. C. FELTON, Corporal
C. FISHER, Corporal
J. D. PELL, Corporal

COMPANY A

W. Z. BETTS, Captain
J. H. W. BONITZ, First Lieutenant
J. C. BLACK, Second Lieutenant
J. I. WAGONER, First Sergeant
JOHN S. CHAMBERLAIN, Sergeant
S. O. BAUERSFELD, Sergeant
A. B. McCORMICK, Sergeant
E. T. PORTER, Sergeant
R. H. DUKE, Corporal
E. S. HAND, Corporal
F. P. SHORE, Corporal
M. F. TRICE, Corporal
R. A. HOLSHOUSER, Corporal

COMPANY B

L. KISER, Captain
J. S. HATHCOCK, First Lieutenant
F. D. JEROME, Second Lieutenant
P. H. LONG, First Sergeant
P. T. LONG, Sergeant
P. O. BARBER, Sergeant
G. M. GREENFIELD, Sergeant
L. O. ARMSTRONG, Sergeant
W. R. BAYNES, Corporal
H. M. BLUE, Corporal
E. Y. FLOYD, Corporal
A. H. HARRIS, Corporal
A. C. JONES, Corporal
J. M. PEDEN, Corporal

COMPANY C

W. E. LEEPER, Captain
G. L. CLEMENT, First Lieutenant
T. M. DENSON, Second Lieutenant
H. D. CROCKFORD, First Sergeant

H. W. DIXON, Sergeant
W. D. SHIELDS, Sergeant
J. G. STOKES, Sergeant
J. B. EDWARDS, Sergeant
S. A. COOPER, Corporal
R. A. COUGHENOUR, Corporal
T. N. NISSEN, Corporal
D. C. RAGAN, Corporal
C. E. RHODES, Corporal
C. A. SHEFFIELD, Corporal

COMPANY E

D. R. SAWYER, Captain
B. F. MITCHELL, First Lieutenant
J. G. LEONARD, Second Lieutenant
W. D. JOHNSTON, First Sergeant
F. B. LONG, Sergeant
Z. V. POTTER, Sergeant
J. G. DEBERRY, Sergeant
R. D. PILLSBURY, Sergeant
C. M. BUSH, Corporal
R. N. GURLEY, Corporal
F. R. SWINDELL, Corporal
G. W. TIENCKEN, Corporal
A. L. WHITE, Corporal

COMPANY F

J. J. JACKSON, Captain
H. T. ROWLAND, First Lieutenant
M. P. SANFORD, Second Lieutenant
J. H. WILLIAMS, First Sergeant
J. M. HENLEY, Sergeant
G. M. PARKER, Sergeant
J. N. SUMMERELL, Sergeant
C. W. WHITE, Sergeant
E. F. BUTLER, Corporal
O. H. BROWNE, Corporal
W. B. COLLINS, Corporal
H. L. EVANS, Corporal
E. G. HOBBS, Corporal
R. P. STACEY, Corporal

COMPANY G

W. D. LEE, Captain
G. R. ROBINSON, First Lieutenant
S. S. WALKER, Second Lieutenant
S. K. WRIGHT, First Sergeant
L. R. DOCK, Sergeant
H. F. MASSEY, Sergeant
R. P. WATSON, Sergeant
J. L. REA, Sergeant
C. H. FLIPPIN, Corporal
J. G. HALL, Corporal
A. W. McMURRAY, Corporal
O. RAMSAUR, Corporal
R. B. ETHERIDGE, Corporal

GENERAL INFORMATION

During the years in which North Carolina was emerging from the economic havoc wrought by Civil War and Reconstruction, some farsighted men began to see the necessity of rearing industrially equipped men. They felt keenly the need of competent men to build and direct new industries, and to restore the land which had been impoverished partly by slave labor. They recognized that men capable of doing what was needed would have to be educated in industrial schools and technical colleges.

The first organized body to take steps for the establishment of a State industrial institution in North Carolina was the Watauga Club. This club, composed of bright young men, explained its mission by declaring that it was "an association in the city of Raleigh designed to find out and make known information on practical subjects that will be of public use." In 1885 this club presented to the Legislature a memorial urging that body "to establish an industrial school in North Carolina which shall be a training place for young men who wish to acquire skill in the wealth-producing arts and sciences."

This memorial quickened general interest in the proposed school, and several bills looking to its foundation were introduced in the Legislature of 1885. On March 7th, one of these bills, introduced by Hon. Augustus Leazar, of Iredell County, became a law. This law provided that the Board of Agriculture should seek proposals from the cities and towns of the State, and that the school should be placed in the town offering the most inducements. The Board of Agriculture finally accepted an offer from the city of Raleigh.

Meantime, the ideas of the advocates of the school had been somewhat broadened as to the character of the proposed institution.

These men saw that Congress was about to supplement the original land grant by an additional appropriation for agricultural and mechanical colleges in each State. The originators of the conception then sought the aid of progressive farmers in order to change the school into an agricultural and mechanical college. Col. L. L. Polk, the editor of the newly-established *Progressive Farmer*, threw the weight of his paper heartily into the idea. Meetings were held in various places, and two very large meetings in Raleigh considered the proposition. As a result, the school already provided for was by action of the Legislature of 1887 changed into an agricultural and mechanical college, and the Congressional Land Scrip Fund was given the newly formed institution. In addition, the law directed that any surplus from the Department of Agriculture should go into

the treasury of the college. Mr. R. Stanhope Pullen, one of Raleigh's most broad-minded citizens, gave the institution eighty-three acres of land in a beautiful suburb of Raleigh. Additional funds were afterwards provided by the Supplemental Morrill Bill passed by Congress in 1890, by the Nelson Bill of 1907, and by State appropriations. The first building was completed in 1889, and the doors of the College were opened for students in October, 1889. Seventy-two students, representing thirty-seven counties, were enrolled the first year. The faculty consisted of six full professors and two assistants. From this small beginning in 1889, the College has grown steadily from year to year.

The College is beautifully located on the extension of Hillsboro Street in the western suburbs of Raleigh, a mile and a quarter from the State Capitol. The site is suitable in all respects.

There is an abundant supply of water from the city mains and from twelve deep wells on the College grounds. The water is analyzed, both chemically and bacteriologically, at regular periods.

The College now owns four hundred and eighty-six acres of land. Fifteen hundred young trees and nine hundred and forty vines are growing in an orchard of twenty-five acres. Seven acres are devoted to truck growing. The campus consists of about thirty acres of rolling land, which is being improved as rapidly as circumstances permit.

BUILDINGS

The College possesses the following buildings, all of which are well lighted, heated, and ventilated, and adequately protected against fire:

Holladay Hall, the administration building, 170 feet long by 64 feet deep, is a three-story brick structure with a basement. The basement floor is devoted to the class-rooms and laboratories of the Physics Department. The main floor contains the offices of the Executives and class-rooms of the Departments of English and Mathematics.

Patterson Hall, the main Agricultural building, is a buff press-brick structure, 204 feet long by 74 deep, of two stories and a basement. The lower floor is used as a dairy with wash-rooms and sterilization chamber. The first floor provides room for the offices of the Experiment Station, and for class-rooms and laboratories of the departments of Agronomy, Horticulture, Soils, and Agricultural Extension. The second floor accommodates the departments of Botany and Plant Pathology, and of Physiology and Veterinary Medicine.

The Animal Husbandry Building is of brick, two stories and basement. Rooms of the Poultry Department and a stock-judging room are included in the basement. The first floor is occupied by the departments of Animal and Poultry Husbandry. The second floor is devoted to the Department of Zoology and Entomology for laboratories and class-rooms.

Winston Hall is built of brick, with reinforced concrete floors, three stories high, including the basement. The basement and main floor are occupied by the Civil and Electrical Engineering Departments for laboratories, instrument rooms, classrooms, and drafting rooms. The second floor contains recitation rooms and laboratories of the Department of Chemistry and the Chemical Department of the State Experiment Station.

The Mechanical Engineering Building is a plain, substantial, two-story brick building furnishing room for the drawing and recitation rooms of the Mechanical Engineering Department.

The Textile Building is a two-story brick building, 125 by 75 feet, with a basement. Its construction is similar to that of a cotton mill, and is an illustration of standard construction in this class of buildings. The basement contains the dyeing department, the first floor the looms and warp preparation machinery, and the second floor the carding and spinning machinery.

Primrose Hall, one story and a basement, is used for the class-rooms of the departments of Economics and Modern Languages.

The Shop and Laboratory Building is an illustration of the standard construction of modern shop buildings. It is a one-story and part basement L-shaped structure, one dimension being 170 feet and the other 195. The basement serves as a laboratory and storage room. The main floor embraces a machine shop, woodshop, forge shop, foundry, and demonstration rooms, and tool rooms.

Pullen Building is a two-story colonial brick building with a basement. The lower floor is used as an armory. The main floor gives quarters for the library and two classrooms. The upper story serves as the College auditorium, and seats about one thousand people.

The Dining Hall, which is 144 by 54 feet, will accommodate the entire student body. A large kitchen completely supplied with modern conveniences and utensils, the preparation rooms, serving rooms, store-rooms, etc., along with the hall proper make this building an attractive feature of the college.

The Y. M. C. A. Building is the home of the greater part of voluntary student activities. It is an attractive two-story and basement brick building handsomely equipped with mission furniture through-

out. The basement contains the gymnasium, swimming pool, bowling alleys, shower baths, and athletic rooms. The main floor has a large lobby, which embraces open reading and game rooms, an auditorium, a banquet hall, several bedrooms for visitors, and offices of the Association and for College publications. The upper floor contains two large society halls and rooms for Bible study classes.

The Infirmary is a two-story brick building containing separate rooms and wards for the care of the sick. Offices and rooms for the College physician and matron are also provided. The building is well equipped to serve its purposes.

Watauga Dormitory provides rooms for one hundred and twenty students. It is a three-story brick structure with a basement.

Nineteen-Eleven Dormitory, the largest dormitory on the grounds, is divided into sections by fireproof walls. It furnishes rooms for two hundred and forty students. Large and convenient bathrooms are located in the basement of the building.

First Dormitory, a two-story brick structure, affords accommodations for twenty students.

Second Dormitory, built on the same plan as the First Dormitory, will house twenty students.

Third Dormitory has rooms for twenty students.

Fourth Dormitory, a three-story brick structure, furnishes rooms for forty-eight students.

South Dormitory is a completed wing of what will soon be a handsome building similar to Nineteen-Eleven Dormitory. The wing furnishes rooms for forty-eight students.

The Farm Buildings are nine in number: six barns, capacious and modern in every respect, for the housing of the stock and storing of feedstuffs and implements; the home of the farm foreman, near the barns; the Horticulturist's home in the orchard; and the Poultry Plant, comprising the home of the instructor in charge and the various buildings and pens for the raising of fowls.

The Central Power Plant furnishes heat, light, and power for all the College buildings. The boiler plant consists of two 75-horsepower and two 100-horsepower boilers with a working steam pressure of 150 pounds. The engine plant embraces a 100-horsepower engine, generators, and steam and vacuum pumps.

AGRICULTURAL EQUIPMENT.

Agronomy. The department has the necessary accessories for present-day instruction in Agronomy. For practice work in the field the College farm is available.

Soils. A completely equipped laboratory affords exceptional facilities for instruction in general soils. The College farm is used for the practical work in drainage, terracing, fertilization, and study of soil Types.

Horticulture. The Service Building, Greenhouse, and a laboratory furnished with necessary apparatus are devoted to this department. The Horticultural grounds of twenty-five acres contain student vegetable gardens, orchards, vineyards, plantings of berries, and spaces used for nursery purposes. The department also has charge of the development of the College campus.

Botany. The several rooms occupied by this department are excellently equipped with apparatus and conveniences.

Animal Husbandry. The livestock equipment represents the leading breeds. The Division owns a dairy herd of over eighty head, a flock of about seventy head of sheep, a number of hogs and Percherons. The dairy laboratory is fitted for up-to-date instruction in farm dairying. Adjoining this laboratory are two rooms equipped with modern creamery machinery. The creamery which is maintained as a commercial enterprise, provides for instructional work in cheese manufacturing.

Poultry Husbandry. The poultry plant contains breeding pens suited to poultry keeping in North Carolina. Incubators, brooders, and other equipment are supplied. The laboratories are furnished complete with poultry appliances.

Veterinary Science. The laboratories, dissecting and pharmacy rooms are supplied with all necessary apparatus. For class and laboratory instruction there are mounted skeletons, specimens of disease, and a collection of parasites which infest domestic animals.

Zoology and Entomology. The second floor of the Animal Husbandry Building is devoted to this department. An excellent laboratory is provided with the usual equipment of a Zoological laboratory. The department has a museum and its own library.

ENGINEERING EQUIPMENT

Civil Engineering. The equipment consists of all instruments necessary for laboratory and field practice in Civil Engineering, such as transits, levels, plane tables, sextants, etc. Apparatus is also furnished for testing cement. The department has its own library, and is well supplied with filing cases and reference maps.

Mechanical Engineering. The Forge Shop is equipped with forty anvils and twenty double forges of the down-draft type, an exhaust system, a special gas furnace for the treatment of steel, and other necessary apparatus.

The **Foundry** equipment consists of a cupola, brass furnace, sand-sifter, core machine, core oven, molding machines, and all necessary tools for bench and floor work.

The **Woodshop** is excellently equipped with lathes, saws of various kinds, planes, jointers, mortisers, sanders, and other machinery essential to an up-to-date woodshop.

The **Machine Shop** contains lathes, shapers, drill presses, grinders, planer, milling machine, and a full equipment of necessary minor tools and conveniences.

The **Mechanical Laboratory** is supplied with steam, gasoline, oil, and automobile engines; with instruments for measuring, testing, and analyzing; with 50,000-pound and 15,000-pound testing machines. The Power Plant is also available for tests.

Electrical Engineering. For this department are provided class-rooms supplied for demonstration work, a suitably furnished designing room, an instrument laboratory fitted up with standardizing apparatus and measuring instruments, a dynamo laboratory, etc. The dynamo laboratory is equipped with various kinds and sizes of dynamos and motors, and with the general apparatus used in the study of electrical machines. The machinery of the College Power Plant and of the local power company is also available for instruction and testing.

Physics. The William Kearny Carr Physical Laboratory embraces two lecture rooms, six laboratories, excellently equipped. The research laboratories offers exceptional facilities for advanced study in Physics. They include a dark room for work in light and a sound-proof room for acoustic work, a shop and batten room. The equipment of these laboratories and the demonstration and research apparatus are of the highest grade.

CHEMICAL QUARTERS AND EQUIPMENT

The entire second floor of Winston Hall is given over to three class-rooms, three large laboratories, a library, and other rooms of the department of Chemistry. The equipment is extensive and complete for the many courses offered.

TEXTILE EQUIPMENT.

The equipment of this department consists of the latest types of cotton-mill machinery, manufactured by American builders. Electricity is used as a motive power, the machinery of each department in the building being driven by a separate motor.

Carding. The carding machinery is located on the second floor of the building. The opening room contains the machinery for ginning, thread-extracting, and lapping. The carding machinery consists of flat cards, drawing frames, lap machines, combing machines, roving frames, a railway head and a slubber.

Spinning. This department is also located on the second floor. The equipment consists of four spinning frames, and machinery for spooling, twisting, reeling, winding, and warping.

Weaving. The entire main floor is given over to this department. For warp preparation the equipment consists of bobbin-winding machines, beaming machines, and a slasher. The looms, twenty-six in number, manufacture sheeting, gingham, toweling, bagging, and all kinds of fancy goods. The finishing is done by sewing and rolling, inspecting, and brushing machines.

Dyeing. The basement of the building is fitted up with a classroom, laboratory, and dyehouse for instruction in dyeing and with dyeing machinery. The laboratory has all the necessary apparatus for experimental and practical instruction. The dyehouse is equipped with the proper machinery needed in the dyeing of large quantities of material.

THE AGRICULTURAL EXPERIMENT STATION

The North Carolina Agricultural Experiment Station was established originally as a division of the State Department of Agriculture, in accordance with an act of the General Assembly, ratified March 12, 1877. Its work was greatly promoted by act of Congress of March 2, 1887, known as the Hatch Act, which made a donation to each State for the purpose of investigations in agriculture, and for publishing the same. The funds of the Experiment Station were further supplemented by the act of Congress of March 16, 1906, known as the Adams Act. Under the requirements of the Hatch Act, the Station became a department of the College and was conducted jointly by the College and the Department of Agriculture from 1889 to 1907, with the exception of three years. Under an agreement entered into between the Board of Trustees of the College and the Board of Agriculture in January, 1912, and authorized by act of the Legislature of 1913, the work of the Experiment Station, which covers all of the experimental work in agriculture in the State, is jointly conducted and supported by the College and State Department of Agriculture.

The experimental work in the field in agriculture, horticulture, stock and poultry raising, dairying, etc., is conducted on the College farm and on the test farms of the Department of Agriculture

in different parts of the State, and the laboratory investigations are conducted in the laboratories of the two institutions.

The Station is always glad to welcome visitors and to show them the work in progress. The Station conducts a large correspondence with farmers and others concerning agricultural matters. It takes pleasure in receiving and answering questions.

Bulletins relating to general farm matters, embodying the results of the experiments, are sent free to all citizens of the State who request them. A request addressed to the Agricultural Experiment Station, West Raleigh, will bring these publications. The Station is glad also to answer letters of inquiry.

AGRICULTURAL EXTENSION SERVICE

Yearly increasing amounts of Extension work have been done by the College and the North Carolina Department of Agriculture since their organization. At first this took the form of analyses of fertilizers, marls, phosphates, composts, and various agricultural products, and advice on these several matters. Farmers' Institutes were started at a later date and are continued at the present, and other forms of Extension service have been conducted along a number of lines. In 1906 Farm Demonstration work, through county agents and special workers, was begun, and Boys' and Girls' clubs were soon made a part of it.

This division conducts the Corn Clubs, Poultry Clubs, Pig Clubs, Potato Clubs, and Peanut Clubs for the boys and girls of the State, and the Canning Clubs for the girls. The active membership of these clubs is confined to young people between the ages of ten and eighteen years, but adults are permitted to join the Pig and Poultry Clubs, and get all instruction sent the active members. In these clubs the young people are taught to grow crops or animals upon their own farms according to the teachings of modern science, and are shown the wonderful possibilities of farming in accordance with a few fundamental scientific laws.

In addition to the instruction through monthly letters, bulletins, and visits of the Extension workers, club schools are held at the farm-life schools and at county-seats during the summer, at which the members are given two or three days of technical instruction.

There is also held at the State College of Agriculture and Engineering during each August a one-week Short Course for members of all the clubs conducted by the Extension Division.

Under a joint arrangement between the State College of Agriculture, the State Department of Agriculture, and the State Department

of Education, perfected October 1, 1916, the State Agent in Boys' Club work was appointed State Supervisor of Secondary Agricultural Education. His duties pertain particularly to the supervision of the farm-life schools and the direction of agricultural teaching in the rural schools of the State.

Because of the very close relation between the club work and the school work, those in authority deemed it wise to place the direction of all this work under one supervision. The club work should be made the vitalizing agency for all agricultural teaching in the rural schools. By utilizing the "Home Project" plan and having all this work supervised from the same office, the teaching and practical work will be more closely related.

In January, 1912, under an agreement entered into between the Board of Trustees of the College and the Board of Agriculture, and authorized by an act of the Legislature in 1913 (chapter 68, Public Laws of 1913), all of the Extension and Demonstration work in the State was brought together and conducted jointly by the two institutions, in cooperation with the United States Department of Agriculture.

The Congressional Smith-Lever Act of May 8, 1914, has made possible a larger development of the Extension Service. The Extension Service has for its main object the carrying of new facts and good practices obtained in experimental work and in good farming to the farmers and farm women of the State, through county men and women agents and workers in special lines. These workers spend most of their time in the field in efforts to bring about better farming, better homes, cooperation among farmers, marketing farm products, etc.

The Extension forces at headquarters are housed in the buildings of the College and of the State Department of Agriculture, offices and conveniences for work having been supplied by these two institutions, and in the main equipped by them.

THE PURPOSE OF THE COLLEGE

The College is an institution where young men of character, energy, and ambition may fit themselves for useful and honorable work in many lines of industry in which training and skill are requisite to success. It is intended to train farmers, mechanics, engineers, architects, draughtsmen, machinists, electricians, miners, metallurgists, chemists, dyers, mill workers, manufacturers, stock raisers, fruit growers, truckers, and dairymen, by giving them not only a liberal, but also a special education, with such manual and technical training as will qualify them for their future work.

It offers practical and technical education in Agriculture, Horticulture, Animal Industry, Civil Engineering, Mechanical Engineering, Electrical Engineering, Chemistry, Dyeing, and Textile Industry. It also offers practical training in Carpentry, Woodturning, Blacksmithing, Machinist's work, Mill work, Boiler tending, Engine tending, Dynamo tending and Installation, Electric Light Wiring, Armature Winding, and other subjects relating to practical electricity.

Although the leading purpose of the College is to furnish technical and practical instruction, yet other subjects essential to a liberal education are not omitted. Thorough instruction is given in English, Mathematics, Political Economy, Physics, Chemistry, Botany, Zoology, Physiology, and Geology.

The College is not a place for young men who desire merely a general education without manual or technical training, nor for lads lacking in physical development, mental capacity, or moral fiber, nor for those who are unable or unwilling to observe regularity, system, and order in their daily work.

WHAT THE COLLEGE EXPECTS OF ITS STUDENTS

The College does not have many rules. It expects that its students will live rightly for their own sakes and for the sake of the State that is educating them. The fundamental law of the College is this: Always and everywhere, be a gentleman.

A record is kept of every student. If it is apparent from this record that a student is not studying or that his conduct is not meeting the requirements of the College, such student will be required to withdraw. Scandalous, vicious, or immoral conduct will necessitate an immediate dismissal.

Students attend this College, of course, to fit themselves for a technical business life. They are therefore expected to be businesslike in their habits; to be prompt in their attendance and regular at chapel, classes, shops, drills, inspections, and all other duties. To prepare themselves for their daily work, students are expected to observe in their own rooms the regular morning and evening hours of study, and to be absent from College only at the regularly specified periods. These periods are as follows: For Juniors, Friday, Saturday, and Sunday nights; for Sophomores, Saturday and Sunday nights; for Freshmen, Sunday nights. Saturday and Sunday afternoons are liberty afternoons.

Students are expected to keep their rooms neat and sanitary; to refrain from disturbing one another by noise in the buildings or on the grounds—in short, to conduct themselves in their College home with the same courtesy, self-respect, and propriety that they do in their own homes.

Visiting poolrooms, leaving College after 11 o'clock at night, continued cigarette smoking, willful destruction of College property, drinking, immorality, gambling in all forms, hazing of any kind, disrespect to members of the Faculty or officers of the College, any conduct unbecoming a gentleman—these offenses it is expected that a student's self-respect will lead him to abstain from, and should any student be found guilty of them he will be excluded from College.

REPORTS AND SCHOLARSHIP

Regular reports of scholarship are sent by the Registrar to parents and guardians at the end of each term. Special reports are made by the Dean whenever necessary. Whenever a student fails on a subject during a month, such failure is reported to his parents. Students who are persistently neglectful of duty, or manifestly unable to do the work required, will be discharged at any time. The Faculty will require any student to withdraw whenever it is plain that his stay in the institution is not profitable to himself nor to the College.

RELIGIOUS INFLUENCES

All students are required to attend chapel exercises in Pullen Auditorium each morning. These services are conducted by the President, by some member of the Faculty, or by some visiting minister or layman.

Each student is expected to attend religious service in Raleigh on Sunday morning at the church of his choice. The students are always welcomed in the Sabbath schools of Raleigh, and a large number of them attend these services.

THE YOUNG MEN'S CHRISTIAN ASSOCIATION

The Young Men's Christian Association is a voluntary organization among the students for the purpose of centralizing and directing the moral and religious life of the student body. The work is under the direction of a General Secretary, who is employed to give his entire time to the work, and of the following student officers: president, vice-president, corresponding and recording secretaries, and treasurer. Active assistance is also given by an Advisory Committee, which includes three members of the Faculty and six prominent business men in Raleigh. The president and treasurer of the Association are *ex officio* members of this committee.

The membership fee for all College students is two dollars a year. This small fee was made possible during the session of 1916-17, when the student body, as a whole, expressed its desire of having every student, at the beginning of each term, pay over to the College Bursar *one dollar* as his dues for the ensuing term.

Only members of evangelical churches may become active members. A handbook, giving general information about the College, is published each spring and sent to prospective students, with a personal letter of welcome from the officers of the Association.

A large number of men are trained each year in active Christian service through membership on the following standing committees, all of which are trained by the General Secretary in their particular work: Bible Study Committee, which has charge of the organization of voluntary Bible Study classes among the students; Religious Meetings Committee, which provides speakers and arranges programs for the weekly meetings of the Association; Mission Study Committee, which provides for Mission Study among the students; Social Committee, which provides means of social entertainment and diversion; and Finance Committee. Each committee is held responsible for its part of the Association's activities.

The Association is supported by a yearly appropriation from the College, and by gifts from the Faculty, the Parents of the boys, the Alumni, and by its regular membership.

The Y. M. C. A. occupies its own building on the campus, which was erected at a cost of $41,000.

Parents or students wishing to obtain further information about the work of the Association may do so by addressing the General Secretary, West Raleigh, N. C.

ATHLETICS

The Athletic Association is organized by the student body to promote physical health and manly spirit through athletic sports. Under the direction of the Athletic Committee of the Faculty it promotes practice in baseball, basketball, football, track athletics, etc. The Association employs a director who devotes all of his time to the interests of this department. The athletic park is situated in the center of the College campus. It is provided with a grandstand and uncovered seats and meets the needs of the various athletic teams.

It is the aim of the College to encourage participation in athletic sports by all students as far as possible. In order to promote interest in athletics the College teams are allowed to play a limited number of games with the teams of other colleges, while all students are allowed and encouraged to take part in intramural games. The College recognizes that college athletics are promoted for the benefit of its bona fide students, and in order to prevent abuses the following regulations in regard to intercollegiate games are in force:

Eligibility Rules of the North Carolina State College of Agriculture and Engineering

Any student of good and regular standing shall be eligible to represent this College in athletic contests, subject to the following conditions:

1. Before any student can become a member of any athletic team in the College and take part in any intercollegiate contest, he must apply to the Faculty Committee on Athletics and secure its approval of his application. It shall be the duty of the Faculty Committee on Athletics to see that the said student is properly enrolled in the College.

2. It shall be the duty of the Athletic Committee to inquire into and make record of the athletic experience of the applicant, and it shall be the duty of the applicant to appear before the committee and answer on his honor such questions as the committee may see fit to ask.

3. No student shall take part in any contest who has taken part in intercollegiate contests for four academic years, either at this College or at any other college or university.

4. No student shall participate who is receiving, has received, or has been promised, directly or indirectly, any money or financial concessions as compensation for or prior consideration to his playing.

5. No student shall participate in athletic sports who does not matriculate within thirty (30) days of the opening date of the current session.

6. No student shall participate who has played baseball on any league team belonging to the National Association, or to any league recognized by the National Baseball Commission as an "outlaw league," or who has missed any time from College work in order to play on any organized so-called "summer baseball team."

7. No student who is recognized by the Athletic Council as a member of any team shall be eligible the following session, unless he has remained as a resident student two-thirds of the preceding session, and can give satisfactory reason for not remaining the whole session.

8. No graduate student who is not a bona fide applicant for a degree conferred by this College shall be allowed to participate.

9. No person whose name appears in the Catalogue list of officers of instruction or administration of the College and who receives remuneration therefor shall be a member of any athletic team representing the College.

10. No undergraduate student shall take part in any athletic contest who is not pursuing one of the regular prescribed courses of instruction or its equivalent, nor will he be allowed to participate if his class work be unsatisfactory.

11. No student shall be allowed to represent the College in any intercollegiate contest during any month if he has been reported deficient on a majority of his work for the preceding month.

12. No student who has been a member or a substitute member of the football or baseball team of another college or university during the preceding year shall be permitted to become a member of either team at this College during his first session. In no case shall such student be eligible for these teams at this College unless he shall have been a student here for at least one-half of the preceding session; and no student who is unable to pass examination on two-thirds of the work required for admission to the Freshman class shall be allowed to participate until he has been in College one term.

13. The object of these rules is to allow only bona fide students to take part in athletic contests, and if it shall appear to the Faculty and Athletic Committee that any student is, or has ever been, a professional athlete, or that he is in college for the purpose of taking part in athletics and not of getting an education, such student shall not be allowed to represent the College in any athletic contest.

Note 1. The term substitute is interpreted to mean any student who has taken part in two or more intercollegiate contests.

Note 2. The term college is interpreted to mean any college named in the latest report of the Commissioner of Education which has as many as one hundred and fifty male students of collegiate grade recorded in its catalogue for the preceding year.

Note 3. The term session is interpreted to mean a college year of two terms.

LIBRARY AND READING-ROOM

The College Library occupies the first story of Pullen Hall. The reading-room is supplied regularly with about one hundred and fifty magazines and journals of various kinds, and yearly additions are being made to this number. The library contains about eight thousand volumes. There are also references libraries in the different departments. The library is kept open from 9 a. m. to 6 p. m. The Librarian is always present to assist students in finding desired information.

The Olivia Raney Library in Raleigh is free to students, and they have the privilege of borrowing books from it.

Students are also allowed to consult books in the **State Library.**

STATE MUSEUM

Students have free access to the large collections of the State Museum. These collections furnish most excellent opportunities for studies in Geology, Mineralogy, Mining, Forestry, and Natural History.

COLLEGE SOCIETIES

Such college organizations are encouraged as tend to form good character, to develop manly physical vigor, and to promote literary, scientific, and technical research and training.

The Biag Society is composed of those students who have made the best record in biological and agricultural subjects. The membership is limited to twelve. The society meets monthly for the discussion of biological and agricultural questions.

Farmers' Progressive Association. The students in the Farmers' Course in Agriculture meet every Wednesday night during the winter term for a discussion of practical problems. The meetings are conducted in the manner of a Farmers' Institute, and give training in conducting farmers' meetings, in *ex tempore* speaking on agricultural questions, and in the writing and reading of reports on various farm operations.

The Agricultural Club. The purpose of this club is to interest the Agricultural students in the practical side of Agriculture and start them to working along progressive lines.

Weekly meetings are held at which practical topics are discussed. Essays dealing with specific problems are read and debates held on current Agricultural questions. Liberal prizes are given in the various contests. A corn show open to all Agricultural students is held each year by the club.

The Tompkins' Textile Society. The purpose of this society is to discuss textile problems and other subjects in connection with the textile industry. Meetings are held fortnightly, and great interest is taken in them by the textile students.

The Mechanical Engineering Society meets every week for the discussion of engineering subjects. The society is composed of Seniors and Juniors taking the Mechanical Engineering Course. Its work has proved very beneficial to its members.

Electrical Engineering Society. A student branch of the American Institute of Electrical Engineers was organized at the College several years ago. It holds weekly meetings for the reading and discussion of papers. At convenient intervals the society makes trips for inspecting interesting electrical installations. From time to time addresses are made by visiting engineers.

Berzelius Society meets fortnightly for discussion of chemical topics, and for reports upon the leading articles in the chemical journals.

The Pullen and the Leazar Literary Societies afford excellent opportunities for practice in declamation, debate, composition, and parliamentary law, as well as opportunities for social pleasure and recreation.

The Alumni Association meets each year on Commencement Day, transacts its annual business, hears the Alumni oration, and attends the annual Alumni banquet. This association purposes raising funds to erect an Alumni building at the College.

The Poultry Science Club. The Poultry Science Club is a society for the promotion of the interests of poultry study. Semi-monthly meetings are held in the Animal Husbandry and Poultry Building classrooms. At these meetings programs on poultry topics are carried out. Membership is open to all students of the College interested in the study of poultry subjects.

REQUISITES FOR ADMISSION

Each applicant for admission must be at least sixteen years of age and must bring a certificate of good moral character from the school last attended.

To the Four-Year Courses

Admission to the Freshman Class of all four-year courses is by the unit system. A unit is defined as a subject pursued in schools of approved grade for five periods a week throughout the year, each period being at least forty minutes in length.

Until notice of change is given, eleven units will be required for unconditioned admission to the Freshman Class of all four-year courses.

Of these eleven units, eight and one-half are in specified subjects, two and one-half are elective.

Specified Subjects

SUBJECTS.	*Units.*
English	3
History	2
Mathematics	2½
Science	1
	8½

Elective Subjects

SUBJECTS.	*Units.*
Agriculture or Farm Practice	½ or 1*
Botany	½ or 1
Bookkeeping	½
Chemistry	½ or 1
Civics	½
Drawing (freehand or mechanical)	½
History	1
French, German, or Spanish	1
Latin	3
Manual Arts	½
Mill Practice	½
Physical Geography	1
Physics	½ or 1
Physiology	½
Science, General Introductory	½
Zoology	½ or 1

Explanation of Requirements

ENGLISH.	*Units.*
(*a*) Grammar and Composition	1
(*b*) Reading and Practice	1
(*c*) Study and Practice	1

(a) Grammar and Composition. English grammar should be carefully reviewed during the high school course, with special emphasis on correct terminology, the functions of the parts of speech, and the analysis of sentences. The study of composition is given system and unity by the use of a good text-book, but this should be accompanied with frequent written and oral exercises. Without constant practice in writing the study of the principles of composition is a waste of time. It is suggested that the exercises be generally short, one page being sufficient, on subjects chosen mainly from the student's personal experience and observation, not exclusively from literature. The fundamentals in composition—correct spelling, punctuation, and grammar—should be insisted upon.

(b) Reading and Practice. The aim of this work is to foster in the student the habit of intelligent reading and to develop a taste for good literature, by giving him first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention

*For explanation, see page 44.

should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads. With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made except as otherwise provided under Group 1:

GROUP 1—Classics in Translation; two to be selected: The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther. Homer's *Odyssey*, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII. Homer's *Iliad*, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI. Vergil's *Æneid*. The *Odyssey*, the *Iliad*, and the *Æneid* should be read in English translation of recognized literary excellence. For any selection of this group a selection from any other group may be substituted.

GROUP 2—Shakespeare; two to be selected: *A Midsummer Night's Dream, The Merchant of Venice, As You Like It, Twelfth Night, The Tempest, Romeo and Juliet, King John, Richard II, Richard III, Henry V, Coriolanus, Julius Cæsar, Macbeth, Hamlet.* (The last three only if not chosen for study.

GROUP 3—Prose Fiction; two to be selected: Malory's *Morte d'Arthur* (about 100 pages). Bunyan's *Pilgrim's Progress*, Part I, Swift's *Gulliver's Travels* (Voyages to Lilliput and to Brobdingnag). Defoe's *Robinson Crusoe*, Part I. Goldsmith's *Vicar of Wakefield*. Frances Burney's *Evelina*. Scott's novels: any one. Jane Austen's novels: any one. Maria Edgeworth's *Castle Rackrent*, or *The Absentee*. Dickens's novels: any one. Thackeray's novels: any one. George Eliot's novels: any one. Mrs. Gaskell's *Cranford*. Kingley's *Westward Ho!* or *Hereward the Wake*. Reade's *The Cloister and the Hearth*. Blackmore's *Lorna Doone*. Hughes's *Tom Brown's School Days*. Stevenson's *Treasure Island*, or *Kidnapped*, or *The Master of Ballantrae*. Cooper's novels: any one. Poe's *Tales*. Hawthorne's *The House of the Seven Gables*, or *Twice Told Tales*, or *Mosses from an Old Manse*. A collection of short stories by various standard writers.

GROUP 4—Essays, Biography, etc.; two to be selected: The *Sir Roger de Coverley Papers*, or selections from the *Tatler* and the *Spectator* (about 200 pages). Boswell's *Life of Johnson* (about 200 pages). Franklin's *Autobiography*. Irving's *Sketch Book* (about 200 pages), or *Life of Goldsmith*. Southey's *Life of Nelson*. Selections from Lamb's *Essays of Elia* (about 100 pages). Lockhart's *Life of Scott* (about 200 pages). Thackeray's Lectures on Swift, Addison, and Steele, in *English Humorists*. Macaulay, one of the following essays: *Lord Clive, Warren Hastings, Milton, Addison, Goldsmith,*

Frederic the Great, Madame d'Arblay. Trevelyan's *Life of Macaulay* (about 200 pages). Ruskin's *Sesame and Lilies,* or selections (about 150 pages). Dana's *Two Years before the Mast.* Lincoln: the two inaugurals, and the speeches in Independence Hall and at Gettysburg, his last public address, and letter to Horace Greeley, together with a brief memoir or estimate of Lincoln. Parkman's *The Oregon Trail.* Thoreau's *Walden.* Selected essays of Lowell (about 150 pages). Holmes's *The Autocrat of the Breakfast Table.* Stevenson's *Inland Voyage,* and *Travels with a Donkey.* Huxley's *Autobiography* and selections from *Lay Sermons,* including the addresses on *Improving Natural Knowledge, A Liberal Education,* and *A Piece of Chalk.* A collection of essays by Bacon, Lamb, DeQuincey, Hazlitt, Emerson, and later writers. A collection of letters by various standard writers.

GROUP 5—Poetry; two to be selected: Palgrave's *Golden Treasury* (first series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns. Palgrave's *Golden Treasury* (first series), Book IV, with special attention to Wordsworth, Keats, and Shelley (if not chosen for study). Goldsmith's *The Traveller* and *The Deserted Village.* Pope's *The Rape of the Lock.* A collection of English and Scottish Ballads, as, for example, some Robin Hood Ballads, *The Battle of Otterburn, King Estmere, Young Beichan, Bewick and Grahame, Sir Patrick Spens,* and selections of later ballads. Coleridge's *The Ancient Mariner, Christabel,* and *Kubla Khan.* Byron's *Childe Harold,* Canto III or IV, and *The Prisoner of Chillon.* Scott's *The Lady of the Lake* or *Marmion.* Macaulay's *The Lays of Ancient Rome, the Battle of Naseby, The Armada, Ivry.* Tennyson's *The Princess,* or *Gareth and Lynette, Launcelot and Elaine,* and *The Passing of Arthur.* Browning's *Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Hervé Riel, Pheidippides, My Last Duchess, Up at a Villa—Down in the City, The Italian in England, The Patriot, "De Gustibus," The Pied Piper, Instans Tyrannus.* Arnold's *Sohrab and Rustum,* and *The Forsaken Merman.* Selections from American poetry, with special attention to Poe, Lowell, Longfellow, and Whittier.

(c) Study and Practice. This part of the requirement is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. The books provided for study are arranged in four groups, from each of which one selection is to be made.

GROUP 1—Drama; one to be selected: Shakespeare's *Julius Cæsar, Macbeth, Hamlet.*

GROUP 2—Poetry; one to be selected: Milton's *L'Allegro, Il Penseroso,* and either *Comus* or *Lycidas.* Tennyson's *The Coming of Arthur, The Holy Grail,* and *The Passing of Arthur.* The selections from Wordsworth, Keats, and Shelley, in Book IV of Palgrave's *Golden Treasury* (first series).

GROUP 3—Oratory; one to be selected: Burke's *Speech on Conciliation with America.* Macaulay's *Speeches on Copyright,* and Lincoln's *Speech at Cooper Union.* Washington's *Farewell Address,* and Webster's *First Bunker Hill Oration.*

GROUP 4—Essays; one to be selected: Carlyle's *Essay on Burns,* with a selection from Burns's poems. Macaulay's *Life of Johnson.* Emerson's *Essay on Manners.*

HISTORY.	*Units.*
(*a*) American	1
(*b*) English	1
(*c*) Ancient	1
(*d*) General Mediæval and Modern	1

American history must be offered for one of the specified units in history, and one of the others named for the second. Only one elective unit in history can be offered. Standard text-books of high school grade should be studied.

MATHEMATICS.	*Units.*
(*a*) Algebra (high-school text-book)—	
To Quadratics	1
Quadratics through Progressions	½
(*b*) Plane Geometry (complete)	1

SCIENCE AND VOCATIONAL SUBJECTS.	*Units.*
(*a*) Botany	½ or 1
Chemistry	½ or 1
Physics	½ or 1
Physiology	½ or 1
Zoology	½ or 1
(*b*) Agriculture	½ or 1
Bookkeeping	½
Civics	½
Drawing (freehand or mechanical)	½
Manual Arts	½ or 1
Mill Practice	½
Physical Geography	½ or 1
Science, General Introductory	½

The specified science must be chosen from group (*a*). Any other than that chosen as the specified science from group (*a*) or any one from group (*b*) may be offered as an elective subject.

In drawing, the stress should be placed on accurate observation and on definite and truthful representation. It is recommended that the pupils be taught to draw from the object itself. Elementary rules of perspective, light, and shade should be given, and the drawing of the simpler geometrical plane and solid figures and of simple pieces of machinery.

As the work is as yet scarcely begun in the schools of the State, no definite requirements can be indicated for high-school instruction in manual arts. The following branches are suggested as pointing the direction in which the work should be developed: joinery, forging, machine and sheet-metal work, molding, and pattern making.

One unit is allowed for a science when work in the text-book is supplemented with laboratory practice; only a half unit is allowed for the study of the text-book without laboratory. If full credit is asked, the applicant for admission must present a satisfactory note book indicating the amount and the charter of the laboratory work done, and certified by the teacher, the principal, or the superintendent of his school.

FOREIGN LANGUAGES.		*Units.*
French—	(*a*) Grammar and Composition	½
	(*b*) Translation (250 pages of prose)	½
German—	(*a*) Grammar and Composition	½
	(*b*) Translation (200 pages of prose)	½
Latin—	(*a*) Grammar and Composition	1
	(*b*) Cæsar (Books I-IV of the Gallic War)	1
	(*c*) Vergil (Books I-VI of the Æneid)	1
	(*d*) Cicero, six orations	1
Spanish—	(*a*) Grammar and Composition	½
	(*b*) Translation (250 pages of prose)	½

The faculty of the College reserves the right to pass upon the adequacy of an applicant's preparation in any subject to fulfill the requirements of admission.

Admission on Certificate. Applicants for admission to the Freshman Class who present certified statements on the official College admission blanks from proper officials of high schools or other preparatory schools of approved standing that the applicant has satisfactorily completed the eleven units required by the College, will be admitted without further examination. These certificates must be submitted to the Dean of the College for approval.

No applicant will be registered until his certificate is presented.

To the Two-Year Courses. Applicants for admission to the two-year courses in Mechanic Arts and Textile Industry will be examined or must present certificates of proficiency on Arithmetic complete and Algebra through fractions, English Grammar and Composition, and American History.

To the One-Year Course in Agriculture. Applicants for admission to the one-year course in Agriculture will be required to pass examination on Arithmetic through decimal fractions, on English Grammar, and on American History.

To the Farmers' Course. No entrance examination is required of candidates for admission to the farmers' course. No one under eighteen years of age will be admitted to the farmers' course.

ADVANCED CREDIT

Students who have attended colleges of approved standing will be allowed credit for work done upon the presentation of proper certificates to the Dean, who, with the heads of the departments concerned, will determine their value. None except entrance credit is allowed for work done in secondary schools without examination at the College.

SESSION

The College session lasts nine months, and opens annually the first Thursday in September and closes the last Tuesday in May, with a vacation of about two weeks at Christmas.

WASTE AND BREAKAGE

In order to promote greater care on the part of students in their use of college supplies, and their treatment of college property, a deposit of $5 is required of each student to cover unnecessary breakage and waste. All losses due to carelessness and wanton destruction will be charged to this fund, and whatever balance remains at the end of the session will be returned to the students.

EXPENSE

The total college expense of a Freshman student need not exceed $290.

The total college expense of a Freshman student having a scholarship need not exceed $245.

These amounts include cost of board, tuition, lodging, fuel and lights, fees and deposits, books, uniforms, drawing instruments, and

laundry. They do not include allowance for clothing other than for uniform, nor for spending money and contingencies. These amounts will be reduced in part by the commutation made by the Federal Government for uniforms.

The allowances which parents make their sons for contingencies and spending money, it is suggested, should be kept small; for small allowances take away temptation to unwise living.

DETAILED INFORMATION

The largest payment is made in September. On entrance, a Freshman student will need $120 to meet all of his various payments for the first month. But of this amount a payment of $22.50 for tuition may be deferred, if desired, to the first of November. This will reduce the first, or entrance, cost to $97.50. This amount includes payment to the College of $73.50, which includes a deposit in part for uniforms, $20, and deposit of $10 for military equipment and breakage, refundable in whole or in part as the property is returned in good or in damaged condition. In the case of day students, or students rooming and boarding out of college, tuition will be paid on entrance.

Board is $12 per month, payable in advance on the first day of each calendar month from September through May. Board for less time than one month is charged for at the rate of 50 cents a day, or $3 per week. Refunds for board will be made on the basis of these charges.

Students withdrawing from College within ten days from date of entrance will have refunded to their parents or guardians all money paid by them to the College Bursar except charges for board and lodging during the time they are in College. In special cases the right is reserved to modify or revoke this rule.

Refunds to the parents or guardians of students withdrawing later than ten days from date of entrance will be made in proportion to the length of time the students are in college. The right in special cases to modify or to revoke this rule is reserved.

Refunds on account of withdrawal to students under age are made upon the written request of their parents or guardians.

Itemized Expense by Months

SEPTEMBER: Room rent, fuel and lights, $15; incidental fee, $2; medical and hospital fee, $3; lecture fee, $1; Library fee, $1; furniture fee, $1; physical culture fee, $3; Y. M. C. A. fee, $1; military equipment deposit, $5; waste and breakage deposit, $5; laundry, $1.50; mechanical and physical laboratory fees, $3; board for September, $12; and a payment on uniform of $20—a total of $73.50 to be paid to the College. Tuition for one-half session, $22.50, may be

paid at this time, which will make a total of $96 to be paid to the College. Fifteen dollars to $30 is required to buy books and drawing instruments and for incidentals.

The above is calculated for a Freshman student in Engineering. The expenses of those in Agriculture, Chemistry, and Textile courses vary slightly, as shown in the table of fees and deposits.

OCTOBER: Board, $12; uniform, $20; laundry, $1.50.

NOVEMBER: Board, $12; tuition, if it was not paid in September, $22.50; laundry, $1.50.

DECEMBER: Board, $9; laundry, $1.

JANUARY: Tuition, $22.50; lodging and fuel and lights, $15; medical and hospital fee, $3; furniture fee, $1; physical culture fee, $3; Y. M. C. A. fee, $1; laundry, $1.50; board, $12. A total of $59.

FEBRUARY: Board, $12; laundry, $1.50.

MARCH: Board, $12; laundry, $1.50.

APRIL: Board, $12; laundry, $1.50.

MAY: Board, $12; laundry, $1.50.

Class Fees and Deposits

Fees and deposits for laboratory work and for supplies vary with the class, the course, and the division. They will not be collected at time of registration, but later as required by the various departments of instruction. The amount of these fees and deposits is given in the following tables for all classes and courses. Changes and variations will be made at any time where the need is indicated.

FEES AND DEPOSITS FOR AGRICULTURAL STUDENTS

	Senior	Junior	Sophomore	Freshman
Agronomy	Chemistry $2 Bacteriology 3 5	Soils $3 Chemistry 2 Poultry 1 Pruning 1 Agronomy 1 Entomology 1 9	Plant Propagation $1 Dairying 4 Chemical Lab. 4 Plant Physiology 1 Animal Physiology 1 11	Botany $1 Chemical Lab. 2 Woodwork and Drawing 1 Zoology 2 6
Animal Husbandry and Dairying	Chemistry $2 Bacteriology 3 5	Soils $3 Poultry 1 Chemistry 2 Agronomy 1 Entomology 1 8	Same as Agronomy	Same as Agronomy
Horticulture	Bacteriology $3 3	Soils $3 Chemistry 2 Pruning 1 Entomology 1 Agronomy 1 8	Same as Agronomy	Same as Agronomy
Normal	Chemistry $2 Bacteriology 3 Plant Diseases 1 Agronomy 1 7	Soils $3 Poultry 1 Chemistry 2 Pruning 1 Agronomy 1 8	Same as Agronomy	Same as Agronomy
Veterinary	Anatomy $2 Materia Medica 1 Pathology 1 Chemistry 2 Zoology 2 Bacteriology 3 11	Agronomy $1 Poultry 1 Histology 1 Anatomy 2 Chemistry 2 7	Same as Agronomy	Same as Agronomy
Poultry	Chemistry $2 Poultry 4 Zoology 2 8	Chemistry $2 Pruning 1 Soils 3 Poultry 2 8	Same as Agronomy	Same as Agronomy

FEES AND DEPOSITS FOR ENGINEERING STUDENTS

	Senior	Junior	Sophomore	Freshman
Civil Engineering	Drawing $1 1	Drawing $1 1	Drawing ..... $1 Physical Lab.. 1 Chemical Lab.. 3 5	Physical Lab.. $1 Shop and Drawing 2 3
Mechanical Engineering	Shop and Drawing ..... $2 M. E. Lab 1 3	E. E. Lab. ..... $1 Shop and Drawing .. 2.50 3.50	Physical Lab.. $1 Chemical Lab.. 3 Shop and Drawing 2 6	Same as C. E.
Electrical Engineering	E. E. Lab. ..... $2 M. E. Lab. 1 3	Direct Current Lab. ..... $2 Shop and Drawing 2 4	Same as M. E.	Same as C. E.
Chemical Engineering	Chemistry ..... $8 Chemistry ..... 2 Chemistry 2 12	Chemistry ..... $4 Chemistry 3 7	Physical Lab.. $1 Chemical Lab.. 4 Physics 1 6	Physical Lab.. $1 Chemical Lab.. 2 Botany 1 4
Textile Industry	Design ..... $3 Dyeing ..... 3 Machine Shop . 1 7	Design ..... $3 Dyeing 3 6	Design ..... $4 Chemical Lab.. 4 Drawing 1 9	Chemical Lab.. $3 Shop and Drawing 2 4
Textile Dyeing	Chemistry ..... $8 Dyeing 3 11	Chemistry ..... $4 Chemistry ..... 3 Dyeing 3 10	Chemical Lab.. $4 Drawing 1 5	Chemical Lab.. $2 Shop and Drawing 2 4

FEES AND DEPOSITS FOR SHORT COURSES

One-Year Course in Agriculture

Shop	$1.00
Physics	1.00

Two-Year Course in Mechanic Arts

FIRST YEAR:	
Shop and Drawing	$2.00
SECOND YEAR:	
Shop and Drawing	2.00

Two-Year Course in Textile Industry

FIRST YEAR:	
Designing	$4.00
Drawing	1.00
	$5.00
SECOND YEAR:	
Designing	$3.00
Dyeing	3.00
Shop	1.00
	$7.00

NOTE.—The College Bursar is forbidden by the Trustees to give credit.

All unused deposits are refunded to the student at the end of the session or upon his withdrawal from College. If he has overdrawn his deposit he is required to pay the amount of the overdraft.

If the student has a scholarship, he does not pay tuition.

Students entering after September will pay on entrance all the items enumerated under "September," less a credit in part for tuition and room rent.

WHAT A STUDENT NEEDS FOR HIS ROOM

The College rooms are supplied with necessary furniture. Each student, however, should bring with him two pairs of blankets, two pairs of sheets, one pillow and two cases, and two bedspreads for a single bed.

SCHOLARSHIPS CARRYING FREE TUITION

1. Regular Scholarships. When the College was chartered the Legislature required the Trustees to admit, free of tuition, one hun-

dred and twenty young men. The only conditions attached to these scholarships are that they shall go to young men (1) who are unable to pay for all their education, and (2) who are of excellent moral character. As far as possible, these appointments are distributed among the different counties. Appointments are made by the President of the College, after inquiries as to the needs and character of applicants and after a written recommendation from a member of the Legislature from the applicant's county. Certificates of inability to pay have to be made by the applicant and his parents. Blanks are furnished for this purpose.

2. Agricultural Scholarships. The Legislature of 1913 authorized the College Trustees to give a limited number of agricultural scholarships to students who agree to teach for two years in an agricultural school, or to serve in an agricultural experiment station, or to farm in the State for two years after graduation. The same conditions as to financial inability and moral worth go with these scholarships as go with the regular ones.

3. Norfolk Southern Railway Scholarships. Two scholarships, each valued at $75, are given by the Norfolk Southern Railway to deserving young men who reside in counties on the lines of this railway. These are awarded only to agricultural students.

4. Mr. R. M. Miller, of Charlotte, offers a scholarship to one student in the Textile School. This scholarship covers the tuition of the holder.

5. Finley Loan Fund. As a memorial foundation to William Wilson Finley, President of the Southern Railway Company at the time of his death, that company has established a Finley Loan Fund for needy students of agriculture. The fund consists of $1,000. This will be lent to students who are making their way through college, and returned by them to the fund after they have finished college and gone to work. It will be administered by the Bursar of the College and all beneficiaries will be named by the College.

SELF-HELP

Some students who are alert and energetic frequently earn part of their expenses in college. Some of the agricultural students find work at odd hours on the farm, in the orchard, in the barn, in the dairy. Some students act as agents for furnishing-houses, for pressing clubs. The College employs a few students for the dining-room and for other purposes. A student's ability to help himself will depend largely on his own power to find work and to hold it after he finds it. It must, however, be remembered that the duties of the class-room

take most of a student's time. College duties begin at 8 a. m. and do not end until 4 p. m., hence hours for remunerative work are very limited.

STUDENT LOAN FUND

The Alumni Association of the College established in the year 1900 a small fund to be lent to needy students of talent and character. This has been augmented from various sources and now amounts to $3,500. The loans are made at 6 per cent, and good security is required. Sufficient time for repayment is given to enable the student to earn the money himself. The amount lent to each student is limited. The purpose is to help young men who are willing to help themselves and who cannot find sufficient employment while in college to meet all their necessary expenses.

Contributions are solicited for this fund from students, alumni, and friends of education generally. The fund is administered by the College Bursar, under the direction of the President.

TIME OF REGISTRATION

All students are required to register within twenty-four hours after reaching Raleigh. A failure to comply with this rule may lead the Faculty to decline to allow an applicant to register. A registration fee of $5 will be charged to students failing to register on the day appointed.

ABSENCES FROM COLLEGE

The College authorities wish to emphasize the danger of allowing the students' work to be interrupted by unnecessary absences from college. Students wishing to visit their homes will be required to present requests from their parents, addressed to the Dean. It should be remembered that all time missed must be made up, under disadvantages. Absences from college usually mean the accumulation of extra work for the student to do. Most students have their time fully occupied with regular work. It is, therefore, especially important that students who are not carrying their work well shall not run up absences. Nor should it be forgotten that students who are doing well in their studies lose much by absences from their regular duties here, not only in time actually lost, but also in the attendant distraction from their work.

BOARD AND LODGING

All students are required to board in the College dining hall or in approved boarding-houses near the College, and to room in the College dormitories. An abundant supply of plain, nourishing food, with as large a variety as possible, is furnished absolutely at cost. The charge at present is $12 per month, payable in advance.

Rooms in the College dormitories are supplied with electric lights, steam heat, and all necessary furniture, except sheets, blankets, pillow-cases, pillows, bedspreads, and towels, which each student must furnish for himself. The charge for lodging is by the month, and there is no reduction in case of withdrawal.

ROOMS

Dormitory accommodations at the College are sufficient to provide for only five hundred and sixty students. It becomes necessary, therefore, to guard closely the assignment of rooms, so that when College opens there will be no rooms not in actual use. To this end we do not assign rooms to applicants who have not submitted certificates of preparation and been admitted to some class in the College. All who are assigned rooms pay a deposit of $5 when their assignments are made. This is, of course, only part payment of room rent, which will be refunded and assignment canceled, provided notice is given the Registrar in time to give the room to some other applicant. The final date when such notice shall be given is August 25.

The best rooms are assigned first. Hence the advantage of applying early.

MILITARY TRAINING

Under the provisions of an act of Congress, June 3, 1916, a unit of the "Reserve Officers' Training Corps" has been established.

Students becoming members of this corps will receive an allowance from the Government, which will partly pay for their uniforms.

The Corps was established in 1917 and is used to qualify students to become reserve officers of the United States Army. The training is given with the least possible interference with their civil careers, so that in time of National emergency there may be a sufficient number of educated men trained in military science and tactics to officer and lead intelligently the units of the large armies upon which the safety of the country will depend. The Corps will be considered as a Federal organization for the above purpose only. There is no obligation to become a part of the National Guard nor of the Regular Army; no oath is taken that service will be required other than for the purpose of education. A training camp will be held for four weeks at the end of each academic year, the expense of these camps to be borne by the United States Government and suitable uniforms furnished therefor.

Not less than three hours weekly are devoted to this military training during the Freshman and Sophomore years and five hours weekly during the Junior and Senior years. Beginning with the Junior year, such students as have completed satisfactorily the Freshman and

Sophomore work may, if they wish, undertake the five hours a week course. These men will be given, in addition to the allowance on their uniforms, a cash bonus of about $100 per year by the United States Government.

Upon completion of the military training course to the satisfaction of the College authorities, graduates will be placed on the list of reserve officers of the United States Army for a period of ten years.

In peace time the President of the United States may appoint members of the Reserve Officers' Corps as probational second lieutenants of the Army and authorize them to take a six months training in the Army at a salary of $100 per month and allowances.

In war time reserve officers may be appointed to a grade not below that of second lieutenant in any forces raised for National emergencies.

Each student will be required to deposit on uniform account $20 at the time of registration and $20 on the first of October.

From one-third to one-half of the payment for uniform will be refunded by the Government at the end of the College year, or when the student withdraws from College and turns in such items of his uniform as the law requires.

CARE OF THE SICK

Every effort is made to protect the health of young men in the College. Regular inspections of the entire institution are made once a year, or oftener, by the State Board of Health. Similar inspections are made monthly by the College Physician.

Each student has a regular routine of daily life, including abundant physical exercise in the shops and on the drill grounds.

In case of sickness, a student is taken immediately to the College Infirmary, where he receives medical attention and careful nursing.

The College Physician visits the Infirmary daily at 3 o'clock p. m., and in cases of serious illness as frequently as may be required.

A trained nurse has charge of the Infirmary at all times. The payment of the medical fee entitles a student to all the privileges of the Infirmary; and this includes the regular visits of the College Physician for all ordinary sickness. However, if a special nurse is needed in case of serious contagious disease or in case of other serious illness, parents are of course expected to pay such nurse or nurses. The medical fee does not cover special surgical operations or the attention of any medical specialist.

VACCINATION

By direction of the Trustees, no young man will be registered unless he has been successfully vaccinated within the past two years. The College greatly prefers that all applicants for admission should be vaccinated at home, and that a certificate of successful vaccination within the past two years be brought from the family physician. In case this cannot be done, the College Physician will vaccinate applicants before they are registered at the College, and a fee will be charged for vaccination. A blank form to be filled by the home physician will be mailed on application. It will save a great deal of time and trouble, therefore, to be vaccinated before applying for registration. In this way applicants will avoid the inconvenience and discomfort resulting from vaccination while at College. The size of scar resulting from a previous vaccination is not proof that revaccination is not needed.

TYPHOID INOCULATION

Believing that students may be safeguarded from typhoid fever by inoculation against this disease, to which young people are peculiarly susceptible, the College offers this preventive free of charge, and urges, but does not require, all of its new students to take the treatment. Parents are requested to join the College in recommending that their sons be inoculated here or to have them inoculated at home.

PHYSICAL EXAMINATION

Physical examination by the College Physician is required of all new students. The object of this examination is to discover any physical defects and to take proper steps to correct them.

COURSES OF INSTRUCTION

The College offers courses of instruction in the following subjects:

I. Agriculture.

- **a. Four-year Course in Agronomy.**
- **b. Four-year Course in Animal Husbandry and Dairying.**
- **c. Four-year Course in Agricultural Chemistry.**
- **d. Four-year Course in Horticulture.**
- **e. Four-year Course in Vocational Education.**
- **f. Four-year Course in Poultry Science.**
- **g. Four-year Course in Veterinary Science.**
- **h. Four-year Course in Biology.**
- **i. One-year Course in General Agriculture.**
- **j. Farmers' Course in General Agriculture.**

II. Engineering, Mechanic Arts, and Chemistry.

- **a. Four-year Course in Chemical Engineering.**
- **b. Four-year Course in Civil Engineering.**
- **c. Four-year Course in Electrical Engineering.**
- **d. Four-year Course in Mechanical Engineering.**
- **e. Two-year Course in Mechanic Arts.**

III. Textile Industry.

- **a. Four-year Textile Course.**
- **b. Four-year Textile Chemistry and Dyeing Course.**
- **c. Two-year Textile Course.**

IV. Summer School.

A six weeks Summer School for Teachers, of subjects of Primary, of Grammar, and of High School grade; for School Officials, and for candidates for admission to College. See page 157.

V. Graduate Courses.

Extending over one or more years and leading to advanced degrees. These are intended for students who have completed the four-year course and who desire further instruction and training in special subjects. For information regarding the graduate degrees, see page 154.

VI. Degrees.

The four-year courses offer a combination of practice and theoretical work, about half the time being devoted to lectures and recitations and the other half to work in the shops, laboratories, drawing-rooms, greenhouses, dairies, poultry yards, fields, and mills. They are intended to furnish both technical and liberal education. The degree Bachelor of Science is conferred upon a graduate of the four-year courses in Agriculture, in Chemistry, and in Dyeing; and the degree Bachelor of Engineering is conferred upon a graduate of the four-year Engineering course, or the four-year Textile course.

The short courses include nearly all of the practical work of the four-year courses with less theoretical instruction. They are intended for students who desire chiefly manual training. They do not lead to a degree.

FOUR-YEAR COURSES

I. AGRICULTURAL COURSES

a. Four-year Course in Agronomy.
b. Four-year Course in Animal Husbandry and Dairying.
c. Four-year Course in Agricultural Chemistry.
d. Four-year Course in Horticulture.
e. Four-year Course in Vocational Education.
f. Four-year Course in Poultry Science.
g. Four-year Course in Veterinary Science.
h. Four-year Course in Biology.

AGRICULTURAL COURSES

The Agricultural Courses are organized and arranged so that they will enable students to acquire a correct knowledge of agriculture as an applied science and at the same time become proficient in the best agricultural practices. The subjects taught in the first two years of the courses are fundamental, broadening and cultural, and give the information and training necessary for the best attainment and utilization of the technical work given as the courses progress. Thus the curriculæ of all the Agricultural Courses include English, Mathematics, Chemistry, Physics, Botany, Zoology, Geology, Soils, etc. At the beginning of his Junior year each student must elect the Division in which he will take his major work.

Instruction is given by text-books, lectures, and reference readings, and in laboratories, fields, orchards, gardens, dairy, and poultry yards. Opportunity is given for specialization as the courses progress, that the student may become more proficient in his chosen Division.

Young men who have completed the Agricultural Courses of instruction with good credit have exceptional opportunities for remunerative employment in many positions. In addition to the preparation given for the successful operation of their own farms, graduates in Agriculture may become farm managers, demonstration agents, teachers of agriculture and science in farm-life and other rural schools, orchardists, dairymen, poultrymen, and may fill many other responsible positions requiring technical training, such as teachers in colleges, experiment station and extension workers, various offices with the United States Department of Agriculture, and many other responsible positions.

The four-year course in Agricultural Chemistry is described more fully under the head of Chemical Courses.

DEPARTMENT OF AGRICULTURE

I. (a) Four-year Course in Agriculture.

This cours leads to the degree Bachelor of Science.

Freshman Year

Subjects	Periods a Week 1st Term	2d Term
Botany, 101-102	3	3
Chemistry, 101-102 and 111-112	3	3
Agricultural Drawing, Mechanical Engineering, 141	2	0
Shop Work, Mechanical Engineering, 142	0	2
English, 101-102	3	3
Military Art, 101-102	4	4
Mathematics, 121-122	3	3
Zoology, 101-102	3	3
Types and Judging, Animal Husbandry, 101 or 102	2 or 0	0 or 2
Introduction to Field Crops, Agronomy, 101 or 102	0 or 2	2 or 0
	23	23

Sophomore Year

Subjects	Periods a Week 1st Term	2d Term
Farm Equipment, Agronomy, 201	2	0
Dairying, Animal Husbandry, 202	0	3
Botany, 201	3	0
Chemistry, 221-222	3	3
Military Art, 201-202	4	4
English, 201-202	3	3
Geology, Soils, 202	0	2
Comparative Physiology, Veterinary Medicine, 201	3	0
Plant Propagation, Horticulture, 201	3	0
Vegetable Gardening, Horticulture, 202	0	3
Agricultural Physics, 231-232	3	3
Farm Crops, Agronomy, 202	0	3
	24	24

Junior Year

Subjects	Periods a Week. Agron.	A. H.	Hort.	V. Ed.	Poult.	Vet.	Biol.
Agronomy, 301-302	3–3	3–3	3–3	3–3	3–3	3–3	0–3
Anatomy, Veterinary Medicine, 321-322	.....	.....	.....	.....	.....	3–3	.....
Dairy Cattle and Milk Products, Animal Husbandry, 301	.....	3–0	.....	.....	3–0	3–0	.....
Feeds, Animal Husbandry, 302	0–3	0–3	0–3	0–3	0–3	0–3	.....
Chemistry, 301-302	2–2	2–2	2–2	2–2	2–2	2–2	.....
or Comparative Anatomy,* Zoology, 321-322	.....	.....	.....	.....	.....	.....	2–2
Education, 301-302	.....	.....	.....	3–3	.....	.....	.....
English, 301	3–0	3–0	3–0	3–0	3–0	3–0	3–0
General Entomology, Zoology, 301	3–0	.....	3–0	.....	.....	.....	3–0
Histology, Veterinary Medicine, 311-312	.....	.....	.....	.....	.....	3–3	3–3
Practical Pomology, Horticulture, 301	.....	.....	3–0	.....	.....	.....	3–0
Pruning and Orchard Protection, Horticulture, 302	0–3	.....	0–3	0–3	0–3	.....	0–3
Materia Medica, Veterinary Medicine, 332	.....	.....	.....	.....	.....	0–3	.....
Poultry, 301	3–0	3–0	.....	3–0	3–0	3–0	.....
Poultry, 311-312	.....	.....	.....	0–3	3–3	.....	.....
Soils, 301-302	3–3	3–3	3–3	3–3	3–3	.....	.....
Veterinary Medicine, 301-302	.....	3–3	.....	.....	.....	.....	.....
Economic Entomology, Zoology, 302,	0–3	.....	0–3	.....	.....	.....	0–3
Economic Entomology, Zoology, 312	.....	0–3	.....	.....	.....	.....	.....
Plant Diseases, Botany, 301	3–0	.....	3–0	3–0	.....	.....	3–0
Bacteriology, Botany, 302	0–3	0–3	0–3	.....	0–3	0–3	0–3
Economic Zoology, 331-332, or Advanced Plant Physiology and Sys. Botany, 311-312	.....	.....	.....	.....	.....	.....	3–3
Elective—							
Military Art, 301-302	4–4	4–4	4–4	4–4	4–4	4–4	4–4
or							
Economics, 301-302	2–2	2–2	2–2	2–2	2–2	2–2	2–2
and							
French or Spanish, 301-302	2–2	2–2	2–2	2–2	2–2	2–2	2–2
Totals	24–24	24–24	24–24	24–24	24–24	24–24	24–24

*This subject is elective only for students in the Biological Division.

Senior Year—Required Studies

Subject	Periods a Week. Agron.	A. H.	Hort.	V. Ed.	Poult.	Vet.	Biol.
Agronomy, 401-402	3–3	3–3	.....	3–3	.....	.....	.....
Agronomy, 411-412	3–3	.....	.....	.....	.....	.....	.....
Agronomy, Farm Management, 421	3–0	3–0	.....	.....	3–0	.....	.....
Apiculture or Advanced Bacteriology, 411-412	.....	.....	.....	.....	.....	.....	3–3
Animal or Plant Ecology, 422	.....	.....	.....	.....	.....	.....	0–3
Breeding, Animal Husbandry, 401	3–0	3–0	3–0	.....	3–0	3–0	3–0
Animal Husbandry, 431 or 412	.....	3–3	.....	.....	0–3	.....	.....
Animal Husbandry, 402 or 422	.....	3–3	.....	.....	3–0	.....	.....
Anatomy, Veterinary Medicine, 411-412	.....	.....	.....	.....	.....	3–3	.....
Diagnosis, Veterinary Medicine, 432	.....	.....	.....	.....	.....	0–3	.....
Electives*	9–9	9–9	9–9	9–9	9–9	9–9	9–9
Economics, 401-402	0–3	0–3	0–3	3–3	3–0	.....	3–3
Education, 401-402	.....	.....	.....	3–3	.....	.....	.....
Education, 411-412	.....	.....	.....	3–3	.....	.....	.....
Greenhouse Management, Horticulture, 401	.....	.....	3–0	.....	.....	.....	.....
Systematic Pomology, Horticulture, 411	.....	.....	3–0	.....	.....	.....	3–0
Plant Breeding, Horticulture, 412	0–3	.....	0–3	.....	.....	.....	.....
Landscape Gardening, Horticulture, 421	.....	.....	3–0	.....	.....	.....	.....
Horticulture, Elective, 422	.....	.....	0–3	.....	.....	.....	.....
Poultry, 401-402	.....	.....	.....	.....	3–3	.....	.....
Poultry, 412	.....	.....	.....	.....	0–3	.....	.....
Poultry, 422	.....	.....	0–3	.....	0–3	.....	.....
Physiology, Veterinary Medicine, 421-422	.....	.....	.....	.....	.....	3–3	.....
Pathology, Veterinary Medicine, 441-442	.....	.....	.....	.....	.....	3–3	.....
Pharmacy, Veterinary Medicine, 431	.....	.....	.....	.....	.....	3–0	.....
Fertilizers, Soils, 402	0–3	0–3	0–3	0–3	.....	.....	.....
Drainage, Soils, 401	3–0	.....	3–0	3–0	.....	.....	.....
Embryology, Zoology, 402	.....	.....	.....	.....	0–3	0–3	0–3
Embryology, 401	.....	.....	.....	.....	.....	.....	3–0
Entomology Life Histories, 442	.....	.....	.....	.....	.....	.....	0–3
Totals	24–24	24–24	24–24	24–24	24–24	24–24	24–24

*Those students who elected Military Art, 301-302, will elect Military Art, 401-402, and Modern Languages, 401-402, and three periods from the following list in the Senior year. Those students who elected Economics, 301-302, and Modern Languages, 301-302, will elect nine periods from the following list.

Senior Electives*

Subjects	Periods a Week. Agron.	A. H.	Hort.	V. Ed.	Poult.	Vet.	Biol.
Animal Husbandry, 441-442, 451-452, 461	.....	3–3	.....	.....	.....	.....	.....
Chemistry, Agricultural, Organic, 501-502	.....	3–0	.....	.....	3–0	3–0	3–0
Education, 421-422	.....	.....	.....	3–3	.....	.....	.....
English, 401-402	3–3	0–3	3–3	3–3	0–3	3–3	3–3
Modern Languages, 301-302, 431-432	2–2	2–2	2–2	2–2	2–2	2–2	2–2
Soils, 411-412	3–3	.....	.....	3–3	.....	.....	.....
Zoology, 411-412	.....	.....	.....	3–3	.....	.....	.....
Gas Engines, Mechanical Engineering, 495	0–3	0–3	0–3	0–3	.....	.....	.....
Physiological Chemistry, 481-482	.....	3–0	.....	.....	3–0	.....	3–0
Farm Forestry, Horticulture, 423	0–3	.....	0–3	0–3	.....	.....	0–3

*Any subjects given during the Junior and Senior years may be scheduled as Senior Electives upon approval of the head of the department in which the subject comes.

CHEMICAL COURSES

a. Four-year Course in Agricultural Chemistry.
b. Four-year Course in Chemical Engineering.
c. Four-year Course in Textile Chemistry and Dyeing.

The war is serving to impress upon the world something of the importance of Chemistry as a factor in the affairs of men. Explosives in the air, under the sea and between these limits, noxious gases and masks, are advertisements of the chemist's ingenuity. Capturing nitrogen from the air for destructive and for agricultural purposes is the chemist's work. The transformation of coal tar to dyestuffs, perfumes, and medicines has served to give distinction to the chemist and to increase the happiness of the world. Glass, porcelain, and antiseptics have been material aids in the advancement of civilization and in the prolongation of life. The production of steel, gas, cement and industrial alcohol has brought untold benefit to mankind. These are only a few of the things which the chemist may place to his credit.

A few years ago we were willing to exchange the crude products of our fields, mines, and industries for dyestuffs and other chemicals requiring a high degree of skill. The war is teaching us the great lesson of self-dependence in the conservation and utilization of our wonderful resources. In no department of knowledge is this influence felt more keenly than in Chemistry, and to an extent undreamed of before, there is a development of chemical industries and an increasing demand for trained chemists. Young men of ability and ambition are going to college in numbers greater than ever before to take courses which will prepare them for careers as chemists.

The North Carolina State College of Agriculture and Engineering at West Raleigh has planned to meet the needs of such young men by offering three separate courses in Chemistry, each of which leads to a degree. So far as the work of the lower classes is concerned, the chemical instruction is the same. But with the higher classes, there is more and more differentiation in instruction in Chemistry and in allied subjects.

All chemical students have Inorganic, Organic, Analytical, Physical, Historical, and Theoretical Chemistry. They also have the same studies in English, Mathematics, and Foreign Languages.

The student in Textile Chemistry and Dyeing learns how to make dyestuffs, and to apply these to the various fabrics in the dye-house,

as well as the chemistry involved in these processes. He is also given instruction in some elementary textile subjects. This course is described more fully by the Textile Department.

The Agricultural Chemist receives instruction in Biochemistry, Botany, Bacteriology, Physiology, and some elementary agricultural subjects.

The student in Chemical Engineering receives instruction in Industrial Chemistry, Physics, Electrical Engineering, and other engineering subjects.

All three of these courses afford opportunities for some range in the choice of studies.

Provision is made also for graduate students, the courses of study leading to the degree of Master of Science. These courses are arranged along the special lines in which the student is most interested. Our graduate and advanced undergraduate courses will specially appeal to college graduates who have become interested in Chemistry, and wish to pursue the subject further. Some of the subjects offered this year for graduate study are inorganic chemistry, physical chemistry, quantitative analysis, micro-chemical analysis, organic chemistry, physiological chemistry, and nitrification.

There are several chemical plants in the city which are open to our students through the courtesy of the owners. The chemical laboratories of the North Carolina Department of Agriculture and of the several divisions of the Agricultural Experiment Station afford students an opportunity to keep in touch with the interesting work of these institutions.

The State Museum contains a splendid collection of minerals, ores, and building stones, and affords students an opportunity for the study of the natural resources of the State.

The Chemical Department occupies the whole of the second floor of Winston Hall. There are two classrooms, one for about thirty students and one for ninety students. The classrooms are well lighted, have very convenient lecture tables, and settees with arm rests for taking notes.

The laboratory for inorganic chemistry can accommodate three hundred and thirty-six students, the laboratory for qualitative analysis about ninety-six, and for organic chemistry and quantitative analysis about twenty each. A small laboratory has been set aside for special work. The laboratories are fitted up with conveniently arranged desks and hoods, each of which has the necessary water and gas connections. The balance room is located near the quantitative laboratory. Special equipment has been provided for micro-chemical analysis and physical chemistry.

The department has also a dark room for photographic work, fireproof rooms for combustion, ample stock-rooms, and a preparation room.

The Chemical Library, containing an excellent collection of reference books and complete sets of some of the leading chemical journals, occupies a room convenient to the laboratories for the upper classmen.

The members of the instructing staff have offices adjacent to the laboratories.

The opportunities for employment of chemists were excellent before the war, but more recently have greatly increased.

Out of 716 chemists serving the Government a year ago only two received less than $900 a year, while a hundred received $2,500 or more, and fifty of these were receiving $3,000 or more.

Among our own chemical graduates, many are receiving from $1,500 to $2,000 a year. Several are receiving $3,000, some $5,000, and one $7,000.

Our graduates are numbered among those who have been appointed to fellowships, instructorships, and professorships in America's leading universities; who hold responsible positions in the largest manufacturing and industrial plants; who are connected with the best-known Agricultural Experiment Stations; who have conducted researches which have found places in the leading chemical journals; who have been elected to the highest positions in various chemical and scientific societies, and who have produced books of first rank.

FOUR-YEAR COURSES IN CHEMISTRY

Leading to the Degree Bachelor of Science

Freshman Year

Subjects	Periods a Week					
	Agricultural Chemistry		Chemical Engineering.		Textile Chemistry and Dyeing.	
	1st Term	2d Term	1st Term	2d Term	1st Term	2d Term
Algebra, 121	3	....	....	....	....	....
Geometry and Trigonometry, 122	....	3	....	....	....	....
Algebra, 101	....	....	5	....	5	....
Algebra, Advanced, 112	....	....	....	1	....	1
Chemistry, Inorganic, 101-102	2	2	2	2	2	2
Chemistry, Inorganic Laboratory, 111-112	1	1	1	1	1	1
Composition and Rhetoric, English, 101-102	3	3	3	3	3	3
Drawing, 111-112 or 141	2	....	2	2	2	2
Geometry, 102	....	....	....	4	....	4
Military Art, 101-102	4	4	4	4	4	4
Wood Working, 121-122 or 142	....	2	2	2	2	2
Botany, 101-102	3	3	....	....	....	....
Zoology, 101-102	3	3	....	....	....	....
Stock Judging, 101	2	....	....	....	....	....
Field Crops, 102	....	2	....	....	....	....
Physics, 101-102	....	....	4	4	....	....
Physics, Laboratory, 111-112	....	....	1	1	....	....
Carding and Spinning, 101-102	....	....	....	....	1	1
Weaving, 111-112	....	....	....	....	2	2
Engineering Lectures, 101	....	....	....	....	2	....
Forge Work, 132	....	....	....	....	....	2
Totals	23	23	24	24	24	24

Sophomore Year

Subjects	Periods a Week					
	Agricultural Chemistry		Chemical Engineering.		Textile Chemistry and Dyeing.	
	1st Term	2d Term	1st Term	2d Term	1st Term	2d Term
Chemistry, Qualitative and Quantitative Analysis, 221-222	3	3	3	3	3	3
English, 201-202	3	3	3	3	3	3
German, 201-202	2	2	2	2	2	2
Military Art, 201-202	4	4	4	4	4	4
Physics, 231-232, 201-202, 221-222	2	2	2	2	2	2
Physics, Laboratory, 211-212	1	1	1	1	1	1
Botany, 201	3	....	....	....	....	....
Dairying, 202	....	3	....	....	....	....
Farm Crops, 202	....	3	....	....	....	....
Geology, 202	....	2	....	....	....	....
Physiology, 201	3	....	....	....	....	....
Plant Propagation, 201	3	....	....	....	....	....
Forge Work, 132	....	....	....	2	....	....
Foundry, 201	....	....	2	....	....	....
Pattern Making, 211	....	....	2	....	....	....
Drawing, 212	....	....	....	2	....	2
Trigonometry, 201	....	....	5	....	5	....
Analytical Geometry, 202	....	....	....	5	....	....
Carding and Spinning, 201-202	....	....	....	....	2	3
Cloth Analysis, 232	....	....	....	....	....	1
Weaving, 211-212	....	....	....	....	2	3
Totals	24	28	24	24	24	24

Junior Year

Subjects.	Periods a Week. Agricultural Chemistry. 1st Term	2d Term	Chemical Engineering. 1st Term	2d Term	Textile Chemistry and Dyeing. 1st Term	2d Term
Chemistry, Organic, 331-332	3	3	3	3	3	3
Chemistry, Organic, Laboratory, 341-342	1	1	1	1	1	1
Chemistry, Quantitative Analysis, 311-312	4	4	4	4	4	4
English, 301-302	3	3	3	3	3	3
German, 311-312	3	3	3	3	3	3
Physiological Botany, 311	3	....	....	....	....	....
Bacteriology, 302	....	3	....	....	....	....
Soils, 301-302	3	3	....	....	....	....
Electrical Engineering, 311-312	....	....	2	2	....	....
Electrical Engineering, Laboratory, 331-332	....	....	1	1	....	....
Heat Engines, 301-302	....	....	3	3	....	....
Dyeing, 351-352	....	....	....	....	2	2
Dyeing, Laboratory, 361-362	....	....	....	....	4	4
Elective—						
Military Art, 301-302	4	4	4	4	4	4
or						
Economics, 301-302	2	2	2	2	2	2
and						
French or Spanish, 301-302	2	2	2	2	2	2
Totals	24	24	24	24	24	24

Senior Year

Subjects.	Periods a Week. Agricultural Chemistry 1st Term	Agricultural Chemistry 2d Term	Chemical Engineering. 1st Term	Chemical Engineering. 2d Term	Textile Chemistry and Dyeing. 1st Term	Textile Chemistry and Dyeing. 2d Term
Chemistry, Physical, 431-432	3	3	3	3	3	3
Chemistry, Physical, Laboratory, 441-442	1	1	1	1	1	1
Chemistry, Quantitative Analysis, 411-412	8	8	8	8	8	8
Chemistry, Theoretical and History	2	2	2	2	2	2
Chemistry, Industrial, 461-462	....	....	3	3	....	....
Dyeing, 451-452	....	....	....	....	2	2
Dyeing, Laboratory, 461-462	....	....	....	....	2	2
Mechanical Engineering, Laboratory, 471-472	....	....	1	1	....	....
Elective, Required from the following*	10	10	6	6	6	6
Chemistry, Agricultural, 501-502	3	3	....	....	....	....
Chemistry, Industrial, 461-462	3	3	....	....	3	3
Chemistry, Inorganic, 421	2	....	2	....	2	....
Chemistry, Micro-analysis, 422	....	2	....	2	....	2
Chemistry, Organic, Laboratory, 471-472	2	2	2	2	2	2
Chemistry, Physiological, 481-482	3	3	....	....	....	....
Economics, 401-402	3	3	3	3	3	3
Education, 401-402	3	3	....	....	....	....
English, 401-402	3	3	3	3	3	3
Feeds, Animal Husbandry, 302	....	3	....	....	....	....
Fertilizers, Soils, 402	....	3	....	....	....	....
German, 421-422	3	3	3	3	3	3
Military Art, 401-402	4	4	4	4	4	4
Other subjects if approved by Professor of Chemistry.						
Totals	24	24	24	24	24	24

*Those students who elected Military Art in their Junior year will elect Military Art, 401-402.

II. ENGINEERING COURSES

a. Four-year Course in Chemical Engineering.
b. Four-year Course in Civil Engineering.
c. Four-year Course in Electrical Engineering.
d. Four-year Course in Mechanical Engineering.

The Engineering Courses give a thorough grounding in such fundamental sciences as Mathematics, Physics, and Chemistry, and thorough drill in the application of the principles thus learned to engineering problems. The student is given practice in the use of engineering instruments and methods, and is encouraged to rely upon his own resources in the solution of problems. Though the courses are primarily technical and practical, they include subjects of general culture throughout all four years.

The Freshman years of all the Engineering Courses are identical and include a great deal of practice. The student in the different shops learns the use of tools and the handling and manipulation of materials of construction. Instruction is given in working wood and iron. In the Sophomore year this work is continued in the pattern-making shop and in the foundry. Also in the Physical laboratory much attention is paid to the practical value of such instruction. Here the student is taught the science of measurement and is trained to observe and work accurately. During these two years he is also given a thorough training in Mechanical Drafting, skill in which is essential in all lines of engineering work.

Differentiation of the different engineering courses begins in the Sophomore year. The practical work here, in the shop, in the field or in the laboratory, directs the student's attention to the specific phases of that branch of the profession he is to follow. In the Junior year the study of engineering methods is begun and is continued more fully in the Senior year.

Upon the satisfactory completion of these courses the degree Bachelor of Engineering is conferred. The advanced degrees Civil Engineer, Electrical Engineer, and Mechanical Engineer may also be conferred upon graduates of three years standing who have had responsible charge of important work, upon complying with the College requirements.

More detailed descriptions of the different courses follow.

COURSE IN CIVIL ENGINEERING

The aim of the course in Civil Engineering is to give such training as will enable our young men to take an active part in the work of advancing our State along material lines—developing its water-power, building railroads and public highways, constructing water supply and sewerage systems for our towns, etc. The student is given a large amount of practical work in the field and draughting-room, and acquires a fair degree of efficiency in the use of the various surveying instruments, and in draughting. At the same time it is recognized that a successful engineer requires a well-trained mind—one that reasons logically, accurately, and quickly. Therefore a thorough course is given in all those branches of applied mathematics which are involved in the solution of engineering problems.

The aim has been to make this preeminently a technical course, but subjects of general culture are included in order to give the student a broader mental training and better preparation for social and business life.

II. (a) The Four-year Course in Civil Engineering, leading to the degree of Bachelor of Engineering.

Freshman Year

Subjects	Periods a Week 1st Term	2d Term
Mechanical Drawing, Mech. Eng., 111-112	2	2
Woodwork, Mechanical Engineering, 121-122	2	2
Forge Work, Mechanical Engineering, 132	....	2
Engineering Lectures, Civil Engineering, 101	2	....
Algebra, Mathematics, 101	5	....
Geometry, Mathematics, 102	....	4
Advanced Algebra, Mathematics, 112	....	1
Physics, Physics, 101-102	4	4
Physical Laboratory, Physics, 111-112	1	1
Composition and Rhetoric, English, 101-102	3	3
Military Drill, 101-102	4	4
Totals	23	23

Sophomore Year

Subjects	Periods a Week 1st Term	2d Term
Architectural Engineering, Civil Engineering, 201	1	....
Architectural History, Civil Engineering, 211	1	....
Architectural Drawing, Civil Engineering, 221	2	....
Architectural Design, Civil Engineering, 222	....	2
Descriptive Geometry, Civil Engineering, 232	....	2
Trigonometry, Mathematics, 201	5	....
Analytical Geometry, Mathematics, 202	....	5
Physics, Physics, 201-202	2	2
Physical Laboratory, Physics, 211-212	1	1
General Chemistry, Chemistry, 211-212	3	3
General Chemistry (Laboratory), Chem., 221-222	2	2
English, 201-202	3	3
Public Speaking, English, 212	....	
Military Drill, 201-202	4	4
Total	24	24

Junior Year

Subjects	Periods a Week 1st Term	2d Term
Surveying, Civil Engineering, 301	2	....
Railroad Engineering, Civil Engineering, 312	....	2
Surveying (field work), Civil Engineering, 321	2	....
Topographical Surveying, Civil Engineering, 322	....	2
Topographical Drawing, Civil Engineering, 332	....	2
Masonry Construction, Civil Engineering, 341	2	....
Highway Engineering, Civil Engineering, 351-352	1	1
Graphic Statics, Civil Engineering, 362	....	1
Mechanics, Civil Engineering, 371-372	3	3
Heat Engines, Mechanical Engineering, 351-352	2	2
Calculus, Mathematics, 301-302	4	4
English, 301-302	3	3
Elective—		
Military Art, 301-302	4	4
or		
Modern Languages, 301-302	2	2
and		
Economics, 301-302	2	2
Totals	23	24

Senior Year

Subjects	Periods a Week 1st Term	2d Term
Roofs and Bridges, Civil Engineering, 401	3	....
Bridge Design, Civil Engineering, 402	....	3
Municipal Engineering, Civil Engineering, 412	....	2
Railroad Surveying, Civil Engineering, 421	2	....
Mechanics of Materials, Civil Engineering, 431	3	....
Reinforced Concrete, Civil Engineering, 432	....	3
Hydraulics, Civil Engineering, 441	3	....
Railroad Engineering, Civil Engineering, 451	3	....
Railroad Economics, Civil Engineering, 452	....	2
Water Supply, Civil Engineering, 462	....	2
Mechanics, Civil Engineering, 471	2	....
Astronomy, Civil Engineering, 482	....	2
Civil Engineering (laboratory), Civil Eng., 492	....	2
Those students who elected Military Art, 301-302, in the Junior year will elect Military Art, 401-402, and Modern Languages, 401-402, in the Senior year. Those students who elected Modern Languages, 301-302, and Economics, 301-302, in the Junior year will elect 6 periods from the following list:		
Classics, English, 401	3	....
Journals, English, 402	....	3
Economics, 401-402	3	3
Modern Languages, 411-412	3	3
Totals	22	22

FOUR-YEAR COURSE IN ELECTRICAL ENGINEERING

The four-year course in Electrical Engineering is planned for those who wish a thorough practical preparation for following this profession. Only the most thorough training in the fundamental laws and principles of electricity and magnetism will suffice as a preparation for this branch of engineering in which the art is advancing so rapidly. This training is given by a careful study of text-books and coordinated work in the various laboratories. The department, as will be seen from the equipment described elsewhere, is well supplied with dynamos, motors, transformers, and other electrical machines, and with testing instruments and apparatus of all descriptions.

II. (d) The Four-year Course in Electrical Engineering, leading to the degree Bachelor of Engineering.

Freshman Year

Subjects	Periods a Week 1st Term	2d Term
Elementary Physics, 101-102	4	4
Physical Laboratory, 111-112	1	1
Mechanical Drawing, Mech. Eng., 111-112	2	2
Woodwork, Mechanical Engineering, 121-122	2	2
Forge Work, Mechanical Engineering, 132	....	2
Electrical Engineering Lectures, 101	2	....
Algebra, Mathematics, 101	5	....
Geometry, Mathematics, 102	....	4
Advanced Algebra, Mathematics, 112	....	1
Composition and Rhetoric, English, 101-102	3	3
Military Drill, 101-102	4	4
Totals	23	23

Sophomore Year

Subjects	Periods a Week 1st Term	2d Term
Physics, 201-202	2	2
Physical Laboratory, 211-212	1	1
Descriptive Geometry, Mech. Eng., 202	....	2
Mechanical Drawing, Mech. Eng., 212	....	2
Trigonometry, Mathematics, 201	5	....
Analytical Geometry, Mathematics, 202	....	5
General Chemistry, 211-212	3	3
General Chemical Laboratory, 221-222	2	2
Foundry, Mechanical Engineering, 201	2	....
Pattern-making, Mechanical Engineering, 211	2	....
English, 201-202	3	3
Public Speaking, English, 212	....	
Military Drill, 201-202	4	4
Totals	24	24

Junior Year

Subjects	Periods a Week 1st Term	2d Term
Direct Currents, Electrical Engineering, 301-302	3	3
Direct Current (laboratory), Elec. Eng., 321-322	2	2
Heat Engines, Mechanical Engineering, 301-302	2	2
Machine-shop Work, Mech. Eng., 331-332	1	1
Machine Design, Mechanical Engineering, 321-322	2	2
Mechanics, Mechanical Engineering, 311-312	2	2
Calculus, Mathematics, 301-302	4	4
English, 301-302	3	3
Elective—		
Military Art, 301-302	4	4
or		
Modern Languages, 301-302	2	2
and		
Economics, 301-302	2	2
Totals	23	23

Senior Year

Subjects	Periods a Week 1st Term	2d Term
Alternating Currents, Elec. Eng., 401-402	3	3
Electrical Application, Elec. Eng., 411-412	2	2
Electrical Transmission, Elec. Eng., 421-422	2	2
Alternating Current (laboratory), Elec. Eng. 431-432	2	2
Electrical Design, Elec. Eng., 441-442	3	2
Mechanics, Mechanical Engineering, 421	3	....
Mechanics of Materials, Mech. Eng., 422	....	2
Mechanical Engineering (laboratory), Mech. Eng., 431-432	1	1
Hydraulics, Civil Engineering, 442	....	2
Those students who elected Military Art in the Junior year will elect Military Art, 401-402, and Modern Languages, 401-402, in the Senior year. Those students who elected Modern Languages, 301-302, and Economics, 301-302, in the Junior year will elect 6 periods from the following list:		
Classics, English, 401	3	....
Journals, English, 402	....	3
Economics, 401-402	3	3
Modern Languages, 411-412	3	3
Totals	22	22

FOUR-YEAR COURSE IN MECHANICAL ENGINEERING

The regular four-year course in Mechanical Engineering offers a training in the fundamental principles of design, construction, manufacture, and operation of all classes of standard and special machinery, and their economic application to railroads, steamships, mills, shops, factories, and power plants, as well as in the technical and executive management of the manufacturing and transportation industries. To this end the course of instruction is as broad as is possible to give in a technical school.

The course begins with a thorough training in mathematics, physics, and chemistry as a foundation for the appropriate technical work which is developed along several parallel lines. Applications of these fundamental sciences to the physical properties of the materials of construction, especially the metals and their practical manipulation, lead through the courses in mechanics, resistance of materials, shop processes, the materials-testing laboratory, drafting and kinematics, to the principles of design, which are fixed by application to the design of machinery for the execution of any kind of process in which machinery is either absolutely essential or more economical than corresponding hand execution of the same process. The principles underlying the performance of machinery are developed by courses in thermodynamics, mechanics, and hydraulics, with experimental laboratory demonstrations. The instruction in the performance, design, and manufacture of machine and power units in the classroom and laboratory, supplemented by visits to power plants and factories, is the basis of the work on the design of plants and mills.

To succeed in any one of these particular branches or phases of this profession, a thorough technical training is absolutely indispensable, for it supplies the broad, general foundation, which must in its turn be supplemented by practical experience and by contact with the special line of work chosen.

II (b). The Four-year Course in Mechanical Engineering, leading to the degree Bachelor of Engineering.

Freshman Year

Subjects	Periods a Week 1st Term	2d Term
Physics, 101-102	4	4
Military Drill, 101-102	4	4
Composition and Rhetoric, English, 101-102	3	3
Algebra, Mathematics, 101	5	....
Advanced Algebra, Mathematics, 112	....	1
Geometry, Mathematics, 102	....	4
Engineering Lectures, Mechanical Engineering, 101	2	....
Mechanical Drawing, Mech. Eng., 111-112	2	2
Wood-shop Work, Mechanical Engineering, 121-122	2	2
Physical Laboratory, 111-112	1	1
Forge Shop Work, Mechanical Engineering, 132	....	2
Totals	23	23

Sophomore Year

Subjects	Periods a Week 1st Term	2d Term
Physics, 201-202	2	2
General Chemistry, 201-202	3	3
English, 201-202	3	3
Public Speaking, English, 212		
Military Drill, 201-202	4	4
Trigonometry, Mathematics, 201	5	....
Analytical Geometry, Mathematics, 202	....	5
Descriptive Geometry, Mech. Eng., 202	....	2
Physical Laboratory, 211-212	1	1
General Chemistry (laboratory), 211-212	2	2
Foundry Work, Mechanical Engineering, 201	2	....
Pattern-making, Mechanical Engineering, 211	2	....
Mechanical Drawing, Mechanical Engineering, 212	....	2
Totals	24	24

Junior Year

Subjects	Periods a Week 1st Term	2d Term
Heat Engines, Mechanical Engineering, 301-302	3	3
Mechanics, Mechanical Engineering, 311-312	2	2
Electrical Engineering, 311-312	2	2
Calculus, Mathematics, 301-302	4	4
English, 301-302	3	3
Mechanism, Mechanical Engineering, 321	2	....
Machine Design, Mechanical Engineering, 322	....	2
Machine Shop, Mechanical Engineering, 331-332	1	1
Mechanical Engineering (laboratory), 341-342	1	1
Electrical Laboratory, 331-332	1	1
Elective—		
Military Drill, 301-302	4	4
or		
Modern Languages, 301-302	2	2
and		
Economics, 301-302	2	2
Totals	23	23

Senior Year

Subjects	Periods a Week 1st Term	2d Term
Power Plants, Mechanical Engineering, 401-402	3	2
Gas Engines, Mechanical Engineering, 411	3	....
Mechanics, Mechanical Engineering, 421	3	....
Mechanics of Materials, Mech. Eng., 422	....	2
Heating, Ventilation, and Refrigeration, 403	....	2
Hydraulics, Civil Engineering, 442	....	2
Machine Design, Mechanical Engineering, 441	3	....
Gas Engine or Turbine Design, Mechanical Engineering, 442 or 452	....	2
Machine-shop Work, Mech. Eng., 461-462	2	2
Mechanical Engineering (laboratory), 471-472	2	2
Power Plant Design, Mech. Eng., 404	....	2
Those students who elected Military Art in the Junior year will elect Military Art, 401-402, and Modern Languages, 401-402, in the Senior year. Those students who elected Modern Languages, 301-302, and Economics, 301-302, will elect 2 subjects from the following list:		
Modern Languages, 411-412	3	3
Journals, English, 402	....	3
Automobile Power Plant, Mech. Eng., 413-414	3	3
Classics, English, 401	3	....
Economics, 402	3	3
Machine Shop, Mechanical Engineering, 481-482	2	2
Machine Design, Mechanical Engineering, 491-492	2	2
Industrial Engineering, Mech. Eng., 412	....	2
Totals	24	20

III. TEXTILE COURSES

III (a). The Four-year Course in Textile Industry

THE TEXTILE DEPARTMENT

The Textile Department, which is a fully equipped Textile School, contains all the necessary machinery for instruction in manufacturing cotton yarns and fabrics from the bale to the finished product. The student is taught the theory of cotton spinning, weaving, designing, and dyeing. In connection with the theory, he learns the practical operation of cotton machinery used in carrying on the different processes. Further, he learns such essential practical details as enable him to adjust and fix the machinery so as to produce the proper results. As a result of this training, each student produces for himself cotton yarns of different numbers, and cotton fabrics of different kinds, from his own designs and choice of colors.

TEXTILE INSTRUCTION

In this department two courses of instruction are offered, the four-year course, leading to the degree Bachelor of Engineering, and the two-year course in carding and spinning, weaving, designing, and dyeing.

Four-year Course

The four-year course offers complete facilities for full instruction in all branches of cotton mill work. Practical training in textile work begins in the Freshman year and forms a part of the work in each of the following years. The combination of practical with theoretical training is begun in the Sophomore year, and continues in the Junior and Senior years. The theoretical work is directly related to the practical work going on, and this combination offers the best means for studying cotton mill work and its operations.

III (a). The Four-year Course in Textile Industry, leading to the degree Bachelor of Engineering.

Freshman Year

Subjects	Periods a Week 1st Term	2d Term
Carding and Spinning, Textile Industry, 101-102	1	1
Weaving, Textile Industry, 111-112	2	2
Mechanical Drawing, Mech. Eng., 111-112	2	2
Shop Lectures, Mechanical Engineering, 101	2	....
Forge Work, Mechanical Engineering, 132	....	2
Algebra, Mathematics, 101	5	....
Geometry, Mathematics, 102	....	4
Advanced Algebra, Mathematics, 112	....	1
Inorganic Chemistry, 101-102	2	2
Inorganic Chemistry (laboratory), 111-112	1	1
Composition and Rhetoric, English, 101-102	3	3
Military Drill, 101-102	4	4
Totals	22	22

Sophomore Year

Subjects	Periods a Week 1st Term	2d Term
Carding and Spinning, Textile Industry, 201-202	2	3
Weaving, Textile Industry, 211-212	2	3
Textile Designing, Textile Industry, 221-222	2	1
Cloth Analysis, Textile Industry, 232	....	1
Elementary Physics, Elec. Eng., 221-222	2	3
Analytical Chemistry (qualitative), 221-222	3	3
Drawing, Mechanical Engineering, 212	....	2
Trigonometry, Mathematics, 201	5	....
English, 201-202	3	3
Public Speaking, English, 212	....	
Military Drill, 201-202	4	4
Totals	23	23

Junior Year

Subjects	Periods a Week 1st Term	2d Term
Carding and Spinning, Textile Industry, 301-302	3	3
Weaving, Textile Industry, 311-312	3	3
Textile Designing, 321-322	2	1
Cloth Analysis, Textile Industry, 332	....	1
Dyeing, Textile Industry, 351-352	2	2
Dyeing (laboratory), Textile Industry, 361-362	2	2
Heat Engines, Mechanical Engineering, 351-352	2	2
Motors, Electrical Engineering, 341-342	2	2
English, 301-302	3	3
Elective—		
Military Art, 301-302	4	4
or		
Modern Languages, 301-302	2	2
and		
Economics, 301-302	2	2
Totals	23	23

Senior Year

Subjects	Periods a Week 1st Term	2d Term
Carding and Spinning, Textile Industry, 401-402	4	4
Weaving, Textile Industry, 411-412	3	3
Textile Designing, Textile Industry, 421-422	3	3
Cloth Analysis, Textile Industry, 431-432	1	1
Dyeing, Textile Industry, 451-452	1	1
Dyeing (laboratory), Textile Industry, 461-462	3	3
Mill Accounting and Mill Costs, Tex. Ind., 441-442	1	1
Those students who elected Military Art, 301-302, in the Junior year will elect Military Art, 401-402, and Modern Languages, 401-402, in the Senior year. Those students who elected Modern Languages, 301-302, and Economics, 301-302, in the Junior year will elect 6 periods from the following list:		
Journals, English, 402	....	3
Classics, English, 401	3	....
Economics, 401-402	3	3
Modern Languages, 411-412	3	3
Machine-shop Work, Mech. Eng., 461-462	2	2
Totals	22	22

DYEING COURSE

This course is especially for those who wish to engage in any branch of Textile Chemistry, Dyeing, Bleaching, Finishing, or in the manufacture or sale of dyestuffs and chemicals used in the textile industry, and is designed to give a scientific technical education to those who desire to embrace these branches of industrial technology.

Dyeing as an art has long been practiced, but with the introduction of scientific methods it is rapidly developing and assuming a position in the front rank of applied sciences.

As the textile industries of the State increase, the need of young men who have been trained in the principles as well as the practice of the different factory operations becomes apparent. In the course in dyeing the student is taught the different practical methods of the dye-house; the chemistry of the dye-stuffs, some of each class of which he actually makes; the chemical changes brought about by mordants, assistants, etc. He also learns color matching, dye testing, and the methods for the analysis of the different chemicals used in the dye-house. He carries on the study of carding, spinning, weaving, designing, cloth analysis, etc., to the end of the Sophomore year, with the other textile students, and with them devotes attention to shop-work, drawing, engines, boilers, etc., together with such general studies as English, Mathematics, Physics, and General Chemistry, which are required in all four-year courses.

The Four-year Course in Dyeing, leading to the degree Bachelor of Science.

Freshman Year

Subjects	Periods a Week 1st Term	2d Term
Chemistry, Inorganic, 101-102	2	2
Chemistry, Inorganic (laboratory), 111-112	1	1
English, 101-102	3	3
Mathematics, 101-102, 112	5	5
Drawing, Mechanical Engineering, 111-112	2	2
Forge Work, Mechanical Engineering, 132	0	2
Lectures, Mechanical Engineering, 101	2	0
Wood-work, Mechanical Engineering, 121-122	2	2
Military Art, 101-102	4	4
Carding and Spinning, Textile Industry, 101-102	1	1
Weaving, Textile Industry, 111-112	2	2
Totals	24	24

Sophomore Year

Subjects	Periods a Week 1st Term	2d Term
Chemistry, Qualitative and Quantitative Analysis, 221-222	3	3
English, 201-202	3	3
German, Modern Languages, 201-202	2	2
Mathematics, 201	5	....
Drawing, Mechanical Engineering, 212	....	2
Military Art, 201-202	4	4
Physics, Electrical Engineering, 201-202	2	2
Physics (laboratory), Elec. Eng., 211-212	1	1
Carding and Spinning, Textile Industry, 201-202	2	3
Cloth Analysis, Textile Industry, 232	....	1
Weaving, Textile Industry, 211-212	2	3
Totals	24	24

Junior Year

Subjects	Periods a Week 1st Term	2d Term
Chemistry, Organic, 331-332	3	3
Chemistry, Organic (laboratory), 341-342	1	1
Chemistry, Quantitative Analysis, 311-312	3	3
Dyeing, Textile Industry, 351-352	2	2
Dyeing (laboratory), Textile Industry, 361-362	4	4
English, 301-302	3	3
German, Modern Languages, 311-312	3	3
Electives—		
Military Art, 301-302	4	4
or		
Economics, 301-302	2	2
and		
French or Spanish, Modern Languages, 301-302, 401-402	2	2
Totals	23	23

Note.—Students electing Military Art during the Junior year must take Military Art during the Senior year, and students who do not elect Military Art during the Junior year will not be permitted to elect Military Art during the Senior year.

Senior Year

Subjects	Periods a Week 1st Term	2d Term
Chemistry, Physical, 431-432	3	3
Chemistry, Physical (laboratory), 441-442	1	1
Chemistry, Quantitative Analysis, 411-412	8	8
Chemistry, Theoretical and Historical,	2	2
Dyeing, Textile Industry, 451-452	2	2
Dyeing (laboratory), Textile Industry, 461-462	2	2
Elect 6 periods from the following:		
Chemistry, Industrial, 461-462	2	2
Chemistry, Inorganic, 421	2	....
Chemistry, Micro-analysis, 422	....	2
Chemistry, Organic (laboratory), 491-492	2	2
Economics, 401-402	3	3
English, 401-402	3	3
German, Modern Languages, 421-422	3	3
Military Art, 401-402	4	4
Other subjects if approved	....	....
	—	—
Totals	24	24

Note.—Students electing Military Art during the Junior year must take Military Art during the Senior year, and students who do not elect Military Art during the Junior year will not be permitted to elect Military Art during the Senior year.

SHORT COURSES

I. SHORT COURSES IN AGRICULTURE

In order to meet the necessities of young men who wish to prepare themselves for the industrial arts rather than for industrial science and art, the following short courses are offered. None of these courses will lead to graduation, and they are not in any sense intended as preparatory courses to the regular four-year classes. They are designed simply to help young men better to fit themselves, by a year or two of practical work under competent and interested supervision, for their chosen spheres of industrial activity.

Those students whose inclinations, limitations, or necessities lead them to take these shorter courses will be carefully drilled in the handicraft and mechanism of their art, and in the application of elementary science to the farm, dairy, garden, and orchard.

1. ONE-YEAR COURSE IN AGRICULTURE

This course offers, in addition to the purely agricultural branches, introductory and cultural subjects, and thus enables the student to secure work in Physiography, Physics, English and Mathematics, in addition, and all the better prepares young men to become farmers, farm managers, and teachers of agriculture and allied branches in the public schools.

One-year Course

Subjects	Periods a Week	
	1st Term	2d Term
Carpentry, Mechanical Engineering, 13	3	....
Drill, 101-102	4	4
English, 11-12	5	5
Mathematics, 11-12	5	5
Physics, 11-12	2	3
Forge Shop, 32	2	....
Physiography, Soils, 22	....	3
Physiology and Hygiene, Veterinary Science, 11	3	....
Plant Culture, Horticulture, 42	....	3
Totals	24	23

II. FARMERS' SHORT COURSE IN AGRICULTURE

This Short Course in Agriculture is open to all who are either engaged in or interested in farming. It does not prepare for any other course offered by the College. It is designed to aid any who wish to become more modern and more businesslike in the pursuit of farming and it gives an opportunity for the busy man to spend two or four months at the College studying the branches of farming he is interested in. He is brought in close association with the specialists in College, Experiment Station, and Extension Service, and is given the opportunity to become acquainted with the work done by the various departments of the College. The object of the course is to better fit men for the lives they are to live by aiding them to secure a broader view of agriculture and a better skill and higher efficiency in their chosen fields of endeavor.

This Short Course offers eighteen periods per week of required work in the several departments giving instruction in agriculture, and permits the student to elect six periods per week either in Agronomy, in Animal Husbandry and Dairying, in Horticulture, or in Poultry, making a total of twenty-four periods per week.

The Fall Term begins October 29, 1918, and continues for eight weeks. The Spring Term begins January 2, 1919, and continues for eight weeks. While the course is continuous through two terms, students may enter at the beginning either of the Fall Term or of the Spring Term.

FARMERS' COURSE IN AGRICULTURE

Subjects	Periods a Week	
Required Work:	1st Term	2d Term
Plant Life, Botany, 11	3	....
Entomology, Zoology, 12	....	3
Farm Equipment, Agronomy, 11	3	....
Grains, Agronomy, 12	....	3
Dairying, Animal Husbandry, 11	3	....
Breeds and Judging, Animal Husbandry, 12	....	3
Plant Propagation, Horticulture, 11	3	....
Pruning and Spraying, Horticulture, 12	....	3
Sanitation and Diseases, Poultry, 11	3	....
Poultry House Construction and Feeding, Poultry, 12	....	3
Soil Geology and Soil Physics, Soils, 11	3	....
Fertilizers and Manures, Soils, 12	....	3
Optional Work:		
Agronomy Group—		
Forage Crops, Agronomy, 21	3	....
Cotton, Agronomy, 22	....	3
Corn, Agronomy, 31	3	....
Tobacco, Agronomy, 32	....	3
Animal Husbandry and Dairying Group—		
Swine Production, Animal Husbandry, 21	3	....
Beef Cattle Production, Animal Husbandry, 22	....	3
Milk Production, Animal Husbandry, 31	3	....
Farm Curing of Meat, Animal Husbandry, 32	....	3
Horticultural Group—		
Fruit Growing, Horticulture, 21	3	....
Vegetable Gardening, Horticulture, 22	....	3
Improvement of Home Grounds, Horticulture, 31	3	....
Marketing Horticultural Products, Horticulture, 32	....	3
Poultry Group—		
Incubation and Brooding, Poultry, 21	3	....
Selection and Breeding, Poultry, 22	....	3
Breeds and Judging, Poultry, 31	3	....
Marketing Farm Poultry, Poultry, 32	....	3
Totals	24	24

II. TWO-YEAR COURSE IN MECHANIC ARTS

In order to meet the necessities of young men who wish to prepare themselves for the industrial arts rather than for industrial science and art, the following two-year course in Mechanic Arts is offered.

This course does not lead to graduation, and it is not in any sense intended as a preparatory course for the regular four-year classes. It is designed simply to help young men better to fit themselves, by a year or two of practical work under competent and interested supervision, for their chosen sphere of industrial activity.

Those students whose inclinations, limitations, or necessities lead them to take this course will be carefully drilled in the handicraft of their art, and in the application of elementary science to the shop, drawing-room, and power plant.

First Year

Subjects	Periods a Week 1st Term	2d Term
Mechanical Drawing, Mechanical Engineering, 11-12	2	2
Woodwork, Mechanical Engineering, 21-22	2	2
Forge Work, Mechanical Engineering, 32	2	....
Engineering Lectures, Mechanical Engineering, 41	2	....
Mechanical Technology, Mechanical Engineering, 42	....	2
Physics, 11-12	....	3
Algebra, Mathematics, 11	5	....
Plane Geometry, Mathematics, 12	....	5
English, 11-12	5	5
Military Drill, 101-102	4	4
Totals	22	23

Second Year

Subjects	Periods a Week 1st Term	2d Term
Machine Drawing, Mechanical Engineering, 51-52	3	3
Machine-shop Work, Mechanical Engineering, 61-62	3	3
Power Machinery, Mechanical Engineering, 71-72	3	3
Elementary Mechanics, Mechanical Engineering, 82	....	2
Gas Engine, Laboratory, Mechanical Engineering, 92	....	1
Pattern Work, Mechanical Engineering, 81	2	....
Foundry, Mechanical Engineering, 91	2	....
Algebra, Mathematics, 101	5	....
Geometry, Mathematics, 102	....	5
English, 101-102	3	3
Drill, 201-202	4	4
Totals	25	23

III. TWO-YEAR COURSE IN TEXTILE INDUSTRY

The two-year course is offered to students who cannot spend the time required for the four-year course, or who have had practical experience in the mill and wish to avail themselves of our facilities for giving instruction in textile work.

First Year

Subjects	Periods a Week 1st Term	2d Term
Carding and Spinning, Textile Industry, 11-12	2	2
Weaving, Textile Industry, 21-22	3	3
Textile Designing, Textile Industry, 31-32	2	1
Cloth Analysis, Textile Industry, 42	....	1
Mechanical Drawing, Mechanical Engineering, 11-12	2	2
Shop Lectures, Mechanical Engineering, 41	2	....
Forge Work, Mechanical Engineering, 32	....	2
Algebra, Mathematics, 11	5	....
Plane Geometry, Mathematics, 12	....	5
English, 11-12	3	3
Military Drill, 101-102	4	4
Totals	23	23

Second Year

Carding and Spinning, Textile Industry, 11-12	5	5
Weaving, Textile Industry, 21-22	4	4
Textile Designing, Textile Industry, 31-32	2	1
Cloth Analysis, Textile Industry, 42	....	1
Dyeing, Textile Industry, 51-52	3	3
Machine-shop Work, Mechanical Engineering, 61-62	2	2
English, 101-102	3	3
Military Drill, 201-202	4	4
Totals	23	23

DESCRIPTION OF COURSES

AGRONOMY

Four-year Courses

101 or 102. Introduction to Field Crops. Introductory to the science and art of farming. A brief history of agriculture; its magnitude and importance; sciences and agencies affecting plant and animal production; classification and importance of farm products; observations, demonstrations, practice exercises and lectures. Freshmen. Two periods, either term. Professor NEWMAN and Mr. WARE.

201. Farm Equipment. Selecting, organizing and equipping farms; locating, planning and constructing farm buildings, fences, gates, bridges and roads; tools, implements and machinery; miscellaneous appliances; farm power; water supply and sanitation. Required of all Sophomores. Two periods, first term. Professor NEWMAN.

202. Corn. Origin, history, distribution, botanic relations, climatic and soil requirements; a detail study of corn and its production under North Carolina conditions. Emphasis is given soil preparation, planting, cultivation, harvesting, storing; rotations, breeding, seed selection, seed testing and corn judging. (A competitive corn exhibit under auspices of the Agricultural Club will be held jointly by Freshman and Sophomore classes in January of each year.) Required of all Sophomores. Three periods, second term. Professor NEWMAN and Mr. WARE.

301-302. Small Grains, Grasses and Legumes. The history, production, uses and improvement; varieties and their adaptation; rotation, seeding, culture, harvest, storing and marketing; class, laboratory and field instruction and practice. Three periods. Required of all Juniors. Mr. WARE.

401-402. Cotton, Tobacco, Hay, Pastures and Silage. Continuation of Junior courses 301-302. Lectures, recitations, laboratory and field work. Three periods. Required of all Seniors. Professor NEWMAN and Mr. WARE.

411-412. Special Crops, Crop Breeding, Seed Production and Experiments. Class, laboratory and field work. The college farms, plant breeding grounds and Experiment Station test farm are used by students taking this course for observation, records and field work. Projects assigned in the Junior year are continued in this course. Three periods. Required of Seniors in Agronomy Division. Professor NEWMAN and Mr. WARE.

421. Farm Management. Types of farming and their relation to soil, climate, labor, transportation, population, capital, and land values; operating expenses, systems of land tenure, farm organization, size of farms; location and arrangement of buildings, roadways, fences, water supply, orchard, garden, etc.; factors governing kind and amount of equipment; financial accounts; farm records; relation of animal and plant production to maintenance of fertility; standard of living; schools and churches. Three periods, first term. Required of Seniors in Agronomy, Animal Husbandry, Vocational Education and Poultry Divisions. Professor NEWMAN.

501-502. Graduate Courses. The following courses are offered to graduates taking work in Agronomy: (*a*) Cereals; cotton; tobacco. Three periods. (*b*) Pastures, meadows; hay production; forage crops; legumes; green manuring and cover crops; rotations; weeds. Three periods. (*c*) Crop breeding; growing, production and care of farm seeds; field crop experiments; farm management. Three periods.

SHORT COURSES

11. Farm Equipment and Organization. Each student makes an outline drawing of his home farm, showing its present arrangement into fields, pastures, etc., the location of buildings, roads, fences, wooded areas, and other features. The acreage devoted to each crop will be given, and from these data a study will be made of the equipment needed and reorganization desirable and profitable. The duty of farm equipment, its care and relationship to man and animal labor, will be studied.

12. Small Grains. Wheat, oats, rye, barley, and rice will each be studied, a greater time being given wheat and oats. Some of the phases of small grain culture included in the course are soil and regional adaptation, preparation of soil, fertilization, seeding, harvesting; utilization, rotations, varieties, seed selection, and improvement.

21. Forage Crops, Hay Production and Pastures. Over a large portion of the State, the quantity of cheap animal foods available is insufficient for the profitable raising or maintenance of the numbers of livestock each farm should carry. The object of this course is to show how an abundance of forage, hay and pasturage may be produced, and that its production will lead to more and better livestock and more fertile soils.

22. Cotton. The details of economic cotton production, and especially such problems as soil preparation, fertilization, varieties, and improvement by selection of seed. The rapid approach of the boll

weevil makes it imperative that the average cotton grower either give up cotton growing or adopt modern cultural practices.

31. Corn. This great cereal is the most widely grown and the most important of American crops. The fact that the application of correct corn-growing principles and practices by boys under 16 years of age has more than doubled the acreage yields of corn in the State is conclusive evidence that the men farmers may do as well. The object of this course is to show how better yields of better corn may be made.

32. Tobacco and Miscellaneous Crops. Only the more recently accepted approved practices in tobacco growing will be given in this course. Under miscellaneous crops, peanuts, soybeans, sorghums, Sudan grass, rape, etc., will be briefly discussed.

ANIMAL HUSBANDRY AND DAIRYING

101 or 102. Types and Market Classes of Livestock. A survey of the development of the livestock industry, with special reference to present conditions. Consideration will be given especially to the fundamental principles of livestock judging; the relation of form to function, or production; and the combination of characters indicating constitutional strength, temperament, capacity, and sexuality necessary in the development of animals for special purposes such as milk, meat, work, and speed production. Also some time will be devoted to the market requirements of livestock and adaptation of the different types. Both terms, two periods. Professor REED, Mr. MCCLUER.

202. Elements of Dairying. This course consists of the discussion of the fundamental principles of dairying. Lectures are given on the secretion and composition of milk, the testing of milk and cream for butter-fat, the care of milk and cream, the construction, operation and care of the cream separator. Butter-making and cheese-making will be discussed briefly. In the laboratory practical work is given in the testing of milk and cream, in the operation of cream separators, and in farm butter-making. Second term, three periods. Required of Sophomores. Laboratory fee, $4. Professor REED, Mr. MCCLUER.

302. Principles of Feeding. This course consists of lectures, recitations, and quizzes on the principles of feeding, including function of food, physiology of digestion, and feeding for different purposes. When possible, practice will be given in compounding rations and mixing feeds. Second term, three periods. Required of Juniors. Professor REED.

301. Dairy Cattle and Milk Production. In this course careful attention is given to a study and discussion of the feeding and care

of dairy cattle and dairy calves and to practical problems of dairy management. The last part of the course consists in drawing plans of dairy barns, milk houses, and refrigerators, and providing for their equipment. Systems of dairying, as suited to different conditions, are also considered. The laboratory work consists in computing rations for dairy cattle and dairy calves, and in practice in dairy management in connection with the College herd. First term, three periods. Required of Juniors. Professor REED.

401. Principles of Breeding. This course consists of lectures and recitations on heredity, variation, correlation, and selection as applied to stock breeding. Inbreeding, cross-breeding, and grading will be studied and discussed. First term, three periods. Required of Seniors. Professor REED.

402. The Production of Beef Cattle. This course consists of practical methods of handling the beef cattle herd, emphasizing production, maintenance, finishing, and marketing. The utilization of pastures will be given prominent consideration in the discussions. In considering the subject the breeder, feeder, butcher and consumer will be given close consideration. All work will be based on the breeds of beef cattle adapted to Southern conditions. Work will consist of lectures, judging breed and market types, assigned readings, quizzes, and examinations. Second term, three periods. Required of Seniors. Mr. MCCLUER.

412. Sheep Production. This course consists of practical methods of handling the flock, breeding, feeding, maintenance, housing, and shepherding. Special emphasis is placed on practical methods of combatting sheep parasites, and on the production of early market lambs. Rotations for grazing ewes and lambs are emphasized. Close consideration is given to the breeder, feeder, and consumer. Work consists of lectures, reference readings, quizzes, and examinations. Second term, three periods. Required of Seniors. Professor REED.

422. Horse and Mule Production. This course consists of practical methods of producing, feeding, and handling horses and mules, and the care and management of stallions, mares, foals, and work animals. The breeds are discussed according to their importance in the South. The breeding, production, maintenance, feeding of work horses, and finishing of horses for market are thoroughly discussed. Work consists of lectures, text-book readings, assigned readings, quizzes and examinations. Second term, three periods. Required of Seniors. Mr. MCCLUER.

431. Swine Production. This course deals with the practical questions of raising, feeding, marketing, and sheltering swine, special emphasis being given to the use of suitable grazing crops. If possi-

ble, some time will be devoted to the discussion of breeds, types, characteristics, and adaptability. First term, three periods. Required of Seniors. Mr. McCLUER.

441. Farm and Creamery Butter-Making and Creamery Management. This is a text-book and lecture course covering the ripening of cream, the preparation and use of starters, churning and handling butter under farm and creamery conditions. Special attention will be given to creamery management and the cooperative creamery. In the laboratory practical work is given in sampling, weighing, and testing cream, scoring and grading cream, preparing starters, pasteurizing cream for butter-making, operating hand and power churns, and working and packing butter. Scoring and grading butter will also receive attention. First term, three periods. Elective for Seniors. Professor REED.

442. Farm Meats and Livestock Farm Management. The first half of the term is devoted to questions relative to farm butchering, curing, and care of meats. A smokehouse is available, so that the studies can be made practical. The second half of the term is devoted to a study of successful methods of operating farms devoted chiefly to livestock production. A study is made of the best systems applied to North Carolina conditions. Second term, three periods. Elective for Seniors. Professor REED.

451. Advanced Stock Judging. In this course consideration is given to animal conformation, quality, and condition with reference to market and show-yard requirements; to the selection of horses, beef cattle, dairy cattle, sheep, and swine for the feed lot, the market, and for exhibition, and to judging at live-stock shows. First term, three periods. Elective for Seniors. Professor REED and Mr. McCLUER.

452. Cheese-Making. In this course the subject of cheese-making in general is covered, proper attention being given to the composition and characteristics of common American and European cheese. The students are given practice in making American, Cheddar, Gouda, and some forms of soft cheese. Second term, three hours. Elective for Animal Industry Seniors. Professor REED.

461. Pedigree Livestock Production. This course consists of a history of breeds and prominent families of livestock, pedigrees of prominent individuals, and the fundamentals of management of pure-bred herds, with emphasis placed on production and marketing. The course will consist of text-book readings, reference readings, lectures, quizzes, and examinations. First term, three periods. Elective for Seniors. Professor REED and Mr. McCLUER.

Courses for Graduates

Students entering graduate work in Animal Industry should have a thorough training in the fundamental principles of the subject. The following graduate courses are offered for the year 1917-1918.

501-502. Animal Nutrition. In this course there will be a study of recent scientific publications on the chemistry and physiology of the nutrition of animals and the chemical and physiological changes and processes involved in the activities of animal life. The student will be expected to follow out courses in assigned reading, hold conferences with the instructor, and submit regular reports on the progress of his studies. First and second terms.

511-512. Investigational Work. Those students who wish to continue their studies along any particular line in the Department of Animal Husbandry and Dairying may, with the aid of the head of the department, select a definite investigational project, and shall devote at least half of his time in carrying on the investigation.

Short Courses

11. Farm Dairying. This course is given to furnish the student instruction regarding the dairy industry. It should be of use and interest to any farmer, whether he is especially interested in making dairy farming the largest part of the farm operations or not. The subject material includes the testing of milk and cream for butter-fat, need and value of testing individual cows, the composition and properties of milk, its food value and use as a food, the separation of cream and farm butter-making, and the proper method of handling milk and cream. All discussions and laboratory work will be taken up from the farm viewpoint. Two lectures and one laboratory period a week during the fall term of the Short Course. Professor REED.

12. Breeds and Judging. This course consists of a brief study of the most important breeds and market classes of horses, cattle, sheep, and swine. Their history, development, distinctive characteristics, adaptation and value to the stockman, butcher, and consumer are studied. The differences in functions and conformation between pure-bred animals and scrubs or natives is pointed out. By lectures, demonstrations, and personal score-card practice the student learns the good points and defects of the animals before him in the show ring. After the use of the score-card is learned, work will be given in comparative judging. Second term, three periods. Mr. MCCLUER.

21. Swine Production. This course consists of a brief study of the most economic and best methods of producing hogs on Southern farms, also preparing them for market or exhibition. Special atten-

tion is given to home-grown feeds and to the practical management of hogs. The distinctive characteristics and the adaptability of the most important breeds are discussed. First term, three periods. Mr. McCLUER.

22. Beef Cattle Production. This course consists of practical methods of handling the beef cattle herd, emphasizing production, maintenance, finishing, and marketing. The utilization of pastures will be given prominent consideration in the discussions. In considering the subject the breeder, feeder, and butcher or consumer will be given close consideration. All work will be based on the breeds of beef cattle adapted to Southern conditions. Work will consist of lectures, judging breed and market types, assigned readings, quizzes, and examinations. Second term, three periods. Mr. McCLUER.

31. Milk Production. The aim of this course is to furnish practical instruction regarding the dairy cow on the farm. A study of the different breeds will be made, their adaptation to conditions and purposes, selection of individual cows by use of the score-card and by records, keeping production records, general herd improvement, selecting of the herd bull, calf raising, feeding cows, care and management of the herd, and dairy barn construction. A large herd owned by the College, consisting of Jerseys, Holsteins, and Ayrshires, will be used in demonstrations throughout the course. Three lecture periods a week in the fall term of the Short Course. Professor REED.

32. Farm Curing of Meats. This work takes up questions relative to farm butchering, curing and care of meats. A study is made of the best systems applied to North Carolina conditions. A smokehouse is available and other butchering appliances, so that the studies can be made practical. Second term, three periods. Mr. McCLUER.

BOTANY

Four-year Courses

101-102. General Botany. This course is planned to give a general knowledge of the elementary facts and fundamental principles of botany. It aims to supply the foundation upon which subsequent courses in this division are built, as well as the basic facts upon which rest certain phases of applied botany, such as horticulture and agronomy. The first term will be devoted to the general morphology of the seed plants. Attention will be given to the anatomical features of seeds, flowers, leaves, fruits, stems, roots, cells, tissues, and tissue systems, and to the correlation of anatomical structures with their physiological functions. The second term will be devoted

to the general morphology of algæ, fungi, mosses, and ferns, using selected representatives as types in both the lecture and laboratory work. Special emphasis will be laid upon nutrition, reproduction, life history, and evolution of sex of those forms which are of both scientific and economic importance. Fee, $1. Three periods throughout the year. Required of Freshmen. Mr. LEHMAN and Dr. FOLSOM.

201. Plant Physiology. This course deals with the physical and chemical phenomena in plant activities. Among the subjects covered will be osmosis, with reference to permeability and the protoplasmic membrane, absorption of water, the water content of soil in relation to plant growth, removal of water from soil by plants, mineral nutrients of the soil in relation to growth processes, mineral requirements of plants, acid and alkali soils, causes and methods of dealing with these conditions, soil infertility, with a discussion of the theories of depletion, accumulation of toxins, and occurrence of microflora, transpiration, movement of water in plants, photosynthesis, including the elaboration, translocation and storage of carbohydrates, fats, and proteins, enzymic activity, respiration, fermentation, and a biological explanation of variation and heredity. Three periods, first term. Required of Sophomores. Dr. FOLSOM.

301. Plant Diseases. Consideration will be given to those diseases of farm, garden, and truck crops of parasitic and nonparasitic origin which are of greatest economic importance. The lectures will consist of a review and discussion of the more important publications dealing with the symptoms, life histories, and methods of control of plant diseases. Some attention will be given to the morphology and methods of identification of fungi, emphasizing types of the orders concerned in the production of diseases. The laboratory work is designed to acquaint the student with field and laboratory methods of diagnosis of plant diseases, with laboratory technique involving the isolation of causal organisms and the making of inoculations, and with the preparation of fungicides and disinfectants. Each student will be required to collect and diagnose a considerable number of pathogenic fungi. Fee, 50 cents. Three periods, first term. Open only to students who have completed courses 101-102 and 201. Professor WOLF.

302. Agricultural Bacteriology. The subject-matter of this course includes an introduction to the principles of bacteriology, and is designed to serve as a basis for students contemplating specialization in applied phases of the subject, such as bacteria in relation to plant diseases, to human diseases, and to the diseases of domestic animals; soil bacteriology; dairy bacteriology; sanitation with reference to sewage disposal and water supplies; and the consideration of bacte-

rially produced processes in the industries. The student becomes familiar through laboratory practice with methods employed in the culture and study of bacteria. Fee, $3. Three periods, second term. Open to all students who have completed courses 101-102 and 201. Professor WOLF.

311-312. Advanced Plant Physiology and Systematic Botany. A more thorough and comprehensive study of plant function will be given than was possible in course 201. Time will be afforded to relate the subject-matter of physiology to the problem of crop production, and to familiarize the student with recent problems and advances in the subject. Systematic botany presupposes the necessity of a knowledge of the local flora, particularly grasses, legumes, trees, and weeds in order to successfully cope with botanical problems in general. Lectures treating on the principles of classification and the relationship of the principal families to each other will be given. The laboratory work will acquaint the student with the various books, manuals, and bulletins dealing with taxomic botany. Professor WOLF and Dr. FOLSOM.

411-412. Advanced Bacteriology. Those who desire a more comprehensive knowledge in any of the special fields of bacteriology in order to fit themselves to enter into extension or investigational work may take this course. Prerequisite, 302. Professor WOLF.

422. Plant Ecology. Studies dealing with plant distribution, acclimation, reforestation, reclamation of waste lands, plant succession, etc., will be considered in their relation to plant physiology. Dr. FOLSOM.

Short Courses

11. Plant Life. This study will deal with plants with a view of obtaining a better understanding of their activities. Such topics as the absorption of minerals from the soil, their transport through the stem of the plant, the making of food by the leaves, breathing, digestion, fermentation, seed production and growth of plants will be discussed in an elementary way and the practice work accompanying it will consist of appropriate laboratory demonstrations and tests. This will be followed by a study of the more common diseases of field, orchard, and garden crops. Emphasis will be given to methods of recognizing these diseases and of controlling and preventing them. Preserved and dried specimens of these diseases will be examined in the laboratory. Mr. LEHMAN.

CHEMISTRY

101-102. Inorganic Chemistry. McPherson and Henderson's *Elementary Study of Chemistry.* The common elements and their principal compounds, together with the fundamental principles of the science, are studied by means of lectures and recitations. Two periods. Required of Freshmen. Professor WITHERS, Dr. WILLIAMS, Dr. DOBBINS and Mr. FETZER.

111-112. Inorganic Chemistry. Laboratory work. McPherson and Henderson's *Exercises in Chemistry.* Here, under the eye of the instructor, experiments illustrating and emphasizing the work of the classroom are performed by the student. One period. Required of Freshmen. Fee, $2. Dr. WILLIAMS, Dr. DOBBINS, and Mr. FETZER.

201-202. General Chemistry. McPherson and Henderson's *General Chemistry.* A study of the nonmetallic elements, metals, laws of chemical combination, ionization, electrolysis, neutralization, valence, equilibrium, molecular weights, thermochemistry, etc. Three periods. Required of Sophomores in Engineering. Professor WITHERS and Dr. DOBBINS.

211-212. General Chemistry. Laboratory work to accompany Course 211-212, followed by a brief course in qualitative analysis. Two periods. Required of Sophomores in Engineering. Fee, $3. Mr. FETZER.

221-222. Analytical Chemistry. Tower's *Qualitative Chemical Analysis.* A discussion of the principles involved in chemical analysis, together with laboratory work. The student is given thorough practice in the identification of the more common ions, and in the complete analysis of mixtures of pure salts, commercial products, alloys, and minerals. Three periods. Required of Sophomores in Chemistry, Agriculture, and Textile Industry. Fee, $4. Doctor MILLER.

232. An Introduction to Volumetric Quantitative Analysis. This course is given from about the middle of March to the end of the term following the completion of Course 201. In this course the student is introduced to the principles involved in titrometric determinations in volumetric quantitative analysis.

The student is taught to make up and standardize solutions to be used in acidmetry and alkalimetry, and also is taught the use of such solutions as potassium permanganate and potassium diochromate in various determinations.

301-302. Analytical Chemistry. Lincoln and Walton's *Quantitative Analysis.* Gravimetric and volumetric analysis. Special attention is given to the determination of elements in fertilizers, feedstuffs,

and other substances of special interest to agricultural students. Two periods. Required of Juniors in Agriculture. Fee, $2. Doctor WILLIAMS.

311-312. Analytical Chemistry. Lincoln and Walton's *Quantitative Analysis.* Gravimetric and volumetric analysis of pure salts at first and later of substances of agricultural and industrial importance. Four periods. Required of Juniors in Chemistry. Fee, $4. Doctor WILLIAMS.

331-332. Organic Chemistry. Norris' *Principles of Organic Chemistry.* A study of the fundamental principles of Organic Chemistry and of the most important organic compounds. Three periods. Required of Juniors in Chemistry. Doctor DOBBINS.

341-342. Organic Chemistry. Laboratory work. Norris' *Experimental Organic Chemistry.* A series of experiments illustrating the methods used in the preparation of the principal classes of organic compounds and the fundamental reactions involved in their transformations. One period. Required of Juniors in Chemistry. Fee, $2. Doctor DOBBINS.

411-412. Analytical Chemistry. Quantitative analysis, advanced. A continuation of Course 311-312. Eight periods. Required of Seniors in Chemistry. Fee, $8. Doctor WILLIAMS.

422. Microchemical Analysis. A laboratory course in which the common elements are detected by means of the microscope. The student is also taught to identify such fabrics as silk, wool, linen, cotton, etc., and to analyze alloys, soils, fertilizers, and other commercial products for their constituents. Two periods, second term. Required of Seniors in Chemistry. Fee, $2. Doctor MILLER.

421. Advanced Inorganic Chemistry. A lecture course in which is discussed the development of the science of chemistry, special attention being given to the periodic law, radio activity, the coordination theory, and the modern trend of chemical thought. Two periods, first term. Required of Seniors in Chemistry. Doctor MILLER.

431-432. Physical Chemistry. Jones's *Introduction to Physical Chemistry.* The fundamental principles of Physical Chemistry are taken up, including the constitution of matter, the gas laws, thermochemistry, photochemistry, electrochemistry, chemical dynamics, and equilibrium, emphasis being laid on the phenomena of solutions. Three periods. Required of Seniors in Chemistry. Doctor FREDERICK.

441-442. Physical Chemistry. Laboratory work. Here the student carries out experiments involving molecular weight determinations, lowering of freezing point, elevation of boiling point, conductivity

measurements, and other determinations as they are deemed expedient. One period. **Required of Seniors in Chemistry.** Fee, $2. Doctor FREDERICK.

451-452. Bio-Chemistry. A study of carbohydrates, fats, and proteins. Two periods. Required of Seniors in Chemistry. Professor WITHERS.

461-462. Industrial Chemistry. A study of the outlines of industrial chemistry, with especial attention to the rapidly growing chemical industries of North Carolina and of the South. This course, which will be made thoroughly practical, will emphasize the intimate relation of chemical industry to agriculture and to all branches of engineering. Three periods. Elective for Seniors. Mr. FETZER.

471-472. Organic Chemistry. Chamberlain's *Agricultural Organic Chemistry.* A study of the fundamental principles of organic chemistry and of the most important organic compounds, together with laboratory work. Three periods. Elective for Agricultural Seniors. Fee, $1. Doctor DOBBINS.

481-482. Physiological Chemistry. Matthews's *Physiological Chemistry.* Classroom and laboratory work. Three periods. Elective for Seniors. Fee, $2.

491-492. **Advanced Organic Chemistry.** Laboratory work. In this course the student is required to make special preparations which require reference to the literature. Two periods. Elective for Seniors in Chemistry. Fee, $2. Doctor DOBBINS.

501-502. Agricultural Chemistry. Stoddart's *Chemistry of Agriculture.* A study of plants and animals, their nutrition and products, from a chemical standpoint. Three periods, first or second term. Elective. Professor WITHERS.

CIVIL ENGINEERING

101. Engineering Lectures. First term. Two periods. Freshmen in Civil Engineering. What is expected of an engineer is pointed out in a broad way by lectures and reading for the purpose of impressing upon the student the importance of thoroughness and systematic preparation for his more specific work which follows the first year. Elementary use of the compass and chain, the level, and the manner of keeping notes are illustrated by a few periods of field work. Professor MANN.

201. Architectural Engineering. First term, one period. Sophomores in Civil Engineering. Building materials. Methods of constructing buildings. Plans; specifications; bills of materials; estimates of cost; designs of buildings. Lectures. Mr. WRENN.

211. Architectural History. First term, one period. Sophomores in Civil Engineering. A study of the various periods and styles of architecture, from the primitive and prehistoric architecture to that of the present time. Text-book, Hamlin's *History of Architecture.* Mr. WRENN.

221. Architectural Drawing. First term, two periods. Sophomores in Civil Engineering. Drawings of sections of parts of buildings. Architectural lettering and conventions. Drawing of a small building from given data. One period during the term is spent inspecting the general framing and foundation of a residence under construction. Mr. WRENN.

222. Architectural Design. Second term, two periods. Sophomores in Civil Engineering. Completed drawings of the design of a dwelling, showing all plans and elevations with details and dimensions necessary for construction. Perspective and estimated cost. Mr. WRENN.

232. Descriptive Geometry. Second term, two periods. Sophomores in Civil Engineering. The point, line, and plane. Generation and classification of lines and surfaces. Representation of warped surfaces. Surfaces of revolution. Intersections of surfaces by lines and other surfaces. Problems and completed drawings. Text-book, Randall's *Elements of Descriptive Geometry.* Mr. WRENN.

301. Surveying. First term, two periods. Juniors in Civil Engineering. Study of uses and adjustments of the ordinary surveying instruments. Land surveying; traverse lines; leveling; city surveying; topographical surveying. Calculation of areas by latitude and departures. Stadia methods. Methods of platting. Text-book, Breed and Hosmer's *Elementary Surveying.* Mr. WRENN.

312. Railroad Engineering. Second term, two periods. Juniors in Civil Engineering. Study of reconnaissance, preliminary and location surveys for railroads. Mathematics of simple, compound, and reverse curves. Forms of railroad survey notes. Text-book, Searles and Ives's *Field Engineering.* Mr. WRENN.

321. Surveying Field Work. First term, two periods. Juniors in Civil Engineering. Compass and transit survey of small circuit, showing use of surveying instruments and the importance of accuracy in the execution of the work. Land surveys. Level lines for establishing permanent bench marks. Survey by azimuths of previously established circuit, checking all distances and calculated bearings and comparing measured distances and azimuths of cross lines on the circuit with the calculated azimuths and distances. Mr. WRENN.

322. Topographical Surveying. Second term, two periods. Juniors in Civil Engineering. Completed survey of a topographical circuit, including all notes for platting to be used in Topographical Drawing Course 332. Contours and filling in for this circuit being made by stadia and plane table. Use of sextant on a small area purposing to represent soundings, and from these notes a hydrographic map is made in the Topographical Drawing Course 332. Staking out of simple, compound, and reverse railroad curves with transits from calculations made in Railroad Engineering Course 312. Mr. WRENN.

332. Topographical Drawing. Second term, two periods. Juniors in Civil Engineering. Conventional signs and lettering. Completion of maps platted by latitude and departures from given survey data. Completed topographical map and completed hydrographic map from students' field notes taken in Surveying Course 322. Mr. WRENN.

341. Masonry Construction. First term, two periods. Juniors in Civil Engineering. Elements of engineering geology, with particular attention to the origin and characteristics of materials used in masonry construction. Manufacture, use, and properties of lime, brick, and Portland cement. Methods and cost of constructing foundations, dams, retaining walls, arches, piers, and other masonry constructions. Study of materials found in North Carolina. Text-book, Baker's *Masonry Construction*, and lectures and notes. Assistant Professor THOMAS.

351. Highway Engineering. First term, one period. Juniors in Civil Engineering. Study of methods and materials used in the construction of county roads and city pavements. Maintenance of roads and pavements. Text-book, Agg's *Construction of Roads and Pavements*. Assistant Professor THOMAS.

352. Highway Engineering. Second term, one period. Juniors in Civil Engineering. Economics of highway location and construction. Surveys, plans, and estimates for a section of country road. Text-book, Harger and Bonney's *Highway Engineer's Handbook*. Assistant Professor THOMAS.

362. Graphic Statics. Second term, one period. Juniors in Civil Engineering. A solution of Mechanics problems by graphical methods, the results being checked by analytical methods to impress the importance of accuracy in the performance of this manner of solutions. Problems using the funicular polygon. Bending moments and shears. Centroids of sections. Resultant pressure on retaining walls. Determination of the stresses caused by dead load, snow load, wind on fixed and free sides in framed structures, maximum and minimum stresses. Lectures and notes. Mr. WRENN.

371. Mechanics. First term, three periods. Juniors in Civil Engineering. Statics, including concurrent forces, parallel forces, nonconcurrent forces, nonparallel forces and friction. Both graphical and analytical methods are used, with numerous applications to various engineering problems. Text-book, Poorman's *Applied Mechanics*. Assistant Professor THOMAS.

372. Mechanics. Second term, three periods. Juniors in Civil Engineering. Centroids and center of gravity. Moment of inertia. Elementary mechanics of materials with numerous applications to various engineering problems. Text-book, Poorman's *Applied Mechanics*, and problems. Assistant Professor THOMAS.

401. Roofs and Bridges. First term, three periods. Seniors in Civil Engineering. Study of the effects of dead and live loads uniformly distributed and concentrated on framed structures. Calculation by analytical method of stresses due to these loads. Wind and snow load stresses and reactions. Stresses from moving loads on highway bridges. Stresses due to train-loads in railway bridges. Complete solution of roof truss and bridge problems. Text-book, Merriman and Jacoby's *Roofs and Bridges*. Professor MANN.

402. Bridge Design. Second term, three periods. Seniors in Civil Engineering. The completed design and drawing of a combination wood and steel roof truss and a Pratt type pin connected railroad bridge. The loading and specifications are given and the calculations for maximum and minimum stresses are first completed by the student, the parts then designed from which the completed drawings are made. Lectures and notes. Professor MANN.

412. Municipal Engineering. Second term, two periods. Seniors in Civil Engineering. Study of sewerage systems. Amount of sewage. Flow in sewers. Manhole and flush tank construction. Disposal systems. Surveys and forms of field notes and manner of calculating data for the design and construction of a sewerage system. Original problems. Inspection of the system of Raleigh and suburbs. Text-book, Folwell's *Sewerage*. Professor MANN.

421. Railroad Surveying. First term, two periods. Seniors in Civil Engineering. Reconnaissance, preliminary and location surveys for a section of railroad. The located line is cross-sectioned, the earth-work computed, and complete plans and estimates prepared, including a mass diagram. Location of railways and special problems in railroad engineering. Field and drafting room work. Assistant Professor THOMAS.

431. Mechanics of Materials. First term, three periods. Seniors in Civil Engineering. Study of the working stresses of material,

stresses of beams, columns and shafts; shear and flexure formulas, elastic deflections; rupture of beams; impact. Text-book, Merriman's *Mechanics of Materials*. Professor MANN.

432. Reinforced Concrete. Second term, three periods. Seniors in Civil Engineering. Study of the materials, general stress distribution, the derivation of formulas for working loads and for ultimate loads, bond and shear stresses; design of beams and columns. Numerous original problems are given and required to be solved by the theoretical formulas, and results checked by diagrams and curves. Text-book, Turneaure & Maurer's *Reinforced Concrete*. Professor MANN.

441. Hydraulics. First term, three periods. Seniors in Civil Engineering. A course covering the principles of hydrostatics, pressure, laws governing flow in pipes and conduits, flow through orifices and nozzles and over weirs, and the losses from friction and other sources; methods of measuring the flow of streams; determination of water-power in streams, and a study of the testing of hydraulic motors. Text-book, Merriman's *Treatise on Hydraulics*. Professor MANN.

442. Hydraulics. Second Term, two periods. Seniors in Mechanical and Electrical Engineering. Hydrostatics, hydrokinetics, including the flow of water through orifices, pipes and open channels. Hydrodynamics, including theory of hydraulic motion and pumps. Hydraulic instruments and measurements. Text-book, Slocum's *Elements of Hydraulics*. Assistant Professor THOMAS.

451. Railroad Engineering. First term, three periods. Seniors in Civil Engineering. Turn-outs, spirals, track-laying, cross-sections, calculation of earth-work, vertical curves and general principles of railroad surveying. Text-book, Searles & Ives's *Field Engineering*. Assistant Professor THOMAS.

452. Railroad Economics. Second term, two periods. Seniors in Civil Engineering. Economics of railroad location; maintenance of way; recitations and reports on outside reading. Text-book, Crandall & Barnes' *Railroad Construction*. Assistant Professor THOMAS.

462. Water Supply. Second term, two periods. Seniors in Civil Engineering. Investigation of water supplies; methods of treatment; a study of the design and construction of filtration and pumping plants; distribution systems; pumping systems; a review of dam constructions; inspection and study of water supply system of the city of Raleigh. Text-book, Folwell's *Water Supply Engineering*. Professor MANN.

471. Mechanics. First term, two periods. Seniors in Civil Engineering. Kinetics including rectilinear motion, curvilinear motion, rotation, combined oscillation and rotation, work and energy, impulse, momentum and impact, with numerous applications to engineering problems. Text-book, Poorman's *Applied Mechanics*. Professor MANN.

482. Astronomy. Second term, two periods. Seniors in Civil Engineering. Study of the celestial sphere and system of coordinates. Special attention is given to those astronomical observations which may be needed in the practice of the surveyor. Observation with engineer's transit for latitude and longitude, time and azimuths are a required part of the work. Text-book, Hosmer's *Practical Astronomy*. Professor MANN.

492. Civil Engineering Laboratory. Second term, two periods. Seniors in Civil Engineering. Tests of materials of construction, including standard tests of Portland cement, standard tests of bitumens, standard tests of sand and stone, and the use of sieve analysis curves; tension and compression tests of steel and concrete; rating and use of the planimeter; rating and use of the current meter; hydraulic measurements. Assistant Professor THOMAS.

HIGHWAY ENGINEERING

To meet the demand in the State for well-trained highway engineers, several of the courses in the Civil Engineering Department have been particularly adapted to fitting young men for practical work in road building. Many of the graduates of this College have entered this field of work.

Courses are offered in surveying, bridge design and construction, testing of materials, and in the other fundamentals of Highway Engineering. In Highway Engineering 351 a detailed study of roads and pavements is made, together with complete surveys, plans and estimates for a section of country road.

ARCHITECTURE

The General Assembly of North Carolina passed in 1915 an act entitled "An act to regulate the practice of architecture, and creating a board of examination and registration of the same." The purpose of this law is to protect the builder and also the bona fide architect from the practice of inexperienced or poorly trained men. It is necessary for a young man who wishes to qualify for this requirement to have had sufficient training and experience to enable him to pass credibly an examination given by the State Board. All students in the Department of Civil Engineering completing the four-year course are required to take certain subjects pertaining to architec-

tural design and architectural engineering. This work and Descriptive Geometry 232 given in the Sophomore year are followed up in the Junior and Senior years with Masonry Construction 341, Graphic Statics 362, Roof Design 401-402, Reinforced Concrete 432. While the work given in architecture is not sufficient to fit a young man for the independent practice of architecture, it lays a foundation for further work in the field of architectural engineering.

ECONOMICS

The courses in this Department are intended for Agricultural, Engineering, and Textile students who desire a knowledge of the business side of their special lines of work.

301-302. Economics of Business Organization and Management. Alternative elective with Drill and Military Tactics for Junior Agricultural, Engineering, and Textile students. Two hours, both terms. Professor CAMP.

401. Market Distribution. This course is designed to give the student an understanding of the present system of grading, packing, storing, selling, transporting, financing the sale of and collecting payments for farm products. The cost of the existing agencies will be considered from the point of view of the farmer, middleman, and consumer. A brief survey will be given of the methods of large scale business organizations as efficient instruments for the distribution of products. Three periods, first term. Elective for all Seniors in Agriculture. Required of Senior Vocational Education, Poultry, and Biology students. Professor CAMP.

402. Organization for Marketing and Credit. A survey will be made of the methods of operation of successful marketing and credit organizations in Europe and the United States. The kind of organizations needed for marketing North Carolina products will be considered. The necessity for credit on the farm and the method of meeting the need by commercial banks, by cooperative banks in Europe and the United States, and by loan agencies generally will be considered in relation to the production, storage, and sale of farm products. Three periods, second term. Elective for all students of Agriculture in the Senior year. Required of all Senior students in Agriculture except Poultry and Veterinary. Professor CAMP.

411-412. Cotton Grading. A course in cotton grading will be arranged if a sufficient number wish to take it.

EDUCATION

301-302. Introduction to Education. Three hours a week throughout the year for Juniors in Vocational Education Division. Consists

of practical methods of study; psychology of the learning process and its relation to teaching; original nature and its modification; attention; interest; habit; memory; imagination; individual differences and their significance in the educative process; physical and mental characteristics of the child, especially in the adolescent period; possibilities and limitations of the transfer of training; study of aims, values and organization of the courses of study of the secondary school; school population; the secondary school curricula and courses of study with particular application to Vocational Education. Associate Professor COOK.

401. Principles of Teaching. Three hours a week, first term of Senior year. Types of learning as related to methods of presentation, motor skill, drill, reflective thinking, etc.; illustration and exposition in teaching; discipline; technique of the recitation; class and laboratory methods, with special reference to the use of the double period of combined class, supervised study; and laboratory method; lesson planning; some consideration of educational measurements. Required of Seniors in Vocational Education. Associate Professor COOK.

402. Rural School Organization and Administration. Three hours a week, second term of the Senior year. Consideration of the social and educational status and needs of the rural community and the adaptation of the school to these needs. A study is made of educational administration in North Carolina, as compared with other States with reference to the advantages and defects of the system. The preparation of teachers, methods of supervision, school consolidation, as well as a study of rural school reorganization in the United States are studied. Required of Seniors in Vocational Education. Associate Professor COOK.

411-412. Methods of Teaching Agriculture, Observation and Practice Teaching. Three hours a week throughout the Senior year. This course aims to give specific helps needed by a teacher of agriculture. Following are some of the topics included: Cataloguing and filing of bulletins useful in the teaching of agriculture and the related sciences; laboratory and classroom arrangement; equipment; selection and organization of subject-matter; lesson planning; home projects; school farm; the use of illustrative materials and chart making; school and farm accounting; community activities of the teacher of agriculture. Some systematic study is made of schoolroom observation and the students are required to make observation in neighboring high schools. Arrangements have been made for the students to do practice teaching in a near-by agricultural school. Required of Seniors in Vocational Education. Associate Professor COOK.

421. Extension and Demonstration. Three hours a week, fall term of Senior year, elective. This course is intended to prepare the student for extra-mural teaching through the various extension activities, and to become well versed in the use of demonstration methods and materials. Professor T. E. BROWNE.

422. Rural School Problems. Three hours a week during spring term of Senior year, elective. A thoroughly detailed study will be made of the numerous problems confronting the rural teacher, especially in the secondary schools, with an aim to finding a solution of these problems. A practical study of these problems will be made through surveys, probably selecting a few typical counties. Professor T. E. BROWNE.

ELECTRICAL ENGINEERING

101. Electrical Engineering Lectures. A course introducing the student to general engineering methods, with more stress laid on electrical problems. The student is made familiar with general engineering terms and principles and the materials used in engineering work. He is also given instruction in some of the more elementary electrical construction, such as wiring and installation of electrical systems. Two periods, first term. Professor W. H. BROWNE.

301-302. Direct Current Machinery and Apparatus. A thorough study is made of the production and utilization of direct currents, beginning with the theory of the magnetic circuit, the electric circuit, electromagnetic induction, electrical measurements, storage batteries, dynamos and motors, operation and care of direct current machinery, electrical distribution and lighting. Text-book, Franklin & Esty's *Elements of Electrical Engineering.* Three periods, throughout the year. Required of Juniors in Electrical Engineering. Prerequisites, Physics 201-202. Professor W. H. BROWNE, Associate Professor MCINTYRE.

311-312. Electrical Engineering. An introductory course for students in other engineering departments, consisting of the study of the apparatus used in the production, distribution, and utilization of electrical power. Required of Juniors in Mechanical Engineering. Two periods. Prerequisites, Physics 201-202. Professor W. H. BROWNE, Associate Professor MCINTYRE.

401-402. Alternating Currents and Machinery. A study of the flow of periodic currents in circuits containing resistance, inductance, and capacity; the construction, operation, and performance of alternating current machinery. Text-book, Franklin & Esty's *Alternating Currents.* Three periods. Required of Seniors in Electrical Engineering. Prerequisites, Subjects 301-302. Professor W. H. BROWNE.

411-412. Industrial Applications of Electricity. A detailed study is made of the many industrial applications of electricity, such as electric traction, the electric drive in mill and factory, electric power stations, industrial electro-chemistry and electro-metallurgy, telegraphy and telephony. Two periods. Required of Seniors in Electrical Engineering. Prerequisites, Subjects 301-302 and 321-322. Professor W. H. BROWN and Associate Professor MCINTYRE.

421-422. Electrical Transmission of Power. A practical study of the problems involved in the transmission of power from the generating station to the consumer; hydro-electric developments; high-tension transmission. Required of Seniors in Electrical Engineering. Two periods. Prerequisites, Subjects 301-302 and 321-322. Professor W. H. BROWNE.

321-322. Direct Current Laboratory. This study accompanies that of direct current machinery. It includes use of standardizing apparatus, calibration of instruments, advanced electric and magnetic measurements, and the operation and testing of direct-current dynamos and motors. Text-book, Sever and Townsend's *Laboratory and Factory Tests*, supplemented by notes. Two periods. Fee, $2. Required of Juniors in Electrical Engineering. Prerequisites, Physics 201-202 and Physics 211-212. Associate Professor MCINTYRE.

331-332. Electrical Engineering Laboratory. This course accompanies Subjects 311-312. Instruction is given in the care and operation of direct and alternating current machinery. Required of Juniors in Mechanical Engineering. One period. Fee, $1. Text-book, Sever's *Direct Current Tests*. Prerequisites, Physics 201-202 and Physics 211-212. Associate Professor MCINTYRE.

431-432. Alternating Current Laboratory. This study is taken up simultaneously with the study of alternating currents. It includes practice with alternating currents, measurements of inductance and capacity, experimental study of transformers, alternating current generators and motors, advanced methods of testing electrical apparatus, and shop testing. Text-book, Sever and Townsend's *Laboratory and Factory Tests*, supplemented by notes. Two periods. Fee, $2. Required of Seniors in Electrical Engineering. Prerequisites, Subjects 301-302 and 321-322. Associate Professor MCINTYRE.

441-442. Design and Calculations. A course in which electrical problems of all kinds are studied. This includes the calculation of circuits, the performance of machines, the design of simple electrical apparatus, transmission lines, problems of control of electrical apparatus and in lighting and illumination. Three periods first term, two periods second term. Required of Seniors in Electrical Engineering.

Prerequisites 301-302. Professor BROWNE and Associate Professor MCINTYRE.

341-342. Electric Motors. The elementary laws of electric currents, principles, construction, operation, and care of electrical machinery, electric lamps and illumination. A study of the use of electrical machinery in factories, with special reference to textile mills. Two periods. Required of Juniors in Textile Industry. Professor W. H. BROWNE and Associate Professor MCINTYRE.

ENGLISH

For use in English throughout this course every student needs a copy of the Bible with marginal references, and a dictionary as large at least as the Student's Standard or Webster's Secondary School Dictionary. These can be bought before the student comes to College or purchased upon arrival.

101-102. Composition and Rhetoric. After a review of the principles of English grammar, special attention is given to the selection of subjects, the planning of essays, and the study of words, sentences, and paragraphs. Frequent themes are required, the work being directed mainly upon the mechanics of writing and the making of reports on scientific studies. Required of Freshmen. Three periods throughout the year. Dr. SUMMEY and Mr. WEBBER.

201-202. American Literature. The study of the history of American literature is accompanied with the reading and analysis in class of the writings of representative American authors. Essays are based largely upon class and parallel reading. Three periods, first term, and second term to March 1. Required of Sophomores. Professor HARRISON, Dr. SUMMEY, and Mr. WEBBER.

212. Public Speaking. The principles governing the preparation and the delivery of public addresses are given in text-book and in lectures. The reading in class of addresses in various styles, the writing of several papers by each member of the class, and practice in delivery, complete the work. Required of Sophomores. Three periods after March 1. Dr. SUMMEY and Mr. WEBBER.

301. Advanced Rhetoric. The principles of style and the forms of discourse constitute the basis of the work. Scientific exposition in particular is studied in selected essays and addresses; and in frequent essays the principles learned are put into practice. Three periods, first term. Required of Juniors. Professor HARRISON and Dr. SUMMEY.

302. Literature. The inductive study of the development of English poetry and prose is pursued in the works of standard writers of the different periods. The continuity is emphasized by a textbook on the history of the literature. Occasional essays and parallel reading form an important part of the work. The purpose of the course is to cultivate in the student a taste for the best writings of the greatest writers. Three periods, second term. Required of Juniors. Professor HARRISON and Dr. SUMMEY.

401. Classics. The lives and works of the great scientists and of other great writers, particularly of the nineteenth century, are studied in this course. Essays will form an important part of the work. Three periods, first term. Open to Seniors. Professor HARRISON.

402. Journals. To give practical knowledge of technical and of other standard journals is the purpose of this course. The frequent essays required are mainly of scientific and technical character. Three periods, second term. Open to Seniors. Professor HARRISON.

11-12. Short Course. This is a thoroughly practical course in the elements of grammar and in composition, especially spelling, sentence and paragraph structure, and letter-writing. Some reading is done in class, and supplementary reading is assigned for private study. Three hours a week. Required of first-year Short Course students. Mr. WEBBER.

HORTICULTURE

Four-year Courses

201. Plant Propagation. A course in the multiplication of plants. Seedage, separation and division, cuttage, layerage, and graftage are considered in turn. The most commonly used methods of propagating vegetables, fruit and ornamental plants are emphasized. Three periods, first term; recitation two hours, practice two hours per week. Fee, $1. Required of Sophomores. Mr. SUTTON.

202. Vegetable Gardening. A course dealing with the principles of vegetable growing and the methods employed in the home, truck, and market gardening areas. Special attention is given to the home garden, and the trucking industry in North Carolina. Consideration is given to sites, soils, manures, and fertilizers, seed sowing, transplanting, and the culture, harvesting, storing, and marketing of all important vegetables. Three periods, second term; recitation two hours, practice two hours per week. Fee, 50 cents. Required of Sophomores. Mr. SUTTON.

301. Practical Pomology. A general course in fruit growing. Among the subjects considered are the choice of locations, the selec-

tion of sites and soils; the choice of varieties; the preparation of the land; the planning, planting, fertilization, and management of orchards; and the harvesting, storing, and marketing of fruits. Practice consists in the inspection and examination of sites and soils, the making of orchard plans; laying out orchards; handling and planting trees; and the exercise of modern methods of grading, packing, and marketing fruits. Three periods, first term; recitation two hours, practice two hours per week. Required of Juniors in Horticultural, Normal, Poultry, and Agronomy divisions. Professor PILLSBURY.

302. Pruning and Orchard Protection. A course in the training of fruit plants and their protection from insect pests and fungous diseases. Treatment of special diseases and methods of protection from frost are also considered. A continuation of Practical Pomology. Three periods, second term; recitation two hours, practice two hours per week. Fee, $1. Required of Juniors in Horticulture, Vocational Education, Biology, and Agronomy divisions. Professor PILLSBURY.

401. Greenhouse Management. A course which treats of the principles and practice of growing plants under glass. It includes the forcing of both vegetable and flowering plants. A given area is assigned to each student and he is required to plan, plant, and manage it to a successful conclusion. Three periods, first term; recitation two hours, practice two hours per week. Required of Seniors in Horticultural Division. Prerequisite, Vegetable Gardening 312. Mr. SUTTON.

411. Systematic Pomology. A course which combines both study and practice in the description, identification, classification, and judging of varieties of fruits. Three periods, first term; recitation two hours, practice two hours per week. Required of Seniors in Horticultural Division. Prerequisite, Practical Pomology 301. Professor PILLSBURY.

412. Plant Breeding. A course in the study of the principles of plant breeding, and practice of the most approved methods of pollination, crossing, and selection for the origination and improvement of varieties of plants. Mendelism and biometrical measurements constitute an important part of the course. Three periods, second term; recitation two hours, practice two hours per week. Required of Seniors in Horticultural, Normal, and Agronomy divisions. Professor PILLSBURY.

421. Landscape Gardening. A course in the study of the principles of the art of design, and their applications to the design of landscapes. The principal styles of composition are considered and com-

pared as to history, development and adaptation. Practice consists of a study of landscape materials, in mapping, designing plans and specifications, and in the execution of important parts of the practical work of improving grounds. Three periods, first term; recitation two hours, practice two hours per week. Required of Seniors in Horticultural Division. Professor PILLSBURY.

422. Horticulture. Elective. A course designed to give the student an opportunity to elect and pursue the study of some special line of horticultural investigation. Three periods, second term; hours to be arranged. Open to Seniors in Horticulture only. Professor PILLSBURY.

423. Farm Forestry. A course in the study of the principles of forestry and their application to the farm woodlot. Three periods, second term. Elective for Seniors. Professor PILLSBURY.

Short Courses

11. Plant Propagation. A course designed to give a working knowledge of the best and most commonly employed methods of multiplying plants. Fall term.

12. Pruning and Spraying. A course which will include instruction and practice both in the training of fruit plants and in the practical methods of protecting them from insect pests and diseases. Winter term.

21. Fruit Growing. This course will deal with the problems involved in establishment and management of orchards—the productive end of the fruit business. Home orchard problems will be emphasized. Fall term.

22. Vegetable Gardening. A course which will consist in a study of the principal vegetable crops, and their requirements as to soils, preparation for planting, planting and culture. All-the-year-round vegetable gardens will be given prominence. Winter term.

31. Improvement of Home Grounds. This course is designed not only to give instruction in the planting of ornamental plants about the home, but also in the planning of the grounds for efficient use. Fall term.

32. Marketing Horticultural Products. A course in which practical consideration will be given to the best methods of harvesting, packing, and marketing fruits and vegetables. Winter term.

42. Principles of Plant Culture. A course in which the functions of various parts of plants; the activities engendered by heat, cold, moisture and light; and the effect of soil and climate upon the growth

of plants are considered. The propagation, planting, and training of plants are also included. Practice work consists in laboratory and field exercises demonstrating the facts studied. Three periods, second term; recitations one hour, practice two hours per week. Mr. SUTTON.

MATHEMATICS

While the subject of mathematics is presented in such a manner that the student obtains a thorough working knowledge of those principles which he needs in his Engineering Course, yet it is not the purpose to subordinate the general theory of mathematics to the practical side. The work consists of recitations, written exercises, and lectures, with frequent oral and written quizzes.

11. Algebra. Wells' *New Higher Algebra.* A thorough treatment of elementary Algebra, beginning with fractions and embracing simple equations, simultaneous equations in two or more unknowns, problem solving, involution, evolution, theory of exponents, and radicals. Required of all first-year students in the two-year courses. First term, five periods. Mr. JETER, Mr. SMITH.

12. Plane Geometry. Wentworth and Smith's *Plane and Solid Geometry.* A complete course in plane geometry, including numerous original exercises. Required of all first-year students in the two-year courses. Five periods, second term. Mr. JETER, Mr. SMITH.

121. Algebra. Well's *New Higher Algebra.* This course begins with quadratic equations and completes logarithms, embracing ratio and proportion, variation, the progressions and binomial theorem. Three periods, first term. Required of Agricultural Freshmen. Prerequisite, entrance requirements. Professor YATES, Mr. SCARBOROUGH, Mr. JETER, Mr. SMITH.

122. Agricultural Mathematics. Kenyon and Lovitt's *Mathematics for Agriculture and General Science.* This course consists of elementary Geometry, Trigonometry, and Conic Sections, with their practical applications to Agricultural Science. Three periods, second term. Required of Agricultural Freshmen. Prerequisite 121. Professor YATES, Mr. SCARBOROUGH, Mr. JETER, Mr. SMITH.

101. Algebra. Wells' *New Higher Algebra.* This course begins with quadratic equations and completes summation of series, embracing ratio and proportion, variation, the progressions, the binomial theorem, undetermined coefficients, logarithms, compound interest and annuities, permutations, combinations, and continued fractions. Five periods, first term. Required of Engineering, Chemical, and Textile Freshmen. Prerequisite, entrance requirements. Professor YATES, Mr. SCARBOROUGH, Mr. JETER, Mr. SMITH.

112. Advanced Algebra. Wells' *New Higher Algebra.* The general theory of equations, the solution of higher equations, determinants, etc. Required of Engineering, Chemical, and Textile Freshmen. One period, second term. Prerequisite 101. Professor YATES, Mr. SCARBOROUGH, Mr. JETER, Mr. SMITH.

102. Solid Geometry. Wentworth and Smith's *Plane and Solid Geometry.* This course begins with and completes Solid Geometry, including numerous original exercises. Four periods, second term. Required of Engineering, Chemical, and Textile Freshmen. Prerequisite 101. Professor YATES, Mr. SCARBOROUGH, Mr. JETER, Mr. SMITH.

201. Trigonometry. Wentworth and Smith's *Plane and Spherical Trigonometry.* Plane Trigonometry. Definitions of the trigonometric functions; derivation of formulæ, with their application. Solution of plane triangles, etc. Spherical Trigonometry. Solution of spherical triangles. This course includes the solution of many practical problems. Required of Sophomores in Engineering, Chemical, and Textile Courses. Five periods. first term. Prerequisites, 101 and 102. Professor YATES, Mr. SCARBOROUGH, Mr. JETER.

202. Analytical Geometry. Wilson and Tracy's *Analytical Geometry.* Loci of equations, straight line, circle, parabola, ellipse, hyperbola, a discussion of the general equation of the second degree, higher plane curves, and geometry of three dimensions. Required of Sophomores in Engineering and Chemical Courses. Five periods, second term. Prerequisite, 201. Professor YATES, Mr. SCARBOROUGH, Mr. JETER.

301-302. Differential and Integral Calculus. Osborne's *Differential and Integral Calculus.* A thorough treatment of the fundamental principles and derivations of formulæ; applications to various problems, such as expansion into series, evaluation of indeterminate forms, maxima and minima, radius of curvature, lengths of curves, areas, volumes, etc. Four periods, first and second terms. Required of Juniors in Engineering. Elective for Seniors in Chemistry. Prerequisites for differential calculus, 202; for integral calculus, differential calculus. Professor YATES, Mr. SCARBOROUGH.

MECHANICAL ENGINEERING

Four-year Courses

101. Engineering Lectures. First term. A series of lectures intended to acquaint students with general engineering terms and principles; also with materials used in engineering work, such as lumber, iron, steel, copper, brass, cement, coal, and other materials. Lantern slides are used wherever possible. Two periods. Required of Fresh-

men in Mechanical Engineering and Textile Industry. Professor SATTERFIELD and Assistants.

111. Mechanical Drawing. First term. Instruction in care and use of instruments; lettering, geometrical drawing; projection drawing; isometric and cabinet projections; drawings from working sketches of machine details; tracing; blue-printing; elements of descriptive geometry; cylinders; cones; prisms; intersecting and development; miscellaneous problems. Two periods. Required of Freshmen in Engineering and Textile Industry. Mr. CLOYD.

112. Mechanical Drawing. Second term. Continuation of 111. Two periods. Required of Freshmen in Engineering and Textile Industry. Mr. CLOYD.

NOTE. Each student will be required to furnish, at his own expense, the following outfit. To insure uniformity in grade of instruments and other supplies, the Department keeps for sale, practically at cost, the articles named below. These may be purchased elsewhere, but must be approved by the Department. Estimated cost of outfit, $15 to $20. Text-book. Drawing board, 23 x 31 inches. T-square, 30 inches. 60° triangle, 9 inches, transparent. 45° triangle, 7 inches, transparent. 12-inch triangular architect's scale. 4H pencil. H or F pencil. Erasers for ink and pencil. Penholder with five points. Pencil-sharpener. Instrument set consisting of: 6-inch compass with pen, pencil, and lengthening bar; 5½-inch dividers with hair-spring adjustment; 3-inch bow dividers; 3-inch bow pencil; 3-inch bow pen; 5½-inch ruling pen.

141. Drawing. Elementary drawing, elementary projection, freehand sketching and lettering. Geometrical problems. Freehand drawing. Two periods, first term. Required of Freshmen in Agriculture. Mr. BRIGGS.

121. Wood Shop Work. First term. Elementary instruction in bench work, involving the use of ordinary hand tools, such as planes, saws, squares, chisels, etc. All exercises are made from blue-prints and sketches. This work leads up largely to cabinet lines, such as bookcases, tables, drawing boards, and similar things. Special attention is given to making cabinets, tables, and other articles for the different laboratories, and also to a general line of repairing for the College.

The student also gets a good working knowledge of woodworking machinery, such as sand saw, jig saw, rip saw, planers, boring machines, jointers, and other machines.

They also get good experience in hand finishing, scraping, gluing, sand-papering, staining, and varnishing. Two periods. Required of Freshmen in Engineering and Textile Industry. Mr. MAYNARD.

122. Wood Shop Work. Second term. Work similar to that outlined under 121. During the latter half of the spring term the time is devoted principally to wood-turning, which includes turning between centers, face plate, chuck work, polishing, and finishing. Two periods. Required of Freshmen in Engineering and Textile Industry. Mr. MAYNARD.

132. Forge Shop Work. Second term. Treatment of iron and steel, the use of punches, swages, fullers, and set-hammers, both hand and machine tools. Exercises in drawing, upsetting, forming; scarf, jump, butt, and cleft welding; making of forge and machine-shop tools from blue-prints; hardening and tempering, annealing, carbonizing, and case hardening; selection of tool steels. Special work on equipment and repairs about the College shops and laboratories. Two periods, recitation and exercises. Required of Freshmen in Engineering and Textile Industry. Mr. RUBY.

142. Wood Shop. The use and care of ordinary woodworking and bench tools. Exercises in sawing, planing, and making joints. As much time as possible is spent in making models of small buildings, gates, etc. Required of Agricultural Freshmen. Two periods, second term. Mr. MAYNARD.

202. Descriptive Geometry. Second term. Instruction in method of representing on a flat surface geometrical magnitudes, points, lines, surfaces, and solids, and the solution of problems relating to them. A practice period follows each hour of instruction. Prerequisite, Mechanical Drawing 111 and 112. Two periods. Required of Sophomores in Mechanical and Electrical Engineering. Professor SATTERFIELD, Mr. BRIGGS.

201. Foundry Work. First term. Recitations and exercises in foundry work, including selection and working condition of sand; use and care of tools and machines; floor, bench, machine molding, and core-making; mixing cast-iron and alloys; management of cupola and brass furnace in iron and brass melting; making castings for special machines, general repairs, and machine-shop work; relation and merits of a variety of tools and materials used in foundry practice. Two periods. Required of Sophomores in Mechanical and Electrical Engineering. Mr. RUBY.

211. Pattern-making. A study of pattern-making in its relation to molding; the practical construction of patterns to prevent warping and twisting; the making of special patterns, also patterns for different machines, such as drill presses, lathes, jointers, etc.; cores and core-boxes; introducing draft, shrinkage, finish, and the appliances and usage of modern pattern work. Required of Sophomores in Me-

chanical and Electrical Engineering. Two periods, first term. Prerequisite, Woodwork 121 and 122. Mr. MAYNARD.

212. Mechanical Drawing. Second term. Making drawings and calculations setting forth the general principles of Descriptive Geometry. The design of cams to give specified motions, and problems in elementary machine design. Two periods. Required of Sophomores in Mechanical and Electrical Engineering and Textile Industry. Prerequisite, Mechanical Drawing 111 and 112. Mr. BRIGGS.

301. Heat Engines. First term. A study of elementary thermodynamics, properties of steam, calorimeters and mechanical mixtures, combustion and fuels, boilers and boiler auxiliaries. Three periods. Required of Junior Mechanical Engineers. Professor SATTERFIELD.

302. Heat Engines. Second term. A study of steam engines, steam turbines, and internal combustion engines—types and details, valve gears and governors; calculations for testing; economy of installation and operation. Three periods. Required of Junior Mechanical Engineers. Professor SATTERFIELD.

311. Mechanics. First term. Nature and measurements of the various units entering into the study of Mechanics. Statics, as applied to forces acting at a single point and on a rigid body and involving the use of the triangle of forces, the X-component and Y-component and Moment principles. The application of the principles of Statics as applied to the solving of problems in simple mechanics. Two periods. Required of Juniors in Mechanical and Electrical Engineering. Prerequisites, Physics 280, Algebra 340, and Trigonometry 344. Associate Professor ELLIS.

312. Mechanics. Second term. Graphical statics and its application for the purpose of finding reaction and stresses in members of framed structures. Kinematics, which treats of the motion of bodies without reference to the forces producing the motion or masses of the moving bodies. The solving for velocity and acceleration of bodies when in rectilinear and curvilinear motion. Two periods. Required of Juniors in Mechanical and Electrical Engineering. Prerequisite, M. E. 311. Associate Professor ELLIS.

321. Mechanism. First term. An analysis of the motions and forms of machines. Among the subjects discussed are instantaneous centers, kinematic chains, velocity diagrams, parallel and straight line motions, cams, gearing, worms and worm wheels, belting and intermittent motions. The solution of a large number of practical problems by both graphical and mathematical methods is required. Two periods. Required of Juniors in Mechanical and Electrical Engineering. Prerequisites, M. E. 202 and M. E. 212. Associate Professor ELLIS.

322. Machine Design. Second term. A study of materials used in machine construction; analysis of stresses in machine parts; design of machine parts, considering them as compression, tension, or torsion members; modification of the above to suit practice and for the sake of general appearance. Design of simple machines, such as shears, punches, power pumps, etc., all calculations to be made in standard form and handed in with the assigned problems. Two periods. Required of Juniors in Mechanical and Electrical Engineering. Prerequisites, M. E. 202 and M. E. 302. Associate Professor ELLIS.

331. Machine Shop Work. First term. Bench work, exercises in chipping and filing. One period. Required of Junior Mechanical and Electrical Engineers. Mr. PARK.

332. Machine Shop Work. Second term. Machine work. Exercises in lathe work, boring, reaming, drilling, planing, milling and shaping. One period. Required of Junior Mechanical and Electrical Engineers. Mr. PARK.

341. Mechanical Engineering Laboratory. First term. The work consists largely of calibrating and becoming familiar with the various instruments used in engineering testing. Practice in the use of calorimeters, both steam and fuel, and the operation of apparatus used in determining the products of combustion in a furnace. Determining the relation between pressure and temperature of steam; the flow of steam through orifices, etc. One period. Required of Juniors in Mechanical Engineering. Prerequisite, Physics 201-202. Assistant Professor VAUGHAN.

342. Mechanical Engineering Laboratory. Second term. Practice in the use of indicators and planimeters for the purpose of determining the indicated horse-power of steam and gas engines. The operation of injectors and pumps for the purpose of determining their duty. Testing of lubricants for flash, burning, and chill points and viscosity. Study and operation of lubricators and lubricating systems. One period. Required of Juniors in Mechanical Engineering. Prerequisite, M. E. 341. Assistant Professor VAUGHAN.

351. Heat Engines. First term. Nature and measurement of the units of heat, work, and power as used in steam engineering. A study of the properties of steam; use of the "Steam Tables" for solving problems. The theory of steam calorimeters, mechanical mixtures, and combustion of fuels. The application of the above to boilers for the purpose of determining rating, capacity, and efficiency. The function of the various boiler auxiliaries is critically examined. Two periods. Required of Juniors in Electrical and Textile Engineering. Prerequisites, Physics 201-202, Algebra 122. Assistant Professor VAUGHAN.

352. Heat Engines. Second term. The study of elementary thermodynamics as applied to the steam and gas engine cycles, the steam engine, including classification and details, valves, valve gears, and governors. Determination of indicated and brake horse-powers and heat efficiency from given conditions. Steam turbines and gas engines will be studied briefly. Two periods. Required of Juniors in Electrical and Textile Engineering. Prerequisite, M. E. 351. Assistant Professor VAUGHAN.

401. Power Plants. First term. A study of fuels and combustion; steam boilers; smoke prevention; superheaters and superheated steam; coal and ash handling apparatus; mechanical draft. A comparative study of steam engines; efficiencies; heat losses; influence of condensing and superheating; costs. Three periods. Required of Mechanical Engineers. Professor SATTERFIELD.

402. Power Plants. Second term. A study of the elementary theory, efficiency, and economy of the steam turbine; types, functions, and operation of condensers, feed-water heaters and purifiers, pumps, separators, traps, and drains. A study of piping and pipe fittings. Attention is also given to cost of power and to specifications for power-plant equipment. Two periods. Required of Mechanical Engineers. Assistant Professor VAUGHAN.

411. Gas Engines. First term. Themodynamics of the gas engine, theoretical comparisons of various types of internal combustion engines. Combustion, including combining weights and volumes, heating value, air required, etc. Gas engine fuels; solid, liquid, and gas. Gas producers, carbureters, and vaporizers. The fuel mixture, pressure, and temperature resulting from combustion. Modern types of internal combustion engines; auxiliaries, including ignition, starting and lighting systems; regulation, efficiency, and economy. Three periods, first term. Required of Seniors in Mechanical Engineering. Prerequisites, Heat Engines, M. E. 301 and 302, and Mechanics, M. E. 311 and 312. Assistant Professor VAUGHAN.

421. Mechanics. First term. A study of the kinetics of a particle and the mass center of a rigid body, with the equations of motion for translation, moment of inertia, work, energy, principle of work and its application to mechanics. Three periods. Required of Seniors in Mechanical and Electrical Engineering. Associate Professor ELLIS.

422. Mechanics of Materials. Second term. A study of the effects of loads and forces in engineering structures by use of the stress-strain diagram. Determination of ultimate stress and elastic limit of materials, with investigation for maximum and minimum bending moment and shear. Torsion and its application to shafting, with theo-

ries as to elastic limit and failure. Two periods. Required of Seniors in Mechanical and Electrical Engineering. Prerequisites, M. E. 311 and M. E. 421. Associate Professor ELLIS.

412. Industrial Engineering. Second term. In this course a study is made of the origin of the Industrial Systems; principles of industrial organization; forms of industrial ownership; nature and distribution of expense; the primary wage systems; philosophies of management; and the buying, handling, and use of materials. Two periods. Elective for Mechanical Engineers. Professor SATTERFIELD.

403. Heating, Ventilation, and Refrigeration. Second term. This subject treats of the various methods of heating, such as by open fires, hot air, steam, and hot water; of the proper ventilation of all types of buildings; of the various types of ice-making and refrigerating machinery, and their installation, care, and management; and of the cost of heating and cooling. Two periods, second term. Required of Seniors in Mechanical Engineering. Professor SATTERFIELD.

441. Machine Design. First term. Advanced machine design based on the thermal and mechanical problems involved in the design of a steam engine for power, economy, and regulation. The students are given the requirements of the engine—such as speed, regulation, and economical point of cut-off for required horsepower—and are required to make calculations and detail drawings for problems assigned. Required of Seniors in Mechanical Engineering. Prerequisites, M. E. 321, 311-312, 302 and 301. Associate Professor ELLIS.

442. Gas Engine Design. Second term. The practical application of the principles discussed in M. E. 403 combined with the rational and empiric methods of design as developed in general practice. Two periods. Either this or 452 is to be elected by Seniors in Mechanical Engineering. Prerequisite, M. E. 411. Associate Professor ELLIS.

452. Turbine Design. Second term. The calculations for the most economical water rate are made and are based on the general principles related to the flow of steam through nozzles with the resulting action upon turbine buckets, including the losses due to friction, rotation, etc. The estimates for the sizes of the nozzles, shaft bearings, etc., with the shape of the buckets to suit the velocity diagrams, are made. The detail and assembly drawings of the turbine are also made. Two periods, spring term. Either this or 442 is to be elected by Seniors in Mechanical Engineering. Prerequisites, M. E. 401 and M. E. 441. Associate Professor ELLIS.

461. Machine Shop Work. First term. Making the parts of some machine or of an engine. Making tools, such as taps and reamers. Two periods. Required of Seniors in Mechanical Engineering. Mr. PARK.

495. Gas Engines. A study of mechanical construction; principles of operation; ignition; carburetion; governing; lubrication; and types of farm engines. A text-book is used, and this is supplemented by demonstrations and manipulations of such equipment as is owned by the Farm and Mechanical Engineering Departments. Elective for Seniors in Agricultural Departments. Three periods, second term. Assistant Professor VAUGHAN.

462. Machine Shop Work. Second term. Laying out work. Duplicate and interchangeable parts. Working to standard gages. Two periods. Required of Seniors in Mechanical Engineering. Mr. PARK.

471. Mechanical Engineering Laboratory. First term. The testing of simple machines for efficiency under various conditions of loading. Efficiency and economy tests on injectors, pumps, steam engines, and steam turbines. Boiler tests for determining horsepower and efficiency. In addition to the testing work, advanced heat problem work will be given, dealing with the various heat cycles studied in the laboratory. Two periods. Required of Seniors in Mechanical Engineering. Prerequisites, M. E. 301 and 302 and M. E. 341 and 342. Assistant Professor VAUGHAN.

472. Mechanical Engineering Laboratory. Second term. The determination of efficiency and economy of gas, gasoline, and oil engines. Tests for refrigerating effect in a cold-storage plant. The testing of materials of construction for strength in compression and tension; determination of elastic limit, modulus of elasticity, etc. A continuation of the heat problem work from M. E. 461. Two periods. Required of Seniors in Mechanical Engineering. Prerequisites, M. E. 471, 411 and 421. Assistant Professor VAUGHAN.

404. Power Plant Design. Second term. A continuation of M. E. 401, consisting of a study of the selection, location, and proportioning of the essential details of steam power plants, such as engines, boilers, pumps, piping, condensers, feed-water heaters, chimneys, etc. The course consists of the study of references, lectures on the subject, and the drawing of the plans of plants. Two periods. Required of Seniors in Mechanical Engineering. Prerequisite, M. E. 441. Associate Professor ELLIS.

481. Machine Shop Work. First term. The making and assembling of some complete machine, in so far as is possible. Two periods. Elective for Senior Mechanical Engineers. Mr. PARK.

482. Machine Shop Work. Second term. Continuation of 481. Two periods. Elective for Senior Mechanical Engineers. Mr. PARK.

491. Machine Design. First term. Advanced work in design, exact subject to be selected by student and professor in charge. Two peri-

ods. Elective for Senior Mechanical Engineers. Associate Professor ELLIS.

492. Machine Design. Second term. Continuation of 491. Two periods. Elective for Senior Mechanical Engineers. Associate Professor ELLIS.

431. Mechanical Engineering Laboratory. First term. Calibration of the instruments used in performing tests in mechanical engineering problems. Practice in the use of calorimeters, both steam and fuel; indicators, planimeters, etc. Testing of lubricants for flash-point, burning-point, and viscosity. Checking the formulas used in determining the flow of fluids through orifices and nozzles. One period. Required of Seniors in Electrical Engineering. Prerequisites, M. E. 351, 352, 311 and 312. Assistant Professor VAUGHAN.

432. Mechanical Engineering Laboratory. Second term. Efficiency tests of pumps, injectors, boilers, steam engines, steam turbines, and gasoline and oil engines. Testing of materials for strength in compression and tension; determination of elastic limit and modulus of elasticity. One period. Required of Seniors in Electrical Engineering. Prerequisite, M. E. 431. Assistant Professor VAUGHAN.

413-414. Automobile Power Plant. A critical study of the automobile engine. A text-book study and laboratory practice having to do with fuels, ignition systems, lubrication, valve timing, and starting and lighting systems. Elective for Senior Mechanical Engineering students. Prerequisites, 301, 302, 341 and 342.

Short Courses

11-12. Mechanical Drawing. Instruction in care and use of instruments; lettering, geometrical drawing, projection drawing; isometric and cabinet projections; drawing from working sketches of machine details; tracing; blue-printing; elements of Descriptive Geometry; cylinders; cones; prisms; intersections and developments; miscellaneous problems. Three periods. Mr. BRIGGS.

NOTE. Each student will be required to furnish, at his own expense, the following outfit. To insure uniformity in grade of instruments and other supplies, the Department keeps for sale, at practically cost, the articles named below. These may be purchased elsewhere, but must be approved by the Department. Estimated cost of outfit, $15 to $20. Text-book. Drawing board, 23 x 31 inches. T-square, 30 inches. 60° triangle, 9 inches, transparent. 45° triangle, 7 inches, transparent. 12-inch triangular architect's scale. Irregular curve. 4H pencil. H or F pencil. Erasers for ink and pencil. Penholder with five points. Pencil sharpener. Instrument set consisting of:

6-inch compass with pen, pencil, and lengthening bar; 5½-inch dividers with hair-spring adjustment; 3-inch bow dividers; 3-inch bow pencil; 3-inch bow pen; 5½-inch ruling pen; 4½-inch ruling pen.

21. Wood Shop Work. First term. Elementary instruction in bench work, involving the use of ordinary hand tools, such as planes, saws, squares, chisels, etc. All exercises are made from blue-prints and sketches. This work leads up largely to cabinet lines, such as book-cases, tables, drawing boards, and similar things. Special attention is given to making cabinets, tables, and other articles for the different laboratories, and also to a general line of repairing for the College. The students also get a good working knowledge of wood-working machinery, such as hand saw, jig saw, rip saw, planers, boring machines, jointers, and other machines. They also get good experience in hand finishing, scraping, gluing, sand-papering, staining, and varnishing. Two periods. Mr. MAYNARD.

22. Wood Shop Work. Second term. Work similar to that outlined under 105. During the latter half of the spring term the time is devoted principally to wood turning, which includes turning between centers, face plate, chuck work, polishing and finishing. Two periods. Mr. MAYNARD.

32. Forge Shop Work. First term. Treatment of iron and steel, the uses of punches, swages, fullers, and set-hammers, both hand and machine tools. Exercises in drawing, upsetting, forming; scarf, jump, butt, and cleft welding; making of forge and machine-shop tools from blue-prints; hardening and tempering, annealing, carbonizing, and case hardening; selection of tool steels. Special work on equipment and repairs about the College shops and laboratories. Two periods, recitation and exercises. Mr. RUBY.

41. Engineering Lectures. First term. A series of lectures intended to acquaint students with general engineering terms and principles; also with materials used in engineering work, such as lumber, iron, steel, copper, brass, cement, coal, and other materials. Lantern slides are used wherever possible. Two periods. Professor SATTERFIELD and Assistants.

51-52. Machine Drawing. Sketching and drawing of machine parts and machines. Detail working drawings. Tracing and blue-printing. Three periods. Prerequisite, 11 and 12. Associate Professor ELLIS.

61-62. Machine Shop Work. Bench and machine work. Exercises in chipping and filing. Exercises in lathe work, boring, reaming, drilling, planing, milling, and shaper-work. Three periods. Mr. PARK.

71-72. Power Machinery. Descriptive study of the machinery of steam power plants, engines, boilers, condensers, pumps, steam turbines, piping, care and management, study of gas and oil engines.

Combustion of fuels. Indicators; indicated, brake, and boiler horsepower problems. Three periods. Mr. PARK.

82. Elementary Mechanics. This subject is intended to treat the elementary mechanics problems which arise in connection with machine shop and drafting room practice. Two periods, second term. Professor SATTERFIELD.

92. Gas Engine Laboratory. In connection with a study of the principles of the internal combustion engine in power machinery, this laboratory course is offered for the purpose of acquainting the student with the actual handling of such engines. Practice is given on the various types of gasoline, kerosene, and oil engines. One period, second term. Assistant Professor VAUGHAN.

81. Pattern-making. A study of pattern-making in its relation to molding; the practical construction of patterns to prevent warping and twisting; the making of special patterns, also patterns for different machines, such as drill presses, lathes, jointers, etc.; cores and core-boxes; introducing draft, shrinkage, finish, and the appliances and usage of modern pattern work. Two periods, first term. Prerequisite, first term work. Mr. MAYNARD.

91. Foundry Work. Recitations and exercises in foundry work, including selection and working condition of sand; use and care of tools and machines; floor, bench, machine molding and core-making; mixing cast-iron and alloys. Management of cupola and brass furnace in iron and brass melting; making castings for special machines, general repairs, and machine-shop work; relation and merits of a variety of tools and materials used in foundry practice. Two periods, first term. MR. RUBY.

13. Carpentry. The use and care of ordinary woodworking and bench tools. Exercise in sawing, planing, and making joints. As much time as possible is spent in making models of small buildings and gates. Required of One-year Course in Agriculture. Three periods, first term. Mr. MAYNARD.

MILITARY ART

101. Military Art. (*a*) Practical: Physical drill (*Manual of Physical Training*—Koehler); Infantry drill (*U. S. Infantry Drill Regulations*), to include the School of the Soldier, Squad and Company, close and extended order. Preliminary instruction, sighting position and aiming drills, gallery practice, nomenclature and care of rifle and equipment. (*b*) Theoretical: Theory of target practice, individual and collective (use of landscape targets made up by United States Military Disciplinary Barracks, Fort Leavenworth, Kans.); military

organization (Tables of Organization); map reading; service of security; personal hygiene. Four periods, first term. Required of Freshmen.

102. Military Art. (*a*) Practical: Physical drill (*Manual of Physical Training*—Koehler); Infantry drill (*U. S. Infantry Drill Regulations*), to include School for Battalion; special attention devoted to fire direction and control; ceremonies; manuals (Part V, Infantry Drill Regulations); bayonet combat; intrenchments (584-595, Infantry Drill Regulations); first-aid instruction; range and gallery practice. (*b*) Theoretical: Lectures, general military policy as shown by military history of United States and military obligations of citizenship; service of information; combat (to be illustrated by small tactical exercises); united States Infantry Drill Regulations, to include School of Company; camp sanitation for small commands. Four periods. Required of Freshmen.

201. Military Art. (*a*) Practical: The same as course 102 (*a*). Combat firing, if practicable, but collective firing should be attempted in indoor ranges by devices now in vogue at United States Disciplinary Barracks. (*b*) Theoretical: United States Infantry Drill Regulations, to include School of Battalion and Combat (350-622); Small Arms Firing Regulations, lectures as in (*b*) course 2; map reading; camp sanitation and camping expedients. Four periods. Required of Sophomores.

202. Military Art. (*a*) Practical: The same as course 102 (*a*); signaling, semaphore and flag; first-aid. Work with sand table by constructing to scale intrenchments, field works, obstacles, bridges, etc. Comparison of ground forms (constructed to scale) with terrain as represented on map; range practice. (*b*) Theoretical: Lectures, military history (recent); service of information and security (illustrated by small tactical problems in patrolling, advance guards, rear guards, flank guards, trench and mine warfare, orders, messages, and camping expedients); marches and camps (Field Service Regulations and Infantry Drill Regulations). Four periods. Required of Sophomores.

301. Military Art. (*a*) Practical: Duties consistent with rank as cadet officers or noncommissioned officers in connection with the practical work and exercises laid down for the unit or units. Military sketching. (*b*) Theoretical: Minor tactics; field orders (studies in minor tactics, United States School of the Line); map maneuvers. Company administration, general principles (papers and returns). Military history. Four periods. Elective for Juniors.

302. Military Art. (*a*) Practical: Same as (*a*) course 301, Military sketching. (*b*) Theoretical: Minor tactics (continued); map

maneuvers. Elements of international law. Property accountability; method of obtaining supplies and equipment (Army Regulations). Weight 1. Four periods. Elective for Juniors.

401. Military Art. (*a*) Practical: Duties consistent with rank as cadet officers or noncommissioned officers in connection with the practical work and exercises scheduled for the unit or units. Military sketching. (*b*) Theoretical: Tactical problems, small forces, all arms combined; map maneuvers; court-martial proceedings (Manual for Courts-martial). International relations of America from discovery to present day; gradual growth of principles of international law embodied in American diplomacy, legislation, and treaties. Lectures: Phychology of war and kindred subjects. General principles of strategy only, planned to show the intimate relationship between the statesman and the soldier. Four periods. Elective for Seniors.

402. Military Art. (*a*) Practical: Same as course 401 (*a*). (*b*) Theoretical: Tactical problems (continued); map maneuvers. Rifle in war. Lectures on military history and policy. Four periods. Elective for Seniors.

MODERN LANGUAGES

The purpose of the work in this department is to enable the student to read and translate intelligently and correctly the scientific literature of German, French, and Spanish and to give a basis for the later development of a written and spoken knowledge of the latter language. With this object in view, grammar is taught secondarily and only as an aid in translating. Work in translation is begun as early as possible and continued with increasing importance throughout the entire course.

Three years work of German and two of Spanish are given each year. Only one year in French is offered, and this is given only by special petition. When given, the work in French will be especially determined by the needs of the students electing it.

One year's work of either German, French, or Spanish is required of all members of the Reserve Officers' Training Corps. It is recommended by the Department of Military Science and Tactics that the students in that department fulfill this requirement by taking the work in Spanish.

Two years of the work in German are required of all students in the Chemical and the Dyeing courses, and it is strongly recommended that, when possible, the students taking the Chemical work will also elect the third year's work in German.

Graduate students electing to do work in Modern Languages and others wishing to do special work in this field will arrange their

courses with the Head of the Department. So far as possible, the work will be adjusted to suit their special requirements.

German

201-202. Beginner's German. Grammar, translation, and composition. Bacon's *German Grammar* first term. Storm's *Immense*, Gerstacker's *Germelshausen*, Seidel's *Der Lindenbaum* and Hillern's *Höher als die Kirche* second term. Required two hours for Sophomores in the Chemical and Juniors in the Dyeing courses. Professor HINKLE.

321-322. Beginner's German. Alternative elective two hours with Military Science and Tactics for Juniors of the Agricultural courses. Both terms. Professor HINKLE.

311-312. Introductory Scientific German. Reading, translation, and discussions. Special attention given to the grammatical peculiarities of scientific German and to the acquisition of a vocabulary of scientific terms. Wright's *German Science Reader*, Wallentin's *Grundzuge der Naturlehre*, Du Bois-Reymond's *Vortrage*, and Lassarcohn's *Die Chemie in Taglichen Leben*. Required of Juniors in the Chemical and Dyeing courses. Elective for Seniors of the Agricultural courses. Both terms, three hours. Professor HINKLE.

421-422. Advanced Scientific German. An extensive course in scientific literature with especial reference to Chemical German. Designed to meet the needs of the Seniors in Chemistry. Phillip's *Chemical German*. Helmholtz's *Populure Vortrage*. Other authors will be read according to the needs of the students. Senior elective. Open to graduates. Both terms, three hours. Professor HINKLE.

NOTE.—Graduate students electing this course will arrange for additional outside work.

Spanish

401-402. Beginner's Spanish. Grammar, composition, translation, and conversation. De Vitis's *Spanish Grammar* the first term. Ramsey's *Elementary Spanish Reader* the second term. Required of all Seniors in the Reserve Officers' Training Corps. Both terms, two hours. Professor HINKLE.

301-302. Beginner's Spanish. Alternative elective with Military Science and Tactics for Juniors of the Engineering courses. Both terms, two hours. Professor HINKLE.

411-412. Intermediate Spanish. A continuation of *Beginner's Spanish*. Designed primarily to develop rapid reading and conversa-

tion. A number of easy Spanish stories are read. Some attention is given to composition and letter writing. Open to students who have had one year's work in the language. Elective for Seniors of the Engineering courses. Both terms, three hours. Professor HINKLE.

French

431-432. Elementary French. A review of the fundamental points of French Grammar the first term with work in introductory scientific French the second term. Giese's *Graded French Method.* Bowen's *First Scientific French Reader.* Senior elective. Both terms, three hours. Professor HINKLE.

NOTE.—This course will be given only on special petition of those desiring to elect the work.

PHYSICS

101-102. Physics. The first half of this course is designed to give a knowledge of the fundamental principles of Mechanics as a basis for advanced work in Physics and Mechanics given later in the Engineering courses. The second half of the course includes a study of the fundamental principles of Sound, Heat, and Light. Demonstrated lectures are given each week and essays on parallel reading in the History of the Physical Sciences are required each month. Recitations are given on the lectures and on Black and Davis's *Practical Physics* as a text-book. Four periods. Required of Freshmen in Engineering and Chemistry. Professor HECK, Mr. DERIEUX, Mr. DIXON.

111-112. Physical Laboratory. In the shops the engineering student handles and works with the materials of construction. In the laboratory he is taught to measure them and the interaction of forces. This course is arranged to make him familiar through actual observation with physical phenomena and teach him how they are measured and controlled. It includes practice in handling units in the British and Metric systems, measurements in the composition and resolution of forces, the lever, the inclined plane, the pendulum, density of materials, and specific gravity, the thermometer, heat and its effect on materials, sound laws, and the laws of lenses and mirrors. One period. Fee, $1. Required of Freshmen in Engineering and Chemistry. Mr. DIXON.

201-202. Sophomore Physics. A continuation of the study of Physics for Engineers requiring more mathematical preparation and having a more practical application to engineering. The first half of the year is given to the elements of heat, including elementary thermodynamics. The second half of the year is given to electricity and

magnetism. A full survey of the phenomena of electricity and a thorough practice in solving general electrical problems is given. Demonstrated lectures and recitations. Two periods. Required of Sophomores in Engineering and Chemistry. Prerequisite, Physics 101-102. Professor HECK.

211-212. Sophomore Physical Laboratory. A more advanced laboratory course in Physical Measurements. The theory of measurements and estimation of accuracy is given by lectures at the beginning of the work. Accurate measurements of heat and light are given throughout the first half of the year. General quantitative measurements of magnetic and electrical properties of materials comprise the work of the second half of the year. One period. Fee, $1. Required of Sophomores in Engineering and Chemistry. Prerequisite, Physical Laboratory, 111-112. Mr. DERIEUX.

221-222. Textile Physics. As textile work continually presents the operations of forces in machines and the more intricate problems of humidity and elasticity, a thorough course in Physics is required of all Textile students. This course emphasizes the particular problems met in textile work and gives a broad basis for interpretation of related engineering problems. The work embraces lectures, recitations on text-book assignments, and practical measurements in the laboratory. Lectures are given with demonstrations of the action of forces in machines and materials as nearly as possible like those the student will meet in practical textile work. The historical development of the science is discussed to give the students a broader outlook and to stimulate a desire for further study. The demonstrations and the work in the laboratory are made with machines and problems taken from actual practice. Two periods of recitation and one period of demonstration or laboratory work throughout the year. Required of Sophomores. Mr. DERIEUX.

231-232. Agricultural Physics. Physics is the study that treats of the action of all forces wherever found, whether in an engine or in the soil, in the atmosphere causing a change in weather or in a seed causing it to swell. Agricultural students must, therefore, study Physics to get a proper understanding of the cause and method of action of the mechanical and life forces that they meet in their other studies. The course in Physics required of Agricultural students is made thorough, and the subject-matter taken up is made to bear on the practical problems of agriculture. The course embraces lectures, recitations on a text-book, and demonstrations and measurements in the laboratory. The lectures are given with demonstrations and measurements of forces actually operating in machines and instruments as nearly as possible like those the student will meet in after

life. The lectures also emphasize the historical development of the science for the purpose of giving the student an impulse toward continued development and study. They include a short course in the study of weather, and during the months of January and February weather maps and local observations are followed so as to give the students practical experience in forecasting. Two periods class work and one period demonstration or laboratory throughout the year. Required of Sophomores. Professor HECK.

11-12. Physics. A physical science course is given under the head of Physics. The course embraces the historical development of the scientific ideas of today, with special emphasis on the development of practical machines and engines. Practical determinations of densities, strength of materials, measurements of heat and electricity, and other everyday determinations are made before the class. Machines are analyzed and the relations of force and energy are worked out. Practical heating and the wiring of electric circuits are also studied. The purpose of the course to be both educative and practical is carefully followed. Required of first-year students in Short Course Agriculture and in Mechanic Arts. Three periods a week during the Spring term. Mr. DIXON.

POULTRY SCIENCE

Four-year Courses

301. General Course. This will be divided as follows: Four weeks will be devoted to a discussion of the various phases of the poultry industry. Four weeks to an elementary study of breeds and breeding. Four weeks will be occupied with a study of the principles of ventilation and sanitation. Four weeks to poultry house construction.

Work in the poultry laboratory and at the poultry plant will be a part of the course, and will be an application of the principles taught. This course is for all regular students who are taking poultry for the first time. Poultry Culture, Sanitation, and Hygiene will be used as text. Three periods, first term, Junior year. Fee, $1. Doctor KAUPP, Mr. WHITE, and Mr. IVEY.

302. General Course. This is a continuation of Course 301 and will be assigned as follows: Four weeks will be devoted to the elementary study of parasites and diseases of fowls and their control. Four weeks to the anatomy of the digestive tract and the physiology of digestion and a study of the principles of poultry feeding. Four weeks to the balancing of feed mixtures and feeding of birds for the various purposes for which they are kept. Three weeks to commer-

cial plant construction and plant management. Three weeks to the study of market grades of eggs and practical market methods and a study of proper methods of dressing, handling, grading, refrigerating, packing, and shipping same; a study of the method of saving feathers, grading, storing, packing, curing, and shipping same; the methods of collecting, preserving, and handling poultry manure. Three periods, Junior year, second term. Fee, $1. Doctor KAUPP, Mr. IVEY, and Mr. WHITE.

311. Breeding and Judging. This is a detailed study of the origin of each breed, of the types and varieties, and of mating birds for the best results. Students taking the poultry course will have the opportunity to mate a pen of birds of any of the twenty breeds on the College and Station plant and care for them for a year and note the results in the progeny. To aid in this study there are colored plates, also cards mounted with typical feathers from all breeds. A study of the twenty breeds on the College and Station farm. *The American Standard of Perfection* will be used as a text. Three periods a week, first term, Junior year. Doctor KAUPP, Mr. IVEY.

401. Anatomy and Physiology. A complete course in the anatomy and physiology of the domestic fowl will be given. This includes a study of the bony structure, muscles, ligaments, and tendons, digestive structure, genito-urinary apparatus, the circulatory system, the nerves, and the special senses. Complete dissections will be made. This course prepares the student for the detailed study of diseases. Doctor KAUPP.

402. Specialized Marketing. First, a six-weeks detailed study of grading, handling, preserving, refrigerating, storing, packing, and shipping eggs. This will be followed by a detailed study of at least three large markets and of ten North Carolina markets, noting fluctuations in market prices and the changes in the feed markets for the same periods. Six weeks will be devoted to finishing, sticking, picking, trussing, scoring, grading, refrigerating, shaping, packing, and shipping dressed poultry. A study of the market grades in detail and the fluctuations of the market prices, together with a study of the fluctuations of the prices of feeds, will be given for the same length of time. This will include the cost of production. Six weeks are devoted to live fowls, finishing, grading, handling, shipping, and a similar study of the live poultry markets as above. Actual shipping experience will be given. Three periods, Senior year, second term. Fee, $1. Doctor KAUPP, Mr. IVEY.

412. Diseases and Poultry Pathology. In this course the time will be divided as follows: Four weeks to a detailed study of medical parasitology, giving the habits of the parasites affecting the domestic fowls, effects upon their host, and methods of their eradication; six week to noncontagious diseases and their treatment; eight weeks to contagious diseases, prevention or control, and treatment. Laboratory work will be given to accompany each division. Museum specimens as well as autopsies and clinical cases from the research laboratory will be used. *Diseases of Poultry and Their Treatment* will be used as a text. Three periods a week, second term, Senior year. Doctor KAUPP.

422. Incubation, Brooding, and Flock Management. This course will be divided as follows: Four weeks to the running of an incubator. Each student operates his own incubator. Eight weeks to lectures and practice work in operating a brooder. Each student operates his own brooder, taking the chicks he hatches in the incubator. Six weeks to broiler feeding and caponizing and capon production work. During the entire course the student has charge of a plant flock, caring for the birds and summing up at the end of the month the various details of the accounting. The student also has the opportunity of setting a hen and caring for her brood. Fee, $2. Three periods a week, second term. Senior year. Mr. WHITE.

Courses for Graduates

Students entering graduate work in Poultry Science should have a thorough training in the fundamental principles of the subject. The following graduate courses are offered for the year 1918-1919.

501-502. Animal Nutrition. This course, given by the Animal Industry Division, is open to advanced students in Poultry Science work. In this course there will be a study of recent scientific publications on the chemistry and physiology of nutrition of animals and the chemical and physiological changes and processes involved in the activities of animal life. The student will be expected to follow out courses in assigned reading, hold conferences with the instructor, and submit regular reports on the progress of his studies.

511-512. Investigational Work. The Poultry Science Department has many investigational projects under way. The graduate student will be expected to select one of the subjects below and devote half of his time to assisting in carrying the investigation forward: (*a*) The effects of various rations on egg production; (*b*) The effects of various rations upon body development of poultry; (*c*) The methods of feeding, handling, and control of chick mortality; (*d*) The effects of feeds upon the quality of the eggs; (*e*) The effects of feeds

upon the quality of flesh of table fowls; (*f*) The effects of cotton-seed meal upon poultry breeding stock, egg production, development of young, and upon constitutional vigor; (*g*) The relative value of various animal proteins for feeding fowls; (*h*) Mendelian studies; (*i*) Laboratory work in Poultry Pathology, Anatomy, or Physiology. One selection may be made from the Animal Industry Division subjects.

Short Courses

11. Diseases of Poultry, and Sanitation. A practical short course in the study of external and internal parasites of poultry and practice exercises in dealing with such infested birds and premises. Non-contagious and contagious diseases, their causes, symptoms, and treatment. Practice exercises in how to vaccinate birds against chicken-pox. How to prevent and how to eradicate a contagious disease among fowls. Practice exercises in the preparation of disinfectant sprays and in the use of the same. The specimens in the Poultry Pathology and Anatomical Laboratory will be used in these studies. Three periods a week, first term. Doctor KAUPP.

21. Incubation and Brooding. Both natural and artificial incubation and brooding will be taught. In natural incubation the student will be taught how to properly construct the nest box and make the nest. How to care for the sitting hen and what and when to feed her. How to properly construct the combination sitting and brooding coop and how to handle the brooding hen and her brood. How to feed the chicks. How to protect the flock from the hawks and other enemies, as rats and minks. In artificial incubation and brooding there will be taught the construction of the incubator and brooder and how to operate both. The student will operate a machine or set a hen and care for the brood. Three periods a week, first term. Mr. WHITE.

31. Breeds and Judging. Classes, breeds, and varieties of the domestic fowls will be taught in this course. The twenty breeds kept on the Poultry Plant will be used in the practical lessons given. The principles of judging, preparation of birds for the show room, and show room rules will be taught. Three periods a week, first term. Dr. KAUPP, Mr. IVEY.

12. Poultry-house Construction and Feeding. In this course there will be taught practical lessons in ventilation and poultry-house construction. The poultry plant contains many different types of houses and the demonstration laboratory contains both models and poultry-house equipment. Practice exercise in actually doing work will be given each week. A study of feeds and how to mix them, and how

to feed for the best results will be taken up. The student will have exercises in mixing feeds, and feeding the plant flocks. Three periods a week, second term. Mr. IVEY.

22. Selection and Breeding of Poultry. In this course there will be taught the proper methods of selecting and mating birds for the best results. The proper mating for the production of eggs, broilers, capons, and for general purposes. How to properly mate the birds to preserve in the flock the proper feather color. The selection for constitutional vigor and for longevity. How to handle the breeding flock and the care of the eggs for sitting purposes. The student will have the care of a farm flock. Three periods a week, second term. Mr. IVEY.

32. Marketing Farm Poultry. In this course there will be studied the different kinds of containers for shipping eggs and dressed as well as live poultry. These object-lessons will be given in the demonstration laboratory and in actual practice from the Poultry Plant. A candling room is provided in which the student will candle and grade eggs. Different grades of eggs and their comparative market values will be studied. The markets of three large cities and of fourteen North Carolina towns will be studied. Picking and feeding laboratories are provided in which the student will be given lessons in feeding birds for market and in properly sticking, picking, and packing birds. The principles of the cooperative community circles will be given consideration. Three periods a week, second term. Doctor KAUPP, Mr. IVEY.

SOILS

Four-year Course

202. Geology. The work of the atmosphere, water and ice in bringing about present earth and soil conditions. The principal soil-forming minerals and rocks will be considered in relation to their effects in determining soil characteristics. Two hours, second term. Required of Sophomores. Professor SHERWIN and Mr. STAFFORD.

301-302. Soils. Attention is given to the forces that decompose and disintegrate rock and to the influence of these forces and of the various kinds of rock on the resulting soil. The physical characters, such as water-holding capacity, capillarity, effect of mulches, temperature and weight, and the modification of these characters by tillage, cropping, and all operations of practical soil management, are discussed and exemplified in the classroom, laboratory, and field. Some attention is given to the classification of soils in the United States, and especially in North Carolina. The physical, chemical, and

bacteriological soil conditions are discussed in relation to each other and to their effects on soil fertility. Systems of maintaining the permanent productiveness of soils are studied. Three periods throughout the year. Required of all Juniors, except those of the Veterinary and Biology Divisions. Deposit, $3. Prerequisites, Chemistry 101-102, 201-202 and 212, and Physics 231-232. Professor SHERWIN and Mr. STAFFORD.

401. Farm Drainage. This includes both principles and practice of drainage. The student becomes familiar with the use of various drainage instruments and implements, as the course involves considerable field work in laying out systems of under-drains. Different methods of leveling and determining grade are discussed and practiced.

Determination of size of tile needed, depth and methods of laying, influence of depth of tile and distance apart of drains on withdrawal of water from the soil, and all of these as influenced by texture and character of the soil, are considered. Drainage by means of open ditches and surface drainage by means of terraces will also be given attention. Three periods a week, first term. Required of Seniors in Agronomy, Horticulture, and Vocational Education Divisions. Elective for other Divisions. Prerequisite, Soils 301-302. Professor SHERWIN and Mr. STAFFORD.

402. Fertilizers. Fertilizing as a factor in soil management and economical crop production. Sources, composition, availability, and value of various commercial and farm fertilizers. Comparative value of the elements of plant food in different carriers as shown by their productive capacity. Three periods, second term. Required of Seniors in Agronomy, Animal Husbandry, Horticulture, and Vocational Education Divisions. Elective for other Divisions. Prerequisite, Soils 301-302. Professor SHERWIN.

411-412. Advanced Soils. In this course the student will be guided in the study of any line of Soils work he may choose, along either practical or scientific lines. Laboratory and field work will be given. Considerable reference will be made to Experiment Station literature with the aim of acquainting the student with the literature on the subject, and with the methods of investigation used. This course will be of special help to men who are to engage in Farm-Life School work and Demonstration work, as well as to those primarily interested in Soils. Three periods a week throughout the year. Elective for Seniors. Prerequisite, Soils 301-302. Professor SHERWIN.

Short Courses

11. Soil Geology and Soil Physics. A study of the soil as affected and determined by its source and method of formation; texture and humus as they affect the physical and other properties; conservation and control of soil moisture. Professor SHERWIN and Mr. STAFFORD.

12. Fertilizers and Manures. Studies in the composition, sources, and efficiency of various fertilizing materials; original and residual effects on the soil and on each other. Studies in the value and economical use of stable and green manures. Professor SHERWIN and Mr. STAFFORD.

22 Physiography. A study of the natural agencies affecting the earth's surface, soil, water, and temperature, and their effect upon plants and animals. Three periods, second term. Required in One-year Course in Agriculture. Mr. STAFFORD.

TEXTILE INDUSTRY

101-102, 201-202, 301-302, 401-402. Carding and Spinning. Lectures and recitations; practice in operating card and spinning room machinery. Cotton: Classifying the plant, its growth, varieties, ginning, baling and marketing the raw staple. Cotton at the mill; selecting and mixing. Openers and lappers; cards, sliver lap machines; ribbon lap machines; combers, railway-heads; drawing-frames, slubbers; intermediate; speeders; jacks. Ring spinning-frames and mules. Spoolers. Twisters; reels; cone-winders. Construction and functions of each machine; making the various calculations. Drafts, speed of parts, production. Producing yarns of different counts, single and ply. Testing yarns for breaking strength and elasticity, text-books: Taggart's *Cotton Spinning.* Required of Freshmen, Sophomores, Juniors, and Seniors. Mr. DICK.

111-112, 211-212, 311-312, 411-412. Weaving. Lectures and practice in warp preparation, operating and fixing looms, cloth-finishing machinery. Warp preparation; pin frame warper; section warper; beam warper; construction of beam warper, stop motion, measuring motion, creel; pattern warp making; long and short chain beamers. Slashing: Steam cylinder slasher; hot-air slasher; construction of slasher, creel, cylinder, immersion roll, squeeze rolls, drying fan, separator rolls, winding yarn on beam, cone drive, slow motion, measuring and cut marking motion. Sizing: Construction of size kettle; size mixing and boiling; division of sizing ingredients; value of ingredients; sizing recipes for light, medium, and heavy sizing. Loom-mounting: Reeds and harnesses; drawing in and putting warps in loom. Looms: hand looms and power looms; construction of plain loom; principal move-

ments in weaving; let-off and take-up motions; filling stop motion; warp stop motion. Cams and their construction. Magazine looms, construction and advantages. Drop box looms: Chain building for box looms; changing boxes to have easy running looms; construction and value of multipliers; timing and fixing box motions. Pick and pick-looms. Box-chain and multiplier-chain building; arrangement of colors in boxes to give easy-running loom. Ball and shoe-pick motion. Construction and fixing of head motion. Dobby, single and double index; construction and fixing of dobby; extra appliances necessary for weaving leno, towel, and other pile fabrics. Value of easers; half motion; and jumper attachment for leno. Springs and spring-boxes. Pattern chain building. Jacquard: Single and double lift; construction and tie-up. Weave-room calculations, speed and production calculations, relative speed of looms, counts of cotton harness. Finishing: Inspection of cloth; singeing and brushing; calendering, tentering; folding and packing for the market. Equipment necessary for warp preparation, weaving, finishing; approximate cost of production of fabrics in the different processes. Text-book, Nelson's *Practical Loom Fixing*. Required of Freshmen, Sophomores, Juniors, and Seniors in the Four-year Course. Professor NELSON, Mr. STEED.

221-222, 321-322, 421-422. Textile Designing. Lectures and practice in designing. Method of representing weaves on design paper. Foundation weaves: Plain, twill, satin. Ornamentation of plain weaves. Wave designs, pointed twills, diamond effects. Plain and fancy basket weaves, warp and filling rib weaves. Broken twills, curved twills, corkscrew twills, entwining twills. Granite weaves, satin shading. Combination of weaves; figured weaving on plain ground. Satin and figured stripes on plain ground. Spots arranged in different orders on plain, twill, satin ground. Imitation leno, honeycomb weaves. Bedford cords and combination with other weaves. Wave designs, pointed twills, diamond effects. Plain and fancy piques. Double plain, figured double plain. Double cloths. Cloths backed with warp; cloths backed with filling. Cloths ornamented with extra warp; cloths ornamented with extra filling. Cotton velvet. Corduroy. Matelasse, leno weaves with one, two, and more sets of doups. Principles of working both top and bottom doups. Combination of plain and fancy weaves with leno. Methods of obtaining leno patterns. Jacquards. Distribution and setting out of figures for geometrical and floral effects. Distributing figures to prevent lines. Areas of patterns. Preparation of sketches. Transfer of sketches to design paper. Painting in the design with different weaves according to sketch. Shading the patterns. Card cutting and lacing. Required of Sophomores, Juniors, and Seniors. Professor NELSON, Assistant Professor HALSTEAD, Mr. STEED.

232, 332, 431-432. Cloth Analysis and Fabric Structure. Calculating particulars of cloth from data ascertained from samples. Shrinkages. Dents in patterns; patterns in warp. Drafting and pattern chain building. Reed and harness calculations. Calculations to obtain quantities of warp and filling in stripe and check fabrics. To find number of threads per inch, using a given weight of warp; also number of picks per inch, using a given weight of filling. Yarn calculations. System of numbering woolen, worsted, silk, linen, and cotton yarns. Determination of one system of yarn to that of another. Textile calculations. Determining the number of threads and picks per inch to make a perfect cloth. Calculations to determine the texture in an unequally reeded fabric. Diameter of threads. Balance of cloth. Texture for double cloth. Required of Sophomores, Juniors, and Seniors. Professor NELSON, Assistant Professor HALSTEAD, Mr. STEED.

441-442. Mill Accounting and Cost Finding. The general fundamental principles of the various systems of cost finding as applicable to the different classes of manufactured products are carefully explained, as well as questions of commissions, discounts, depreciation, inventories, distribution of expenses, etc. As a clear understanding of accounting is necessary for intelligent cost finding, the method of keeping accounts is studied in detail. The general idea is to impress on the student the relative cost of production for any class of manufactured product and to show how the different processes of manufacturing influence cost. One period, first and second terms. Required of Seniors. Assistant Professor HALSTEAD.

Dyeing

351-352, 451-452. Dyeing. With the microscope and other testing apparatus, the student makes a careful study of the various fibers used in the textile industry. He also studies the chemical and physical properties of these fibers, and the action of acids, alkalis, heat, moisture, and the various other agencies to which fibers are liable to be subjected. He next takes up the study of the fundamental principles which underlie the arts of bleaching and dyeing, such as the boiling out and bleaching of cotton, and the chemical reactions involving each step; the adaptability of water for bleaching and dyeing, followed by the theories of dyeing; substantive dyestuffs and their application to cotton; after-treatment of direct dyestuffs, including diazotising and developing and the topping with basic dyestuffs; the application to cotton of basic dyestuffs, acid dyestuffs, mordant dyestuffs, including a study of the various mordants and their fixation with metallic salts; dyeing with sulphur dyestuffs, indanthrenes, indigo,

natural and artificial, aniline black, turkey red, and the insoluble azo colors developed on the fiber; the methods of bleaching and dyeing of linen, jute, ramie, and other vegetable fibers; the scouring and bleaching of wool; the carbonization and chlorination of wool; the application of basic, acid, chromo, eosin, and direct colors to wool; dyeing wool with logwood, fustic, and other natural dyewoods; methods of the making and dyeing of artificial silk; the boiling off, bleaching and dyeing of natural silk; study of the chemical and physical changes which take place during mercerization; also the methods of dyeing mercerized goods; the use of the various kinds of machines used in bleaching and dyeing; the dyeing of raw-stock, skeins, cops, warps, piece goods, hosiery, underwear, and unions; the science of color-mixing; color-matching on textiles; the use of the tintometer and colorimeter; calico printing, including the various methods of preparing the various pastes, thickening agents, mordants, and assistants used in printing; quantitative analysis of mixed yarns, and fabrics composed of cotton, wool, and silk; the testing of dyestuffs for their shade, tinctorial power, and leveling properties, comparative dye trials to determine money value; testing for mixtures; the reactions of acids, alkalis, and reducing agents on several samples taken from the different classes of dyestuffs.

The course of lectures as outlined above will include the consideration of many difficult problems that arise in the dye-house, with especial reference to the dyeing, mercerizing, and finishing of cotton yarns and pieces. Required of Juniors and Seniors in Textile Industry. Assistant Professor HALSTEAD.

361-362, 461-462. Dyeing Laboratory. A series of experiments is performed which covers all the subjects taken up in the lecture course, and includes a large amount of work done in the laboratory and dye-house. Special stress is put on the matching of colors and the dyeing of sulphur and indanthrene dyestuffs. Each student is required to bleach and dye a large number of samples of yarn and cloth on a small scale, and is required to mount specimens of his work in a pattern book. At the discretion of the instructor in charge, the class bleaches and dyes larger quantities of raw-stock, cloth and yarn in the dye-house, as well as prints samples on the laboratory printing machine. This work will be supplemented by visits to the mills in the city of Raleigh which do dyeing. Required of Juniors and Seniors in Textile Industry. Assistant Professor HALSTEAD.

Short Courses

11-12. Carding and Spinning. Lectures and recitations; practice in operating card and spinning room machinery. Cotton: classifying

the plant; its growth; varieties; ginning, baling, and marketing the raw staple. Cotton at the mill; selecting and mixing. Openers and lappers; cards; sliver lap machines; ribbon lap machines; combers; railway-heads; drawing-frames; slubbers; intermediate; speeders; jacks. Ring spinning-frames and mules. Spoolers. Twisters; reels; cone-winders. Construction and functions of each machine; making the various calculations. Drafts; speed of parts; production. Producing yarns of different counts, single and ply. Testing yarns for breaking strength and elasticity. Text-book: Taggart's *Cotton Spinning*. Required of first- and second-year students. Mr. DICK.

21-22. Weaving. Lectures on construction of plain, twill, sateen, gingham, pick and pick looms are given; also on construction of dobbies and jacquards.

Lectures begin with the construction of plain loom, first taking up the principal movements in weaving, then the various secondary or auxiliary movements, and the relation and timing of one movement to another. Additional motions and parts required to be added to a plain loom in order to weave twill and sateen cloths. Magazine looms; construction and advantages. Drop box looms; construction of the various motions; arranging colors in boxes; methods of building box chains. Dobby: construction of single and double index; setting and starting up dobby on loom; fixing dobby. Pick and pick looms: construction of loom; construction of head motion; building box chains to have easy-running loom. Jacquard: single and double lift; construction and tie-up. Weave-room calculations for speed and production; counts of reed and cotton harness. Finishing cotton fabrics. Necessary equipment for warp preparation, weaving, finishing; approximate cost of production of fabrics in the different processes. Text-book: Nelson's *Practical Loom Fixing*. Required of first- and second-year students. Professor NELSON, Mr. STEED.

31-32. Textile Designing. Lectures and practice in designing. Method of representing weaves on design paper. Foundation weaves; plain; twill; satin. Ornamentation of plain weave; color effects on plain weave. Derivative weaves; plain and fancy basket weaves; warp and filling rib weaves. Broken twills; curved twills; corkscrew twills; entwining twills. Granite weaves; satin shading. Combination of weaves; figured weaving on plain ground. Fancy satin and figured stripes on plain ground. Spots arranged in different orders on plain, twill, satin ground. Imitation leno; honeycomb weaves. Bedford cords and combination with other weaves. Wave design; pointed twills; diamond effects. Cloths backed with warp; cloths backed with filling. Cloths ornamented with extra warp. Cloths ornamented with extra filling. Combination of plain and fancy weaves. Practical

application of weaves to fabrics. Advanced designs. Required of first- and second-year students. Professor NELSON, Assistant Professor HALSTEAD, Mr. STEED.

42. Cloth Analysis and Fabric Structure. Calculating particulars of cloth from data ascertained from samples. Shrinkages. Dents in patterns; patterns in warp. Drafting and pattern chain building. Reed and harness calculations. Calculations to obtain quantities of warp and filling in stripe and check fabrics. To find number of threads per inch, using a given weight of warp; also number of picks per inch, using a given weight of filling. Yarn calculations. System of numbering woolen, worsted, silk, linen, and cotton yarns. Determination of one system of yarn to that of another. Textile calculations. Determining the number of threads and picks per inch to make a perfect cloth. Calculations to determine the texture in an unequally reeded fabric. Diameter of threads. Balance of cloth. Texture for double cloth. Required of first- and second-year students. Professor NELSON, Assistant Professor HALSTEAD, Mr. STEED.

51-52. Dyeing. With the microscope and other testing apparatus, the student makes a careful study of the various fibers used in the textile industry. He also studies the chemical and physical properties of these fibers, and the action of acids, alkalis, heat, moisture, and the various other agencies to which fibers are liable to be subjected. He next takes up the study of the fundamental principles which underlie the arts of bleaching and dyeing, such as the boiling out and bleaching of cotton, and the chemical reactions involving each step; the adaptability of water for bleaching and dyeing, followed by the theories of dyeing; substantive dyestuffs and their application to cotton; after-treatment of direct dyestuffs, including diazotising and developing and the topping with basic dyestuffs; the application to cotton of basic dyestuffs, acid dyestuffs, mordant dyestuffs, including a study of the various mordants and their fixation with metallic salts; dyeing with sulphur dyestuffs, indanthrenes, indigo, natural and artificial, aniline black, turkey red, and the insoluble azo colors developed on the fiber; the methods of bleaching and dyeing of linen, jute, ramie, and other vegetable fibers; the scouring and bleaching of wool; the carbonization and chlorination of wool; the application of basic, acid, chromo, eosin, and direct colors to wool; dyeing wool with logwood, fustic, and other natural dyewoods; methods of the making and dyeing of artificial silk; the boiling off, bleaching and dyeing of natural silk; study of the chemical and physical changes which take place during mercerization; also the methods of dyeing mercerized goods; the use of the various kinds of machines used in bleaching and dyeing; the dyeing of raw-stock, skeins, cops, warps, piece goods, hosiery,

underwear, and unions; the science of color-mixing; color-matching on textiles; the use of the tintometer and colorimeter; calico printing, including the various methods of preparing the various pastes, thickening agents, mordants, and assistants used in printing; quantitative analysis of mixed yarns, and fabrics composed of cotton, wool, and silk; the testing of dyestuffs for their shade, tinctorial power, and leveling properties; comparative dye trials to determine money value; testing for mixtures; the reactions of acids, alkalis, and reducing agents on several samples taken from the different classes of dyestuffs.

VETERINARY SCIENCE

Four-year Courses

Agricultural students wishing to pursue a veterinary course will be given opportunity during their Junior and Senior years to elect subjects required in the Freshman and Sophomore years of such a course. This arrangement will permit one to complete two four-year courses in six years time. With the close correlation between agriculture, especially along livestock lines, and veterinary medicine, this makes a most satisfactory arrangement.

201. Comparative Physiology. This course, which combines elementary anatomy and physiology both of man and of domestic animals is especially designed to teach the student the structures, uses, and phenomena of the human mechanism; and as these are common and analogous to those of domestic animals, attention will be given to a comparison of the fundamentals of all systems in each class of domestic animals. The subject of anatomy will be taught by use of mounted skeletons of man, horse, cow, and hog; by dissection of small animals, and from collections of fresh specimens of the various organs and prepared material in the laboratory. This will be followed by a comparative study of the functions of the various systems and organs of the body, such as the skeleton, muscles, nerves, digestion, reproduction, etc. The subject will be covered by text-book, lecture, recitation, demonstrations, and laboratory exercises. Three periods, first term. Required of Sophomores. Fee, $1. Professor ROBERTS and Doctor REEDER.

301. Anatomy and Physiology of Domestic Animals. No one will be qualified to make a comprehensive study of livestock or be able to closely differentiate between normal and abnormal structures and functions of the various parts of the animal body unless he is familiar with the fundamentals of anatomy and physiology. Having had an insight into the subject previously in course 201, the student now goes more into detail. The subject-matter is given by the use of text-

book, supplemented by lecture and illustrated by charts, models, skeletons, sketches, and dissections. Special attention will be given to the systems and organs of digestion, reproduction, locomotion, respiration, and circulation. Three periods, first term. Required of Juniors in Animal Husbandry Division. Professor ROBERTS and Doctor REEDER.

302. Hygiene, Sanitation, and Diseases of Animals. Preventive medicine is the goal of the physician, the veterinarian, and the sanitarian. In order to be a livestock sanitarian, the animal husbandman must, therefore, have a rather comprehensive knowledge of hygiene and sanitation. Considerable time will be devoted to a study of the causes of disease and the means of avoiding them through hygienic and sanitary measures. Three periods, second term. Required of Juniors in Animal Husbandry. Doctor REEDER.

311-312. Histology. A microscopical study of the tissues of the body, treating of the cell as the unit of structure, and of its functions; also of tissues, their classification, and their relation to the structure of organs. From dissections, clinics and proximity to slaughterhouse, abundance of histological material of various animals is obtainable. Three periods. Required of Juniors in Veterinary Division. Fee, $1. Doctor REEDER.

321-322. Veterinary Anatomy. This subject will deal with the study of the skeleton, including bones and joints, and of the muscles. A complete dissection of the muscles of the horse will be made. Three periods. Required of Juniors in the Veterinary Division. Fee, $2. Professor ROBERTS.

332. Materia Medica. This study of the inorganic drugs used in comparative medicine will treat of their classification, composition, physiological actions, and doses. Three periods, second term. Required of Juniors in Veterinary Division. Professor ROBERTS.

411-412. Veterinary Anatomy. A continuation of Course 321-322. A study of the digestive, respiratory, circulatory, urinary, reproductive, and nervous systems will be made, with dissections of each in the horse. Four periods. Required of Seniors in Veterinary Division. Fee, $2. Professor ROBERTS.

421-422—Veterinary Physiology. A comparative study of the bodily functions of the various domestic animals is made, with special reference to digestion, respiration, circulation, reproduction, and secretion. Three periods. Required of Seniors in Veterinary Division. Doctor REEDER.

431. Materia Medica and Pharmacy. Course 332, as described above, will be continued by a study of organic drugs. The Pharmacy Course will include prescription writing and laboratory work in the

preparation, compounding, and preserving of medicines. Three periods, first term. Fee, $1. Required of Seniors in Veterinary Division. Professor ROBERTS and Doctor REEDER.

432. Diagnosis and Clinics. Diagnosis is taught for the purpose of studying the methods of examining animals to detect disease in them and to determine the location, character, and cause for same. The subject will be discussed largely from a clinical standpoint, but the autopsy, lesions, and laboratory means of diagnosis will likewise be considered. Clinics will be held regularly at a veterinary hospital and practical demonstrations of diagnosis will be made. Three periods, second term. Required of Seniors in Veterinary Division. Professor ROBERTS and Doctor KOONCE.

441-442. General Pathology. As contrasted with special or systematic pathology, this course will treat of general causes of disease, congenital, postnatal, infectious, and noninfectious; of morbid and reactive tissue processes, congestion, inflammation, fever, immunity, etc.; of progressive tissue changes, regeneration, tumors, etc., of regressive tissue changes, degeneration, necrosis, death, etc. A large number of specimens of diseased organs and tissues already present in the museum, and opportunity for collecting others from clinics and abattoir, insure plenty of material to demonstrate various macroscopical and microscopical tissues changes. Two periods. Required of Seniors in Veterinary Division. Fee, $1. Doctor REEDER.

401. Veterinary Science; Advanced Physiology. Appreciating the value of many of the interesting phenomena in physiology, opportunity is given to consider those especially applicable for the animal husbandman and the teacher. Three periods, first or second term. Elective for Seniors. Professor ROBERTS and Doctor REEDER.

402. Veterinary Science; Infectious Diseases. This course, while correlating with the Junior work and Senior physiology, will not require these courses as prerequisites. Attention will be given to those infectious diseases that are common in the South, and especially those that occur in both men and animals. Three periods, first or second term. Elective for Seniors. Professor ROBERTS and Doctor REEDER.

501-502. Experimental Physiology. Appreciating the value of many of the interesting phenomena in physiology recently discovered, opportunity is here given to consider those specially applicable to the animal husbandman, the teacher, and the research student. The course will cover investigations dealing with various phases of reproduction and milk secretion; of internal secretions, and of those phenomena of the circulation resulting from infections, pregnancy, etc., such as hemolysis, bacteriolysis, and agglutination. First or second term. Elective for Postgraduates. Professor ROBERTS and Doctor REEDER.

Short Course

11. Physiology and Hygiene. The principles of physiology and hygiene are essential to the rational feeding and care of the human body as well as those of animals. Lectures, recitations, and demonstrations will be used in covering this subject in an elementary way. Three periods, first term. Doctor REEDER.

ZOOLOGY AND ENTOMOLOGY

Four-year Courses

101-102. Elementary Zoology. An elementary study of all forms of animals, with special reference to the more important economic groups, is given by text-book, library, laboratory and field work, with supplementary lectures. This course is designed to give the student a general knowledge of the animal kingdom, and to lay the foundation for the special work which follows. Three periods, first and second terms. Required of Freshmen. Prerequisite for all other courses in the Department. Fee, $2. Professor METCALF, Mr. SPENCER, Mr. UNDERHILL.

301. Elementary Entomology. The elements of insect anatomy, classification, and development as a foundation for economic entomology is covered by text-book, lectures, and laboratory work. Three periods, first term. Required of Juniors in Agronomy and Horticultural Divisions. Fee, $1. Professor METCALF. Mr. SPENCER.

302. Economic Entomology. Systematic study of the injurious insects of orchard, shade, and ornamental plants, together with a study of the insect enemies of the principal truck and garden crops from the standpoint of their life-histories and control. Three periods, second term. Required of Juniors in Agronomy and Horticultural Divisions. Fee, $1. Professor METCALF.

312. Economic Entomology. The insect enemies of domestic animals, grains and forage crops are studied from the standpoint of structure, development, and control. Lecture, laboratory, and field work. Three periods, second term. Required of Juniors in Animal Husbandry Division. Fee, $1. Professor METCALF, Mr. SPENCER, Mr. UNDERHILL.

321-322. Comparative Anatomy. This course will be devoted to a study of the comparative anatomy of typical vertebrates. System of organs will be studied in the various classes and the development and interrelations pointed out. Two periods, first and second terms. Required of Juniors in Biology Division. Professor METCALF.

331-332. Economic Zoology. A study of the principal groups of animals in their relations to man, both from the standpoint of crops destroyed and diseases carried. Required of Juniors in Biology Division. Professor METCALF.

401. Zoology. This is a course in the study of the cell. Cell division, maturation, the morphology of the spermatozoon and the egg, fertilization, and cleavage are studied in detail. The student is required to collect and prepare his own material as far as practicable. Three periods, first term. Required of Seniors in Biology Division. Fee, $2. Professor METCALF, Mr. SPENCER, Mr. UNDERHILL.

402. Vertebrate Zoology. This course will cover the comparative embryology of the principal groups of vertebrates, together with a discussion of the comparative anatomy of the vertebrates. Three periods, second term. Required of Seniors in Veterinary, Biology and Poultry Divisions. Fee, $2. Professor METCALF.

411-412. Zoology, Elective. A course designed especially for students who wish to review the fundamental principles of Zoology, either as a basis for teaching or for investigational work. Two or three periods, first and second terms. Elective in Vocational Education Division. Professor METCALF.

421-422. Apiculture. The first term will be devoted to a study of the life-history and anatomy of the honey bee and preparation of hives for wintering. The second term will be devoted to spring management, comb and extracted honey production. Three periods, both terms. Required of Seniors in Biology Division. Professor METCALF.

432. Animal Ecology. A course designed to teach the students the principles of Ecology, with a critical study of the interrelations of the various forms. The varied fauna of Wake County offers exceptional opportunities in this respect. Three hours, second term. Required of Seniors in Biology Division. Professor METCALF.

442. Entomology. Life-history studies of various pests as a basis for control measures. Three hours, second term. Professor METCALF.

501-502. Graduate Zoology. This course is designed to fit the student for research or teaching in either Zoology or Entomology. The student may elect from the following groups: (1) Invertebrate Morphology, (2) Comparative Anatomy, (3) Vertebrate Embryology, (4) Invertebrate Embryology, (5) Ecology, (6) Animal Micrology, (7) Cystology, (8) Systematic Entomology, (9) Medical and Veterinary Entomology, (10) Parasitology, (11) Economic Entomology of fruit trees, shade trees, greenhouse, corn, cotton, or tobacco. Four or eight periods. Professor METCALF.

Short Course

12. Entomology. This is a short course in which the beneficial and injurious insects are discussed in their relations to the farm. The various insecticides and methods of spraying are also included. Three periods, second term. Professor METCALF, Mr. UNDERHILL.

ONE-WEEK GRADUATE COURSE IN VETERINARY MEDICINE

January 6-12, 1919

Open to graduate veterinarians only. Alterations in the following outline of subjects may be made to suit the wishes of those attending. The subject-matter in each case will be condensed so as to cover the entire field during the week.

Animal Husbandry—Judging, Feeding, and Breeding. This course is given by the Animal Husbandry Division. The Livestock Judging will embrace the points to be considered in determining the fitness of animals for specific purposes. The Stock Feeding instruction will cover the various feeds available, their composition, and the methods of compounding balanced rations. The Animal Breeding lectures will discuss the selection, the laws of breeding, and the management of breeding animals.

Dairying. This course is offered by the Dairy Division. The equipment necessary for a dairy, the methods of conducting a dairy business, and the composition of milk will be the subjects of study. Laboratory demonstrations will be given to illustrate methods of testing and standardizing milk and cream, also the scoring of butter.

Parasites and Parasitic Diseases. Three or more lectures will be given on this subject, taking up the more important internal and external parasites, using for the purpose of demonstration one of the largest private collections of parasites in this country. Symptoms of parasitism, methods of recognition of the parasites, lesions produced, and means of eradication will be thoroughly discussed. Professor KAUPP.

Common Diseases of Poultry. Three or more lectures will be given on this subject, taking up the more troublesome diseases, both parasitic and bacterial, making actual demonstrations from the poultry and pathology research laboratory, run jointly by the College and the Station. Professor KAUPP.

Meat and Milk Inspection. The subject will be covered in the discussion of an outline indicating what inspection for Southern towns should consist of. The work will be demonstrated by visits to the municipally owned abattoir, the city market, and some of the better dairies about Raleigh. Doctor KOONCE.

Anatomy and Dissection. Condensed outlines of the different anatomical systems will be given, such as of skeleton, including joints,

and muscular, nervous, digestive, circulatory, respiratory, urinary, and genital systems. Abundance of well-injected equine subjects will be available for dissection of all parts, but particular attention will be given those areas involved in special surgery. Professor ROBERTS.

Veterinary Physiology. The physiology of digestion, nutrition, and reproduction has made much advancement in the past five years. It is, therefore, essential that we understand the latest and the most authentic scientific findings. Lectures will be given summarizing the essentials of these subjects. Laboratory methods, also, will be used to demonstrate the actions of the digestive fluids, and prepared specimens shown to illustrate, as far as possible, the phenomena of reproduction. The remaining time will then be given to a discussion, in a practical manner, of the respiratory and the circulatory systems. Doctor REEDER.

Clinical Diagnosis and Clinics. The subject-matter will be given in the form of a synopsis of the essential factors concerned in determining the alterations in each of the anatomical systems and regions of the animal body. Demonstrations will be made in the conduct of clinics at the veterinary hospital and by various laboratory and field methods of diagnosis. It is expected to have opportunity to show typical reactions from use of intra-dermal and ophthalmic tuberculin. Doctors ROBERTS, KOONCE, REEDER, KAUPP.

Open Discussions on Surgery, Practice, Meat and Milk Inspection, etc. Leaders of each chosen by those attending. Stated periods will be appointed for each of the above subjects on which round-table discussions of the veterinarian's everyday problems will be held.

RULES FOR ADVANCED DEGREES

Two degrees are conferred: The Engineering Degree to nonresident graduates of the engineering courses, and Master of Science to resident students pursuing graduate work.

ENGINEERING DEGREES

1. The degree Civil Engineer, Mechanical Engineer, or Electrical Engineer may be conferred upon graduates of the several engineering departments of the College not sooner than three years after graduation.

2. Each candidate for an engineering degree must file his application for enrollment not later than October 5th.

3. He must file with his application a statement of the work he has done since graduation and the title of the thesis which he will present.

4. The record of the work and the subject of the thesis must be approved by the Faculty's standing committee on graduate studies before the applicant will be enrolled as a candidate for a degree.

5. No work done as a teacher shall be credited towards this degree.

6. The completed thesis must be submitted in approved form not later than May 1. Reports, designs, or drawings made in the regular course of his employment will not be accepted.

7. A candidate must submit with his thesis tangible records of the work he has done and upon which his application for the degree is based, such records to consist of complete drawings, detailed drawings, photographs, records of tests, or other such matter as will show the character of the work done and indicate the degree of responsibility that has been placed upon him.

8. If the record of the work done be approved and the thesis accepted by the Faculty, the candidate, upon notification, must present himself for examination not later than the Saturday preceding the annual commencement. The examination shall consist of oral questions on the subject-matter of the thesis and on the work done by the candidate since graduation.

MASTER OF SCIENCE

The degree Master of Science will be conferred on graduate students who fulfill the following requirements:

1. The candidate must have received the Bachelor's degree from this College or another institution having an equivalent course of study.

2. Not less than two years must intervene between the conferring of the Bachelor's degree and the Master's degree, unless the candidate has devoted his time exclusively to graduate study.

3. A course of study consisting of one major and two minors, aggregating sixteen periods, must be pursued during residence at the College, each period representing not less than 90 hours of actual work.

4. The major subject, covering eight periods, shall be strictly graduate work and selected in that department in which the Bachelor's degree was taken.

5. The two minor subjects, covering four periods each, shall be chosen from departments allied to the department in which the major subject is chosen. The work of a minor subject shall be of a grade not lower than that of the Junior year in those departments.

6. Work which has been done previous to receiving the Bachelor's degree or which has been accepted as credit towards any degree received shall not be accepted for credit towards the Master's degree at this College.

7. The major and minor subjects must be completed satisfactorily by May 1st preceding the conferring of the degree, at which time also must be presented in its complete form a satisfactory thesis, the theme of which must have been approved by the 5th day of October previous thereto.

8. The candidate must pass a satisfactory oral examination upon his thesis, major and minor subjects, before an examining committee composed of the professors in charge of the major and minor subjects, one or more members of the Graduate Committee Studies, and one or more other members of the Faculty, said examining committee to be appointed by the Faculty upon the nomination of the Graduate Studies Committee.

9. In case the applicant be employed by the College, Experiment Station, or State Department of Agriculture, he shall not be allowed to receive during any year credit for more than eight periods, to be distributed as follows: both minors, the major, or a minor and one-half the major. In this connection a year will extend from Commencement day to Commencement day.

10. No work done as a teacher shall be credited as work towards the degree.

11. At least eight periods must be devoted to work in the laboratory, field, greenhouse, dairy, or barn.

12. The thesis must involve some original work. References to literature should as far as possible be to original sources, and all citations should follow the rules prescribed for the *Journal of Agricultural Research.*

13. Credit will not be allowed during any year unless the candidate shall have filed with the Registrar an approved course of study by October 5th of that year or a previous year.

14. Candidates for advanced degrees must register by October 5th of each year for which they wish to receive credit.

FORM OF THESIS

The thesis must be presented on unruled white paper, 8⅛ by 11 inches in size, twenty-pound Persian bond or the equivalent. A suitable title page, printed or typewritten, must be prepared. The thesis must be neatly typewritten, properly paged, leaving a margin of 1½ inches on the left for binding, the writing to be on one side of the page only. All drawings or diagrams must be neatly and carefully prepared, and where the size of paper necessary is larger than that of the page it must be of such size as conveniently to fold in with the thesis.

The thesis shall become the property of the College and will be placed on file.

PUBLICATION OF THESIS

Theses for advanced degrees or extracts therefrom may be published only under the supervision of the Graduate Studies Committee, which committee will decide upon the place of publication and matter to be published. In connection with the publication there is to appear the following statement, or words to that effect: "Extracts from the thesis submitted to the Faculty of the North Carolina State College of Agriculture and Engineering in partial fulfillment of the requirements for the degree of ....." Acknowledgment may be made in the body of the thesis for assistance rendered or the article may appear as a joint publication with some member of the Faculty should facts justify the same.

SUMMER SCHOOL

PRELIMINARY ANNOUNCEMENT

During the summer of 1918, for a period of six weeks, the teachers of the State will have the opportunity of using the magnificent plant of this College, the value of which is in excess of a million dollars.

The session will begin on June 11 and close on July 25.

The High School Institute will be June 12 to June 25, and the Institutes for Elementary Grades, 1st, June 17 to June 28; 2d, July 8 to July 19.

Courses will be arranged to include primary and grammar grade subjects as during 1917. Provision more ample than heretofore will be made for High School subjects and some subjects of college grade will be introduced. Professional courses in education will be given and there will be instruction in cultural and technical subjects.

The school will afford a splendid opportunity to secure or renew a Teacher's certificate; to increase efficiency as a teacher; to prepare for leadership in the new education for agriculture and the other industries; to receive inspiration from association with fellow teachers and to enjoy a sojourn at the State's Capital and Educational Center.

The Nineteen-Eleven and South Dormitories and Holladay Hall will be reserved for ladies exclusively and will be in charge of chaperons who will at all times be glad to advise or assist those who are under their care. The Third Dormitory, the Fourth Dormitory and Watauga Hall will be reserved for the men.

The County Home Demonstration Agents, during their convention, will occupy the South Dormitory and Holladay Hall during the first part of the session, and a detail of 160 soldiers who will be engaged in the study of aeronautic engineering will occupy Watauga Hall during the first part of the session.

The Y. M. C. A. Building will be the social center of the school, and will be in charge of Mrs. R. Blinn Owen, who will arrange special entertainments from time to time. This building contains a reading room, several reception rooms, a bowling alley, a gymnasium, and a swimming pool.

Col. Fred A. Olds will personally conduct excursions each Saturday to the many points of interest in Raleigh and its environs. Opportunity will be given the members of the school to participate in games, folk dancing, etc., under the direction of Miss Clara Taylor;

to take part in the community singing under the direction of Mr. R. Blinn Owen, and to hear the stories told by Mrs. Robert E. Ranson. The Fourth of July and Final Entertainments will be under the direction of Mr. R. Blinn Owen and Mrs. C. L. Mann. Special lectures of interest to the school will be given. There will be entertainments from time to time at the school and in the city.

During the 1917 session a reception to the school was given at the Executive Mansion by Governor and Mrs. Bickett. The Woman's Club also gave a reception in its building. The Chamber of Commerce contributed to the maintenance of the school. The Raleigh people were very cordial in their attentions and are looking forward with much pleasure to the 1918 session.

In addition to the College Library, students will have access to the Raney Library and to the State Library.

The College infirmary, in charge of the hospital matron, will be conducted for the school. The College physician (Dr. Hubert B. Haywood, Jr.) will make daily visits to those who may be sick in the infirmary.

The Teachers' Bureau will, without charge, assist school officials to secure teachers and assist members of the school to find positions.

Reduced rates will be given by the railroads.

The expenses of the school will be moderate, and a statement of them will be found below. Every cent paid in by the pupils will go for defraying the expenses of the school and, in addition thereto, the State will contribute an amount equivalent to from two to three dollars for every dollar paid by pupils.

During the 1917 session of the school there was an enrollment of 531 pupils and 51 officers and teachers, making a total of 582, together with several ministers, special lecturers and citizens of Raleigh who assisted in the chapel exercises. The pupils came from 65 counties in North Carolina and five other States.

The first session of the school was held in 1903 during the Presidency of Dr. George T. Winston, the registration being 338. The second session in 1904, was under the directorship of Dr. J. Y. Joyner and the attendance reached 840. There were no sessions of the school from 1905 to 1916, inclusive.

Fees and Expenses

The expenses for the entire six weeks session will be as follows:

Tuition	$ 8.00
Room rent, each (two in room)	6.00
Board	24.00
	$38.00

There will be a key deposit of 25 cents, which amount will be refunded when the key is returned. In some of the classes there is a small fee to cover the cost of materials, which will be stated in connection with the description of this course.

All fees are payable in advance, and there will be no refund of fees after the first ten days.

Many of the homes in Raleigh will supply board and lodging. A list of these will be furnished upon application.

For catalogue or other information regarding the school, apply to

W. A. WITHERS, DIRECTOR,
Rooms 215-217 Winston Hall,
WEST RALEIGH, N. C.

DEPARTMENTS OF INSTRUCTION

Agriculture

E. L. BEST, Superintendent of Education of Franklin County; T. E. BROWNE, Acting Director for the State Board of Vocational Education and Supervisor of Farm-Life Schools; L. E. COOK, Associate Professor of Vocational Education, State College; Dr. E. W. KNIGHT, Superintendent of Education of Wake County; C. L. NEWMAN, Professor of Agriculture, State College; J. P. PILLSBURY, Professor of Horticulture, State College; M. E. SHERWIN, Professor of Soils, State College, and C. B. WILLIAMS, Dean of Agriculture, State College, and Vice Director N. C. Agricultural Experiment Station.

I. Agriculture for Grammar Grades. Mr. WILLIAMS.
II. Gardening. Mr. PILLSBURY.
III. Field Crops. Mr. NEWMAN.
IV. Soils. Mr. SHERWIN.
V. Teaching of Agriculture in the High School. Mr. COOK.
VI. Rural School Management. Dr. KNIGHT.
VII. Rural School Administration. Dr. KNIGHT.
VIII. Rural Sociology. Mr. BEST.
IX. Conference of Agricultural Teachers and Workers, July 22 to 26, inclusive. Mr. BROWNE.

The services of the College Physician and use of the Infirmary will be restricted to Faculty and students rooming and boarding in College. Except in case of protracted illness, there will be no charge for medical attention or use of Infirmary, but consultations must be at the Infirmary at the hours designated by the College Physician.

Drawing and Manual Training

Miss MAY HILL DAVIS, Teacher State School for the Blind; L. L. VAUGHAN, Assistant Professor of Experimental Engineering, State College.

I. Primary Drawing. Miss MICHAELS.
II. Mechanical Drawing. Mr. VAUGHAN.
III. Basketry. Miss DAVIS.
IV. Basketry, Advanced. Miss DAVIS.
V. Woodwork. Mr. VAUGHAN.
VI. Woodwork for College Students. Mr. VAUGHAN.

Education

E. L. BEST, Superintendent of Education, Franklin County; LEON E. COOK, Associate Professor of Vocational Education, State College; Dr. E. W. KNIGHT, Superintendent of Education, Wake County; J. C. LOCKHART, Principal of Wakelon High School; Mrs. C. L. MANN, recently of the faculty of St. Mary's School, Raleigh; Miss ZOE PORTER, Supervisor of Rural Schools, Halifax County; Mrs. ROBERT E. RANSON, President N. C. Story Tellers League; R. E. SENTELLE, Superintendent of Lumberton Schools; Miss CLARA TAYLOR, Teacher Raleigh City Schools; Miss ETHEL TERRELL, Teacher Asheville City Schools; Miss SHELTON ZOELLER, Teacher Elizabeth City Schools.

I. Primary Reading. Miss TERRELL.
II. Primary Language. Miss TERRELL.
III. Primary Spelling. Miss TAYLOR.
IV. Primary Arithmetic. Miss TAYLOR.
V. Primary Drawing. Miss MICHAELS.
VI. Primary Writing. Mr. LONDON and Miss PAGE.
VII. Primary Story Telling. Mrs. RANSON.
VIII. Primary Physical Education—Games. Miss TAYLOR.
IX. Primary Practice School. Miss ZOELLER.
X. Reading and Grammar. Mr. BEST.
XI. Teaching of History. Mr. LOCKHART.
XII. Teaching of Intermediate Subjects. Dr. KNIGHT.
XIII. Intermediate Story Telling. Mrs. RANSON.
XIV. Intermediate Physical Education—Games. Miss TAYLOR.
XV. Intermediate Practice School. Miss PORTER.
XVI. Practical Elocution. Mrs. MANN.
XVII. Æsthetic Physical Culture. Mrs. MANN.
XVIII. Educational Psychology. Mr. COOK.

XIX. Principles of Teaching. Mr. Cook.
XX. Teaching Agriculture in the High School. Mr. Cook.
XXI. Classroom Management. Mr. Best.
XXII. Rural School Management. Dr. Knight.
XXIII. School Administration. Mr. Sentelle.
XXIV. County School Administration. Dr. Knight.

English

Dr. Thomas P. Harrison, Dean and Professor of English, State College; Clifford L. Hornaday, Assistant Professor of German, Trinity College.

I. Grammar. Mr. Hornaday.
II. Grammar. Dr. Harrison.
III. High School English. Dr. Harrison.
IV. Southern Literature. Dr. Harrison.

Geography

R. E. Sentelle, Superintendent Lumberton Graded Schools.

I. Geography for Grammar Grades. Mr. Sentelle.

History

Miss Catherine F. Albertson, Principal Elizabeth City High School; J. C. Lockhart, Principal of Wakelon High School.

I. North Carolina History. Miss Albertson.
II. American History and Civics. Mr. Lockhart.
III. Modern and Contemporary European History. Mr. Lockhart.
IV. Ancient History. Miss Albertson.

Home Economics

Mrs. Kate Brew Vaughn, Lecturer and Author; Miss Bessie Boggess, Dietician, Meredith College; Dr. J. K. Plummer, of the Chemistry Staff of the North Carolina Experiment Station; Mrs. Jane S. McKimmon, State Demonstration Agent.

I. Teacher's Demonstration Course. Mrs. Vaughan.
II. Housekeeper's Course. Mrs. Vaughan.
III. Teacher's Course. Miss Boggess.
IV. Dietetics. Miss Boggess.
V. Household Chemistry. Dr. Plummer.
VI. Home Food Conservation. Mrs. McKimmon.

Hygiene, Physiology, and Sanitation

Miss ROSE M. EHRENFELD, Public Health Nursing Service, Raleigh.

I. Hygiene, Physiology, and Sanitation. Miss EHRENFELD.
II. Red Cross Home Service.

Language

FRANK M. HARPER, Superintendent of Raleigh Township Schools; Miss NANNIE C. DINWIDDIE, Fairmont Seminary, Washington; CLIFFORD L. HORNADAY, Assistant Professor of German, Trinity College.

I. Latin. Mr. HARPER.
II. Latin: Methods of Teaching. Mr. HARPER.
III. French: Elementary. Miss DINWIDDIE.
IV. French: Teaching. Miss DINWIDDIE.
V. French: Rapid Reading and Conversation. Miss DINWIDDIE.
VI. German. Mr. HORNADAY.

Mathematics

Dr. T. C. AMICK, Professor of Mathematics, Elon College; R. E. SENTELLE, Superintendent of Lumberton Graded Schools.

I. Arithmetic, Grammar Grades. Mr. SENTELLE.
II. Algebra, Beginners. Dr. AMICK.
III. Algebra, High School. Dr. AMICK.
IV. Algebra, Advanced. Dr. AMICK.
V. Geometry. Dr. AMICK.

Music

R. BLINN OWEN, Dean of Music, St. Mary's School; Miss MARTHA A. DOWD, St. Mary's School.

I. Public School Music, Primary Grade. Mr. OWEN.
II. Public School Music, Intermediate Grade. Mr. OWEN.
III. Normal Piano Teaching. Miss DOWD.

Rural Sociology

E. L. BEST, Superintendent of Education, Franklin County.

I. Rural Sociology. Mr. BEST.

School Law

R. E. RANSON, Superintendent of Mount Olive Schools.

I. School Law. Mr. RANSON.

Science

W. H. BROWNE, Professor, State College of Agriculture and Engineering; Dr. J. K. PLUMMER, of the Chemistry Staff, North Carolina Experiment Station.

I. General Science. Mr. BROWNE.
II. Physics, Introductory. Mr. BROWNE.
III. Chemistry, Introductory. Mr. BROWNE.
IV. Chemistry, Household. Mr. PLUMMER.

Swimming

Miss HELEN BRUNER, Graduate of Bessie Tift College.

I. Swimming. Miss BRUNER.

Writing

Mr. JACK LONDON, of the A. N. Palmer Company, New York; Miss MARY PAGE, Raleigh Public Schools.

I. Palmer Method. Mr. LONDON and Miss PAGE.

SUMMER SCHOOL STUDENTS, 1917.

Name	*Postoffice*
Annie Mae Adams	Willow Springs
Marcie P. Albertson	Elizabeth City
Mrs. Inez Alexander	Southport
Sue Allen	Hendersonville
Katherine Alston	West Raleigh
Marion Frances Alston	West Raleigh
Mrs. Thomas C. Amick	Elon College
Zeke Arnold	Creswell
Mrs. Chas. D. Arthur	Raleigh
Annie Ashburn	Liberty
Hattie Ashburn	Liberty
Clarence L. G. Ashby	Raleigh
Mamie Lee Avent	Cary
Myra Aycock	Fremont
Marian Bailey	Blackstone, Va.
Lillie Mae Bain	Fayetteville, R. 1
F. Q. Barbee	Robersonville
J. R. Bonett	Farmville
Walter D. Barbee	Seaboard
Meta Irene Barrington	Raleigh, R. 2
Lena Rogers Barrow	Raleigh
Rosa E. Barrow	Raleigh
Swannanoa Baucom	Raleigh, R. 2
Hattie Evelyn Bazemore	Ahoskie
Beryl Bertie Beam	Roxboro
Gladys Mae Beam	Roxboro
J. A. Beam	Roxboro
Mrs. J. A. Beam	Roxboro
Thelma Beddingfield	Wake Forest
Elizabeth Bennett	Warrenton
J. W. Bennett	Brevard
Martha A. Bennett	Durham
Randolph Benton	Cary
Eva D. Berry	Elizabeth City
Mrs. Sam Berwanger	Raleigh
Mrs. T. W. Bickett	Executive Mansion, Raleigh
Daisy Bland	Sanford
Rose Bland	Sanford

Name	*Postoffice*
T. Y. Blanton	Lillington
Mary C. M. Bledsoe	Raleigh
Bessie Blue	Raleigh
Addie E. Bordeaux	Durham, R. 7
Orton A. Boren	Pomona
Mrs. A. F. Bowen	West Raleigh
Annie Bowen	West Raleigh
Ellen B. Bowen	Jackson
Elizabeth Bowen	West Raleigh
Eunice W. Bowen	West Raleigh
Isabel W. Bowen	West Raleigh
Phyllis Bowen	West Raleigh
Lora G. Bowman	Liberty
Mary Washington Bowman	Liberty
Grace Bradford	Carthage
Mary Bradley	Elizabeth City
Annie Brantley	Spring Hope
Lula B. Brantley	Spring Hope
Sallie Braswell	Nashville
Mrs. Katie Breece	Raleigh
Emma Briggs	High Rock
Gertrude Brinkman	Shreveport, La.
Ethel Britt	Garner
Mr. Brown	Vass
Helen H. Bruner	Raleigh
Mary K. Bruner	Raleigh
H. W. Bullard	Harmony
Kate Bullard	Wake Forest
Louise T. Busbee	Raleigh
A. B. Cameron	Leland
Mrs. A. B. Cameron	Leland
W. P. Cameron	Carthage, R. 2
Mrs. Wm. R. Camp	Raleigh
Dena Cannaday	Creedmoor, R. 1
Bessie C. Carman	New Bern
Irma Louise Carraway	Wilson
Mamie Kate Carter	Carter's Mills
Wirta Cash	Oxford
Wrennie Viola Caudle	Raleigh, R. 4
Irving Edward Carlyle	Wake Forest
Minette Causse	Raleigh
Mrs. J. R. Chamberlain	West Raleigh
Elizabeth Cheatham	Durham

Name	*Postoffice*
Daisy Clodfelter	Lexington
Annie M. Cole	Sanford
Blonnie Cole	Riggsbee
Leah Irvin Cooke	Castalia, R. 1
Lula D. Cooper	Raleigh
Ella Belle Copeland	Gastonia
Beatrice Council	Apex
Bettie Council	Apex
Enid Council	Apex
S. G. Crater	Rocky Mount, R. F. D.
May Craver	Lexington, R. 4
Mrs. Henry Manson Crawley	Littleton
Mrs. A. M. Crouch	Raleigh
Nannie Burwell Crow	Raleigh
W. B. Crumpton	Salisbury
Mrs. Della Poole Daughtry	Clayton, R. 3
Mary Davenport	Winton
Mamie Lula Davis	Creek
Eva Davis	Creek
Artie Dishman	Wake Forest
Vivian Dillon	Tuscarora
Elizabeth Dortch	Raleigh
Bessie Doub	Wendell
Mabel Duke	Louisburg
Carrie B. Dunn	Wise
Emma Dunn	Wise
Hilda Dupree	Garner
Ethel DuPont	Snow Hill
Bessie Durham	Scotland Neck
Joseph E. Eason	Farmville
Florence Edgerton	Louisburg
Kate Eldridge	Bentonville
Virginia A. Eldridge	Raleigh
Ruby L. Ellington	Garner
Jean Elliot	Thornwall
Susan Ola Elliott	Lattimore
Mary Davis Estill	Winchester, Tenn.
Minnie Eure	Corapeake
Mrs. H. C. Evans	Raleigh
Pearle Violet Evans	Lexington, R. F. D. No. 4
Gulia M. Faison	Raleigh
Minnie B. Farrior	Raleigh
Lillian Fenner	Raleigh

Name	*Postoffice*
LELIA FALTZ	Clemmons, R. 2
KATE FERGUSON	Neuse
LOUISE FORBES	Farmville, Va., R. F. D.
ELLA A. FORD	Raleigh
MAY BELLE FRANKLIN	Raleigh, R. 4
T. R. FOUST	Greensboro
MINNIE L. FRANKLIN	Raleigh, R. 4
B. B. FULCHER	Creswell
MRS. LUCY M. FONVILLE	Burlington
LUCY FULLER	Wake Forest
KATE M. GAINEY	Clinton
MARY E. GARDNER	Raleigh
NINA GATLING	Fayetteville
WILLIE GETTYS	Hollis
EDITH FLEMING GILBERT	Cooleemee
RACHEL GILCHRIST	Cameron
MRS. D. F. GILES	Raleigh
OLA GILES	Durham
DELLA GILLESPIE	Rosman
ADA BELLE GILLEY	Spray
ALICE GIERSCH	Raleigh
MRS. M. MACR. GRAY	Raleigh
R. L. GRAY, JR.	Raleigh
BELLE C. GRAHAM	Townsville
KENNETH LEE GREENFIELD	Zebulon
FRANCES HALES	Kenly
MRS. JOHN E. HALSTEAD	Raleigh
BERTIE HARRELL	Eure
MRS. A. L. HARRINGTON	Raleigh
EDNA EARLE HARRIS	Gaffney
NETTIE L. HARRIS	Roxboro
SUDIE HARTON	Rutherfordton
OLLIE HEGE	Welcome
MRS. R. V. HELLAMS	West Raleigh
BESSIE R. HELLEN	Raleigh
CELESTE HENKLE	Statesville
LUCY HERRING	Raleigh
MARGARET M. HERRING	Sylva
EVELYN L. HICKS	Greenville, S. C.
LENOA HICKS	Ridgeway
CHARLIE H. HICKS	Thomasville
STELLA HICKS	Wise
MARGARET W. HIGHSMITH	Durham

Name	*Postoffice*
Olivia Hill	Snow Hill
Randolph Hill	West Raleigh
Nell Hinsdale	Raleigh
Olivia M. Hobgood	Louisburg
Mamie A. Hocutt	Selma, R. 2
Robert K. Hoke	Macclesfield
R. L. Hoke	Raleigh
Mrs. R. L. Hoke	Raleigh
Louise Cox Holding	Wake Forest
Annie Laura Holman	Raleigh
Elizabeth F. Holman	Raleigh
Mary B. Holman	Raleigh
Emma Stevens Hoover	Monroe
Mrs. C. L. Hornaday	Durham
Vera House	Balsam Grove
J. S. Howard	Cary
Ollie Juanita Howard	Efland
Rachel Howard	Efland
Mabel Howard	Raleigh
Minnie Idell Hunt	Lexington
Nannie Idell Hunt	Lexington, R. 3
Elizabeth Hunter	Raleigh
May Hunter	Henderson
Mattie Humphries	Hollis
Mrs. W. N. Hutt	West Raleigh
Susan Iden	Raleigh
Bertha Isely	Burlington, R. 8
Margaret Iseley	Burlington, R. 8
Rachel Ivey	Cary
Bessie Jackson	Garner
Mrs. Charles L. Jenkins	Raleigh
Dora E. Jenkins	Franklinton
Mamie B. Jenkins	Kelford
Mrs. B. S. Jerman	Raleigh
Gladys Jerome	Kenly
W. T. Jervis	Asheville
Mrs. Clarence A. Johnson	Raleigh
Evie Johnson	Garner
Roxie R. Johnson	Goldsboro
Stella Johnson	Garner
Mary H. Johnston	Spray
Alva Jones	Wakefield
Elizabeth Brice Jones	Raleigh

Name	*Postoffice*
Fannie E. Jones	Harrellsville
Hallie A. Jones	Roxboro
Lena R. Jones	Zebulon
H. L. Joslyn	Vanceboro
Georgia Joyner	La Grange
Ione V. Camp	Reidsville
Buena Keene	Mount Olive
Ethel P. Kelly	Jackson
Mrs. A. P. Kendrick	Raleigh
Elizabeth Kilgore	Raleigh
Bessie King	Raleigh
Samuel J. Kirby	Dallas
Lucy Kiser	Kings Mountain
Katherine B. Knox	Raleigh
Mrs. A. W. Knox	Raleigh
Bessie V. Kornegay	Kenansville
Elizabeth Lamb	Fayetteville
Mrs. W. B. Lamb	Garland
R. K. Lankford	Harmony
Nancy Lansdell	Semora
Mrs. H. F. Latshaw	Almond
H. F. Latshaw	Almond
William D. Lawler	Raleigh
Ellen Booth Lay	Raleigh
Elizabeth Atkinson Lay	Raleigh
J. T. Lazar	Aulander
Clara Leatherwood	Lake Junaluska
Pearl Ledbetter	Uree
Ruth Addison Lee	Raleigh
Sophia D. Lefler	Cooleemee
Clinard LeGrand	Mocksville
Winnie Leonard	Hickory
Rosa May Liles	Wadesboro
Sadie E. Limer	Afton
Treva Alene Livengood	Winston-Salem, R. 5
Bonnie B. Loftin	Trenton
Charlotte E. Long	Newton
Charles E. Long	Newton
Mittie Long	Thomasville
Eula Ann Love	Newton
Annie May Lowry	Raleigh
Carrie Belle Lowry	Raleigh
Leila Lowry	Neuse

Name	*Postoffice*
Mrs. Elizabeth W. Lucas	Enfield
F. G. Lucas	Four Oaks
C. G. Lyon	Durham
Alice Mae McBrayer	Rutherfordton
Mrs. Carrie McCaulay	Nashville
Annie May McDade	Raleigh
Carrie McDougald	Statesville
A. D. McFadyen	Greensboro
Annie McFadyen	Cameron
M. R. McGirt	Durham
H. H. McKeown	Mount Gilead
Mrs. H. H. McKeown	Mount Gilead
Christian McKeithan	Fayetteville, R. 4
Ida J. McKeithan	Fayetteville, R. 4
Vera McMillan	Wade
Pearl McNeill	Vass
Mrs. F. W. Mahler	Raleigh
H. H. B. Mask	Newton
Eleanor H. Mason	Raleigh
Beatrice Poe Massey	Raleigh
C. W. Massey	Durham
Janet Lee Matthews	Winton
Katie Alene Maynard	Morrisville
Margaret Lillian Maynard	Apex
Mamie E. Meeks	Ridgecrest
Corinna LeMay Mial	Raleigh
Lucy Middleton	Warsaw
Charles E. Miller	China Grove
Mrs. C. E. Miller	China Grove
Elizabeth D. Miller	Raleigh
Mrs. Hartwick Mills	Raleigh
Annie E. Mizelle	Windsor
Walter F. Mobley	Fayetteville
Edna Moore	Southport
Gertrude Moore	Warsaw
Mildred Moore	Atkinson
Hattie B. Morgan	Apex, R. 4
Horace G. Morgan	Raleigh
Annie Morris	Complex
Mrs. Cornelia C. Morris	Roanoke Rapids
Sallie Belle Morris	Complex
Clyde B. Moss	Littleton, R. 2
Marie Moss	Littleton, R. 2

Name	*Postoffice*
Linza Mozinga	La Grange
Zula Murray	Apex
Minnie Muse	Cameron
Mattie Belle Newton	Dunn, R. 1
Ellie Nicholson	Macon
Cora Lee Nixon	Topsail
Irene Nixon	Topsail
C. J. Niblett	Louisburg
Emma A. Noell	Durham
Bessie Norwood	Raleigh
Ruth Oldham	Raleigh
Margaret Helen Outland	George
Dora Brent Overton	Kittrell, R. 2
Mary Anderson Page	Raleigh
Mrs. W. L. Page	Morrisville
Dorothy Lee Park	Raleigh
Frances Park	Raleigh
Eliza Parker	Garner
Zelma Irene Parnell	High Point
Courtney Peace	Oxford
Mrs. Leak Peace	Oxford
Mary Peace	Raleigh
Dallie E. Peede	Neuse
Ethelyn Penny	Neuse
Eunice Esther Penny	Lexington, R. 1
Mrs. E. O. Penny	Neuse
Lida L. Penny	Raleigh, R. 1
Mary Penny	Garner
Sibyl Winna Penny	Raleigh, R. 1
Estelle Perry	Macon
May Perry	Louisburg
Ida May Perryman	Welcome, R. 1
Margaret Perryman	Welcome, R. 1
Lucy Mercer Petway	Enfield
Marguerite Pierce	Winston-Salem
Claire Piper	Raleigh, R. 1
Rochelle Pippin	Wakefield
R. L. Pittman	Fairmont
Mrs. J. K. Plummer	Raleigh
Bessie L. Pope	Raleigh
Clara Pope	Scotland Neck
Zoe Porter	Roanoke Rapids
Jasper Preddy	Franklinton

Name	*Postoffice*
VASSAR PREDDY	Franklinton
SALLIE POTTER	Winnabow
MARY E. PRICE	Charlotte, R. 12
ELIZABETH QUINERLY	Greenville
ANNIE S. RAMSEY	Raleigh
ANNIE LEE RANKIN	Charlotte
DOROTHY CAROLINE RAY	Raleigh
GEORGIANA RAY	Wakefield
PEARL RAY	Wake Forest
WILLA MARGARET RAY	Raleigh
ANNIE RHEW	Rougemont
ISLA RHEW	Rougemont
G. W. RHODES	Newport
ANNA IVEY JONES RIDDICK	West Raleigh
LILLIAN DAY RIDDICK	West Raleigh
MRS. W. C. RIDDICK	West Raleigh
LIZZIE ESTELLE RIPPLE	Lexington, R. 4
ROY M. RITCHIE	Wilson, R. 2
D. ERNEST ROBERTS	Rich Square
JANIE ROBINSON	Monroe
KATHERINE W. ROGERS	Raleigh
LIZZIE J. RODDICK	Winston-Salem
MRS. H. E. SATTERFIELD	West Raleigh
MAZIE ROSELLE SEARS	Morrisville
CECIL H. SHEFFIELD	Brevard
MARY SHELTON (Mrs. J. E. Yarbro)	Rocky Mount
M. P. SHETLEY	Bessemer City
MRS. C. A. SHORE	Raleigh
LESTIE MILDRED SINK	Winston-Salem
THOMAS H. SLEDGE	Rocky Mount, R. 3
CRISSIE SMITH	Lexington
D. KATHLEEN SMITH	Harmony
ELEAN STUART SMITH	Scotland Neck
ESTELLE SMITH	Goldsboro
ETHEL BOONE SMITH	Cary
LEILA SMITH	Maxton
MAGGIE SMITH	Maxton
MATTIE WOOTEN SMITH	Atkinson
MINDA ELIZABETH SMITH	McCullers
ANNIE PAULINE SMITH	Louisburg
MRS. R. R. SMITHWICK	Wendell
ANNIE ROSE SOUTHERLAND	Mount Olive
LUCILLE SOUTHERLAND	Southport

Name	*Postoffice*
DEWEY S. SPRUILL	Creswell
SARAH CATHARINE STANCILL	Selma
W. E. STEINER	Pineville
MRS. W. E. STEINER	Pineville
ELIZABETH STELL	Raleigh
LUCILLE STELL	Wakefield
GORDAN VAN STEVENS	Raleigh, R. 4
LENA STEPHENSON	Raleigh, R. 4
OLA STEPHENSON	Greensboro
SARAH ELIZABETH STEPHENSON	Oxford
VIRGINIA STEPHENSON	McCullers
FLORENCE DOUGLAS STONE	Raleigh
MILDRED K. STODDARD	Raleigh
MARGARET RUTH STRAYHORNE	Raleigh
CARL STRICKLAND	Louisburg
LELA STRICKLAND	Dunn
MRS. F. M. STRONACH	Raleigh
EURA VANCE STROTHER	Franklinton
MELISSA A. STROTHER	Franklinton
RUTH STROTHER	Hester
VIRA SWAIN	Southport
LOUISE DELTA SWICEGOOD	Linwood, R. 1
LILLIAN E. TALTON	Smithfield
LILLIE TART	Newton Grove
CORDELIA TATE	Raleigh
ALICE TAYLOR	Stovall
MAGGIE TAYLOR	Nashville
A. L. TEACHEY	Pleasant Garden
ELIZABETH A. TELFAIR	Raleigh
UNA MAE TERRY	Spray
SUE W. THACKSTON	Raleigh
ROY THOMAS	Durham
MRS. W. S. THOMAS	Raleigh
SENIE L. THOMASSON	Stem
ALICE LILLIAN THOMASSON	Zebulon
ELIZABETH THOMPSON	Raleigh
MRS. H. C. THOMPSON	Raleigh
LILLIAN M. THOMPSON	Raleigh
SALLIE ELIZABETH THOMPSON	Lexington
MRS. WILLIAM TIDBALL	West Brighton, Staten Island, N. Y.
LOMA ELIZABETH TRULL	Raleigh
J. M. TURNER	Smithfield
THOMAS H. TURNER	Mayodan

Name	*Postoffice*
Mrs. Wingate Underhill	Louisburg
Robert Earl Underwood	Youngsville
Dorothy McDowell Vann	Raleigh
Edwin Vaughn	Nashville, Tenn.
Preston J. Vaughn	Nashville, Tenn.
Martha Vaughn	Coscob, Conn.
William Vaughn	Nashville, Tenn.
Willie Hunter Vernon	West Raleigh
Effie Louise Vines	Tarboro
Elizabeth LeGrand Walker	Raleigh
Emilie Hunt Walker	Raleigh
Nancy T. Wall	Lilesville
Lillian Walton	Woodsdale
Ophelia Warren	Woodsdale
Mrs. B. E. Washburn	Raleigh
Mary Washburn	Rutherfordton
Eunice Tyler Watson	Roxobel
Ann Louise Weis	Culpeper
Julia West	Raleigh
Josephine Wester	Norlina
Lilly White	Raleigh
Lillie H. White	Franklinton
Mary Iris White	Hertford, R. 2
Mary M. White	Raleigh
Mary Newby White	Belvidere
Mamie Whiteside	Rutherfordton
Isabel Wicker	Southern Pines
Irma Wilkerson	Roxboro
Irving C. Williams	Louisburg
Jane Williams	Linden
Jennie Mae Williams	Dunn, R. 1
Neva Pearle Willis	Gloucester
Bertha Beulah Wilson	Mebane
Mrs. Florence R. Winn	Lincolnton
Herman E. Winston	Youngsville
Stephen E. Winston	Youngsville
Mamie Withers	Davidson
Mrs. W. A. Withers	Raleigh
Noy Womble	Apex
Mary Woodburn	Morven
Loomis Eldridge Woodley	Creswell
Maggie C. Woods	Hickory
Burnell Woodward	Raleigh, R. 4

Name.	*Postoffice.*
Mrs. W. A. Woody	Woodsdale
Mouzon Worsham	Cornelius
Fannie Foster Wortham	Franklinton
Mary Elizabeth Wortham	Franklinton
Halcy Wright	Youngsville
Louise B. Wright	Raleigh
Emma Yarbro	Raleigh
Katherine Louise Yarbrough	Raleigh
Mary Yarbrough	Raleigh
Leonita Yates	Raleigh
Marjorie Yates	Raleigh
Charlotte Rayburn Young	Asheville
Linville Younger	Stovall
Dora Zimmerman	Lexington, R. 1
Shelton Zoeller	Elizabeth City

LIST OF PRACTICE SCHOOL STUDENTS, SUMMER, 1917

Name	*Address*
Brantley Aycock	Raleigh
Leslie Bailey	Raleigh
Thomas Bailey	Raleigh
Lizzie Pullen Belvin	Raleigh
Cicely Browne	Raleigh
Melissa Chamberlain	Raleigh
Kenneth Curtis	Raleigh
Robert Curtis	Raleigh
Miriam Daughtry	Raleigh
Justice Davis	Raleigh
Mildred Davis	Raleigh
Annie Louise Evans	Raleigh
William F. Evans	Raleigh
Jewell R. Giles	Raleigh
Edmond Gray	Raleigh
Roy Grogan	Raleigh
John Halstead	Raleigh
Nancy Harden	Raleigh
Dorothy Howard	Raleigh
Robert Howard	Raleigh
Susie Johns	Raleigh
Frank King	Raleigh
Carroll Mann	Raleigh
Buster Manning	Raleigh
Vandry Matthews	Raleigh
Kathleen Moser	Raleigh
Margaret Pence	Raleigh
Alton Prince	Raleigh
Mary A. Ranson	Raleigh
Burton Register	Raleigh
Eugenia Riddick	Raleigh
Mary Lee Sears	Raleigh
Richard Seawell	Raleigh
Margaret Stallings	Raleigh
Carey Steele	Raleigh
Julia F. Steele	Raleigh
Loetitia Steele	Raleigh
Nancy Seele	Raleigh

Name	*Address*
JULIA MAE STONE	Raleigh
ELIZABETH STROWD	Raleigh
WILLIAM STROWD	Raleigh
FRANK TERRELL	Raleigh
WINGATE UNDERHILL	Raleigh
MAJOR WILSON	Raleigh
MARY LAURENS WITHERS	Raleigh
WILLIAM ALPHONSO WITHERS, JR.	Raleigh
ELIZABETH YATES	Raleigh

DEGREES CONFERRED IN 1917

BACHELOR OF SCIENCE

In Agriculture

John Welsford Artz,
John William Avera,
John Robin Baucom,
Tyson Yates Blanton,
Almon Hill Carter,
Ambrose Schenck Cline,
Minar Cecil Donnell,
William Henry Elliot,
Arthur Crawford Foster,
John Wade Hendricks,
Edward Holland Holton,
William Ransom Hoots,
John Eli Ivey,
Paul Worthy Johnson,
Carl James Kirby,
Joseph Lee, Jr.,
Henry Albert Lilly,
James Robert McArthur,
Elbert McPhaul,
Mark Struve Martenet,
Gordon Kennedy Middleton,
Ewing Stephenson Millsaps,
Zachariah Enniss Murrell, Jr.,
Julian Hawley Poole,
Walter Roscoe Radford,
Victor Arthur Rice,
James Henry Rogers,
William Kerr Scott,
Charles Whitson Stanford, Jr.,
Reuben Bennett Stotesbury,
Ben Temple,
Louis Dale Thrash,
Ernest Craig Turner, Jr.,
Napoleon Bonaparte Tyler,
Nathaniel Warren Weldon.

In Chemistry

John Francis Williams, Jr.

BACHELOR OF ENGINEERING

In Civil Engineering

Charles Webb Davis,
William Pressley Davis,
Frederick Carlton Gardner,
John LeRoy Gregson, Jr.,
Adolph Theodore Hartmann,
Bruce Dunston Hodges,
Frank William Howard,
Robert Wissner McGeachy,
Frank Coble McNeill,
William Emery Matthews,
David Miller Rea,
Thomas Park Simmons,
John Alpheus Stallings,
Roy Lee Williamson,
Louis Ernest Wooten.

In Electrical Engineering

Barrett Woodward Boulware,
George Chandler Cox,
Francis Edwin Coxe,
Albert George Day,
Frank Joshua Haight,
Edison Parker Holmes,
Robert Mullen Hooper,
Walter Myatt Johnson,
Jacob Wyatt McNairy,
George W. Whitson.

In Mechanical Engineering

John Fleming Harris,
Henry Wadsworth Hayward,
Thomas Jackson Martin, Jr.,
Morell Battle Maynard,
James Malcolmson Rumple,
David Morton Saintsing,
Gurdon Lucius Tarbox,
Yaro Zenishek.

In Textile Industry

Zeb Boyce Bradford,
Noah Burfoot, Jr.,
William Carter Dodson,
Carl Rush Harris,
Todd Bowman Meisenheimer,
James Edgar MacDougall,
Edward Mosby Murray,
Horace Bascomb Robertson,
Michael Alfred Stough,
Louis Joseph Swink,
Druid Emmet Wheeler.

ADVANCED DEGREES

MASTER OF SCIENCE

In Agriculture

Victor Allison Johnston,
Samuel George Lehman,
John Asa Simms,
Herbert Spencer,
Ernest Elwood Stanford,
Peter McKellar Williams, Jr.

CIVIL ENGINEER

Morris Liferock.

HONORARY DEGREE

DOCTOR OF SCIENCE

Wilbur Fisk Massey.

CATALOGUE OF STUDENTS

GRADUATE STUDENTS

Name.	*Course.*	*Postoffice.*
Bascum Otto Austin, B.E.	E. E.	Raleigh
Charles Edward Bell, B.S.	Chem.	Raleigh
Vernon Ray Herman, B.S.	Agr.	West Raleigh
Benjamin Oliver Hood, B.E.	C. E.	Newark, N. J.
John Ely Ivey, B.S.	Agr.	West Raleigh
Luther Hill Kirby, B.E.	C. E.	San Juan, P. R.
Samuel George Lehman, M.S.	Agr.	West Raleigh
Donald McCluer, B.S.	Agr.	West Raleigh
Henry Knox McIntyre, E.E.	Chem.	West Raleigh
Edgar Byron Nichols, B.E.	M. E.	Indianapolis, Ind.
Joseph Henry Robertson, B.E.	E. E.	Salisbury
Herbert Spencer, M.S.	Agr.	West Raleigh
Talmage Holt Stafford, B.S.	Agr.	West Raleigh
Herbert Lee Taylor, B.E.	M. E.	Baltimore, Md.
Grover William Underhill, B.S.	Agr.	West Raleigh
Jacob Osborne Ware, B.S.	Agr.	West Raleigh

SENIOR CLASS

Name.	*Course.*	*Postoffice.*
Bonva Closson Allen	M. E.	Clayton, R. 2
George Ganzer Avant	E. E.	Wilmington
James Monroe Barnhardt	Agr.	Harrisburg, R. 2
Thomas Ambrose Belk	Agr.	Mount Holly
Frederick Neil Bell	E. E.	Concord
Jay Lang Benbow	Agr.	Oak Ridge
Wilmer Zadock Betts	C. E.	Raleigh
George Benjamin Blum	Agr.	Reidsville, R. 2
Bryce Benjamin Brown	E. E.	Greenville
Harper Nicholson Cherry	Agr.	Hendersonville
William Thomas Combs	C. E.	Leaksville
Charles Kearney Cooke, Jr.	M. E.	Louisburg
Russell Alexander Crowell	Agr.	Acton
William Anderson Davis	Agr.	Lucama
William Sergeant Dixon, Jr.	M. E.	Mebane
Frederick Emmett Ducey	Agr.	Portsmouth, Va.
Thomas Benjamin Elliott	Agr.	Sanford, R. 4
Paul Brandon Fleming	E. E.	Cleveland

Name.	*Course.*	*Postoffice.*
LANDON CABELL FLOURNOY	E. E.	Charlotte
DANIEL ROBERT STEELE FRAZIER, JR.	C. E.	Kings Creek, R. 1
EDWIN WOOD FULLER	Tex.	Raeford
EARLY BAXTER GARRETT	Agr.	Burlington, R. 7
BENJAMIN DUKE GLENN	Tex.	Greensboro
ABRAM EDGAR HARSHAW	M. E.	Murphy, R. 2
JOHN RUBY HAUSER	E. E.	North Wilkesboro
JOHN GRAY HICKS	Agr.	Wilmington
JOHN JACOB JACKSON	Tex.	Kinston, R. 4
SHOBER KORNER JACKSON	Agr.	High Point, R. 2
MURRAY GIBSON JAMES	Agr.	Maple Hill
WILLIAM COOKE JONES	M. E.	Raleigh
LYMAN KISER	Agr.	Reepsville
WILLIAM DANIEL LEE	Agr.	Asheville
WILLIAM EDWARD LEEPER	C. E.	Belmont
CHARLIE RILEY LEONARD	Agr.	Lexington, R. 3
ELBERT FRANCIS LEWIS	C. E.	Greensboro
ROBERT LINGLE LEWIS	C. E.	Gastonia, R. 2
RALPH MCDONALD	Tex.	Raleigh
PEYTON HOWARD MASSEY	Agr.	Zebulon, R. 2
EUGENE JAMES MOORE	Agr.	Winston-Salem
JOHN ANDREW NORTHCOTT, JR.	E. E.	Winton
HENRY BLOUNT OSBORNE	Agr.	Clyde
WALTER LEAK PARSONS	Tex.	Rockingham
DANIEL RUSSELL SAWYER	Agr.	Wilmington
ALLEN ERNEST SMITH	Agr.	Hope Mills, R. 2
ROGER VERNON TERRY	M. E.	Danville, Va.
GEORGE BOSTON TROXLER	Agr.	Brown Summit
SUADE GOWER WALKER	Agr.	Rutherfordton, R. 4
HENRY CARPENTER WARWICK	C. E.	Slab Fork, W. Va.
JAMES THADDEUS WEATHERLY	Agr.	Greensboro, R. 1
PERCY STANLEY WHITE	Agr.	Greensboro
JAMES FULLER YATES, JR.	E. E.	Guilford

JUNIOR CLASS

GABRIEL FRANCIS BARBREY	C. E.	Clinton
SAMUEL OTTO BAUERSFELD	Agr.	Hamlet
JOHN HENRY WILLIAM BONITZ	C. E.	Wilmington
ROBERT EDWARD BRACKETT	Agr.	Nealsville
CLARENCE ANDERSON BRAME	Agr.	Kenly, R. 3
DALLAS MARION BUCHANAN	Agr.	Oxford
JOHN FREDERICK CLARK	Agr.	Greensboro, R. 3
GEORGE LATTA CLEMENT	Agr.	Asheville

Name.	*Course.*	*Postoffice.*
James Harold Click	Agr.	Elkin
Thomas Marvin Denson	C. E.	High Point
Hugh Woody Dixon	Agr.	Elkin
LeRoy Dock	Agr.	Balsam
Howard Henley Gordon	Agr.	Raleigh
Dennis Henry Hall, Jr.	Agr.	High Point
James Shoffner Hathcock	Agr.	Norwood
Harry Lee Herman	Agr.	Conover, R. 1
Arthur Lee Humphrey	E. E.	Wilmington
Eugene Carl Jernigan	Agr.	Benson
Fred Duncan Jerome	C. E.	Kenly
William Daniel Johnston	E. E.	Washington
Zach Taylor Koonce, Jr.	Agr.	Comfort
Harry Vann Latham	Agr.	Belhaven, R. 1
James Gilmore Leonard	E. E.	Lexington, R. 1
William Ernest Leonard	Agr.	Lexington, R. 3
Forrest Bainie Long	Tex.	Charlotte, R. 3
Paul Hedrick Long	M. E.	Thomasville, R. 3
Paul Thomas Long	Agr.	Jackson
Zeb. Arch McCall	Agr.	Elrod
Hammond Springs McCoy	Tex.	Huntersville, R. 20
Homer Allison McGinn	Tex.	Charlotte
Harry Gallant McGinn	Tex.	Charlotte, R. 3
Burton Forrest Mitchell	Tex.	Shelby
Theodore Page Morris	Tex.	Gastonia
William Carey Murrell	E. E.	Wilmington
Charles Fuller Phillips	Agr.	Thomasville, R. 4
Zeb. Vance Potter	Tex.	Vandemere
Palmer William Pressly	E. E.	Bartow, Fla.
James Lathan Rea	Agr.	Matthews, R. 27
George Randolph Robinson	E. E.	Rocky Mount
Harry Tatum Rowland	Tex.	Middleburg
Horace Ralph Royster	Tex.	Shelby
Marion Polk Sanford	Agr.	Stem, R. 1
Walter DuPre Shields	Tex.	Scotland Neck
Walter Leith Shuping	E. E.	Morganton
Fred. Jennings Stanback	Tex.	Mount Gilead
James Gray Stokes	Agr.	Burgaw
Jacob Neely Summerell	Tex.	China Grove, R. 2
Joseph Benton Turley	Agr.	Clayton
Warner Minnieweather Vernon	Agr.	Raleigh
Jew Irvin Wagoner	Agr.	Gibsonville, R. 1
Earl Dewitt Waldin	E. E.	Miami, Fla.

Name.	*Course.*	*Postoffice.*
SAMUEL STANHOPE WALKER	Tex.	Martinsville, Va.
ROBERT PHIFER WATSON	Tex.	Salisbury, R. 4
EARL PARKS WELCH	Agr.	Charlotte, R. 7
B. CUNDIFF WILLIAMS	Agr. Chem.	Manassas, Va.

SOPHOMORE CLASS

NORMAN ALEXANDER	Agr.	Liberty, Star Rt.
WILLIAM GASTON ALLEN	C. E.	Neuse, R. 1
RUPERT OSMAN ALVERSON	E. E.	Spartanburg, S. C.
LINDSEY OTIS ARMSTRONG	Agr.	Goldsboro
ALAN CLARK BAUM	M. E.	Poplar Branch
WALTER ROBERT BAYNES	Agr.	Hurdle Mills
MILTON ERWIN BELAND	M. E.	Wilson
JAMES CYRUS BLACK, JR.	Chem. Eng.	Davidson, R. 2
ROBERT LAWSON BLACK	Tex.	Harrisburg, R. 2
BOLIVAR LITTLEJOHN BRADLEY	E. E.	Burlington
WILLIAM EDWARD BRATTEN	Agr.	Princess Anne, Va.
HARVEY PRESTON BROWER	Agr.	Staley, R. 1
OWENS HAND BROWNE	Chem. Eng.	West Raleigh
WILLIAM CAREY BUNCH	Agr.	Edenton
EDWARD FAISON BUTLER	Agr.	Elliott
JOHN SUMMERELL CHAMBERLAIN	Agr.	West Raleigh
WILLIAM CLAYBORNE CHEEK	E. E.	Durham
FRANKLIN DEWEY CLINE	C. E.	Asheville
ROBERT STUART COLLINS	E. E.	Catharine Lake
SAMUEL ALLEN COOPER	Agr.	Graham, R. 2
HORACE DOWNS CROCKFORD	Agr.	Charlotte, R. 5
WILLIAM ALLEN DOBSON	Agr.	Statesville, R. 5
ROBERT HOBSON DUKE	E. E.	Durham
PLATO DURHAM	Chem. Eng.	Gastonia
JENNINGS BRYAN EDWARDS	Agr. Chem.	Lincolnton
RANDAL BENNET ETHERIDGE	Agr.	Manteo
HOWARD LEE EVANS	Agr.	Lexington, R. 3
EDWARD YORK FLOYD	Agr.	Hester, R. 1
AVERY FALLS GARRISON	Tex.	Belmont
JOHN GATLING	E. E.	Raleigh
ALBERT SIDNEY GAY	C. E.	Jackson
GEORGE MAXWELL GREENFIELD	Chem. Eng.	Kernersville
JOHN GREENE HALL, JR.	C. E.	Oxford
ADAM HUGH HARRIS	Agr.	Oriental, R. 1
FRED. BRYAN HARTON	Agr.	Rutherfordton, R. 3
CHARLES FRANKLYN HENDRICK	E. E.	Asheville
JESSE MEACHEM HENLEY	Agr.	Guilford College, R. 1

Name.	*Course.*	*Postoffice.*
Robert Cliff Hinkle	Tex.	Lexington
Edward Gibbon Hobbs	Agr.	Clinton
Wilbur Breeden Hodges	Agr.	Brownsville, S. C.
Ray Augustus Holshouser	Tex.	Concord
Solomon Linn Homewood	Agr.	Burlington, R. 1
Harry Eley Hood	Tex.	Waxhaw, R. 3
Edward Tublington Howard	Agr.	Salemburg
William Frank Humbert	E. E.	Polkton, R. 2
John Blake Hunter	E. E.	Greensboro, R. 2
James Sylvanus Hunter	M. E.	Gastonia
Christopher Thomas Hutchins	M. E.	Portsmouth, Va.
Edward Everett Inscoe	E. E.	Castalia
Arthur Spbool Jennette	C. E.	New Bern
Asbury Crouse Jones	Agr.	Winston-Salem, R. 1
Omra Burr Jones	Agr.	Weaverville
Prescott Milton Jones	Agr.	Wake Forest, R. 3
John Haywood Lane	Agr.	Wilson, R. 4
Louis Mills Lattimore	E. E.	Shelby
James Furman Lewis	Tex.	Fairmont
Thomas McMillan	C. E.	Rocky Mount
Andrew Willis McMurray, Jr.	Tex.	Shelby
Benjamin Woodman Manier	M. E.	Jacksonville, Fla.
Harvey Blount Mann	Agr.	Lake Landing
Melville Lee Matthews	E. E.	Henderson
Edward Newton Meekins	Agr.	Manteo
Duncan Thomas Memory	M. E.	Whiteville
Allen Lindsay Midyette	C. E.	Fairfield
John Daniel Miller	Agr.	Newton, R. 4
John Thaddeus Monroe	Agr.	Council, R. 2
Frank Pierce Montgomery	M. E.	Wilmington
Leslie Davis Nelson	C. E.	Atlantic
Tycho Norris Nissen	M. E.	Winston-Salem
Harvey Mack O'Quinn	M. E.	Lillington, R. 3
Paul Shepard Oliver	Agr.	Marietta, R. 1
Dwight Hendricks Osborne	Agr.	Greensboro, R. 3
Perry Lennon Page	Agr.	Clarkton, R. 2
George Mason Parker	C. E.	Woodland
Edwin Pate	Agr.	Laurel Hill
Osmond Conrad Pate	E. E.	Greensboro
James Murchison Peden	E. E.	Wilkesboro
Herman Newton Pickett	M. E.	Greensboro
Ross Dunford Pillsbury	C. E.	West Raleigh
Edwin Theodore Porter	Tex.	Georgetown, S. C.

Name.	*Course.*	*Postoffice.*
James Robert Powell	Agr.	Clinton, R. 2
George Everard Privott	Agr.	Edenton
William Woodson Pugh	M. E.	Cedar Creek
Dillard Charles Ragan	Tex.	High Point
Oliver Ramsaur	E. E.	Kings Mountain
Zebulon Milton Rea	Agr.	Matthews, R. 27
Caleb Edward Rhodes	E. E.	Dallas
Oscar LaFayette Rhodes	Tex.	Warsaw
John Hollis Ripple	Tex.	Lexington
William Louis Roach	C. E.	Durham
Ralph Reed Robertson	E. E.	Portsmouth, Va.
Cecil Vann Saunders	E. E.	Lilesville
Charles Anthony Sheffield	Agr.	Randleman, R. 2
Frank Pierce Shore	E. E.	East Bend, R. 2
Adrian Lee Sigmon	Agr.	Hickory, R. 3
Joel Alexandria Smithwick	Agr.	Manson, R. 2
Robert Pinkney Stacey	E. E.	Ruffin
Isaiah Quincy Steigelman	E. E.	Rocky Mount
Hugh Martin Stoffregen	C. E.	Fredericksburg, Va.
John Guy Stuart	Agr.	Jackson Springs
Donald Shaw Stubbs	Agr.	Louisburg, R. 2
Dennis Howard Sutton	Agr.	Columbia, R. 2
Frank Ralph Swindell	E. E.	Belhaven
Vincent Wright Tabb	E. E.	Portsmouth, Va.
George William Tiencken	E. E.	Wilmington
Marion Francis Trice	Chem. Eng.	Hendersonville
Alexander Holloway Veazey	Agr.	Lyons, R. 1
Aubrey Bryant Waddell	Tex.	Louisburg
William Daniel Wagner	M. E.	Tarboro
Seth Thomas Walton	Agr.	Jacksonville, R. 3
Clarence Westbrook Warrick	Agr.	Goldsboro, R. 4
John Leland Watson	Agr.	Maxton, R. 4
Albert Linwood White, Jr.	M. E.	Hampton, Va.
Charles Wharton White	Tex.	Raleigh
Melvin Vaden Wilkerson	Agr.	Kenly, R. 3
Alcuin Duclos Wolff	E. E.	Winston-Salem
Daniel Barnes Worth	E. E.	Raleigh, R. 2
William Thomas Wray	Tex.	Wilson
Samuel King Wright	Tex.	Ruffin

FRESHMAN CLASS

Claude Winifred Absher	C. E.	Mount Airy
Judson Davis Albright, Jr.	Chem. Eng.	Charlotte

Name.	*Course.*	*Postoffice.*
SAMUEL CRAIGHEAD ALEXANDER	Tex.	Charlotte
CHARLES SNEAD ALLEN	Tex.	Weldon
HILTON WORTH ALLSBROOK	E. E.	Greenville
CHARLES DAVIS ARTHUR, JR.	Chem. Eng.	Raleigh
ERNEST MERRITT BAILEY	E. E.	Woodsdale, R. 2
WAYNE ELROY BAILEY	E. E.	Chadbourn
PERCY OWEN BARBER	C. E.	Goldsboro
BASIL DUKE BARR	C. E.	Creston
LLOYD CURTIS BAUM	Agr.	Poplar Branch
JAMES PERCY BEAL	Chem. Eng.	Rocky Mount
WILLIAM FOY BEAL	M. E.	Rocky Mount, R. 3
ANDREW MCALPINE BELL	C. E.	Morganton
WILLIAM CARLISLE BETHEA	Tex.	Lumberton
RICHARD VON BIBERSTEIN	C. E.	Charlotte
FRED. MILLER BIGHAM	C. E.	Charlotte, R. 4
HENRY MCCOY BLUE	Agr.	Aberdeen
JULIAN H. BLUE	C. E.	Raeford
FITZHUGH LEE BONNER	E. E.	Aurora, R. 2
RICHARD BENJAMIN BOREN, JR.	M. E.	Pomona
JOHN CARY BOSEMAN	Tex.	Enfield
CURTIS CLEGG BOST	Agr.	Matthews, R. 19
HOWARD WISWALL BOWEN, JR.	C. E.	Washington
GRADY WASHINGTON BOWERS	Tex.	Lexington
JOHN POU BRADLEY	E. E.	Kipling
PAUL BRADLEY	M. E.	Kipling
DWIGHT BRANTLEY	Agr.	Spring Hope
HENRY EMMETT BREWER, JR.	E. E.	Rocky Mount
HENRY WALTER BROOME	Agr.	Kinston
JOHN BURTON BUNTING	Agr.	Bethel
AARON LEON CAPEL	Tex.	Troy
GRADY SYLVANUS CARPENTER	Agr.	Lincolnton, R. 6
SAMUEL LEE CARPENTER	Agr.	Lincolnton, R. 5
BASCOM R. CARROLL	Agr.	Ranger
BENJAMIN SIMMONS CARTWRIGHT	Agr.	Fairfield
JOSEPH STICKNEY CHAMBERLAIN	Agr.	West Raleigh
FRED. SHERWOOD CHILDS	Tex.	Lincolnton
THOMAS DANIEL CLARK	Agr.	Fayetteville, R. 4
JAMES POOL CLAWSON	E. E.	Beaufort
HENRY OTTIS CLODFELTER	M. E.	Lexington, R. 1
WILLIAM BRYAN COLLINS	Agr.	Edwards Cross Roads
ERNEST WILLIAM CONSTABLE	Chem. Eng.	Lake Landing
JASPER ELLIS COON	E. E.	Pinnacle
ROBERT ANDREW COUGHENOUR	M. E.	Scotland Neck

Name.	*Course.*	*Postoffice.*
WILLIAM DYEL CRANFORD	Agr.	New Hope Academy
ROLAND CORNELIUS CRAWFORD	Chem. Eng.	Williamston
LOUIS BROADDUS DANIEL	Tex.	Weldon
CLIFTON MILLER DANIELS	Agr.	Oriental
TRUMAN PERCY DAUGHTRIDGE	Agr.	Kinston, R. 2
VERNON FLETCHER DAUGHTRIDGE	Agr.	Rocky Mount, R. 6
ROBERT LEWIS DAVIS	Agr.	Rocky Mount
WILLIAM SPEED DAVIS	Tex.	Henderson, R. 4
ROBERT ANTINE MCCOLOUGH DEAL	Tex.	Alston
JOSEPH GADDY DEBERRY	E. E.	Spencer
LEE ARMISTEAD DENSON, JR.	M. E.	Mount Gilead, R. 2
BENJAMIN FRANKLIN DAUGHETY	E. E.	Raleigh
SAMUEL CLAUDE DUNCAN	Agr.	Indian Trail, R. 1
FRED. OWEN DURANT	E. E.	Snow Hill
WALTER CONNOR EAGLES	Agr.	Macclesfield, R. 1
FRANK REVERSLEY ENGLISH	Tex.	Martinsville, Va.
JOSEPH GRAHAM EVANS	M. E.	Elizabeth City
CLARENCE FISHER	Tex.	Battleboro
CLAUDE HAMILTON FLIPPIN	E. E.	Pilot Mountain
AVERETTE GASTON FLOYD	Agr.	Fairmont, R. 1
DEWEY AUGUSTUS FLOYD	E. E.	Fairmont, R. 3
JOHN ELLIOTT FORTESCUE	E. E.	Scranton, R. 1
CHARLES BENJAMIN FULGHUM	C. E.	Selma, R. 3
PHILIP DEWEY FUNDERBURK	Agr. Chem.,	Lancaster, S. C., R. 7
PERRY HAMILTON GASTON	Agr.	Candler, R. 2
RUSSELL LAMAR GASTON	M. E.	Candler
BARTHOLOMEW MOORE GATLING, JR.	E. E.	Raleigh
ALBERT FLETCHER GRIFFITHS	Agr.	Jackson Springs
PAUL INGRAHAM GRIMES	M. E.	Lexington
LEO CHARLES GUIRKIN	E. E.	Elizabeth City
RICHARD NESTUS GURLEY	Tex.	Goldsboro
CHARLES NURNEY HACKNEY	E. E.	Wilson
CHALMERS GAITHER HALL, JR.	Chem. Eng.	Raleigh
LAURENS ADAMS HAMILTON	Agr.	Carlisle, S. C.
JOHN WILLIAM HARDEN, JR.	Agr.	Raleigh
MACON LEROY HARDY	Tex.	Hookerton
C. HAL HARRINGTON	Chem. Eng.	Clarkton
EDGAR VERNON HARRIS	C. E.	Tarboro
HERBERT HUNTER HARRIS	C. E.	Louisburg
COLIN ANDREW HASTY	E. E.	Laurinburg, R. 3
HENRY MAYER HAVIRD	Agr.	Silver Street, S. C.
JAMES WILLIAM HAYES, JR.	E. E.	Elm City
THOMAS JULIAN HECKSTALL	Agr.	Windsor

Name.	*Course.*	*Postoffice.*
RAYMOND MOULD HILLYER	M. E.	Jacksonville, Fla.
BERRY LEE HINNANT	M. E.	Wilson
CLYDE ROARK HOEY, JR.	M. E.	Shelby
ASA BAKER HOLLOWELL	Agr.	Aulander
ROY ARTHUR HOLLOWELL	Agr.	Winton
OLIVER KNIGHT HOLMES	Agr.	Fayetteville, R. 2
CHARLES BARRETT HOWARD	Agr.	Salemburg
JOHN RANDOLPH HUDSON	Tex.	Shelby, R. 2
FRANK PORTER HUSKIN	E. E.	Andrews
ANDREW ELLERSON JAMES	E. E.	Wilson
JUDSON PEELE JOHNSON	M. E.	Chalybeate Springs
NATHAN MURRAY JOHNSON	C. E.	Laurinburg
WILLIAM CARMI JOHNSTON, JR.	Chem.	Mooresville
WILLIAM MORTON JOHNSTON	Agr.	Greenville
EDWARD HAWKINS JONES	Agr.	Oxford, R. 1
GASTON VANCE JONES	Tex.	Newark, N. J.
JOHN KEITH JONES	E. E.	Selma
WILLIAM HUGH JONES	Agr.	Winton
HARVEY NATHAN KELLY	Agr.	Abbottsburg, R. 1
CLYDE HOEY KENDRICK	E. E.	Cherryville
ROBERT MORRIS KIMZEY	Agr.	Horseshoe, R. 1
DOUGLAS HAMILTON KNOX, JR.	Agr.	Fredericksburg, Va.
DANIEL EMMETT KOONTS	Agr.	Cooleemee,
WILLIAM ANDREW FRANKLIN LAWING	E. E.	Huntersville, R. 20
HENRY THOMAS LAWRENCE, JR.	Agr.	Apex, R. 3
GEORGE THOMAS LEACH, JR.	Tex.	Washington
RICHARD COX LEACH	M. E.	Washington
EDWIN CLINARD LEGRAND	Tex.	Mocksville
ROY STCLAIR LEWARK	C. E.	Seagull
HORNER DEWITT LONG	C. E.	Concord
SAMUEL MARSH LONG	E. E.	Trenton, S. C., R. 1
SAMUEL DARDEN LOVELACE	E. E.	Wilson
JENNINGS ANDERSON LOVEN	M. E.	Linville
ALEXANDER BRYAN MCCORMICK	Tex.	Rowland
WILSON COPES MCKOY	Agr.	Portsmouth, Va.
PAUL MCDILL	Agr.	Johnstown, Neb.
BEN FRANKLIN MCGREGOR, JR.	Agr.	Laurinburg, R. 1
JAMES TAYLOR MCNATT	Agr.	Parkton
ADRIAN BANNERMAN MCRAE	Agr.	Elrod
WARREN STATEN MANN	M. E.	Fairfield
EDWARD BRANHAM MANNING	M. E.	Henderson
HARVEY PEYTON MARKHAM	E. E.	Godwin
HOWELL FOSTER MASSEY	M. E.	New York, N. Y.

Name.	*Course.*	*Postoffice.*
FAISON MATTHEWS	Tex.	Raleigh
FRANK BARNARD MEACHAM	Agr.	Statesville, R. 6
JASPER LIVINGSTON MEMORY, JR.	C. E.	Whiteville
ROBERT LATHAN MILLS	Chem. Eng.	Mooresville
GRAHAM MONROE	Agr.	Council, R. 2
BARTHOLOMEW FIGURES MOORE	Tex.	Raleigh
HARRY ZENO MOORE	Agr.	Whitakers
JAMES WRIGHT MOORE	E. E.	Trenton, S. C., R. 1
WILLIAM HEYWARD MOORE	C. E.	Statesville
ELI JOHN MORGAN	Agr.	Benson
AUGUSTUS RAY MORROW	Agr.	Mount Ulla, R. 2
EMMETT BROWN MORROW	Agr.	Mount Ulla, R. 2
JONATHAN HAVENS MOSS	Tex.	Washington
MANLEY PARKER MOSS	C. E.	Youngsville
GEORGE KING MURRAY	Tex.	Charlotte
JAMES GORDON OLIVE	Agr.	Apex, R. 3
WILBUR LEO CUNNINGGIM ORMOND	Agr.	Snow Hill, R. 2
JOHN BARDIN OVERMAN	Tex.	Eureka
REGINALD OVERMAN	Agr.	Stantonsburg
DOLPHIN HENRY OVERTON	Agr.	Nashville
ALLAN KENT OWEN	C. E.	Winston-Salem
CHANNING NELSON PAGE	C. E.	Aberdeen
LEWIS BRENARD PECK	C. E.	Concord
CALVIN WINCHESTER PEGRAM	Agr.	Lincolnton
JOSEPHUS DANIELS PELL	Tex.	Raleigh
GEORGE TORREY PEOPLES	Tex.	Townsville, R. 1
STERLING LEVI PERKINSON	M. E.	Wise
BLACKWELL PIERCE	Agr.	Weldon
JOSEPH BRICKHOUSE PINNER	Agr.	Columbia
JOSEPH JOHNSON POLAND	Agr.	Raleigh
EDDIE LEE QUILLEN	E. E.	Spencer
KIRBY JERNIGAN QUINN	Chem. Eng.	Warsaw, R. 2
CHARLES LOUIS RACKLEY	Agr.	Hendersonville, R. 4
HARDY MURPHREE RAY	Tex.	Raleigh
DAUGHTRIDGE SYLVESTER REYNOLDS	E. E.	Selma
MARTIN LUTHER RHODES	Tex.	Lincolnton
WADE HAMPTON RICE	Agr.	Wilson
COLON ARTHUR RICHARDSON	C. E.	Asheboro
ANDREW JACKSON ROBBINS, JR.	M. E.	Southport
JOHN PRESTON ROBINSON	M. E.	Charlotte, R. 7
THOMAS DAVIS ROPER, JR.	Chem. Eng.	Portsmouth, Va.
HUGH VIRGIL SATTERFIELD	C. E.	Raleigh
WILLIAM BUNTING SAUNDERS	M. E.	Lilesville

Name.	*Course.*	*Postoffice.*
JAMES CARLTON SENTER	E. E.	Kipling
GUY RUDISILL SIPE	Agr.	Cherryville
THOMAS RAMSAUR SMITH	E. E.	Concord
GEORGE R. SOCKWELL	Agr.	Gibsonville, R. 1
THOMAS ANCRUM SPENCER	E. E.	Whiteville
WILLIAM NOAH SPRUILL	C. E.	Creswell, R. 1
TOLBERT LACY STALLINGS	M. E.	Louisburg, R. 4
RICHARD ALEXANDER STANFORD	Agr.	Burlington, 1
MATT RANSOM STEPHENSON	Agr.	Seaboard
GEDDIE BLAIR STRICKLAND	C. E.	High Point
WILLIAM AUSTIN SYDNOR, JR.	M. E.	North Wilkesboro
RICHARD FRAZIER TABOR	C. E.	Morganton, R. 5
WILLIAM EVERETTE TALLEY	Agr.	Penrose
ROSCOE DEWITT TEACHEY	Agr.	Wallace, R. 2
JUNIUS ALBERT TEMPLE	C. E.	Sanford
JOHN CLIFTON TERRY	M. E.	Rockingham
HALSEY KENT THOMPSON	Tex.	Aurora
THEODORE RUGGLES TIMBY	E. E.	Fayetteville
JAMES HIX TOWNSEND	E. E.	McDonald
RICHARD DENT TURNER	C. E.	North Wilkesboro
EUGENE PETTIGREW TUTTLE	Agr.	Pineola
FRIEL TATE VANCE	E. E.	Plumtree
JAMES PRESTON VAUGHN	Agr. Chem.,	Nashville, Tenn.
WILLIAM WEAVER VAUGHN	Tex.	Nashville, Tenn.
JOHN RANDOLPH VINSON	C. E.	Brinkleyville
JOHN D. WALLACE	Chem. Eng.	Laurinburg, R. 3
JOHN LEWIS WALLACE	M. E.	Cullowhee
SIDNEY JONES WALTERS	M. E.	Oxford
FRANK TRENWITH WARD, JR.	E. E.	Raleigh
CHARLES EDWARD WATSON	Chem. Eng.	Kipling, R. 1
WILLIAM RICHARD WEARN, JR.	C. E.	Charlotte
WILLIAM TOXEY WHITAKER	C. E.	Raleigh
DUNCAN ALEXANDER WICKER	M. E.	Greensboro
BOYCE CONLEY WILKIE	C. E.	Forest City
GEORGE WIMBERLEY WILKINSON	C. E.	Rocky Mount
ATTICUS MORRIS WILLIAMS	Agr.	Duke, R. 1
BENTON WRAY WILLIAMS	M. E.	Angier
JOHN HOWARD WILLIAMS	Tex.	Wilson
ROBERT EDGAR WILLIAMS, JR.	M. E.	Wilmington
CHARLES REA WILSON	C. E.	Hemp
CLAUDE WILSON, JR.	E. E.	Tarboro, R. 1
DAVID CARLYLE WINDLEY	Agr.	Pantego

Name.	*Course.*	*Postoffice.*
HENRY WATSON WINGATE	C. E.	Gatesville
JAN COLUMBUS WOOD	E. E.	Dillon, S. C.
BRADLEY LEE WOODALL	E. E.	Raleigh
RICHARD JOHN WOOTEN	E. E.	Whiteville
ROBERT WILBUR YATES	Agr.	West Raleigh
THOMAS LLOYD YELVERTON	E. E.	Goldsboro
OTIS ALLEN ZACHARY	Tex.	Cooleemee

TWO-YEAR MECHANIC ARTS

First Year

Name.	*Postoffice.*
RICHARD CROWELL BOYDE	Hickory
EDWIN CRAWFORD BOYETTE, JR.	Charlotte
CARL BAXTER BROWN	Asheville
JAMES LEONIDAS DAVIS	Willoughby Beach, Va.
JOSEPH ARDREY DONALDSON	West End
OLIN LEROY EVANS	Lexington, R. 4
ROBERT DEWEY FARMER	Bailey
THOMAS CONNOR FELTON	Wilson
EARNEST BATON HARRIS	Spencer
HARRY WILBUR HAYES	Norlina
JOHN JARREL HOGG HILL	Norwood
JOHN BRANTLEY HOOKS, JR.	Goldsboro
WILLIAM RANSOM JACKSON	Dunn
WILLIAM EDWARD KING	Spencer
JAMES LOUIS MAXWELL	Goldsboro
HENRY CHARLES MENZIES, JR.	Hickory
JAMES SHINE MOORE	Warsaw, R. 1
THOMAS LETSON NOOE	Pittsboro
CECIL HOLLEY NOWELL	Windsor
SAMUEL WORTH SEARS	Ahoskie
WILLIAM FRANKLIN SHIPMAN	Raleigh
FLAVIUS FLETCHER SPENCER, JR.	Swan Quarter
EVANDER STONE	Greensboro
ISAAC DAVENPORT THORP	Rocky Mount, R. 4
JETHRO DANIEL UMSTEAD	Bahama, R. 1
DANIEL MORGAN WINDLEY, JR.	Belhaven
WILLIAM PATRICK WOOTTEN	Hickory
ISAAC MARSHALL WHISNANT	Charlotte

Second Year

BRAXTON TOWNSEND BRANCH	Lumberton
JAMES VAN BROWN	Arden

Name.	*Postoffice.*
CHARLES MAYNARD BUSH	Tyner
HERBERT ROSCOE CAVENAUGH	Wallace
EVANS SANFORD HAND	Chadbourn
GEORGE JACKSON MOORE, JR.	Atkinson, R. 1
WILLIAM SPELLER SMITH	Merry Hill, R. 2
HARRELL THOMAS	Williamston

TWO-YEAR TEXTILE

First Year

LACY E. ADAMS	Gastonia
JAMES MOSS BURNS	Asheboro
JOHN CLYDE COX	Asheboro
JOHN THOMAS FAUCETT	Raleigh
EDMUND BARCLAY GRAHAM	Dunn, R. 4
WILLIAM CLAUDE POLK	Charlotte

ONE-YEAR AGRICULTURE

JOHN BELL, JR.	Moncure, R. 2
WILLIAM CALLIE BRASWELL	Elm City, R. 4
ANDREW JACKSON CORPENING	Worry
GRADY CICERO JONES	Lattimore
DOUGLAS MCDANIEL	Kinston
STEPHEN MENDAL SUSMAN	Washington
FERDINAND WINFIELD TOWLES	Martins Point, S. C.
SLADE VINCENT	Mebane

SPECIAL STUDENTS

John BLANTON BELK	Charlotte
JOHN ARCHIBALD MCKAY	Buies Creek
ROBERT LEROY MCMILLAN	Maxton, R. 4

FARMERS' COURSE IN GENERAL AGRICULTURE

JAMES GLOVER ANDREWS	LaFayette, Ala.
PETER THOMAS BENNETT	Fayetteville, R. 3
FITZHUGH BOGGS	Claremont, R. 1
HURD GRIER BRADFORD	Huntersville, R. 21
WILLIAM MILLARD BRUMMITT	Oxford, R. 3
WILLIAM ROBERT CHERRY	Speed
JAMIESON OLIN COLEMAN	Ferguson
ROBERT FLOYD COATS	Angier, R. 1
WILLIAM ALLEN CONNELL, JR.	Warren Plains, R. 1
EDWARD ALEXANDER COX	Moyock

Name.	*Postoffice.*
WALTER F. CRUMP	Polkton
BENJAMIN RODERICK DAVENPORT	New Bern
THOMAS ROBERT ELLEN	Enfield
EDWARD ALBERTSON FLORA	Elizabeth City
CHARLES HAUSER GOSLEN	Pfafftown, R. 1
THOMAS DEWEY HARDIN, JR.	Greensboro, R. 5
WILLIAM PATTERSON HARRY	Harrisburg, R. 3
ROLAND HAYES	Four Oaks, R. 1
CLIFFORD VERNON HOWARD	Salemburg, R. 1
ROY WENDELL HOLLAND	Fayetteville, R. 8
OSSIE BRYAN ISRAEL	Arden, R. 1
THOMAS LANGLY JESSUP	Winfall
HOLLY LEE JOHNSON	Stokesdale, R. 2
JAMES ERNEST JOHNSON	Four Oaks, R. 2
JOHN ALEXANDER MURPHY, JR.	Atkinson, R. 1
JOSEPH KYLE RICHARDSON	Kenly, R. 1
ROBERT FRANKLIN SMITH	Mount Olive
GEORGE GREENE STEELE	Lenoir, R. 1
WILLIAM HUME STEVENS	Biltmore, R. 2
JOHN FREDERICK SWING	Mocksville, R. 2
WILLIAM LONG THOMPSON	Milton, R. 1
WILMER BURTON WHITE	Battle Ground
JOSEPH JOHN WILLIAMS	Essex
SAMUEL EUGENE WILSON	Warren Plains, R. 1
THOMAS LAFAYETTE WILSON	Vilas, R. 1

SCHOOL FOR FARM DEMONSTRATION AGENTS, AUGUST, 1917

Name.	*Postoffice.*	*County.*
C. R. Hudson	Raleigh	Wake
T. E. Browne	West Raleigh	Wake
A. K. Robertson	West Raleigh	Wake
E. S. Millsaps	Statesville	Iredell
T. D. McLean	Aberdeen	Moore
R. W. Freeman	Wilson	Wilson
J. P. Kerr	Haw River	Alamance
E. C. Turner	Mebane	Alamance
J. Wade Hendricks	Taylorsville	Alexander
R. O. Bowman	Newland	Avery
J. W. Cameron	Polkton	Anson
R. K. Craven	Abbottsburg	Bladen
J. F. Latham	Surry	Beaufort
E. R. Raney	Windsor	Bertie
E. L. Perkins	Morganton	Burke
W. P. Pace	Shallotte	Brunswick
E. D. Weaver	Weaverville	Buncombe
J. C. Hunter	Yanceyville	Caswell
H. H. B. Mask	Newton	Catawba
R. L. Edwards	Ore Hill	Chatham
R. M. Gidney	Shelby	Cleveland
G. M. Goforth, Jr.	Lenoir	Caldwell
R. D. Goodman	Concord	Cabarrus
W. R. Tingle	Whiteville	Columbus
C. W. Clark	Fayetteville	Cumberland
J. W. Sears	New Bern	Craven
J. H. Hampton	Murphy	Cherokee
Ewing S. Millsaps, Jr.	Hayesville	Clay
M. R. McGiet	Durham	Durham
Zeno Moore	Whitakers	Edgecombe
W. G. Yeager	Lexington	Davidson
Bruce Anderson	Winston-Salem	Forsyth
E. H. Anderson	Greensboro	Guilford
J. M. Gray	Gastonia	Gaston
J. A. Morris	Oxford	Granville
D. J. Middleton	Snow Hill	Greene
W. H. Ferguson	Waynesville	Haywood

Name.	*Postoffice.*	*County.*
FRANK FLEMING	Hendersonville	Henderson
R. N. LOOPER	Raeford	Hoke
DONALD MCCLUER	Halifax	Halifax
GEORGE A. COLE	Lillington	Harnett
G. E. DULL	Statesville	Iredell
R. R. MCIVER	Sanford	Lee
O. F. MCCRARY	Kinston	Lenoir
W. L. SMARR	Lincolnton	Lincoln
J. A. GOODWIN	Troy	Montgomery
CLYDE L. DAVIS	Aberdeen	Moore (Sandhills)
C. L. VAUGHAN	Carthage	Moore
J. R. SAMS	Marshall	Madison
J. L. HOLLIDAY	Williamston	Martin
J. L. THURMAN	Marion	McDowell
J. P. HERRING	Wilmington	New Hanover
M. W. WALL	Jackson	Northampton
GEORGE D. BURROUGHS	Nashville	Nash
W. C. WARREN	Hurdle Mills	Person
B. T. FERGUSON	Greenville	Pitt
C. L. PROFFITT	Columbus	Polk
G. W. FALLS	Elizabeth City	Pasquotank
D. S. COLTRANE	Asheboro	Randolph
J. B. HICKS	Rockingham	Richmond
L. E. BLANCHARD	Lumberton	Robeson
S. S. STABLER	Salisbury	Rowan
C. C. PROFFITT	Rutherfordton	Rutherford
F. S. WALKER	Reidsville	Rockingham
H. L. BOYD	Clinton	Sampson
S. J. LENTZ	Norwood	Stanly
W. P. HOLT	Danbury	Stokes
J. W. JOHNSON	Mount Airy	Surry
R. E. LAWRENCE	Brevard	Transylvania
T. J. W. BROOM	Monroe	Union
F. B. NEWELL	Warrenton	Warren
N. B. STEVENS	Plymouth	Washington
W. H. CHAMBLEE, JR.	Wakefield	Wake
A. G. HENDREN	Straw	Wilkes
W. J. BROCKINGTON	Wilson	Wilson
V. G. MARTIN	Goldsboro	Wayne
F. E. PATTON	Burnsville	Yancey

SUMMARY

By Classes

Graduate	16
Senior	51
Junior	55
Sophomore	119
Freshman	223
Short Courses:	
Mechanic Arts, 2 years	36
Textile, 2 years	6
Agricultural, 1 year	8
Farmers' Course in General Agriculture	35
Special	3
Total	552

By Courses

Agricultural, including short courses in agriculture and veterinary science	221
Chemical	24
Civil Engineering	59
Mechanical Engineering, including Mechanic Arts	88
Electrical Engineering	85
Textile, including short courses	72
Special	3
Total	552
School for Demonstration Agents	77
Summer School	485
Practice School	48

REGISTER OF ALUMNI

Name.	*Degree.*	*Address.*
Claude Shuford Abernethy	B.E. 1916	Camp Dick, Tex.
Aviation Section, Signal Corps. Home Address, Hickory, N. C.		
Durant Stewart Abernethy	B.E. 1906	Chattanooga, Tenn.
Executive General Agent, Southern Railway System.		
Leroy Franklin Abernethy	B. Agr. 1905	Hickory, N. C.
Abernethy Hardware Company.		
Nelson Adams	B.E. 1904	McColl, S. C.
Farmer.		
Haywood Lewis Alderman	B.E. 1904	Greensboro, N. C.
Division Superintendent in Operating Department, Southern Power Co.		
Henry Milton Alexander	B.E. 1915	West Point, N. Y.
Cadet, U. S. Military Academy.		
Kemp Alexander	B.E. 1900	Ashboro, N. C.
Superintendent Acme Hosiery Mills.		
Neily Ormond Alexander	B.S. 1912	Matthews, N. C., R. 17
Farmer.		
William Davidson Alexander, Jr.	B.S. 1899	Charlotte, N. C.
Consulting Drainage Engineer.		
Daniel Allen	B.S. 1896	Raleigh, N. C.
Farming and Real Estate.		
George Gilderoy Allen	B.E. 1906	Kannapolis, N. C.
Superintendent, Cannon Mills.		
Leslie Lyle Allen	B.E. 1900	Spartanburg, S. C.
Cotton Merchant.		
Robert Wilson Allen	B.E. 1893	Monroe, N. C.
Superintendent of Schools.		
Lewis Allen Ammon	B.S. 1913	Mecosta, Mich.
Farmer.		
Charles Sidney Andrews	B.E. 1914	Newport News, Va.
Draftsman with Newport News Shipbuilding and Dry Dock Co.		
Graham Hudson Anthony	B.E. 1914	Hartford, Conn.
Superintendent Allen Manufacturing Co.		
Oliver Stanhope Anthony	B.E. 1916	Charlotte, N. C.
Salesman for S. W. Cramer.		

NOTE.—On account of the frequent changes of the addresses of men in the military service, the locations given here are subject to constant revision. This list is published only once a year. But the Registrar keeps in his office file every change of address and occupation that is reported to him. Any one desiring recent information regarding any graduate or former student is invited to make inquiry. Graduates are earnestly requested to report their changes of address to this office. This request is especially emphasized not merely for the convenience of inquirers, but on account of general interest in the welfare of the men. Since the entrance of our country into the war, about 850 former students have joined the colors and are in the service. Many of them are already in France. This condition has prompted the College to issue monthly a paper containing twenty-four 10-inch columns, devoted to the Alumni, graduates and non-graduates alike. At present this paper, known as *Alumni News*, is mailed to about 2,000 men scattered to almost every country in the world. Any former student who wishes to secure the paper has only to request it. There is no charge whatever. Address your request to ALUMNI NEWS, West Raleigh, N. C.

May 8, 1918.

Name.	*Degree.*	*Address.*
John Camillus App	B.S. 1908	Charleston, W. Va.
United States Public-Service Reserves, City Department of Health.		
John Allen Arey	B.S. 1909	Elmwood, N. C.
M.S., 1910. Assistant in Dairying, U. S. Department of Agriculture.		
Gilbert Luther Arthur, Jr.	B.S. 1913	Raleigh, N. C.
Chemist, State Department of Agriculture.		
John W. Artz	B.S. 1917	France
Second Lieutenant, Aviation Section of Signal Corps. Home Address, Old Fort, N. C.		
Dorsey Frost Asbury	B.S. 1898	Washington, D. C.
Ordnance Engineer, U. S. Ordnance Co.		
George Page Asbury	B.E. 1906	Charlotte, N. C.
Office Engineer, Southern Railway System, Lines East.		
Samuel Erson Asbury	B.S. 1893	College Station, Tex.
M.S. 1896. Assistant State Chemist.		
Sydney Woodward Asbury	B.E. 1904	Charlotte, N. C.
Heating Engineer and Architectural Draftsman.		
Lewis Carroll Atkisson	B.E. 1915	Fort Monroe, Va.
School for Noncommissioned Officers. Home Address, Greensboro, N. C.		
Bascum Otto Austin	B.E. 1914	Charlotte, Raleigh, N. C.
Consulting Engineer.		
John William Avera	B.S. 1917	Austin, Tex.
Flying Cadet, Texas School of Military Aeronautics. Home Address, Smithfield, N. C.		
Robert James Avery	B.Agr. 1905	Morganton, N. C.
Railroad Contractor, Hazard, Ky.		
Robert Kenneth Babington	B.E. 1910	Gastonia, N. C.
Superintendent of Plant, Piedmont Telephone and Telegraph Co.		
Charles Albion Bache	B.E. 1913	Philadelphia, Pa.
Assistant Inspector of Electric Machines for U. S. Government.		
Oscar Luther Bagley	B.S. 1905	Goldsboro, N. C.
Salesman, Wholesale Groceries.		
Eugene Cleveland Bagwell	B.E. 1904	Charleston, S. C.
Superintendent, Seaboard Air Line Railway.		
Clare Russell Bailey	B.S. 1914	Brooklyn, N. Y.
Seaman, Second Class. Home Address, Chadbourn, N. C.		
Edward Par Bailey	B.E. 1904	Wilmington, N. C.
President Wilmington Iron Works and President Marine Railway Co.		
Hugh Marcellus Bailey	B.S. 1914	Statesville, N. C.
Superintendent of Farm of Norwood and McCanless.		
Roger Moore Bailey	B.S. 1913	Elm City, N. C.
Bookkeeper for John L. Bailey.		
William Bailey	B.E. 1911	Raleigh, N. C.
Carolina Power and Light Co.		
Charles Vernon Baker	B.E. 1916	Camp Lee, Va.
Engineering Training Camp.		
Fred Allen Baker	B.E. 1916	New Orleans, La.
Equipment Estimator, Cumberland Telephone and Telegraph Co.		
Frank Oscar Baldwin	B.S. 1908	Richmond, Va.
Director of Settling Basins and Laboratory, Richmond City Waterworks.		
William Herbert Doughty Banck	B.E. 1909	Wilmington, N. C.
Civil Engineer.		
Ira Wilson Barber	B.S. 1899	Mount Airy, N. C.
Superintendent Electric Light and Power Plant and Waterworks.		

Name. *Degree.* *Address.*

James Claudius Barber .....B.E. 1904.....Barber, N. C.
Farmer.

Tollie Chester Barber .....B.E. 1911.....Raleigh, N. C.
Caraleigh Mills.

William Walton Barber .....B.E. 1904 .....Ammon, Va.
Farmer.

Fletcher Hess Barnhardt .....B.E. 1901.....Newark, N. J.
Assistant Engineer, Submarine Boat Corporation, Newark Bay Shipyard.

William Alexander Barrett .....B.E. 1904.....Missoula, Mont.
Electrical Engineer, Missoula Light and Water Co.

George Francis Bason .....B.E. 1908.....Ithaca, N. Y.
M.E. 1916, Cornell. Instructor, Cornell University.

Jere Wilson Bason .....B.S. 1916.....Camp Jackson, S. C.
Company C, 316th Machine Gun Battalion. Home Address, Swepsonville, N. C.

Herbert Scandlin Battie .....B.E. 1907.....Greensboro, N. C.
First Lieutenant, Engineers, U. S. R.

John Robin Baucom .....B.S. 1917.....Raleigh, N. C., R. 2
Farm Manager.

Thomas Livingston Bayne, Jr.....B.S. 1914.....Camp Jackson, S. C.
First Lieutenant, Co. A, 321st Infantry. Home Address, Manchester, N. C.

John Mann Beal .....B.S. 1911.....Agr. College, Miss.
M.S. 1913, Miss. A. & M. Prof. of Botany and Forestry, Miss. A. & M. College. Plant Pathologist for Miss. Agr. Experiment Station.

Marvin Eddleman Beatty .....B.E. 1916.....High Rock, N. C.
Engineer, Talloosee Power Co.

James Claudius Beavers .....B.Agr. 1906.....Lafayette, Ind.
Associate in Soils and Crop Extension, Purdue Agricultural Exp. Station.

Sidney Hamilton Beck .....B.S. 1898.....Washington, D. C.
Not heard from.

John Leland Becton .....B.E. 1908.....Wilmington, N. C.
C.E. 1913. Civil Engineer.

Harwood Beebe .....B.E. 1908.....Spartanburg, S. C.
With Beebe & Tull, Engineers.

Charles Edward Bell .....B.S. 1911.....Raleigh, N. C.
Assistant Food Chemist, N. C. Department of Agriculture.

Needham Eric Bell .....B.S. 1906.....Montgomery, Ala.
Emergency Demonstration Agent, Butler County, Ala.

John Samuel Bennett .....B.E. 1916.....Morehead City, N. C.
Electrician, First Class, U. S. Navy.

William Osborne Bennett .....B.E. 1901.....Maxton, N. C.
Manager Elba Manufacturing Co.

Robert Linn Bernhardt .....B.S. 1900.....Salisbury, N. C.
Secretary-Manager Salisbury Hardware and Furniture Co.

Leslie Graham Berry .....B.E. 1900.....Charlotte, N. C.
Manager Southern Engineering Co.

Herman Von Biberstein .....B.E. 1914 .....Columbia, S. C.
Civil Engineer, Tomlinson Engineering Co.

John Henderson Birdsong .....B.S. 1899.....Chicago, Ill.
Chief Chemist and Metallurgist, the National Malleable Castings Co.

Joe Pittman Bivens .....B.E. 1907.....Gastonia, N. C.
Member of Firm of Michael & Bivens, Electrical Constructors.

James Adrian Bizzell .....B.S. 1895.....Ithaca, N. Y.
M.S. 1900. Ph.D. 1903, Cornell University. Professor of Soil Technology, New York State College of Agriculture.

Name.	*Degree.*	*Address.*
Fred McCullough Black	B.E. 1910	Minneapolis, Minn.
Salesman, Westinghouse Electric and Manufacturing Co.		
Kenneth Leon Black	B.E. 1906	Richmond, Va.
President and Treasurer of K. L. Black & Co., Inc., Engineers and General Contractors.		
William Lamar Black	B.E. 1908	Charlotte, N. C.
With Southern Power Co.		
Enos Clarkson Blair	B.S. 1914	West Raleigh, N. C.
Assistant Agronomist in Soils, N. C. Agricultural Experiment Station.		
Tyson Yates Blanton	B.S. 1917	Vancouver, Wash.
412th Construction Squadron. Home Address, Mooresboro, N. C.		
Beverley Moss Blount	B.E. 1915	Camp McClellan, Ala.
Battalion D, 111th Field Artillery, U. S. N. G. Home Address, Washington, N. C.		
John Isham Blount	B.E. 1895	Birmingham, Ala.
C.E. 1897. J. I. Blount & Co. and the Blount Specialty Co.		
William Morton Bogart	B.E. 1903	Charlotte, N. C.
Chief Engineer, General Fire Extinguisher Co.		
Allison Hodges Bond	B.E. 1912	Washington, D. C.
Draftsman, War Department, Ordnance Office.		
Thomas Sawyer Bond	B.E. 1910	Houston, Tex.
With International and Great Northern Railway.		
Leslie Norwood Boney	B.E. 1903	Wallace, N. C.
Traveling Salesman.		
Fred. Wilhelm Bonitz	B.E. 1901	Wilmington, N. C.
Lawyer, Engineering Department of Standard Oil Co.		
Henry Emil Bonitz	B.E. 1893	Wilmington, N. C.
Architect.		
James Shepherd Bonner	B.E. 1916	Camp Jackson, S. C.
First Sergeant, Co. D, 402d Telegraph Battalion. Home Address, Washington, N. C.		
William David Boseman	B.E. 1902	Rocky Mount, N. C.
Farmer, with R. H. Ricks.		
Barrett Woodward Boulware	B.E. 1917	Lake Charles, La.
65th Aero Squadron, Gerstner Field.		
Zolly Mosley Bowden	B.E. 1901	Plant City, Fla.
Electrician, Coranet Phosphate Co.		
Edwin Dennis Bowditch	B.S. 1913	Toecane, N. C.
Farmer.		
Roy Bowditch	B.E. 1910	Indianapolis, Ind.
With Merchants Heat and Light Co.		
Alan Thurman Bowler	B.E. 1912	Washington, D. C.
Second Lieutenant, Q. M. C., N. A. Construction Division. Home Address, Raleigh, N. C.		
Rodney Law Boylin	B.S. 1916	Waynesville, N. C.
County Farm Demonstration Agent.		
Asa Gray Boynton	B.E. 1908	Biltmore, N. C.
Landscape Architect with E. A. Draper.		
Zeb Boyce Bradford	B.E. 1917	Camp Jackson, S. C.
Second Lieutenant, Co. H, 321st Infantry. Home Address, Huntersville, N. C.		
Carl Ray Bradley	B.E. 1910	France
Aviation Section, Signal Corps. Home Address, Old Fort, N. C.		
James Washington Brawley	B.S. 1895	Greensboro, N. C.
Vice-President and Treasurer Real Estate and Trust Co.		

Name.	*Degree.*	*Address.*
John Benjamin Bray	B.E. 1911	Raleigh, N. C.
Highway and Municipal Engineer.		
Victor Winfred Breeze	B.E. 1914	Charlotte, N. C.
Southern Engineering Co.		
Thomas Johnson Brevard	B.S. 1910	Fair View, N. C.
Address not known.		
Charles Meekins Brickhouse	B.S. 1914	Manteo, N. C.
County Farm Demonstration Agent.		
Hermon Burke Briggs	B.E. 1913	Raleigh, N. C.
M.E. 1916. Instructor N. C. State College.		
Clay Dwight Brittain	B.E. 1916	Camp Sevier, S. C.
Corporal, Co. C, 105th Engineers. Home Address, Summerfield, N. C.		
Ralph Brooks	B.S. 1916	Camp Sevier, S. C.
Veterinarian, 113th Field Artillery. Home Address, Alliance, N. C.		
Thomas Westmore Brooks	B.E. 1916	Newport News, Va.
Material Department, Newport News Shipbuilding and Dry Dock Co.		
Benjamin Alexander Broom	B.E. 1905	Sioux City, Iowa.
Consulting Mechanical and Electrical Engineer.		
Cecil Dewitt Brothers	B.E. 1909	New York, N. Y.
Manager Foreign Sales, New Jersey Zinc Co.		
Bedford Jethro Brown	B.E. 1901	Charlotte, N. C.
Superintendent Meter Department, Southern Power Co.		
Clayton Edward Brown	B.E. 1912	Belmont, N. C.
Assistant Engineer, Southern Railway.		
Frank Hamilton Brown	B.Agr. 1908	Cullowhee, N. C.
Teacher of Science and Agriculture, Cullowhee Normal and Industrial School.		
Joel Edward Brown	B.S. 1911	Grimes, Cal.
Merchant.		
James Howard Brown	B.S. 1911	Holton, Kans.
M.S. 1912. D.V.M., Kansas City Veterinary College. County Secretary Y. M. C. A., Jackson County, Kansas.		
William Bachman Brown	B.E. 1911	Camp Jackson, S. C.
Co. K, 321st Infantry. Home Address, Glass, N. C.		
Joseph Brandon Bruner	B.S. 1915	Van Nuys, Cal.
Agriculturist, American Beet Sugar Co.		
Stephen Cole Bruner	B.S. 1912	Santiago de las Vegas, Cuba.
Assistant Pathologist, Estacion Agronomica de Cuba.		
Thomas Kincaid Bruner	B.E. 1910	Sheffield, Ala.
Chief Clerk to Master Mechanic, Southern Railway.		
Carney John Bryan	B.E. 1907	St. Andrews, Fla.
C. J. Bryan & Co., Wholesale Fish Dealers.		
Guy Kedar Bryan	B.E. 1911	Tampa, Fla.
John Harvey Bryan	B.E. 1908	New York, N. Y.
M.E. 1913. Business Manager *Railway Electrical Engineer.*		
Kit Bryan	B.E. 1911	Washington, D. C.
General Land Office.		
James Ramsey Buchanan	B.E. 1914	France
First Lieutenant, Coast Artillery Reserve Corps. Home Address, Dillsboro, N. C.		
Elton Elroy Buck	B.E. 1910	Bridgeport, Conn.
Civil Engineer, Lake Torpedo Boat Co.		
George Cleveland Buck	B.S. 1916	Salemburg, N. C.
Principal Farm Life School.		

Name.	*Degree.*	*Address.*
Joseph Samuel Buffaloe	B.S. 1897	Garner, N. C.
Physician.		
Harley Wilson Bullard	B.S. 1914	Harmony, N. C.
Teacher of Agriculture, Farm Life School.		
Walter Austin Bullock	B.S. 1895	Red Springs, N. C.
Farmer.		
James Harry Bunn	B.E. 1900	Henderson, N. C.
Superintendent Henderson Cotton Mills and Croatan Spinning Mills.		
Noah Burfoot, Jr.	B.E. 1917	Elizabeth City, N. C.
Superintendent, Pasquotank Hosiery Mills.		
William Bryant Burgess	B.E. 1908	Portsmouth, Va.
Electrical Draftsman, Government Navy Yard, Norfolk.		
William Anders Buys	B.E. 1906	Belhaven, N. C.
Civil Engineer, the Interstate Cooperage Co.		
Von Porter Byrum	B.E. 1911	Fort Lauderdale, Fla.
Chief Engineer, Fort Lauderdale Ice and Electric Co.		
Brice Legrier Caldwell	B.S. 1913	Vicksburg, Miss.
District Chemist, The Refuge Cotton Oil Co.		
Robert Olin Caldwell	B.S. 1914	Concord, N. C., R. 1
Farmer.		
Walter Graham Caldwell	B.S. 1914	Camp Jackson, S. C.
Corporal, Co. A, 321st Infantry. Home Address, Huntersville, N. C.		
Lindsay Ferguson Carleton	B.E. 1907	Annapolis, Md.
Lieutenant, U. S. Naval Reserve Force. Home Address, Boomer, N. C.		
Claudius Leroy Carlton	B.E. 1916	Buffalo, N. Y.
McCarthy Bros. & Ford, Electrical Engineers and Contractors. Home Address, Boykins, Va.		
John Cline Carpenter	B.E. 1915	Waco, Tex.
Science and Research Division, Aviation Section, Signal Corps.		
John Samuel Pinkney Carpenter	B.E. 1903	Philadelphia, Pa.
Treasurer of the Mauney-Steele Co., Cotton Yarns.		
John William Carroll	B.S. 1897	Wallace, N. C.
Physician.		
Almon Hill Carter	B.S. 1916	Wallace, N. C.
Farm Demonstration Agent.		
John Mann Carter	B.E. 1915	Newport News, Va.
Draftsman, Newport News Shipbuilding and Dry Dock Co.		
Robert Hill Carter	B.E. 1907	La Fundicion, Peru, S. A.
Chief Electrician, Cerro De Pasco Mining Co.		
Henry Brozier Cartwright	B.E. 1905	Jacksonville, Fla.
Assistant Engineer, Seaboard Air Line Railway.		
Henry Roy Cates	B.S. 1911	Washington, D. C.
First Lieutenant, National Army. Home Address, Swepsonville, N. C.		
Junius Sidney Cates	B.S. 1902	Washington, D. C.
M.Agr. 1904. Ph.D., American University, 1915. Agriculturist, Office of Farm Management, United Stated Department of Agriculture.		
William Miller Chambers	B.E. 1905	Maben, W. Va.
Pay Roll Man, W. M. Ritter Lumber Co.		
Jay Victor Champion	B.E. 1916	New York, N. Y.
Ingersol-Rand Co.		
Louis Gorham Cherry	B.E. 1916	Raleigh, N. C.
Mark Hopkins Chesbro	B.Agr. 1906	Vernon, B. C.
Horticulturist, Miktow Orchards.		

Name.	*Degree.*	*Address.*
Connor Calhoun Clardy	B.E. 1906	San Diego, Cal.
Assistant Superintendent of Motive Power, San Diego Electric Railway.		
Charles Edward Clark	B.S. 1897	Rocky Mount, N. C.
Assistant Director Edgecombe Test Farm.		
Clete Walton Clark	B.S. 1916	Fayetteville, N. C.
County Farm Demonstration Agent.		
David Clark	B.E. 1895	Charlotte, N. C.
M.E. 1896; C.E. 1897. Owner and Editor *Southern Textile Bulletin.*		
James Duncan Clark	B.S. 1906	Tampa, Fla.
President Peninsular Paper Co. Manager Ingleside Orange Groves.		
John Washington Clark	B.E. 1906	West Durham, N. C.
B.E. (Tex.) 1907. Superintendent Erwin Bleaching and Finishing Plant.		
Thorne McKenzie Clark	B.E. 1909	Raleigh, N. C.
Secretary and Treasurer, Commercial Building Company.		
Walter Clark, Jr.	B.E. 1903	Camp Sevier, S. C.
LL.B. 1905, LL.M. 1906; Captain, Company B, 120th Infantry. Home Address, Raleigh, N. C.		
William Alexander Graham Clark	B.S. 1897	Washington, D. C.
M.E. 1899; M.E., Cornell University, 1900. Textile Expert to Tariff Commission.		
Samuel Herbert Clarke	B.E. 1906	Baltimore, Md.
With W. H. Clarke & Sons, Inc., Manufacturing Chemists.		
Henry Caleb Clay	B.E. 1911	Eagle Butte, Mont.
Ranchman.		
Wiley Theodore Clay	B.E. 1906	Raleigh, N. C.
Mechanical Engineer, Hiner Specialty and Manufacturing Company.		
Amos Baxter Clement	B.E. 1913	France
First Lieutenant, Engineers, American Expeditionary Forces. Home Address, Stem, N. C.		
William Randolph Clements	B.E. 1913	Annapolis, Md.
Lieutenant, U. S. N. R. F., in Foreign Service. Home Address, Raleigh, N. C.		
Ambrose Schenck Cline	B.S. 1917	Chattanooga, Tenn.
Third Officers' Training Camp. Home Address, Lincolnton, N. C.		
Edward Lamar Cloyd	B.E. 1915	West Raleigh, N. C.
Instructor, N. C. State College.		
Edwin Lacy Coble	B.S. 1914	Raleigh, N. C.
Member Firm J. L. O'Quinn Co., Florists.		
Robert Baxter Cochran	B.E. 1902	East Norwood, Ohio
Allis-Chalmers Manufacturing Company, Bullock Works.		
Anson Elikem Cohoon	B.S. 1898	Elizabeth City, N. C.
Farmer.		
John Eliot Coit	B.Agr. 1903	Las Angeles, Cal.
Farm Adviser, Los Angeles County.		
Thomas Alexander Cole	B.S. 1913	Waco, Tex.
Second Lieutenant, Co. M, 56th Infantry. Home Address, Carthage, N. C.		
John Calhoun Collier	B.E. 1916	West Allis, Wis.
Allis-Chalmers Manufacturing Company.		
Paul Collins	B.S. 1901	New Haven, Conn.
Analytical and Consulting Chemist.		
Guy Winston Commander	B.S. 1915	Elizabeth City, N. C.
Real Estate.		
Henry Bacon Constable	B.S. 1915	Cambridge, Mass.
U. S. Naval Reserve Flying Corps, Massachusetts Institute of Technology. Home Address, Charlotte, N. C.		

Name.	*Degree.*	*Address.*
John Downey Cooper, Jr.	B.E. 1913	Henderson, N. C.
Superintendent Harriet Cotton Mill No. 2.		
Everett Hanson Cooper	M.S. 1916	Wilson, N. C.
Tobacco Business.		
George Washington Corbett, Jr.	B.E. 1895	Currie, N. C., R. 2
Saw, Planing and Grist Mills, and Merchandise.		
William S. Corbitt	B.E. 1916	Rock Island Arsenal, Ill.
Second Lieutenant, Ordnance Department. Home Address, Henderson, N. C.		
Summey Crouse Cornwell	B.E. 1903	Bartow, Fla.
Advisory Engineer, Board County Commissioners.		
Charles Edward Corpening	B.E. 1894	Lenoir, N. C., R. 3
Farmer and Lumber Dealer.		
Milton Lee Correll	B.S. 1916	France
Second Lieutenant, 61st Infantry, Regulars. Home Address, Lumberton, N. C.		
Edward Livingston Cotton	B.E. 1915	City Point, Va.
Supervisor Nitric Acid Area, DuPont Powder Co.		
Llewellyn Hill Couch	B.E. 1908	City Point, Va.
Assistant Chief Electrician, I. E. DuPont de Nemours & Co.		
Walter Miller Cowles	B.E. 1909	Cambridge, Mass.
School of Military Aeronautics. Home Address, Charlotte, N. C.		
David Cox	B.E. 1894	Hertford, N. C.
Civil Engineer and Timber Dealer and Estimator.		
David Davies Cox	B.E. 1914	Ensley, Ala.
Assistant Testing Engineer, Tennessee Coal, Iron and Railroad Co.		
Duncan Archibald Cox	B.S. 1906	Rowland, N. C.
Manager Hub Hardware Co.		
George Chandler Cox	B.E. 1917	France
105th Field Signal Battalion, 30th Division, Detached Service. Home Address, Cullowhee, N. C.		
John William Cox	B.E. 1915	Fort Caswell, N. C.
Second Lieutenant, First Company, Coast Artillery. Home Address, Raleigh, N. C.		
Saint John Cox	B.E. 1914	Ensley, Ala.
Assistant Testing Engineer, Tenn. Coal, Iron and Railroad Co.		
Francis Edwin Coxe	B.E. 1917	Burlington, N. C.
Electrical Engineer for Piedmont Power and Light Co.		
Leland Miot Craig	B.E. 1914	Charlotte, N. C.
Engineer Southern Engineering Co.		
Sherman Grady Crater	B.S. 1916	Chattanooga, Tenn.
Third Officers Training Camp, Fort Oglethorpe. Home Address, Cycle, N. C.		
John Bennett Craven	B.S. 1913	Chicago, Ill.
Chemist, Peoples Gas, Light and Coke Co.		
William Lois Craven	B.E. 1901	Raleigh, N. C.
Bridge Engineer, State Highway Commission.		
Sidney Mott Credle	B.E. 1916	Norfolk, Va.
Reserve Officers' School, Naval Base.		
Woodfin Grady Credle	B.S. 1914	Camp Jackson, S. C.
Co. H, 321st Infantry. Home Address, Swanquarter, N. C.		
Charles Lester Creech	B.S. 1903	Winston-Salem, N. C.
Sales Manager, J. C. Spach Wagon Works.		
Alexander Doane Cromartie	B.Agr. 1906	Garland, N. C.
Farmer.		

Name.	*Degree.*	*Address.*
Richard Oliver Cromwell	M.S. 1916	Lincoln, Neb.
Instructor and Graduate Student, University of Nebraska.		
William Henry Crow	B.E. 1910	Badin, N. C.
Chief Operator, Hydro-Electric Station.		
Raymond Crowder	B.E. 1915	Pittsburg, Pa.
Chief Engineer, Guarantee Liquid Measure Co.		
Charles Lee Cruse	B.S. 1912	Statesville, N. C.
Veterinarian.		
Felix Gray Crutchfield	B.E. 1901	Berwyn, Pa.
American Bronze Corporation.		
Eugene English Culbreth	B.E. 1903	Raleigh, N. C.
With Commercial National Bank.		
Hugh McCollum Curran	B.S. 1898	Laurel, Md.
Forester.		
Liston Lloyd Dail	B.S. 1913	Ensley, Ala.
Chemist, Tennessee Coal, Iron and Railroad Co.		
Dallas Thornton Daily	B.E. 1915	Norfolk, Va.
Assistant Right of Way Engineer, Seaboard Air Line Railway.		
Edwin Speight Darden	B.S. 1895	Stantonsburg, N. C.
Farmer and Merchant.		
Walter Lee Darden	B.E. 1903	Portsmouth, Va.
Engineer of Buildings, Seaboard Air Line Railway.		
Joseph Frank Davidson	B.E. 1909	Pedro Miguel, C.Z., Pan.
Samuel Frederick Davidson	B.S. 1914	Swannanoa, N. C.
Soil Survey, North Carolina Department of Agriculture.		
Charles Webb Davis	B.E. 1917	Naval Base, Va.
Ensign, U. S. Navy. Home Address, Beaufort, N. C.		
George Maslin Davis	B.E. 1901	Roanoke, Va.
Locomotive and All Steel Car Designer.		
Paul Dexter Davis	B.E. 1913	West Raleigh, N. C.
Southern Bell Telephone and Telegraph Co.		
Robert Vernon Davis	B.E. 1916	Leon Springs, Tex.
Master Signal Electrician, Signal Corps. Home Address, West Raleigh, N. C.		
William Earle Davis	B.E. 1910	Newport News, Va.
Electrician, Newport News Shipbuilding and Dry Dock Co.		
William Hurd Davis	B.E. 1911	Badin, N. C.
Construction Department, Tallassee Power Co.		
William Kearney Davis	B.E. 1895	Marion, S. C.
Superintendent Marion Manufacturing Co.		
William Pressly Davis	B.E. 1917	Portsmouth, Va.
Engineering Inspector, Seaboard Air Line Railway Co.		
Claud Council Dawson	B.E. 1908	Mayworth, N. C.
Superintendent Mays Mill, Inc.		
Thomas Theodore Dawson	B.E. 1910	Fort Caswell, N. C.
First Lieutenant, 7th Company, Coast Artillery. Home Address, Winterville, N. C.		
Albert George Day	B.E. 1917	Mineola, L. I., N. Y.
Aviation Section, Signal Corps. Home Address, Trenton, S. C.		
Ralph Campbell Deal	B.E. 1912	Clifton Forge, Va.
Virginia-Western Power Co.		
William Samuel Dean	B.E. 1909	Roanoke Rapids, N. C.
Superintendent Cotton Mill.		

Name.	*Degree.*	*Address.*
Leonidas Polk Denmark	B.E. 1915	Camp Dick, Tex
Aerial Observer, Aviation Section, Signal Corps. Home Address Raleigh, N. C.		
Ernest Cofield Derby	B.E. 1912	Burlington, N. C.
City Engineer.		
Louis Reinhold Detjen	M.S. 1911	West Raleigh, N. C.
North Carolina Agricultural Experiment Station.		
Edwin Sexton Dewar	B.S. 1911	Raleigh, N. C.
Assistant Chemist, North Carolina Department of Agriculture.		
Joseph Charles Dey	B.S. 1895	Norfolk, Va.
Not heard from.		
Junius Franklin Diggs	B.S. 1903	Rockingham, N. C.
Planter and Merchant.		
William Carter Dodson	B.E. 1917	Cambridge, Mass.
U. S. Naval Aviation Section, Detachment Massachusetts Institute of Technology. Home Address, Greensboro, N. C.		
Minor Cecil Donnell	B.S. 1917	Camp Greene, N. C.
Corporal Co. G, 59th Infantry, U. S. Regulars. Home Address, Greensboro, N. C.		
Archie Jay Doolittle	B.E. 1914	France
First Class Sergeant, Topographic Division, Engineers, American Expeditionary Forces. Home Address, Passaic, N. J.		
Carlton O'Neal Dougherty	B.E. 1909	North, S. C.
Farmer.		
McNeely DuBose	B.E. 1912	Badin, N. C.
Assistant Electrical Superintendent, Tallassee Power Co.		
Fred. Atha Duke	B.E. 1909	Portsmouth, Va.
Assistant Engineer, Seaboard Air Line Railway.		
James Leonidas Dunn	B.S. 1910	Brunswick, Ga.
County Agent, U. S. Department of Agriculture.		
Alvin Deans Dupree	B.E. 1908	Augusta, Ga.
Manager Insurance Department, League and Duvall.		
Raymond Rowe Eagle	B.E. 1908	New Bern, N. C.
Consulting Civil Engineer.		
Minnie Luther Eargle	B.Agr. 1908	Heath Springs, S. C.
Teacher of Agriculture, Public Schools, Lancaster County.		
John Ivey Eason	B.S. 1911	Stantonsburg, N. C., R. 1
Farmer.		
William Hunt Eaton	B.S. 1909	Auburn, Ala.
Dairy Division, U. S. Department of Agriculture.		
Latta Vanderlon Edwards	B.E. 1906	Pullman, Wash.
C.E. 1911, Cornell University. Professor of Railroad and Highway Engineering, Washington State College.		
Charles Patterson Eldridge	B.E. 1915	Raleigh, N. C.
Seba Eldridge	B.E. 1907	New York, N. Y.
Assistant in Philosophy, Columbia University; Chairman of Executive Committee, Committee on the Federal Constitution.		
Timothy Eldridge	B.E. 1904	Mount Olive, N. C.
Superintendent Electric Light Plant and Waterworks.		
William King Eldridge	B.E. 1915	Pittsburg, Pa.
Draftsman, H. Koppers Co.		
William Henry Elliot	B.S. 1917	Camp Jackson, S. C.
Second Lieutenant, Co. K, 324th Infantry. Home Address, Thornwall, N. C.		

Name. *Degree.* *Address.*

Theophilus Thomas Ellis .....B.E. 1903.....Henderson, N. C.
Farmer.

Weldon Thompson Ellis .....B.E. 1906.....West Raleigh, N. C.
M.E. 1908. Associate Professor of Machine Design and Applied Mechanics, N. C. State College.

Lee Borden Ennett .....B.S. 1895.....Cedar Point, N. C.
Superintendent of County Public Schools and Farmer.

Albert Edward Escott .....B.E. 1906.....Charlotte, N. C.
Secretary and Treasurer *The Mill News.*

William Carlyle Etheridge .....B.Agr. 1906..... Columbia, Mo.
M.S. 1908. Ph.D., Cornell, 1915. Professor of Farm Crops in University of Missouri.

Earl Montier Evans .....B.E. 1913 .....Baltimore, Md.
Master Mechanic, American Aluminum Co.

Benjamin Bryan Everett .....B.Agr. 1907.....Palmyra, N. C.
M.S. 1912, University of Wisconsin. Farmer.

James Beckett Ewart .....B.E. 1906.....New York, N. Y.
Care of Postmaster.
Electrical Officer, U. S. S. Iowa.

Ralph Ringgold Faison .....B.S. 1909.....Camp Sevier, S. C.
Captain 119th Infantry. Home Address, Goldsboro, N. C.

William Alexander Faison .....B.E. 1909..... Chester, Pa.
Manager Atlantic Steel Castings Co.

Archie Arrington Farmer .....B.E. 1914.....Calexico, Cal.
Captain, 21st Infantry, U. S. Regulars. Home Address, Wilson, N. C.

Isaac Herbert Farmer .....B.E. 1908.....Camp Lee, Va.
First Lieutenant, 317th Infantry, National Army. Home Address, Wilson, N. C.

James William Farrior .....B.E. 1904.....Kenansville, N. C.
First Lieutenant, Medical Reserve Corps. Home Address, Kenansville, N. C.

John Alexander Farrior .....B.S. 1916.....Shaken, N. C.
Farmer.

William Dollison Faucette .....B.E. 1901.....Norfolk, Va.
C.E. 1910. Chief Engineer, Seaboard Air Line Railway.

Isaac Henry Faust .....B.E. 1895.....Ramseur, N. C.
U. S. Department of Agriculture, State Labor Specialist.

John Bartlett Fearing, Jr.....B.S. 1914.....Hopewell, Va.
Chemist, DuPont de Nemours Co.

Alexander Littlejohn Feild .....M.S. 1914.....Cleveland, Ohio
Chemist in Research Laboratory, National Carbon Co.

Rutledge Hughes Feild .....B.S. 1915.....Camp Dick, Tex.
Flying School. Home Address, Washington, D. C.

Benjamin Carey Fennell .....B.S. 1898..... Atlanta, Ga.
M.E. 1900. Engineer and Contractor. Southern Representative Nordberg Manufacturing Co., Milwaukee, Wis.

James Lumsden Ferebee.....B.S. 1902.....Milwaukee, Wis.
Principal Assistant Engineer, Milwaukee Sewerage Commission.

Percy Bell Ferebee.....B.E. 1913.....Andrews, N. C.
President and General Manager, Southern Mining and Engineering Corp.

Benjamin Troy Ferguson.....B.Agr. 1908.....Wilson, N. C.
County Farm Demonstration Agent.

John Lindsay Ferguson .....B.E. 1907.....Balboa, Canal Zone
Mechanical and Electrical Draftsman, Panama Canal.

Name. *Degree.* *Address.*

Karl McAtee Fetzer.....B.E. 1914..... Rochester, N. Y.
General Railway Signal Co.

Walter Goss Finch.....B.E. 1905.....Baltimore, Md.
Junior Engineer, U. S. Engineer Department.

William Walter Finley.....B.Agr. 1904.....Charlottesville, Va.
Proprietor Win Wilkes Farm.

Daniel Burnie Floyd.....B.E. 1913.....Fort Sill, Okla.
First Lieutenant, Aerial Observation.

Frank Fuller Floyd.....B.E. 1893.....Knoxville, Tenn.
Vice-President and Sales Manager, Jellico Coal Mining Co.

Aaron Conard Fluck.....B.E. 1915.....New London, Conn.
Radio Telephone School. Home Address, Telford, Pa.

Frank Lindsay Foard .....B.S. 1909,.....Salisbury, N. C., R. 7
Farmer.

James Fontaine.....B.E. 1914.....Bladensburg, Md.
Electrical Expert Aid, U. S. Navy Yard, Washington, D. C.

Matthew Maury Fontaine.....B.E. 1916.....Camp Sevier, S. C.
Second Lieutenant, Co. C, 105th Engineers. Home Address, Woodsdale, N. C.

Rufus Eugene Forbis.....B.E. 1910.....Charlotte, N. C.
M.E. 1913. Draftsman, Peter S. Gilchrist, Consulting Engineer.

Arthur Crawford Foster.....B.S. 1917.....West Raleigh, N. C.
Assistant Plant Pathologist, N. C. Agricultural Experiment Station.

Shirley Watson Foster.....B.Agr. 1906.....San Francisco, Cal.
Entomologist and Manager Insecticide Department, General Chemical Co.

William Benjamin Foster.....B.E. 1915.....Newport News, Va.
Contractor.

George Washington Foushee.....B.E. 1904.....Greensboro, N. C.
Secretary and Treasurer, Dicks Laundry Co.

Elias Van Buren Fowler.....B.E. 1907.....Horseshoe, N. C., R. 1
Farmer.

Roscoe Loomis Fox,.....B.E. 1909.....Kansas City, Mo.
Broker.

James Roscoe Franck.....B.S. 1914.....Richlands, N. C.
Farmer.

Charles Duffy Francks .....B.E. 1893.....Fayetteville, N. C.

George Stronach Fraps.....B.S. 1896.....College Station, Tex.
Ph.D. Johns Hopkins University. State Chemist of Texas. Chemist Texas Experiment Station. Chemist Texas Feed Control.

John Alexander Frazier.....B.E. 1916.....Camp Jackson, S. C.
321st Infantry. Home Address, Kings Creek, N. C.

Elmo Vernon Freeman.....B.E. 1911.....Camp Z. Taylor, Ky.
Lieutenant, 12th Training Battalion, 159th Depot Brigade, 89th Division. Home Address, Wake Forest, N. C.

Percy Leigh Gainey .....B.Agr. 1908.....Manhattan, Kans.
M.S. 1910. Assistant Professor Bacteriology, Kansas State Agricultural College.

Edgar William Gaither.....B.S. 1904.....Hertford, N. C.
County Farm Demonstration Agent.

James Jervey Gantt.....B.E. 1910.....Toccoa, Ga.
Assistant Engineer, Southern Railway System.

Frederick Carlton Gardner.....B.E. 1917.....Elwood, N. J.
Civil Engineer with Lehigh Co.

Name.	*Degree.*	*Address.*
Junius Talmage Gardner	B.E. 1908	Camp Sevier, S. C.
Second Lieutenant, Co. C, 118th Machine Gun Battalion. Home Address, Shelby, N. C.		
Oliver Max Gardner	B.S. 1903	Shelby, N. C.
Lawyer. Lieutenant Governor.		
Zebulon Clifton Gardner	B.S. 1916	Shelby, N. C., R. 6
Clement Leinster Garner	B.E. 1907	Washington, D. C.
United States Coast and Geodetic Survey.		
Lewis Price Gattis	B.E. 1909	Charleston, S. C.
City Passenger and Ticket Agent, Atlantic Coast Line Ry.		
John George Harvey Geitner, Jr.	B.E. 1914	France
First Lieutenant, Co. L, 4th Infantry, American Expeditionary Forces. Home Address, Hickory, N. C.		
Edward Moore Gibbon	B.E. 1893	Jacksonville, Fla.
Division and Soliciting Engineer for J. B. McCreary Co., Engineers, Atlanta, Ga.		
Nicholas Louis Gibbon	B.S. 1897	Southern Pines, N. C.
General Hardware, Building Material and Auto Specialties.		
Seth Mann Gibbs	B.E. 1908	Savannah, Ga.
Resident Engineer, Seaboard Air Line Railway.		
Thomas Fenner Gibson	B.E. 1912	Washington, D. C.
C.E. 1915. Supervisor of Designing, Conservation Division, War Department.		
Lamar Carson Gidney	B.E. 1903	High Point, N. C.
Superintendent Water and Lighting Departments, City of High Point.		
Richard F. Giersch, Jr.	B.E. 1912	Badin, N. C.
Electrical Engineer, Tallassee Power Co.		
Lovic Rodgers Gilbert	B.E. 1907	Raleigh, N. C.
T.E. 1915. Superintendent Caraleigh Mills Co.		
Peter Melvin Gilchrist	B.S. 1915	Laurinburg, N. C.
Farmer.		
Ralph Allison Gill	B.E. 1914	El Paso, Tex.
Engineering Division, Stone and Webster.		
George William Gillette	B.E. 1911	Camp Sevier, S. C.
Captain Co. A, 105th Engineers. Home Address, Wilmington, N. C.		
Maurice Mordecai Glasser	B.E. 1908	Charleston, S. C.
Proprietor Standard Electric Co. and M. M. Glasser Electric and Mfg. Co.		
Charles Willis Gold	B.S. 1895	Greensboro, N. C.
Treasurer Jefferson Standard Life Insurance Co.		
Moses Henry Gold	B.E. 1908	Savannah, Ga.
Division Engineer, Seaboard Air Line Railway.		
Roy Durant Goodman	B.S. 1913	Concord, N. C., R. 2
County Farm Demonstration Agent.		
Amzi Nealy Goodson	B.E. 1916	Camp Jackson, S. C.
Sergeant, First Class, Base Hospital X-Ray Laboratory, Hospital Service. Home Address, Concord, N. C.		
Cicero Fred Gore	B.E. 1913	Weldon, N. C.
Superintendent and Engineer Highways, Halifax County.		
Albert Sidney Goss	B.E. 1909	Gaffney, S. C.
Assistant Engineer Construction, Southern Railway Co.		
John David Grady	B.Agr. 1908	Camp Jackson, S. C.
Second Lieutenant, Field Artillery. Home Address, Albertson, N. C.		
Robert Walter Graeber	B.S. 1911	Lancaster, S. C.
County Agent, Farmers Cooperative Demonstration Work.		

Name.	*Degree.*	*Address.*
William Haywood Graham, Jr.	B.E. 1912	Macon, Ga.
District Traffic Chief, Southern Bell Telephone and Telegraph Co.		
Robert Strickler Graves	B.E. 1907	Cincinnati, Ohio
District Meter Specialist, General Electric Co.		
Charlie Pool Gray	B.E. 1909	Buxton, N. C.
Frank Temple Gray	B.E. 1915	McClellandville, S. C.
Foreman, Southern Bell Telephone and Telegraph Co.		
George Pender Gray	B.S. 1893	Tarboro, N. C.
Not heard from.		
James Miller Gray	B.S. 1910	Asheville, N. C.
District Farm Demonstration Agent.		
Sterling Graydon	B.E. 1905	Charlotte, N. C.
President and Superintendent Atherton Mills.		
Andrew Hartsfield Green, Jr.	B.S. 1909	Camp Sevier, S. C.
Second Lieutenant, Co. F, 120th Infantry. Home Address, Raleigh, N. C.		
Marion Jackson Green	B.S. 1896	Charlotte, N. C.
Pattern Maker, The Cole Manufacturing Co. Member, Charlotte School Board.		
Kenneth Lee Greenfield	B.S. 1916	Zebulon, N. C.
Agriculturist, Wakelon Farm Life School.		
Arthur Wynns Gregory	B.S. 1906	Shanghai, China
Sales Manager, Wuhu Office, British-American Tobacco Co.		
John LeRoy Gregson, Jr.	B.E. 1917	New York, N. Y.
		Care of Postmaster.
Second Lieutenant, 122d Company, 9th Regiment, U. S. Marine Corps. Home Address, Elizabeth City, N. C.		
Paul Stirewalt Grierson	B.E. 1904	New York, N. Y.
Chief Draftsman, Charles Cory & Son.		
William Henry Griffin, Jr.	B.E. 1914	Goldsboro, N. C.
Junior Member, W. H. Griffin & Son, Coal and Wood Dealers.		
Joseph Perrin Gulley, Jr.	B.E. 1904	Norfolk, Va.
Traveling Salesman, Woodhouse Electric Co.		
Winston Payne Gwathmey	B.E. 1913	Camp Sherman, Ohio
Second Lieutenant, Co. B, 308th Engineers, U. S. R. Home Address, Richmond, Va.		
James Holmes Haddock	B.E. 1915	Stonewall, Miss.
Superintendent Stonewall Cotton Mills.		
Dorsey Yates Hagan	B.E. 1908	France
First Lieutenant, American Expeditionary Forces. Home Address, Greensboro, N. C.		
Frank Joshua Haight	B.E. 1917	Port au Prince, Haiti
Second Lieutenant, Marine Corps. Home Address, Balsam, N. C.		
Felix Stanton Hales	B.E. 1913	Cleveland, Ohio
C.E., Cornell University, 1916. Assistant Engineer, N. Y. C. & St. L. Ry.		
Charles Ganzer Hall	B.E. 1913	Peterboro, N. H.
Overseer Carding and Spinning, White Mills of New Hampshire.		
John Hubbard Hall, Jr.	B.S. 1915	Camp Wadsworth, S. C.
Second Lieutenant.		
Horace Lester Hamilton	B.E. 1906	Philadelphia, Pa.
With N. W. Ayer & Son, Advertising Agents.		
Robert Williams Hamilton, Jr.	B.S. 1916	Camp Jackson, S. C.
First Lieutenant, 321st Infantry. Home Address, Jonesville, S. C.		
William Roy Hampton	B.S. 1909	Plymouth, N. C.
Owner firm of W. H. Hampton & Son, Inc., Merchants and Bankers.		

Name. *Degree.* *Address.*

LeRoy Corbett Hand .....B.E. 1913.....Camp Sevier, S. C.
Lieutenant, Battery E. 113th Field Artillery. Home Address, Chadbourn, N. C.

John Isaac Handley .....B.S. 1914..... France
M.S. 1916. 41st Division Headquarters, American Expeditionary Forces. Home Address, Lineville, Ala.

Samuel Merrill Hanff .....B.S. 1900.....Concord, N. C.
Episcopal Clergyman.

John Frederick Hanselman .....B.E. 1906.....Waverly, Va.
Proprietor the Central Garage.

George Rom. Hardesty .....B.E. 1907..... France
U. S. Army, Expeditionary Forces.

Philip William Hardie .....B.E. 1907.....Fort Moultrie, S. C.
Captain, Coast Artillery. Home Address, Brown Summit, N. C.

Jarvis Benjamin Harding .....B.E. 1904.....Greenville, N. C.
C.E. 1909. Harding & Rivers, Civil Engineers.

Robert McKenzie Hardison .....B.E. 1912..... Atlanta, Ga.
With Corrugated Bar Co.

Nathan David Hargrove .....B.S. 1912..... Richmond, Va.
Manager A. W. Hargrove, Paints and Wall Papers.

Richard Hugh Harper .....B.S. 1905.....Charlotte, N. C.
With Alexander & Garsed.

George Roland Harrell .....B.S. 1900.....Grasselli, N. J.
With Grasselli Chemical Co.

John William Harrelson .....B.E. 1909.....Fort Caswell, N. C.
M.E. 1915. Captain 7th Company, Coast Artillery. Home Address, Maiden, N. C.

Carl Rush Harris .....B.E. 1917.....Greenville, S. C.
Aviation Service. Home Address, Mount Gilead, N. C.

Ceburn Dodd Harris .....B.S. 1897.....Anchorage, Ky.
Ferguson, Scott, and Harris, Fire Insurance.

Gordon Harris .....B.E. 1909.....Schenectady, N. Y.
E.E. 1914. Lighting Engineering Department, General Electric Co.

John Fleming Harris .....B.E. 1917.....Wilkinsburg, Pa.
Testing Engineer, Westinghouse Electric and Manufacturing Co.

Russell Peyton Harris .....B.S. 1915.....Louisburg, N. C.
Farming.

Thomas Devin Harris .....B.E. 1911.....Roxboro, N. C.
State Highway Commission.

William Henry Harriss .....B.E. 1895.....New York, N. Y.
M.E. 1896. Textile Broker, 366 Broadway.

Henry Mercer Harshaw .....B.E. 1915.....Hopewell, Va.
Foreman, Charging Station, Dupont Co.

Thomas Roy Hart .....B.E. 1913.....Camp Jackson, S. C.
Second Co., 156th Depot Brigade. Home Address, Monroe, N. C.

Adolph Theodore Hartmann .....B.E. 1917.....New York, N. Y.
Draftsman, Hydraulic Department, Electric Bond and Share Co.

Harry Hartsell .....B.E. 1912.....West Raleigh, N. C.
Athletic Coach, N. C. State College.

John Harvey, Jr. .....B.E. 1914....West Philadelphia, Pa.
Medical Student, University of Pennsylvania.

Frank Hawks .....B.E. 1910.....Newport News, Va.
Draftsman, Estimating Department, Newport News Shipbuilding and Dry Dock Co.

Name.	*Degree.*	*Address.*
Claude Jacques Hayden	M.S. 1916	Camp Forrest, Ga.
Captain, Infantry, U. S. A.		
Henry Wadsworth Hayward	B.E. 1917	Fort Caswell, N. C.
7th Company, Coast Artillery. Home Address, Mount Gilead, N. C.		
Edmund Burke Haywood	B.E. 1910	Raleigh, N. C.
Assistant to Commissioner of Public Works and City Engineer.		
William Stephen Haywood	B.E. 1916	Newport News, Va.
Engine Estimating Division, Newport News Shipbuilding and Dry Dock Co.		
Joktan LaFayette Hemphill	B.E. 1907	Schenectady, N. Y.
Engineer, General Electric Co.		
Harry Benjamin Henderlite	B.E. 1915	Camp Devens, Mass.
Corporal, Co. B, 33d Engineering Corps. Home Address, Raleigh, N. C.		
Leonard Henderson	B.E. 1909	Salisbury, N. C.
With State Highway Commission.		
Maurice Hendrick	B.E. 1908	Cliffside, N. C.
Overseer Spinning, Cliffside Mills.		
John Wade Hendricks	B.S. 1917	Taylorsville, N. C.
County Farm Demonstration Agent.		
Leonard Orr Henry	B.E. 1916	Gastonia, N. C.
Chief Clerk to Superintendent of Plant, Piedmont Telegraph and Telephone Co.		
Vernon Ray Herman	B.S. 1915	West Raleigh, N. C.
Assistant in Plant Breeding, North Carolina Agricultural Experiment Station and Extension Service.		
Lawrence James Herring	B.Agr. 1907	Wilson, N. C.
D.V.S., Kansas City Veterinary College Veterinarian.		
Jere Isaac Herritage	B.E. 1905	Jacksonville, N. C.
Civil Engineer, John L. Roper Lumber Co.		
Edgar Allen Hester	B.E. 1916	Wilkinsburg, Pa.
Instrument and Relay Engineer, Westinghouse Electric and Manufacturing Co.		
Thomas Jasper Hewitt	B.E. 1913	Norfolk, Va.
Junior Engineer, U. S. War Department.		
Clarence Wilson Hewlett	B.E. 1906	Greensboro, N. C.
M.A., Ph.D., Johns Hopkins University. Professor of Physics, State Normal and Industrial College.		
Rufus Williams Hicks, Jr.	B.E. 1910	France
M. E. 1915. First Lieutenant, Ordnance Department.		
Bascombe Britt Higgins	B.S. 1909	Camp Wadsworth, S. C.
M.S. 1910, Ph.D. 1913. Second Lieutenant, Company K, Pioneer Infantry. Home Address, Leicester, N. C.		
Lyda Alexander Higgins	B.S. 1910	Starkville, Miss.
Dairy Husbandman, Dairy Division, U. S. Department of Agriculture and Mississippi Agricultural College.		
Riley Weaver Higgins	B.S. 1913	Riceville, Tenn., R. 6
Farmer.		
James Allen Higgs, Jr.	B.E. 1906. C.E. 1910	France
First Lieutenant, Aviation Section, Signal Corps, Officers Reserve. Balloon Division, American Expeditionary Forces. Home Address, Raleigh, N. C.		
Jere. Eustis Highsmith	B.S. 1897	Parkersburg, N. C.
Farmer.		
Daniel Harvey Hill, Jr.	B.S. 1909	Chattanooga, Tenn.
Third Officers Training Camp, Fort Oglethorpe, Ga. Home Address, West Raleigh, N. C.		
David Raymond Hinkle	B.E. 1911	Cedartown, Ga.
Superintendent, Cedartown Cotton and Export Co.		

Name.	*Degree.*	*Address.*
Guy Francis Hinshaw	B.E. 1907	Winston-Salem, N. C.
C.E. 1915. Hinshaw & Ziglar, Civil Engineers.		
Bruce Dunston Hodges	B.E. 1917	Camp Jackson, S. C.
Second Lieutenant, 322d Infantry. Home Address, Washington, N. C.		
George Herbert Hodges	B.E. 1904	Uniontown, Pa.
Superintendent of Collier Mine, H. C. Frick Coke Co.		
Ralph Hinton Hodges	B.S. 1916	Washington, N. C.
Farmer.		
Edgar Allen Hodson	M.S. 1914	Camp Johnston, Fla.
B.S. (A. P. I.) 1911. Medical Department, Quartermaster Corps.		
Laban Miles Hoffman, Jr.	B.E. 1905	Dallas, N. C.
Cashier Bank of Dallas.		
Willis Askew Holding	B.S. 1912	Knoxville, Tenn.
College of Agriculture and Experiment Station, University of Tennessee.		
Charles Bolling Holladay	B.E. 1893	Wilmington, Del.
Treasurer, DuPont Engineering Co.		
Edison Parker Holmes	B.E. 1917	City Point, Va.
Electric Motor Inspector, DuPont Munitions Co.		
Thomas Hall Holmes, Jr.	B.E. 1916	Schenectady, N. Y.
Student Engineer, General Electric Co.		
Dean Roney Holt	B.E. 1916	New York, care P. M.
Destroyer Flotilla in Foreign Waters.		
Peter Armstrong Holt	B.S. 1913	Graham, N. C.
Office Clerk, L. Banks Holt Manufacturing Co.		
William Norman Holt	B.E. 1907	Norfolk, Va.
Traveling Salesman, The Texas Co.		
Edward Holland Holton	B.S. 1917	Camp Jackson, S. C.
Second Lieutenant, Co. H, 321st Infantry. Home Address, Winston-Salem, N. C.		
Benjamin Oliver Hood	B.E. 1901	Port Newark, N. J.
With Submarine Boat Corporation.		
Louie Lee Hood	B.E. 1910	Greensboro, N. C.
With Greensboro Music Co.		
David Lee Hooper	B.E. 1915	Fort McPherson, Ga.
First Lieutenant, Commanding Co. C, 11th Infantry. Home Address, Cullowhee, N. C.		
Robert Mullen Hooper	B.E. 1917	Pittsburgh, Pa.
28th Signal Service Co. Radio Mechanics, Carnegie Technical Institute. Home Address, Beaufort, N. C.		
William Ransom Hoots	B.S. 1917	Marshall, N. C.
County Farm Demonstration Agent.		
Herndon Hopkins	B.S. 1915	Greensboro, N. C.
Farming.		
Walter Cleary Hopkins	B.E. 1913	Camp Meade, Md.
Master Engineer, 408th Engineer Depot Detachment. Home Address, Newport News, Va.		
Wayne Arington Hornaday	B.S. 1909	Greensboro, N. C.
M.S. 1910. D.V.M., Kansas City Veterinary College. Veterinarian. City Milk and Meat Inspector.		
Frank William Howard	B.E. 1917	Camp Devens, Mass.
Corporal, Co. B, 304th Infantry. Home Address, Bridgeport, Conn.		
Jesse McRae Howard	B.E. 1904	Concord, N. C.
Overseer Dyeing, Gibson Manufacturing Co.		
John Howard	B.S. 1896	Middlesboro, Ky.
Attorney at Law.		

Name.	*Degree.*	*Address.*
John Stewart Howard	B.S. 1915	Cary, N. C.
Teacher of Agriculture, Cary Farm Life School.		
Paul Noble Howard	B.E. 1916	Camp Sevier, S. C.
Master Engineer, 105th Engineers. Home Address, Kinston, N. C.		
Robert Irving Howard	B.E. 1902 (Tex.)	Conetoe, N. C.
Civil Engineer.		
Samuel Benjamin Howard	B.E. 1913	Morganton, N. C.
With State Highway Commission.		
Ralph Wilkinson Howell	B.S. 1912	Terra Ceia, N. C.
Development of Newly Reclaimed Swamp Lands.		
Jesse Francis Huette	B.E. 1914	Newport News, Va.
Draftsman, Newport News Shipbuilding and Dry Dock Co.		
Branton Faison Huggins	B.E. 1904	Griffin, Ga.
Member Firm of Beck-Huggins Co., Contractors and Engineers.		
Henry Allen Huggins	B.S. 1900	Wilmington, N. C.
General Manager of George W. Huggins, Inc., Jewelers.		
Christopher Miller Hughes	B.E. 1895	Richmond, Va.
B.S. 1899. Wholesale Lumber Dealer.		
Lloyd Rainey Hunt	B.E. 1905	Badin, N. C.
Electrical Engineering Department of Southern Aluminum Co.		
Hill McIver Hunter	B.E. 1904	Greensboro, N. C.
Purchasing Agent Revolution Mills, Asheville Mills, Minneotta Mills, Cliffside Mills, White Oak Mills, Proximity Print Works, Proximity Mills.		
Malcolm Beall Hunter	B.E. 1895	Charlotte, N. C.
President Acme Plumbing and Heating Co.		
William Tisdale Hurtt	B.E. 1914	E. Pittsburgh, Pa.
Assistant Inspector Engineering Material, Office of Inspector of Machinery, U. S. N., Westinghouse Electric and Manufacturing Co.		
John Eli Ivey	B.S. 1917	West Raleigh, N. C.
Instructor in Poultry Science, N. C. State College.		
John William Ivey	B.E. 1909	Seven Springs, N. C
Farmer.		
William Colbert Jackson	B.S. 1896	Wake Forest, N. C.
Farmer.		
George Linwood Jeffers	B.E. 1915	France
Second Lieutenant, Field Artillery. Home Address, Richmond, Va.		
Ernest Judson Jeffress	B.E. 1913	Goldsboro, N. C.
Superintendent Carolina Power and Light Co.		
Douglas Creelman Jeffrey	B.E. 1913	Buffalo, N. Y.
With Curtiss Aeroplane and Motor Co.		
John LeBon Jenkins	B.E. 1916	France
34th Aero Squadron, American Expeditionary Forces. Home Address, Charlotte, N. C.		
Sidney Earl Jennette	B.E. 1916	Camp Sevier, S. C.
Master Engineer, Headquarters Company, 105th Engineers. Home Address, Lake Landing, N. C.		
William Leon Jewell	B.E. 1914	Camp Jackson, S. C.
Master Engineer, Headquarters Company, 105th Engineers. Home Address, Wilmington, N. C.		
Lacy John	B.S. 1914	Lumber Bridge, N. C.
Farmer.		
Eugene Colistus Johnson	B.E. 1903	Ingold, N. C.
Lumberman and Farmer.		
James Wright Johnson	B.E. 1913	Seymour, Conn.
Electrical Engineer, Seymour Manufacturing Co.		

Name. *Degree.* *Address.*

Leander Brownlow Johnson.....B.S. 1916.....Big Stone Gap, Va.
Chemist, Stonega Coke and Coal Co.

Paul Worthy Johnson.....B.S. 1917.....Camp Jackson, S. C.
Second Lieutenant, Battery R, 318th Field Artillery. Home Address, Raeford, N. C.

William Fladger R. Johnson.....B.E. 1909..... France
Major, 1st Brigade, 117th Engineers. Home Address, Marion, S. C.

Walter Myatt Johnson.....B.E. 1917.....Camp Jackson, S. C.
Officers Training Camp. Home Address, Chalybeate Springs, N. C.

Victor Allison Johnston.....B.S. 1916.....Mooresville, N. C.
M.S. 1917. With Cooperative Creamery Co.

Willis Neal Johnston.....B.E. 1914.....Statesville, N. C.

Albert Carl Jones.....B.Agr. 1907.....High Point, N. C.
D. V. S., Kansas City Veterinary College. Veterinarian, Meat and Milk Inspector.

Frederick John Jones.....B.E. 1909.....Washington, D. C.
Junior Civil Engineer, Interstate Commerce Commission. Home Address, New Bern, N. C.

Garland Jones.....B.S. 1900.....Camp Jackson, S. C.
Major, Field Artillery. Home Address, Raleigh, N. C.

Robert Frank Jones.....B.E. 1910.....Wilmington, N. C.
Assistant Engineer, Valuation Department, Atlantic Coast Line Railroad.

William Manley Jones.....B.E. 1914.....New Kensington, Pa.
Experimental M. E. Department, U. S. Aluminum Co.

William Whitmore Jones.....B.E. 1907.....Franklin, N. C.
Manager Franklin Telephone and Electric Co.

Clyde Raymond Jordan.....B.E. 1910.....White Oak, N. C.
Owner and Operator of Lumber Plant.

Harvey Langill Joslyn.....B.S. 1913.....Vanceboro, N. C.
M.S. 1916. Principal Craven County Farm Life School.

Sir Keith Keller .....B.E. 1914..... Jacksonville, Fla.
Assistant Engineer, Seaboard Air Line Railway.

John Gordon Kellogg.....B.S. 1912..... France
Sergeant, Supply Company, 17th Field Artillery. Home Address, Sunbury, N. C.

Martin Kellogg.....B.Agr. 1901.....Sunbury, N. C.
Farmer.

Rex Livingstone Kelly.....B.E. 1916.....Fort Omaha, Neb.
50th Balloon Co. Home Address, Sanford, N. C.

Clyde Bennett Kendall.....B.S. 1897..... France
Captain, Coast Artillery Corps. Home Address, Washington, D. C.

Alpheus Rountree Kennedy .....B.S. 1898.....Quincy, Mass.
Ship Draftsman, Fore River Shipbuilding Co.

James Matthew Kennedy .....B.E. 1903.....Raleigh, N. C.
Architect.

Sydney Gustavus Kennedy .....B.S. 1897.....Sanford, Fla.
Shop Foreman, Atlantic Coast Line Railroad.

Woodford Armstrong Kennedy .....B.E. 1916.....Fort Sill, Okla.
School of Fire.

William Pendleton Kennedy .....B.E. 1916.....Charlotte, N. C.
Southern Power Co.

Arthur Templeton Kenyon .....B.E. 1905.....Camp Greene, N. C.
Headquarters Company, 4th Division.

Name.	*Degree.*	*Address.*
William Kerr	B.S. 1904	Hayden, N. M.
M.S. 1912, V. P. I. Farmer.		
George Edison Kidd	B.E. 1913	Newport News, Va.
Electrical Engineer, N. N. & H. Ry. Co., G. & E. Co.		
Waverly Fletcher Kilpatrick	B.S. 1915	Asheville, N. C.
Money Clerk, Southern Express Co.		
Paul Hanner Kime	B.S. 1916	Camp Sevier, S. C.
Sergeant, 120th Infantry Supply Company. Home Address, Greensboro, N. C.		
Paul King	B.E. 1914	Washington, D. C.
C.E., Cornell, 1916. First Lieutenant, Engineer Reserves. Home Address, Emporia, Va.		
Carl James Kirby	B.S. 1917	San Antonio, Tex.
Lieutenant, Aviation. Home Address, Baywood, Va., R. 1.		
Luther Hill Kirby	B.E. 1910	San Juan, Porto Rico
Captain, Engineer Reserve Corps, U. S. Army.		
Sam Jones Kirby	B.S. 1912	West Raleigh, N. C.
North Carolina Agricultural Experiment Station.		
William Franklin Kirkpatrick	B.E. 1904	Storrs, Conn.
B.Agr. 1905. Professor of Poultry Husbandry, Connecticut Agricultural College.		
Joseph Lawrence Knight	B.S. 1897	Pittville, Fla.
Naval Stores and Farming.		
Louis Braswell Knight	B.S. 1913	Chattanooga, Tenn.
Third Officers Training Camp, Fort Oglethorpe, Ga. Home Address, Tarboro, N. C.		
Robert Vernon Knight	B.S. 1915	Tarboro, N. C.
Farming.		
Starr Neely Knox	B.E. 1905	Charlotte, N. C.
Assistant Engineer, Southern Railway.		
William Graham Knox	B.S. 1906	New York, N. Y.
Research and Development Laboratory, Chemical Branch, Western Electric Co.		
LaFayette Franck Koonce	B.Agr. 1907	Raleigh, N. C.
D.V.M. 1909, Kansas City Veterinary College. Veterinary Surgeon.		
Frank Kipp Kramer	B.E. 1915	Elizabeth City, N. C.
With Kramer Bros. & Co., Lumber Manufacturers and Dealers.		
Herbert William Kueffner	B.E. 1908	Durham, N. C.
City Engineer.		
Frederick Creecy Lamb	B.S. 1898	Camp Bowie, Tex.
Company A, 141st Infantry. Home Address, Elizabeth City, N. C.		
Claude Milton Lambe	B.E. 1908	Goldsboro, N. C.
Civil Engineer.		
Carl Joshua Lambeth	B.E. 1912	Manila, P. I.
Captain of Infantry, U. S. Army.		
Bennett Land, Jr.	B.E. 1903	Tampa, Fla.
Division Engineer, Seaboard Air Line Railway.		
John Thomas Land	B.E. 1903	Camp Lee, Va.
Captain, R. O. T. C., Company 6.		
Mark Clinton Lasitter	B.E. 1910	Vancouver, Wash.
604th Aero Supply Squadron, Vancouver Barracks.		
James Edward Latham	B.S. 1909	Washington, N. C.
Mercantile Business.		
Charles Edward Latta	B.E. 1908	Raleigh, N. C.

Name.	*Degree.*	*Address.*
Douglas Allen Leard	B.E. 1914	Norfolk, Va.
Acting Right of Way Engineer, Seaboard Air Line Railway.		
Curtis Williams Lee	B.E. 1912	Monroe, N. C.
Superintendent Water and Light Plant.		
Eugene Talmage Lee	B.E. 1910	Dunn, N. C.
Postmaster.		
Joseph Lee, Jr.	B.S. 1917	Camp Sevier, S. C.
Remount Depot, 30th Division Camp, Quartermaster Corps. Home Address, Landrum, S. C.		
Joseph Raoul Leguenec	B.E. 1915	Beaumont, Tex.
Division Engineer's Office, Sante Fe Railway.		
Samuel George Lehman	M.S. 1917	West Raleigh, N. C.
Instructor in Botany, N. C. State College.		
Irvin Tracy Lewis	B.S. 1915	Charlotte, N. C.
D.V.M. 1917. Veterinarian.		
William Dixon Lewis	B.S. 1914	Rockingham, N. C.
Manager Diggs Farm.		
Morris Liferock	B.E. 1913	Washington, D. C.
C.E. 1917. Assistant American Ephemeris, U. S. Naval Observatory.		
Jesse Julian Liles	B.E. 1901	Pittsburgh, Pa.
Salesman, Power and Mining Department, General Electric Co.		
Henry Albert Lilly	B.S. 1917	Badin, N. C.
Chemist, Tallassee Power Co.		
Henry Marvin Lilly	B.E. 1905	Portsmouth, Va.
Inspecting Engineer, Seaboard Air Line Railway.		
Ernest Erwin Lincoln	B.E. 1904	Newark, N. J.
Draftsman, Submarine Boat Corporation.		
Jesse Webb Lindley	B.S. 1915	Bakersville, N. C.
Emergeny Demonstration Agent.		
David Lindsay	B.E. 1908	Feildale, Va.
Superintendent Feildale Mills.		
Robert Opie Lindsay	B.E. 1916	France
First Lieutenant, Aviation. Home Address, Madison, N. C.		
John Henry Little	B.E. 1908	Pinetops, N. C.
First Lieutenant, Ordnance, O. R. C.		
William Bennett Little	B.S. 1914	Washington, D. C.
Secretary to Congressman L. D. Robinson.		
Marion Lamar Livermon	B.E. 1914	Norfolk, Va.
Draftsman, Bridge Department, Seaboard Air Line Railway.		
Ulphian Carr Loftin	B.S. 1910	Audubon Park, New Orleans, La.
Bureau of Entomology, U. S. Department of Agriculture.		
Ralph Long	B.S. 1909	Winston-Salem, N. C.
Manager, Chero-Cola Botting Co.		
Louis Edgar Lougee	B.S. 1907	Charleston, W. Va.
Chemist, Becker Steel Co.		
Louis Omer Lougee	B.E. 1901	Toledo, O.
General Manager of Mines, The Ohio Collieries Co. and The Cambria Collieries Co.		
Thomas Pinkney Lovelace	B.E. 1912	Care Postmaster, New York City.
Junior Grade Lieutenant, U. S. N., U. S. S. San Diego.		
George LaFayette Lyerly	B.E. 1908	Camp Sevier, S. C.
Major, 105th Engineers. Home Address, Hickory, N. C.		

Name.	*Degree.*	*Address.*
Lipscomb Goodwin Lykes	B.E. 1905	Habana, Cuba
Vice-President Lykes Brothers, Inc.		
Thompson Mayo Lykes	B.E. 1906	Tampa, Fla.
Secretary and Treasurer The Lykes Co. Secretary Tampa Packing Co.		
George Green Lynch, Jr.	B.E. 1905	Portsmouth, Va.
Chief Draftsman, Seaboard Air Line Railway.		
Albert Sydney Lyon	B.S. 1899	Rocky Mount, N. C.
Superintendent Rocky Mount Public Works.		
Edmond Shaw Lytch	B.E. 1903	Laurinburg, N. C.
Partner, Laurinburg Machine Co.		
William McNeil Lytch	B.E. 1893	Laurinburg, N. C.
Partner, Laurinburg Machine Co.		
Donald Grattan McArn	B.E. 1915	South San Antonio, Tex.
328th Aero Squadron, Detachment Kelly Field No. 1. Home Address, Laurinburg, N. C.		
James Robert McArthur	B.S. 1917	Greenville, N. C.
Farming.		
Frank Whiteside McComb	B.E. 1913	Hickory, N. C.
Dairyman.		
Henry Kreiger McConnell	B.S. 1907	Louisville, Ky.
Assistant Chemist, Kentucky Tobacco Products Co.		
Eugene Richard McCracken	B.E. 1911	Winston-Salem, N. C.
Cotton Classer, Arista Mills Co.		
Thomas Robert McDearman	B.E. 1914	Ridgeway, Va.
Resident Engineer on Highway Construction.		
James Edgar McDougall	B.E. 1917	Camp Jackson, S. C.
Captain, 322d Infantry. Home Address, Amesbury, Mass.		
Frank Neely McDowell	B.S. 1910	Kenansville, N. C.
County Farm Demonstration Agent.		
Robert Wissner McGeachey	B.E. 1917	Camp Sevier, S. C.
Master Engineer, 105th Engineers. Home Address, Raleigh, N. C.		
James Edward McGee	B.E. 1912	Rosemary, N. C.
Rosemary Manufacturing Co.		
Malcolm Roland McGirt	B.Agr. 1905	Durham, N. C.
County Farm Demonstration Agent.		
Walter Hoge MacIntire	B.S. 1905	Knoxville, Tenn.
M.S., Pennsylvania State, 1909; Ph.D., Cornell, 1916. Soil Chemist, Agricultural Experiment Station, University of Tennessee.		
Samuel Christopher McKeown	B.E. 1895	Newark, N. J.
Assistant Chief Engineers, Splitdorf Electrical Co.		
John Fairly McIntyre	B.E. 1904	Laurinburg, N. C.
Farmer.		
Charles McKimmon, Jr.	B.S. 1911	Ensley, Ala.
Chemist, Tennessee Coal and Iron Co.		
James McKimmon	B.E. 1904	Raleigh, N. C.
With McKimmon & McKee, Real Estate and Insurance.		
John Luther McKinnon	B.Agr. 1902	Laurinburg, N. C.
Farmer.		
James William McKoy	B.E. 1893	Black Mountain, N. C.
Civil Engineer and Merchant.		
Horace Smith McLendon	B.Agr. 1906	Gainesville, Fla.
District Agent, Extension Department, U. S. Department of Agriculture.		
Lennox Polk McLendon	B.S. 1910	Camp Sevier, S. C.
Captain, 113th Field Artillery. Home Address, Wadesboro, N. C.		

Name.	*Degree.*	*Address.*
Walter Jones McLendon, Jr.	B.S. 1897	Knoxville, Tenn.
President Capitola Manufacturing Co. of Marshall, N. C., and President Prendergast Cotton Mills of Prendergast, Tenn.		
James Walter McLeod	B.S. 1916	Rowland, N. C.
Farming.		
Jacob Wyatt McNairy	B.E. 1917	Schenectady, N. Y.
Student Engineer, General Electric Co.		
Oscar Franklin McNairy	B.E. 1907	Portsmouth, Va.
Assistant Engineer, Seaboard Air Line Railway. Home Address, Greensboro, N. C.		
James Edgar McNeely	B.E. 1914	Mooresville, N. C.
Railway Mail Clerk.		
Samuel Huxley McNeely	B.E. 1909	Buffalo, N. Y.
Commercial Engineer, Allis Chalmers Co.		
Frank Coble McNeill	B.E. 1917	Newport News, Va.
Draftsman, Newport News Shipbuilding and Dry Dock Co.		
Harvey Campbell McPhail	B.S. 1914	Mount Olive, N. C.
Dairyman and Farmer.		
Elbert McPhaul	B.S. 1917	Raleigh, N. C.
With Veterinary Department, State Department of Agriculture.		
Charles Harden McQueen	B.E. 1901	Boston, Mass.
Inspector Bitulithic Pavements, Warren Brothers Co.		
Neill McQueen	B.E. 1912	Camp Wheeler, Ga.
Military Service. Home Address, Fayetteville, N. C.		
Samuel Macon Mallison	B.E. 1909	Washington, N. C.
Hardware Dealer.		
Carroll Lamb Mann	B.S. 1899	West Raleigh, N. C.
C.E. 1906. Professor of Civil Engineering, N. C. State College.		
Louis Henry Mann	B.E. 1900	Washington, N. C.
Dentist.		
Walter Ray Mann	B.S. 1912	Del Rio, Tex.
Captain of Infantry, U. S. A.		
William Leake Manning	B.E. 1910	Chattanooga, Tenn.
Third Officers Training Camp. Home Address, Henderson, N. C.		
Clarence Talmage Marsh	B.E. 1908	Fort Monroe, Va.
Captain, Coast Artillery Corps, U. S. A.		
William Roydan Marshall	B.E. 1909	New York, N. Y.
Salesman, Westinghouse Electric and Manufacturing Co.		
Mark Struve Martenet	B.S. 1917	Camp Sevier, S. C.
Sergeant, Company B, 120th Infantry. Home Address, Baltimore, Md.		
Jacob Lee Martin	B.E. 1911	Nebo, N. C.
With Western Carolina Power Co.		
Thomas Jackson Martin, Jr.	B.E. 1917	Raleigh, N. C.
Mechanical Engineer, Dix Hill Hospital.		
William Daniel Martin	B.E. 1915	Fort Caswell, N. C.
Engineer, N. C. Coast Artillery Corps, National Guard.		
Joseph Henry Mason	B.E. 1916	Camp Jackson, S. C.
First Infantry Company, Officers Training Camp. Home Address, Charlotte, N. C.		
Ralph Cecil Mason	B.S. 1909	Harrellsville, N. C.
Farmer.		
Arthur Ballard Massey	B.S. 1909	Blacksburg, Va.
Professor of Vegetable Pathology, Virginia Polytechnic Institute.		

Name.	*Degree.*	*Address.*
Walter Jerome Matthews	B.E. 1893	Goldsboro, N. C.
Contractor and Builder.		
William Emery Matthews	B.E. 1917	France
Second Lieutenant. Home Address, Maxton, N. C., R. 4.		
Robert Sylvanus Mauney	B.E. 1913	Atlanta, Ga.
Salesman, General Electric Co.		
Raymond Maxwell	B.E. 1906	Seven Springs, N. C.
Owner and Proprietor Seven Springs Hotel and Wholesale Grocery at New Bern, N. C.		
Melvin Solomon Mayes	B.E. 1910	Stem, N. C.
Stem Lumber Co.		
Morell Battle Maynard	B.E. 1917	West Raleigh, N. C.
Instructor in Woodwork, N. C. State College.		
Frank Theophilus Meacham	B.S. 1893	Statesville, N. C.
M.S. 1894. Superintendent Experiment Station, U. S. Department of Agriculture.		
Eugene Franklin Meador	B.E. 1907	Danville, Va.
Danville Motor Car Company.		
Todd Bowman Meisenheimer	B.E. 1917	Charlotte, N. C.
Dye Chemist and Demonstrator, National Aniline and Chemical Co., Inc.		
Robert Tolar Melvin	B.S. 1913	Burgaw, N. C.
County Farm Demonstration Agent.		
Sherrod Ervin Menzies	B.E. 1916	New York, N. Y.
With Federal Shipbuilding Co.		
Henry Bascom Mercer	B.E. 1912	Camp Lee, Va.
Headquarters Detachment, 305th Engineers. Home Address, Wilmington, N. C.		
Lewis Larkins Merritt	B.E. 1913	Charleston, S. C.
Junior Engineer, U. S. Engineer Department.		
Repton Hall Merritt	B.S. 1897	Raleigh, N. C.
Secretary-Treasurer Powell & Powell, Inc., Coal, Ice, and Wood.		
Robert Graham Mewborne	B.S. 1896	Louisville, Ky.
Chemist, Kentucky Tobacco Products Co.		
Bennett Taylor Mial	B.E. 1907	Philadelphia, Pa.
Manager of Erection, Belmont Iron Works.		
Thomas Kenneth Mial	B.E. 1913	Camp Lee, Va.
Third Training Company, 305th Engineers.		
Frank Curtis Michael	B.E. 1907	Gastonia, N. C.
E.E. 1915. Electrician, Michael & Bivens.		
Joseph Edgar Michael	B.S. 1914	Wilmington, Del.
Inspector of Ballistic Materials, Ordnance Department, U. S. Army.		
David John Middleton	B.Agr. 1908	Snow Hill, N. C.
County Farm Demonstration Agent.		
Gordon Kennedy Middleton	B.S. 1917	Ithaca, N. Y.
Assistant on Department Farm and Graduate Student, Cornell University.		
John Daniel Miller	B.E. 1916	Indian Head, Md.
Instrumentman, Bureau of Yards and Docks, U. S. Navy.		
Joseph Alfred Miller, Jr.	B.E. 1904	Brevard, N. C.
Manager Miller Supply Co.		
Walker Morehead Millner	B.E. 1909	City Point, Va.
Area Supervisor, DuPont Powder Co.		
John Maple Mills	B.E. 1907	Raleigh, N. C.
Ewing Stephenson Millsaps, Jr.	B.S. 1917	Dobson, N. C.
County Farm Demonstration Agent.		

Name.	*Degree.*	*Address.*
Thomas Lee Millwee	B.E. 1916	Camp Jackson, S. C.
Officers Training Camp. Home Address, Charlotte, N. C.		
Simon Turner Mitchiner	B.E. 1912	Springfield, Ohio
Foos Gas Engine Co.		
Thomas Guy Monroe	B.S. 1914	Staunton, Va.
Field Instructor, Dairy and Creamery Work, State of Virginia.		
Benjamin Franklin Montague	B.E. 1909	Johnson City, Tenn.
Draftsman, Carolina, Clinchfield and Ohio Railway.		
Henry Starbuck Montague	B.S. 1907	Agr'l College, Miss.
Assistant Chemist, Mississippi State Laboratory.		
Leon Davis Moody	B.E. 1910	Charleston, S. C.
Chief Engineer, Interstate Chemical Corporation.		
Warren Lafayette Moody	B.S. 1914	Alexandria, Va.
Chemist, Southern Railway System.		
Charles Alfred Moore	B.E. 1916	Milwaukee, Wis.
Sub-Inspector, Electric, U. S. Government.		
Eugene Boise Moore	B.E. 1910	Toledo, Ohio
Manager Toledo Sales Office, Allis Chalmers Manufacturing Co.		
Lacy Moore	B.E. 1906	Charlotte, N. C.
Assistant Engineer, Southern Railway.		
James Oscar Morgan	B.Agr. 1905	College Station, Tex.
M.S.A. 1907, Ph.D. 1909, Cornell University. Professor of Agronomy, Texas A. and M. College.		
Jesse John Morris	B.E. 1903	Weeksville, N. C.
Farmer and County Surveyor.		
William Flaud Morris	B.E. 1909	Clayton, N. C.
General Superintendent of Clayton Oil Mill Co. and Chatham Oil and Fertilizer Co.		
Joseph Graham Morrison	B.Agr. 1906	Stanley, N. C.
Farmer. Emerson Brantingham Implement Co., Rockfield, Ill.		
Robert Hall Morrison	B.E. 1900	Camp Sevier, S. C.
Captain, Machine Gun Company. Home Address, Lincolnton, N. C.		
Robert Lee Morrison	B.E. 1911	Charlotte, N. C.
Resident Engineer for Anderson and Christie, Inc.		
John Lightfoot Morson	B.E. 1907	Norfolk, Va.
Assistant Engineer, Valuation Department, Seaboard Air Line Railway.		
William Field Morson	B.E. 1904	Raleigh, N. C.
Engineer, N. C. State Highway Commission.		
Laurie Moseley	B.E. 1902	Atlanta, Ga.
Thompson and Moseley, Inc., Contractors.		
Vassar Young Moss	B.E. 1902	Newark, N. J.
Special Work, Submarine Boat Corporation, Newark Bay Shipyard.		
Harry Yeomans Mott	B.S. 1910	Mooresville, N. C.
Farmer.		
James Richard Mullen	B.S. 1912	Camp Jackson, S. C.
Officers Training Camp. Home Address, Charlotte, N. C.		
Lindsley Alexander Murr	B.E. 1905	Portsmouth, Va.
Assistant Engineer, Seaboard Air Line Railway.		
Edward Mosely Murray	B.E. 1917	France
First Lieutenant, American Expeditionary Forces. Home Address, Charlotte, N. C.		
Zachariah Ennis Murrell, Jr.	B.S. 1917	Salisbury, N. C.
Superintendent, Gold Hill Dairy Farms.		

Name.	*Degree.*	*Address.*
Garland Perry Myatt	B.S. 1905	Brooklyn, N. Y.
Managing Chemist, Charles Pfizer & Co., Inc.		
O'Kelly W. Myers	B.S. 1899	Roseland, L. I., N. Y.
Engaged in Construction for the War Department.		
Jesse Clarence Myrick	B.E. 1906	Pedro Miguel, Canal Zone
Assistant Superintendent, Pacific Locks, Panama Canal.		
Henry Kollock Nash, Jr.	B.S. 1914	Wilmington, N. C.
Farmer.		
Leon Andrews Neal	B.E. 1904	Roanoke, Va.
Resident Engineer, Virginia Iron, Coal, and Coke Co.		
William McCormick Neale	B.E. 1910	Greensboro, N. C.
Secretary and Treasurer, Mechanical Engineer, Newman Machine Co.		
John Franklin Neely, Jr.	B.S. 1916	Camp Greene, N. C.
U. S. Government, Q. M. C., Construction Department.		
Charles McKee Newcomb	B.E. 1912	Port of Spain, Trinidad, B. W. I.
New York and Bermudey Co.		
Robert Timberlake Newcomb	B.S. 1915	Camp Jackson, S. C.
First Company, Reserve Officers Training Corps. Home Address, Raleigh, N. C.		
CharlesArthur Nichols	B.E. 1902	Muskogee, Okla.
Manager Third Street Grocery Co.		
Edgar Byron Nichols	B.E. 1914	Indianapolis, Ind.
Experimental Engineer, The Diamond Chain and Manufacturing Co.		
Charles Franklin Niven	B.Agr. 1906	Ravenel, S. C.
Farmer.		
Lola Alexander Niven	B.Agr. 1906	Atlanta, Ga.
Proprietor Oakdale Farm, Seeds, Plants, and Vegetables. Agricultural Writer.		
William Timothy Nixon	B.S. 1913	Chattanooga, Tenn.
Third Officers Training Camp, Fort Oglethorpe, Ga. Home Address, Sunbury, N. C.		
David Benjamin Nooe	B.S. 1916	France
American Expeditionary Forces. Home Address, Pittsboro, N. C.		
Lewis Milton Oden	B.Agr. 1906	Hopewell, Va.
Office of E. I. DuPont Powder Co.		
Thomas Jefferson Ogburn, Jr.	B.E. 1906	Richmond, Va.
With Everett Waddey Co.		
Albert Hicks Oliver	B.S. 1897	Mount Olive, N. C.
Farmer.		
Samuel Loftin Oliver	B.E. 1909	Clinton, N. C.
Superintendent Sampson Power Co.		
Karl Osborne	B.E. 1915	Belmont, N. C.
With J. B. McCreary Co., Atlanta, Ga.		
James Elwood Overton	B.Agr. 1907	Ahoskie, N. C.
Traveling Grader, Inspector and Peanut Buyer for American Peanut Corporation.		
David Starr Owen	B.E. 1903	Savannah, Ga.
General Superintendent, Atlantic Turpentine and Pine Tar Co.		
Edwin Bentley Owen	B.S. 1898	West Raleigh, N. C.
Registrar, State College.		
Charles Washington Owens	B.E. 1912	Waycross, Ga.
Assistant Division Engineer, Atlantic Coast Line Railroad.		
Reid Allison Page	B.S. 1916	France
Second Lieutenant, Quartermaster Corps. Home Address, Biscoe, N. C.		

Name.	*Degree.*	*Address.*
John Alsey Park	B.E. 1905	Raleigh, N. C.
Publisher The Raleigh Times.		
B. Moore Parker	B.S. 1898	Raleigh, N. C.
Secretary-Treasurer, Wake Auto Co.		
Clyde Ester Parker	B.S. 1906	Raleigh, N. C.
Member of firm of Parker Bros. & Co., Cotton Brokers and Merchants.		
Eugene Leroy Parker	B.S. 1899	Mt. Pleasant, Tenn.
Chemist and Manager, E. L. Parker & Co.		
James Lafayette Parker	B.E. 1902	New York City
Assistant Engineer, Office of Engineer of Structures, New York Central Railway Co.		
John Harvey Parker	B.E. 1903	New Bern, N. C.
With J. H. Parker & Co.		
Julius Monroe Parker	B.E. 1909	Hazard, Ky.
Resident Engineer, L. & N. Railway.		
Thomas Franklin Parker	B.Agr. 1907	Raleigh, N. C.
M.S. 1908. State Field Agent, Bureau of Crop Estimates, U. S. Department of Agriculture.		
Walter Herbert Parker	B.E. 1913	France
Lieutenant, Ordnance Depot Company, 42d Division, American Expeditionary Forces. Home Address, Rocky Mount, N. C.		
Fred Maynard Parks	B.E. 1907	E. Pittsburg, Pa.
Industrial Control Engineer, Westinghouse Electric and Manufacturing Co.		
Thaddeus Rowland Parrish	B.E. 1913	Washington, D. C.
First Lieutenant, Signal Corps, U. S. R. Home Address, Middleburg, N. C.		
Arthur Lee Paschall	B.Agr. 1907	Willcox, Ariz.
Farm Adviser, University of Arizona and U. S. Department of Agriculture Cooperating.		
John Gilbert Paschall	B.E. 1909	Mars Bluff, S. C.
Lumber Manufacturer.		
William Franklin Pate	B.S. 1901	Raleigh, N. C.
M.S. 1913. Soil Fertility, Division of Agronomy, N. C. Department of Agriculture.		
Mann Cabe Patterson	B.E. 1895	Durham, N. C.
Machinist, Durham Motor Car Co.		
Robert Donnell Patterson	B.S. 1894	Chase City, Va.
M.S. 1898. President the First State Bank.		
Fitzgerald Elizur Patton	B.S. 1914	Burnsville, N. C.
County Farm Demonstration Agent.		
William Joel Patton	B.E. 1904	Dallas, Texas.
Not heard from.		
William Robert Patton	B.E. 1914	Morganton, N. C.
Town Manager.		
William Victor Pearsall	B.S. 1915	Charleston, S. C.
Second Class Seaman, U. S. N. R. F.		
Charles Pearson	B.E. 1894	Bradentown, Fla.
Field Superintendent, Florida Drainage and Construction Co.		
Fred. Taylor Peden	B.S. 1911	Springdale, N. C.
Agent in Animal Husbandry, United States and North Carolina Departments of Agriculture.		
John Taylor Peden	B.E. 1911	Camp Lee, Va.
Fifth Company, Line Officers Training Camp. Home Address Springdale, N. C.		
Thomas Clayton Pegram	B.E. 1916	Laredo, Tex.
Second Lieutenant, Co. A, 37th Infantry. Home Address, Asheville, N. C.		

Name.	*Degree.*	*Address.*
James Hicks Peirce	B.S. 1905	Warsaw, N. C.
Owner J. H. Peirce Manufacturing Co., Sash, Doors, and Blinds.		
William Casper Pennington	B.E. 1910	Thomasville, N. C.
Secretary and Treasurer, Southern Finishing Mills and Thomasville Hosiery Mills.		
Samuel Oscar Perkins	B.S. 1906	Raleigh, N. C.
Soil Scientist, N. C. Department of Agriculture.		
Milton Vance Perry	B.E. 1914,	Fort Leavenworth, Kans.
Co. E, 7th Engineers. Home Address, Durant's Neck, N. C.		
Eugene Gray Person	B.S. 1899	Macon, Ga.
Train Dispatcher, Central of Georgia Railway.		
William Montgomery Person	B.E. 1900	Yolande, Ala.
With Semet-Solvay Byproduct Coke Plant, of Ensley, Ala.		
Asa Gray Phelps	B.E. 1915	Newport News, Va.
Technicist, Newport News Shipbuilding and Dry Dock Co.		
Frederick Colwell Phelps	B.E. 1904	Camp Greene, N. C.
Major, Third Motor Mechanics' Battalion.		
Henry Marriott Philips	B.S. 1914	Battleboro, N. C.
Farmer.		
Arthur Jefferson Phillips, Jr.	B.E. 1914	Camp Lee, Va.
Training Camp for Engineers. Home Address, Portsmouth, Va.		
William Ransome Phillips	B.E. 1910	Charlotte, N. C.
E.E. 1913. Local Manager, Western Electric Co.		
Alexander Holladay Pickell	B.E. 1912	Boston, Mass.
Died April 18th, Chelsea, Mass., Naval Hospital.		
Peter Penick Pierce	B.E. 1909	St. Augustine, Fla.
Resident Engineer, Florida East Coast Railway.		
Guy Pinner	B.E. 1907	Norfolk, Va.
C.E. 1912. Bridge Engineer, Seaboard Air Line Railway.		
John Gay Pinner	B.S. 1915	Camp Jackson, S. C.
Ordnance Detachment, 316th Regiment, H. F. A. Home Address, Columbia, N. C., R. 1.		
Winslow Gerald Pitman	B.E. 1907	Lumberton, N. C.
Farmer		
Paul Nathaniel Pittenger	B.E. 1911	Fort Caswell, N. C.
Captain, Coast Artillery. Home Address, Raleigh, N. C.		
Benjamin Franklin Pittman	B.E. 1908	Philadelphia, Pa.
Philadelphia Electric Co.		
Lawrence Lyon Pittman	B.E. 1908	Whitakers, N. C.
Civil Engineer and Farmer.		
Paul Miller Pitts	B.E. 1909	Lockhart, Ala.
Mechanic, Jackson Lumber Co.		
Angelo Bettlena Piver	B.E. 1906	Bayonne, N. J.
15 East 41st Street.		
William Crawford Piver	B.S. 1906	New York, N. Y.
Riches, Piver & Company, Chemical and Color Manufacturers.		
James Kemp Plummer	B.S. 1907	Raleigh, N. C.
M.S. 1909. Ph.D. 1915, Cornell University. Soil Chemist, State Department of Agriculture.		
Robert Avery Plyler	B.E. 1914	Durmid, Va.
With United Cigarette Machine Co.		
Pleasant H. Poindexter, Jr.	B.Agr. 1905	Sharon, Okla.
Manager C. E. Sharp Lumber Co.		

Name.	*Degree.*	*Address.*
Frederick Davis Poisson	B.S. 1914	Danville, Va.
With Liggett & Myers Tobacco Co., Durham, N. C.		
Julian Hawley Poole	B.S. 1916	Camp Jackson, S. C.
Second Lieutenant, Co. H, 324th Infantry. Home Address, Candor, N. C.		
Ruble Isaac Poole	B.E. 1908	Camp Sevier, S. C.
First Lieutenant, 105th Engineers. Home Address, West Raleigh, N. C.		
Edward Griffith Porter	B.E. 1905	Norfolk, Va.
Junior Engineer, Engineer Office, U. S. Custom House.		
Junius Edward Porter	B.E. 1900	Aurora, N. C.
President and Treasurer, J. E. Porter Co.		
Tracey Winchester Porter	B.S. 1914	Farrell, Miss
Superintendent Corley Farm.		
Bryant Monroe Potter	B.E. 1912	New Bern, N. C.
Civil Engineer.		
William Owen Potter	B.E. 1914, M.E. 1915, C.E.	France
Gas Defense Service, Army. Home Address, Cash Corner, N. C.		
Harry Alexander Powell	B.E. 1908	Fernandina, Fla.
Naval Stores Operator.		
James Alexander Powell	B.E. 1908	Easton, Pa.
M. E. 1913. Assistant Mechanical Engineer, W. S. Barston Management Association, New York City.		
Joel Powers	B.E. 1903	Washington, D. C.
Draftsman, Bureau of Ordnance, Navy Department.		
Thomas Milton Poyner	B.E. 1908	Camp Pike, Ark
Captain, Field Artillery, Reserve Corps. Home Address, Poplar Branch, N. C.		
James Bruce Price	B.E. 1910	Lebanon, Pa.
Electrical Superintendent, Bethlehem Steel Co.		
John Moir Price	B.E. 1909	Detroit, Mich.
Captain, Ordnance Reserve Corps.		
John Bailey Pridgen	B.E. 1916	Elm City, N. C.
Draftsman, Atlantic Coast Line Railroad.		
Abram Hinman Prince	B.S. 1895	Orange, Tex.
Agent U. S. Department of Agriculture.		
Charles Marcellus Pritchett	M.E. 1895	Washington, D. C.
C.E. 1896. Superintendent of Construction, Supervising Architect's Office, U. S. Treasury Department.		
Victor Vashti Privott	B.E. 1895	Suffolk, Va.
Merchant and Electrician.		
Frank Wilson Procter	B.E. 1915	Philadelphia, Pa.
B.E. 1916 (Elect). With Westinghouse Electric and Manufacturing Co.		
Carl Clawson Proffitt	B.S. 1915	Rutherfordton, N. C.
County Farm Demonstration Agent.		
Charles Landon Proffitt	B.S. 1915	France
Co. C, 20th Engineers (Foresters), American Expeditionary Forces.		
Thomas Hector Purcell	B.E. 1913	Camp Jackson, S. C.
306th Field Signal Corps.		
Jack Addison Purefoy	B.S. 1916	Asheville, N. C.
Truck Farmer.		
Henry Aubrey Quickel	B.S. 1913	France
In the U. S. Navy. Home Address, Lincolnton, N. C.		
Joseph Plummer Quinerly	B.S. 1911	Auburn, Ala.
Agent in Dairying, U. S. Department of Agriculture.		
Millard Reed Quinerly	B.S. 1914	Camp Lee, Va.
Ambulance Corps, 320.		

Name.	*Degree.*	*Address.*
Walter Roscoe Radford	B.S. 1916	Spruce Pine, N. C.
With N. C. and U. S. Departments of Agriculture.		
Parker Royall Rand	B.S. 1916	Garner, N. C.
General Manager, White Oak Farm.		
Henry Rankin	B.E. 1916	Gastonia, N. C.
With Gastonia Insurance and Realty Co.		
John Olan Rankin, Jr.	B.S. 1913	Camp Sevier, S. C.
Second Lieutenant, Co. A, 115th Machine Gun Battalion.		
William Walter Rankin	B.E. 1904	Chapel Hill, N. C.
Instructor in Mathematics, University of North Carolina.		
John Duncan Ray	B.S. 1916	Kansas City, Mo.
Kansas City Veterinary College.		
Lewis Banks Ray	B.E. 1916	Norfolk, Va.
U. S. S. Chilhowee, care Commandant 5th Naval Division.		
David Miller Rea	B.E. 1917	Fort Caswell, N. C.
Seventh Company, Coast Artillery. Home Address, Concord, N. C.		
Hugh Calvin Rea	B.S. 1916	Kansas City, Mo.
Senior, Kansas City Veterinary College.		
Risden Patterson Reece	B.E. 1904	Winston-Salem, N. C.
Mechanical Engineer.		
John Bartow Rees	B.E. 1914	Charlotte, N. C.
Equipment Engineer, Southern Bell Telephone and Telegraph Co.		
Robert Richard Reinhardt	B.S. 1909	Oklahoma City, Okla.
Army Veterinary Surgeon. D.V.M., Kansas City Veterinary College. Home Address, Lincolnton, N. C.		
William Benedict Reinhardt	B.E. 1902	Dawson, Y. T., Canada
Electrician, Dawson Electric Light and Power Co.		
Victor Allison Rice	B. S. 1917	Amherst, Mass.
Pig Club Work, U. S. Department of Agriculture.		
Roger Francis Richardson	B.E. 1900	Chattanooga, Tenn.
Construction Engineer, Semet-Solvay Co.		
William Richardson, Jr.	B.E. 1904,	Birmingham, Ala.
Construction Engineer, Coal Mining Department, Tennessee Coal, Iron and Railroad Co.		
Edward Hayes Ricks	B.E. 1903	Roanoke Rapids, N. C.
Cashier First National Bank.		
Wallace Whitfield Riddick	B.E. 1916	Camp Sevier, S. C.
Captain, 115th Field Artillery. Home Address, West Raleigh, N. C.		
Louis Napoleon Riggan	B.E. 1912	Norfolk, Va.
Draftsman, Office of Engineer of Buildings, Seaboard Air Line Railway.		
Alfred Pratte Riggs	B.E. 1909	Key West, Fla.
South Florida Contracting and Engineering Co.		
Ray Miller Ritchie	B.S. 1916	Columbus, N. M.
Second Lieutenant, Co. I, 24th Infantry.		
Thurman Lester Roberson	B.E. 1914	Newport News, Va.
Order Department, Newport News Shipbuilding and Dry Dock Co.		
Daniel Ernest Roberts	B.S. 1914	Rich Square, N. C.
Teacher of Agriculture, Rich Square High and Farm Life School.		
John Morgan Roberts	B.S. 1914	Chattanooga, Tenn.
Third Officers Training Camp, Fort Oglethorpe, Ga. Home Address, Louisville, Ga.		
Philip Austin Roberts	B.E. 1916	Washington, D. C.
Co. G, Second Battalion, 1st Replacement Engineers, Washington Barracks. Home Address, Red Springs, N. C.		

Name. *Degree.* *Address.*

Archie Knight Robertson.....B.S. 1912.....West Raleigh, N. C.
Assistant in Boys' Corn Club Work in North Carolina, U. S. and N. C. Departments of Agriculture.

Durant Waite Robertson.....B.E. 1906.....Washington, D. C.
Captain Quartermaster Corps, U. S. R. Care Adjutant General.

Horace Bascomb Robertson.....B.E. 1917.....New York City
Salesman, Electro Bleaching Gas Co.

John Paul Robertson.....B.S. 1916..... France
First Lieutenant, American Expeditionary Forces. Home Address, Rowland, N. C.

Joseph Henry Robertson.....B.E. 1909.....Salisbury, N. C.
With North Carolina Public Service Co.

Jay Frederick Robinson.....B.E. 1910.....Newport News, Va.
Draftsman, Newport News Shipbuilding and Dry Dock Co.

Zeb Blaine Robinson.....B.E. 1916 .....Dayton, Ohio
Wilbur Wright Aviation Field.

Gaston Wilder Rogers.....B.E. (Elec.) 1903.....Dallas, Tex.
B.E. (Civil) 1905. Captain, Medical Reserve Corps, Aviation Repair Depot. Home Address, Raleigh, N. C.

James Henry Rogers.....B.S. 1917.....Roxboro, N. C.
Owner and Manager Stock Farm.

William Haywood Rogers, Jr.....B.E. 1916.....Camp Jackson, S. C.
307th Engineers. Home Address, Raleigh, N. C.

John Wesley Rollinson.....B.E. 1911.....Savannah, Ga.
Superintendent Meter Department, Savannah Light and Power Co.

William Edwin Rose.....B.E. 1900.....Washington, D. C.
Mechanical Engineer. Member Washington Society Engineers and The American Society of Marine Draftsmen.

Charles Burdette Ross.....B.E. 1903.....Charlotte, N. C.
Secretary and Treasurer Model Steam Laundry Co.

Floyd De Ross.....B.E. 1900.....Lawton, Okla.
Owner Lawton Coca-Cola Bottling Co.

George Romulus Ross.....B.S. 1911.....Jackson Springs, N. C.
Farmer and Manager of Jackson Springs Co.

Graeme Ross .....B.E. 1911.....Joplin, Mo.
Manager Joplin Office, Westinghouse Electric and Manufacturing Co.

Joe William Ross.....B.S. 1914.....Fort Caswell, N. C.
Coast Artillery Corps. Home Address, Fort Mill, S. C.

Landon Coats Rosser.....B.E. 1915..... France
Lieutenant, U. S. Engineers. Home Address, Jonesboro, N. C.

Emory Pell Rouse.....B.E. 1914..... France
20th Engineers. Home Address, LaGrange, N. C.

Lindley Murray Rowe.....B.E. 1916.....Huntingbury, Ind.
Student Apprentice, Southern Railway Company.

Garland Thomas Rowland.....B.E. 1913.....Fort Bliss, Tex.
Lieutenant, 34th Infantry. Home Address, Middleburg, N. C.

James Malcolmson Rumple.....B.E. 1917..... France
Second Lieutenant. Home Address, Davidson, N. C.

Henry Fred Rush.....B.S. 1916.....Greensboro, N. C.
Superintendent, Arctic Ice Cream Co.

Augustine Joseph Russo.....B.E. 1916.....Portsmouth, Va.
Draftsman, Newport News Shipbuilding Co.

Carl Collins Sadler.....B.E. 1910.....Cleveland, Ohio
Field Engineer, American Steel and Wire Co.

Name.	*Degree.*	*Address.*
James Olin Sadler	B.E. 1909	Allenhurst, Ga.
Dunlevering Lumber Company.		
David Morton Saintsing	B.E. 1917	San Antonio, Tex.
Aviation Corps. Home Address, Wise, N. C.		
John Hyer Saunders	B.E. 1894	Kinston, N. C.
Locomotive Engineer, Atlantic Coast Line Railroad		
Willis Hunter Saunders	B.S. 1897	Wichita Falls, Tex.
Field Manager, R. C. Sanders, Oil Well Contractor.		
Ira Obed Schaub	B.S. 1900	Springfield, Mo.
Superintendent Demonstration Work, Frisco Railway.		
John Franklin Schenck, Jr.	B.E. 1914	Shelby, N. C.
Manager and Superintendent, Liby Mill and Power Co.		
Leon Jacob Schwab	B.E. 1907	Savannah, Ga.
Junior Engineer, U. S. Engineer Department.		
Robert Walter Scott, Jr.	B.Agr. 1905	Bolton, N. C.
With Acme Fertilizer Works.		
William Kerr Scott	B.S. 1917	West Raleigh, N. C.
Boys Club Agent, Federal Government.		
Earle Aloysius Seidenspinner	B.S. 1910	Opon, Cebu, P. I.
Chemist, Visaan Refining Co.		
Clement Oscar Seifert	B.E. 1916	Chattanooga, Tenn.
Third Officers Training Camp, Fort Oglethorpe, Ga. Home Address, New Bern, N. C.		
David Walter Seifert	B.E. 1913	Weldon, N. C.
Manager Weldon Coca-Cola Co.		
Carl DeWitt Sellars	B.E. 1893	Greensboro, N. C.
Sales Department, Cone Export and Commission Co.		
John William Sexton	B.E. 1910	Atlanta, Ga.
Resident Engineer, Seaboard Air Line Railway.		
Nathan Stowe Sharp	B.E. 1916	Aberdeen, Md.
First Lieutenant, U. S. Army, Aberdeen Proving Grounds. Home Address, Waterloo, Iowa.		
William Thomas Shaw, Jr.	B.E. 1914	Camp Merritt, N. J.
Captain, 3d Division Casuals. Home Address, Weldon, N. C.		
James Morgan Sherman	B.S. 1911	Washington, D. C.
M.S. 1912, Ph.D. 1915. Bacteriologist, U. S. Department of Agriculture.		
Fleming Bates Sherwood	B.S. 1912	Camp Sevier, S. C.
M.S. 1915. First Lieutenant, Gas Defense Service Corps of Engineers, National Army. Home Address, Raleigh, N. C.		
Francis Webber Sherwood	B.S. 1909	Washington, D. C.
M.S. 1911. Sanitary Corps, American University Detachment.		
Robert Arnold Shope	B.E. 1909	Camp Pike, Ark.
Captain, U. S. Army. Home Address, Weaverville, N. C.		
John Wade Shore	B.S. 1900	Boonville, N. C.
Cashier Commercial and Savings Bank.		
Ira Short	B.E. 1911	Wilkinsburg, Pa.
Engineer, Westinghouse Machine Co., of East Pittsburgh, Pa.		
John Houston Shuford	B.S. 1903	Charlotte, N. C.
Manager Southern Office, Berlin Aniline Works.		
John Oscar Shuford	B.E. 1907	Lincolnton, N. C.
Superintendent Electric Plant.		
William Talmage Shull	B.E. 1912	Newport, N. C.
Civil Engineer, Cooper Engineering Co.		

Name.	*Degree.*	*Address.*
Orin Morrow Sigmon	B.E. 1911	France
117th Engineers, 42d Division. Home Address, Hickory, N. C.		
Thomas Park Simmons	B.E. 1917	Brownsville, Tex.
Lieutenant, 16th U. S. Cavalry. Home Address, Asheville, N. C.		
John Asa Simms	M.S. 1917	Storrs, Conn.
Agent in Animal Industry, U. S. Department of Agriculture.		
George Gray Simpson	B.E. 1909	Rockingham, N. C.
Assistant Secretary and Treasurer, Great Falls Manufacturing Co.		
William Dudley Simpson	B.E. 1913	Omaha, Neb.
Lieutenant, Aviation Section, U. S. Army. Home address, Raleigh, N. C.		
Frederick Erastus Sloan	B.S. 1899	Savannah, Ga.
General Agent, Felt and Tarrant Manufacturing Co.		
Karl Sloan	B.E. 1916	Badin, N. C.
Draughtsman Tallassee Power Co.		
Robert Lee Sloan	B.S. 1913	Colfax, La.
County Farm Demonstration Agent.		
William Neville Sloan	B.E. 1909	Franklin, N. C.
Examiner of Surveys, U. S. Government Forest Service.		
Andrew Thomas Smith	B.S. 1899	Newport News, Va.
Inspector, Newport News Shipbuilding and Dry Dock Co.		
Bascom Pierce Smith	B.E. 1916	West Allis, Wis.
Graduate Apprentice, Allis Chalmers Co.		
Edgar English Smith	B.E. 1908	Seattle, Wash.
With U. S. Coast and Geodetic Survey.		
Edwin Harrison Smith	B.E. 1910	Weldon, N. C.
With Bank of Weldon.		
Edward Oscar Smith	B.E. 1901	Newport News, Va.
Chief of Order Department and Secretary of Employment Board, Newport News Shipbuilding and Dry Dock Co.		
Francis Clark Smith	B.E. 1913	Raleigh, N. C.
North Carolina Highway Commission.		
Frank Steed Smith	B.E. 1913	Savannah, Ga.
Division Traffic Supervisor, Southern Bell Telephone and Telegraph Co.		
James Lawrence Smith, Jr.	B.E. 1908	Portsmouth, Va.
Assistant Engineer, Seaboard Air Line Railway.		
James McCree Smith	B.S. 1912	State Road, N. C.
Fruit Grower.		
Jonathan Rhodes Smith	B.E. 1905	Bethlehem, Pa.
Assistant Designing Engineer, Bethlehem Steel Corporation.		
Orus Wilder Smith	B.E. 1912	Wichita Falls, Tex.
Second Lieutenant, Aeronautical Engineering Service. Home Address, Kipling, N. C.		
Walter Herbert Smith	B.E. 1914	New York, N. Y.
Lieutenant, U. S. N. R. F., U. S. S. Huntington, Care Postmaster, New York.		
Walter Johnston Smith, Jr.	B.S. 1915,	Scotland Neck, N. C., R. 3
Farming.		
Whitefoord Ingersoll Smith	B.E. 1915	Camp Jackson, S. C.
Second Lieutenant, 316th Machine Gun Battalion. Home Address, Asheville, N. C.		
William Turner Smith	B.E. 1900	Duke, N. C., R. 1
Civil Engineer, Farmer.		
Thomas Jehu Smithwick	B.S. 1897	Mount Airy, N. C.
Consulting and Erecting Engineer.		

Name.	*Degree.*	*Address.*
Paul Elwood Snead	B.E. 1916	Concord, N. C.
Signal Department, Southern Railway.		
Russell Elstner Snowden	B.E. 1902	Snowden, N. C.
North Carolina State Highway Commission.		
Joseph McKay Spears	B.E. 1915	Norfolk, Va.
Reserve Officers' School, U. S. Naval Base.		
Charlie Augustine Speas	B.E. 1911	Camp Sevier, S. C.
105th Engineers. Home Address, East Bend, N. C.		
John Henry Speas	B.S. 1916	Danbury, N. C.
County Farm Demonstration Agent.		
Edward Pinkney Speer	B.E. 1912	Waco, Tex.
Chief Meter Engineer, Texas Light and Power Co.		
Colin George Spencer	B.S. 1913	Carthage, N. C.
Lumber and Timber.		
Herbert Spencer	B.S. 1915	West Raleigh, N. C.
M.S. 1917. Instructor, Department of Zoology and Entomology, N. C. State College.		
John Davidson Spinks	B.E. 1905	Albemarle, N. C.
C.E. 1913. Civil Engineer.		
Jesse Page Spoon	B.Agr. 1908	Burlington, N. C.
M.S. 1909. D.V.S. 1911, Kansas City Veterinary College. Veterinarian.		
St. Julien Lachicotte Springs	B.S. 1910	Charleston, S. C.
Ensign, U. S. N. R. F. Home Address, Georgetown, S. C.		
Ervin Blackeney Stack	B.E. 1905	Monroe, N. C.
Electrical Engineer.		
Talmage Holt Stafford	B.S. 1912	West Raleigh, N. C.
Instructor in Soils, N. C. State College.		
Charles Burt Stainback	B.E. 1910	East Pittsburgh, Pa.
With Sales Department, Westinghouse Electric and Manufacturing Co.		
John Alpheus Stallings	B.E. 1917	Alexandria, Va.
In charge of Construction, Southern Railway.		
Edward Roe Stamps	B.E. 1903	Macon, Ga.
Superintendent, F. S. Royster Guano Co.		
Harris Ingram Stanback	B.E. 1910	Newark, N. J.
Assistant Superintendent, General Electric Co.		
Jeffrey Franklin Stanback, Jr.	B.S. 1916	Washington, D. C.
Army Medical School.		
Charles Whitford Stanford, Jr.	B.S. 1917	Teer, N. C.
Farmer.		
Ernest Elwood Stanford	M.S. 1917	Washington, D. C.
Scientific Assistant, Bureau of Chemistry, U. S. Department of Agriculture.		
Numa Reid Stansel	B.S. 1898	El Paso, Tex.
E.E. 1901. Local Manager Southwest General Electric Co.		
Thomas Barnes Stansel	B.S. 1910	Mascot, Tenn
With American Zinc Company.		
Clarence Alexander Stedman	B.S. 1912	City Point, Va.
Guncotton Supervisor, DuPont Powder Co.		
Alexis Preston Steele	B.S. 1899	Statesville, N. C.
Mechanical Engineer, Firm of J. C. Steele & Sons.		
Hugh Stuart Steele	B.E. 1909	Miles City, Mont.
Drainage Engineer, Chicago, Milwaukee and St. Paul Railway.		
John Brown Steele	B.S. 1913	Gastonia, N. C.
Farm Demonstrator for Gaston County.		

Name. *Degree.* *Address.*

Lucius Esek Steere, Jr.....B.E. 1911.....Washington, D. C.
Designer, Trench Warfare Section, U. S. Government.

Samuel Fatio Stephens.....B.E. 1909.....Norfolk, Va.
Commission Merchant.

Needham Bryan Stevens.....B.S. 1912.....Enfield, N. C.
County Farm Demonstration Agent.

Reuben Bennett Stotesbury.....B.S. 1917.....Camp Jackson, S. C.
Second Lieutenant, Infantry.

Michael Alfred Stough.....B.E. 1917.....N. Charlotte, N. C.
Assistant Superintendent, Johnston Manufacturing Co.

William Beever Stover.....B.E. 1913.....Wilkinsburg, Pa.
Sales Department, Westinghouse Electric and Manufacturing Co.

Charlie Berryhill Stowe.....B.S. 1913.....Camp Jackson, S. C.
Officers Training Camp.

George Yates Stradley.....B.E. 1903.....Roanoke, Va.
Valuation Department, Norfolk and Western Railway.

John Snipes Stroud.....B.E. 1908.....Cooleemee, N. C.
Assistant Manager and Superintendent The Erwin Cotton Mills Co.

Walter Stephen Sturgill.....B.E. 1901..... France
Lieutenant Colonel, Field Artillery, U. S. A.

William Clark Styron.....B.E. 1910.....Newport News, Va.
Draftsman, Newport News Shipbuilding and Dry Dock Co.

Teisaku Sugishita .....B.S. 1898..... Japan
Not heard from since Russo-Japanese War.

Beverly Nathaniel Sullivan.....B.S. 1901.....Winston-Salem, N. C.

Thomas Bryan Summerlin.....B.E. 1910.....Mount Olive, N. C.
With M. O. Summerlin, Automobiles, Machinery, and Implements.

Henry Newbold Sumner.....B.E. 1909.....Fort Totten, N. Y.
Captain, Coast Artillery Corps, U. S. Army.

Wilbur Burnette Sumner.....B.E. 1916..... France
First Lieutenant, Field Artillery, American Expeditionary Forces.

Lloyd Hurst Swindell.....B.E. 1911.....Raleigh, N. C.
Farmer.

Louis Joseph Swink.....B.E. 1917.....Atlanta, Ga.
Ordnance Department, U. S. Army.

Stanton Banks Sykes.....B.E. 1913.....Schenectady, N. Y.
Engineer, Industrial Control Department, General Electric Co.

Vance Sykes .....B.E. 1907.....Atlanta, Ga.
Resident Engineer, Seaboard Air Line Railway.

George Frederick Syme.....B.S. 1898.....Raleigh, N. C.
C.E. 1907. Civil Engineer, State Highway Commission.

Freddie Jackson Talton.....B.Agr. 1906.....Pikeville, N. C., R. 2
Farmer.

Gurdon Louis Tarbox.....B.E. 1917.....Elizabeth, N. J.
Aeronautical Engineer, Standard Aero Corporation.

Claude Straton Tate.....B.E. 1909.....Littleton, N. C.
Garage and Machine Shop.

Daniel McGilvary Tate.....B.S. 1915.....Camp Pike, Ark.
Second Lieutenant.

Reuben L. Tatum.....B.E. 1916 ..... France
Engineers, American Expeditionary Forces.

Alfred Tennyson Taylor.....B.S. 1916.....Camp Jackson, S. C.
Reserve Officers Training Corps.

Name.	*Degree.*	*Address.*
Arthur Willis Taylor	B.E. 1912	Camp Meade, Md.
Sergeant, Co. K, 313th Infantry.		
Culver Murat Taylor	B.E. 1912	Pulaski, N. Y.
Superintendent, Salmon River Power Company.		
Herbert Lee Taylor	B.E. 1912	Baltimore, Md.
With Baltimore and Ohio Railroad.		
Walter Clyburn Taylor	B.E. 1913	France
T.E. 1916. American Expeditionary Forces.		
Arthur Lee Teachey	B.S. 1915	Pleasant Garden, N. C.
Agriculturist, Pleasant Garden Farm Life School.		
Ben Temple	B.S. 1917	Camp Lee, Va.
First Lieutenant, 320th Infantry. Home Address, Danville, Va.		
James Clarence Temple	B.S. 1904	Experiment, Ga.
M.S. 1908. Bacteriologist, Georgia Experiment Station.		
Malvern Hill Terrell	B.E. 1909	Old Fort, N. C.
Chief Engineer, Union Tanning Co.		
Frank Martin Thompson	B.E. 1910	France
Second Lieutenant, American Expeditionary Forces.		
George Logan Thompson	B.E. 1912	Goldsboro, N. C.
John Sam Thompson	B.S. 1912	Woodville, N. C.
Farmer.		
Thomas Hampton Thompson	B.E. 1910	Greensboro, N. C.
With Southern Railway.		
Thomas Whitmell Thorne	B.E. 1911	Camp Greene, N. C.
First Lieutenant, Infantry.		
Daniel Wood Thorp, Jr.	B.E. 1914	Camp Jackson, S. C.
Medical Detachment, 156th Depot Brigade, Barracks No. 9.		
Louis Dale Thrash	B.S. 1917	Camp Jackson, S. C.
First Company, First Training Battalion, 156th Depot Brigade.		
Luther Russell Tillett	B.E. 1907	Zamboanga, P. I.
Civil Engineer.		
Richard Henry Tillman	B.E. 1906	Baltimore, Md.
Manager New Business Department, Consolidated Gas, Electric Light and Power Co.		
William Sidney Tomlinson	B.E. 1906	Columbia, S. C.
General Manager and Treasurer, Tomlinson Engineering Co.		
James Edwin Toomer	B.S. 1909	Mascot, Tenn.
Chief Chemist, American Zinc Company of Tennessee.		
James Richard Townsend	B.E. 1914	Fort Caswell, N. C.
Captain, N. C. Coast Artillery Corps, National Guard.		
Jesse Ernest Trevathan	B.S. 1915	Bell-Arthur, N. C.
Principal of Arthur Agricultural School.		
George Reid Trotter	B.E. 1912	Camp Jackson, S. C.
Sergeant, Ordnance Department, Maintenance. Home Address, Charlotte, N. C.		
William Brooks Truitt	B.E. 1907	Philadelphia, Pa.
Drafting Department, American International Shipbuilding Corp.		
Fred Goode Tucker	B.E. 1911	Houston, Tex.
Lieutenant, Aviation Service, U. S. A., Flying Corps.		
Isaac Norris Tull	B.E. 1910	Cleveland, Ohio
Electrical Engineer, Corrigan-McKinney Co.		
Reid Tull	B.E. 1906	Spartanburg, S. C.
Chief Engineer, Spartanburg County Highway Commission.		

Name.	*Degree.*	*Address.*

John Edwin Turlington.....B.Agr. 1907.....Gainesville, Fla.
M.S., Ph.D., Cornell University. Professor of Agronomy, University of Florida, College of Agriculture.

Ernest Craig Turner, Jr.....B.S. 1917.....Mebane, N. C.
Farmer.

Joseph Platt Turner.....B.E. 1902.....Leaksville, N. C.
Wear-Well Bed Spread Co.

William Harrison Turner.....B.E. 1893.....Winston-Salem, N. C.
Wholesale Dealer, and Manufacturer of Feedstuffs.

Jackson Corpening Tuttle.....B.E. 1906.....Baltimore, Md.
Industrial Power Department, Consolidated Gas, Electric Light and Power Co.

Napoleon Bonaparte Tyler.....B.S. 1917.....Camp Jackson, S. C.
Second Lieutenant, Infantry, U. S. Army.

Grover William Underhill.....B.S. 1916.....West Raleigh, N. C.
Instructor in Department of Zoology and Entomology, N. C. State College.

Robert Peele Uzzell.....B.Agr. 1906.....Goldsboro, N. C.
Real Estate and Farming.

Peter Valaer, Jr.....B.S. 1906.....Washington, D. C.
M.S. 1913, George Washington University. Assitant Chemist, Bureau of Internal Revenue.

Lillian Lee Vaughan.....B.E. 1906.....West Raleigh, N. C.
M.E. 1909. M.E. 1911, Columbia University. Assistant Professor of Experimental Engineering, N. C. State College.

Solomon Alexander Vest.....B.S. 1900 (Chem.), Mount Pleasant, Tenn.
B.Agr. 1901. Secretary and Treasurer, the Smith Laboratory, and Chemist for J. J. Gray, Jr., Rockdale, Tenn.

Sylvester Murray Viele.....B.E. 1905.....Altoona, Pa.
With Pennsylvania Railroad Co.

John Lawrence Von Glahn.....B.E. 1908.....Greenville, S. C.
Superintendent of Construction, M. M. Elkan, General Contractor.

Edwin Thomas Wadsworth.....B.E. 1911..... France
First Regiment, First Company, Motor Mechanics, American Expeditionary Forces.

Roscoe Marvin Wagstaff.....B.E. 1900.....Norfolk, Va.
Marine Engine and Boiler Draftsman, Steam Engineering Department, U. S. Navy Yard.

Joseph Kendall Waitt.....B.E. 1904.....Norfolk, Va.
Assistant Engineer, Valuation Department, Seaboard Air Line Railway.

Walter Jennings Walker.....B.E. 1905.....Schenectady, N. Y.
Railway Supply Department, General Electric Co.

Benjamin Franklin Walton.....B.S. 1894.....Raleigh, N. C., R. 1
Farmer.

Charles Emmette Walton .....B.E. 1910.....New York City
Electrical Engineer, Dodwell & Co., Ltd. Temporarily in San Juan, Porto Rico.

Edmund Farris Ward.....B.Agr. 1907.....Smithfield, N. C.
Lawyer.

James Hugh Ward.....B.E. 1915.....Gastonia, N. C.
Assistant Engineer, Southern Railway.

Hugh Ware.....B.S. 1899.....Kings Mountain, N. C.
Farmer.

Jacob Osborne Ware.....B.S. 1916.....West Raleigh, N. C.
Instructor in Agronomy, N. C. State College.

James Hunter Watson.....B.S. 1911.....Raleigh, N. C.

Name. *Degree.* *Address.*

Walter Wellington Watt, Jr.....B.E. 1905.....Charlotte, N. C.
Engineer and Salesman, Fred H. White, Complete Mill Equipment.

James Wiggins Watts, Jr.....B.E. 1914..... France
Aviation Section, American Expeditionary Forces. Home Address, Williamston, N. C.

Edward Howerton Weatherspoon ..B.E. 1914.....Hoboken, N. J.
Ensign, U. S. Navy, in charge of Electrical Work. Home Address, Sanford, N. C.

Charles Wright Weaver.....B.E. 1915.....Hopewell, Va.
Power House Engineer, E. I. DuPont Powder Co.

Lindsay Marade Weaver.....B.E. 1907.....Lexington, N. C.
Erlanger Mills.

George Henderson Webb.....B.E. 1916.....Naval Base, Va.
Ensign, U. S. Navy.

Marion Emerson Weeks.....B.E. 1904.....New York City
With Charles Cory & Son.

Cleveland Douglas Welch .....B.E. 1902.....Maysworth, N. C.
Vice President and Agent, Mays Mills, Inc.

Nathaniel Warren Weldon.....B.S. 1917.....Vanceboro, N. C.
Farm Life School.

Howard Waldo Welles, Jr.....B.E. 1910.....Camp Meigs, Wash.
Quartermaster's Corps.

John Jackson Wells.....B.E. 1907, C.E. 1916.....Rocky Mount, N. C.
Civil and Consulting Engineer.

Albert Clinton Wharton.....B.S. 1904.....Reynolda, N. C.
President and Manager Renolda Farm Co.

Harry Graves Wharton.....B.S. 1916.....Camp Sevier, S. C.
Sergeant, Co. C, 105th Engineers.

Druid Emmet Wheeler.....B.E. 1917....Chickamauga Park, Ga.
Second Lieutenant, Infantry.

Fred Barnett Wheeler.....B.E. 1912..... France
M.E. 1915. Gas Defense Service, A. P. O. 702, A. E. F.

Buxton White.....B.S. 1915....Camp Wadsworth, S. C.
Second Lieutenant, Second Anti-Aircraft Machine Gun Battalion. Home Address, Elizabeth City, N. C.

David Lyndon White.....B.Agr. 1907.....Trinity, N. C.
Farmer.

Jonathan Winborne White.....B.S. 1903.....State College, Pa.
M.S. 1912, University of Illinois. Associate Professor of Experimental Agronomy, Pennsylvania State College.

Royall Edward White.....B.E. 1908.....Aulander, N. C.
Postmaster.

Cecil Bernard Whitehurst.....B.E. 1907.....Richmond, Va.
Power Apparatus Specialist, Western Electric Co.

Joseph Slaughter Whitehurst.....B.E. 1909.....Camp Gordon, Ga.
First Lieutenant, F. A. O. R. C.

George Whitson.....B.E. 1916.....Florence, S. C.
Central Office Man, Southern Bell Telephone and Telegraph Co.

Levi Romulus Whitted.....B.S. 1896.....Grand Junction, Colo.
C.E. 1897. Superintendent of Construction, U. S. Public Buildings, Treasury Department.

Frederick Carl Wiggins.....B.S. 1915.....Fort Omaha, Neb.
Aviation Section, Signal Reserve Corps (Balloon Division), Fifth Squadron.

Archie Carraway Wilkinson.....B.E. 1905.....Zirconia, S. C.
Civil Engineer, Southern Railway.

Name. *Degree.* *Address.*

Charles Burgess Williams.....B.S. 1893.....West Raleigh, N. C.
M.S. 1896. Vice Director and Chief of Division of Agronomy, N. C. Agricultural Experiment Station. Dean of Agriculture, State College.

Claude B. Williams.....B.S. 1899.....Elizabeth City, N. C.
Physician.

Henry Lloyd Williams.....B.S. 1896.....Cofield, N. C.
General Manager of Mills, Cofield Manufacturing Co.

James Harley Williams.....B.E. 1906.....Ware Shoals, S. C.
B.A.S. 1910. General Secretary Y. M. C. A.

John C. Williams.....B.E. 1908.....Norfolk, Va.
Draftsman, Seaboard Air Line Railway.

John Franklin Williams.....B.E. 1916.....Schenectady, N. Y.
Student Engineer, General Electric Co.

John Francis Williams, Jr.....B.S. 1917.....Camp Sevier, S. C.
First Lieutenant, Co. B, 120th Infantry.

John Rodman Williams.....B.E. 1915.....Clyde, N. C.
Engineer with State Highway Commission.

Peter McK. Williams, Jr.....B.S. 1916.....Camp Jackson, S. C.
M.S. 1917. Second Lieutenant, Infantry.

Roy Lee Williamson.....B.E. 1917.....Washington, D. C.
Southern Railway.

Alvin Chesley Wilson.....B.E. 1913.....Washington, D. C.
First Lieutenant, Engineers, American University.

Arthur John Wilson.....B.S. 1907.....Chattanooga, Tenn.
M.S. 1908. Ph.D. 1911, Cornell. Professor of Chemistry, Chattanooga University.

John McCamy Wilson .....B.E. 1894.....Atlanta, Ga.
Not heard from.

John Spicer Wilson.....B.E. 1909.....City Point, Va.
Special Assistant to Electrical Engineer, E. I. DuPont Powder Co.

Walter Booker Winfree.....B.S. 1911.....Wadesboro, N. C., R. 3
Farmer.

Edward Leigh Winslow.....B.E. 1910.....Banes, Cuba
With United Fruit Co.

Herman Elton Winston.....B.E. 1916.....Camp Gordon, Ga.
Captain, Co. G, 45th Infantry. Home Address, Youngsville, N. C.

Lewis Taylor Winston.....B.Agr. 1906.....Big Stone Gap, Va.
Accountant, General Offices, Stonega Coke and Coal Co., Inc.

Thomas Hutchinson Winston.....B.E. 1914..... France
Telegraph Battalion, Signal Corps, U. S. R.

Howard Wiswall, Jr.....B.E. 1895.....Savannah, Ga.
Civil Engineer.

James Harvey Withers, Jr.....B.S. 1916.....Camp Hancock, Ga.
Second Motor Machine Regiment.

Henry Kollock Witherspoon.....B.E. 1915.....Construction, N. C.
Assistant Engineer, Western Carolina Power Co.

Paul Adams Witherspoon.....B.E. 1909.....Pittsburgh, Pa.
C.E. 1911, Lehigh University. Chief Engineer and General Manager, Pennsylvania Central Coal Co.

Louis Ernest Wooten.....B.E. 1917.....Camp Lee, Va.
First Sergeant, Co. B, E. R. O. T. C.

Owen Zelotes Wrenn.....B.E. 1914.....West Raleigh, N. C.
Instructor, Civil Engineering Department, State College.

Name.	*Degree.*	*Address.*
Benjamin Vaiden Wright	B.E. 1901	Laurel, Miss.
Chief Engineer, G. M. and N. Railroad.		
Marion Fuller Wyatt	B.E. 1911	Camp Jackson, S. C.
322d Infantry, Regimental Infirmary.		
Robert Job Wyatt	B.E. 1909	Raleigh, N. C.
Treasurer Job P. Wyatt & Sons Co.		
Forrest Edgar Wysong	B.E. 1915	Washington, D. C.
Ensign, U. S. Navy, Flying Corps.		
Charles Garrett Yarbrough	B.E. 1895	Los Angeles, Cal.
District Superintendent of Service Department, Westinghouse Electric and Manufacturing Co.		
Louis Thomas Yarbrough	B.E. 1893	Raleigh, N. C.
Postoffice Inspector, Headquarters, Washington, D. C.		
Woodfin Bradsher Yarbrough	B.E. 1908	Morenci, Ariz.
With Detroit Copper Mining Co.		
Harry Curtis Young	M.S. 1915	East Lansing, Mich.
Instructor in Botany, Michigan Agricultural College.		
Samuel Marvin Young	B.E. 1893	Raleigh, N. C.
Traveling Salesman, Watkins-Cottrell Co., Richmond, Va.		
Yaro Zenishek	B.E. 1917	Columbus, Ohio
26th Company, Columbus Barracks.		
John Franklin Ziglar	B.E. 1908	Winston-Salem, N. C.
C.E. 1915. Member of the Firm of Hinshaw & Ziglar, Civil Engineers.		

INDEX