

THE
CLEMSON
AGRICULTURAL
COLLEGE

RECORD
THIRTY-SEVENTH YEAR

CATALOGUE
1929 - - 1930

ANNOUNCEMENTS 1930-1931

CALENDAR FOR 1930

JANUARY

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4	5	6	7	8	9	10
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CALENDAR FOR 1931

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DECEMBER

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30	31
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COLLEGE CALENDAR, SESSION 1930-1931

1930

Summer School, Registration	8 A. M.-6 P. M., June 10
Summer School, Classes begin 8 A. M.	June 11
Entrance Examinations	September 1st and 2nd
Matriculation and Registration, new students	September 3rd 8:00 A. M. to 6:00 P. M.
Freshman Week begins	September 3rd
Reexaminations, upper classmen	September 8th and 9th
Matriculation and Registration, upper classmen	September 10th 8:00 A. M. to 6:00 P. M.
First Chapel	September 11th
Thanksgiving Day (holiday)	November 27th
Christmas Holidays begin	December 19th

1931

College Work Resumed (Classes begin 8 A. M.)	January 2nd
First Semester ends	January 31st
Second Semester begins	February 2nd
Mid-Year Graduation Exercises	February 3rd
Final College Examinations end	May 30th
Commencement Exercises begin	May 31st
Graduating Exercises	June 2nd
Scholarship examinations at county seats	July 10th

LOCATION

RAILROAD STATION :

Calhoun, S. C., on Southern Railway main line, one mile distant.

Pendleton, S. C., on Blue Ridge Railway, four miles distant.

STATE HIGHWAYS NOS. 2 AND 15.

POSTOFFICE AND TELEGRAPH :

Clemson College, S. C.

EXPRESS AND FREIGHT :

Calhoun, S. C.

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BOARD OF TRUSTEES

LIFE MEMBERS

J. E. WANNAMAKER, <i>President</i>	St. Matthews, Calhoun County
W. W. BRADLEY	Columbia, Richland County
R. I. MANNING	Columbia, Richland County
A. F. LEVER	Columbia, Richland County
J. E. SIRRINE	Greenville, Greenville County
PAUL SANDERS	Ritter, Colleton County
CHRISTIE BENET	Columbia, Richland County

TERM EXPIRES 1932

G. W. SPEER	Anderson, Anderson County
F. E. COPE	Cope, Orangeburg County
W. D. BARNETTE	Columbia, Richland County

TERM EXPIRES 1930

J. J. EVANS	Bennettsville, Marlboro County
C. B. ABELL	Lowrys, Chester County
R. M. COOPER	Wisacky, Lee County

S. W. EVANS, <i>Secretary</i>	Clemson College, S. C.
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STANDING COMMITTEES OF BOARD

The President of the Board is ex officio a member of all committees

AGRICULTURAL: Wannamaker, *Chairman*; Lever, Manning, Cooper, Sanders, Benet. (This committee is also the Veterinary Committee, the Crop Pest Commission and the Experiment Station Board of Control.)

EXECUTIVE: Abell, Barnette, Bradley, Evans, SIRRINE.

FERTILIZER: Manning, *Chairman*; Evans, Wannamaker, Cope, Benet.

FINANCE: Bradley, Manning, Abell, Cope, SIRRINE, Speer.

STATED MEETINGS OF BOARD

3:00 P. M.—Third Friday in March

3:00 P. M.—Third Friday in June

3:00 P. M.—Third Friday in October

BOARD OF VISITORS, 1929

First District

J. ROSS HANAHAN Charleston

Second District

R. P. SEARSON Allendale

Third District

F. C. ROBINSON McCormick

Fourth District

T. M. MARCHANT Greenville

Fifth District

ROBERT GAGE Chester

Sixth District

A. L. M. WIGGINS Hartsville

Seventh District

R. CHARLTON WRIGHT Columbia

Stated meeting of Board of Visitors: First Wednesday in May.

OFFICERS OF ADMINISTRATION

ENOCH WALTER SIKES, PH. D., LL. D.
President

FRED L. MUNSON, COLONEL, U. S. ARMY
Director of Military Department

SAMUEL WILDS EVANS
Treasurer and Secretary of Board of Trustees

JAMES CORCORAN LITTLEJOHN, B. S.
Business Manager

LEE W. MILFORD, M. D.
Surgeon

WILLIAM HAROLD WASHINGTON, M. S.
Registrar

HENRY WALTER BARRE, M. A.
Director of Research, Experiment Station

RICHARD NEWMAN BRACKETT, PH. D.
Director of Chemistry Department

FRED HARVEY HALL CALHOUN, PH. D.
Director of Resident Teaching, Agricultural Department

DAVID WISTAR DANIEL, A. M., Litt. D.
Director of Arts and Science Department

MARGUERITE VERITY DOGETT, A. B.
Librarian

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

JAMES GILLIAM GEE, B. S.
Director of Athletics and Head of Department of Physical Education

DAVID HILL HENRY, B. S.
Secretary Board of Fertilizer Control

WILLIAM WILLIAMS LONG, B. S., LL. D.
Director of Extension Service

HORACE HAROLD WILLIS, B. S.
Director of Textile Department

FACULTY

ROBERT LOVELL ANDERSON*

Associate Professor of Architecture

A. B. Princeton University 1925; Graduate Work Columbia University 1925-26

FLOOD SHIELDS ANDREWS

Associate Professor of Horticulture

B. S. Virginia Polytechnic Institute 1924; M. S. Michigan State College 1928

GEORGE MILLER ARMSTRONG

Professor of Botany and Bacteriology

B. S. Clemson Agricultural College 1914; M. A. University of Wisconsin 1917;
Ph. D. Missouri Botanical Garden Washington University 1921

WILLIAM BARRE AULL

Associate Professor of Bacteriology

B. S. Clemson Agricultural College 1907; Graduate work University of Virginia
1909-10, Iowa State College 1925, 1927

THOMAS LAWRENCE AYERS

Associate Professor of Agricultural Education

B. S. Clemson Agricultural College 1918; M. A. George Peabody College 1929

LEONARD ROWLAND BOOKER

*Itinerant Teacher-Trainer and Assistant State Supervisor Industrial
Education*

B. S. Clemson Agricultural College 1925; Graduate Work University of Chicago
1927; University of Tennessee Summers 1928, 1929

RICHARD NEWMAN BRACKETT

Professor of Chemistry

A. B. Davidson College 1883; Ph. D. Johns Hopkins University 1887

MARK EDWARD BRADLEY

Professor of English

A. B. Erskine College 1898; Graduate Work University of Chicago Summer 1904,
1910, University of North Carolina Summer 1927

HARRINGTON COOPER BREARLEY

Professor of Economics and Sociology

A. B. 1916, M. A. 1917, University of South Carolina; Syracuse University 1926;
Ph. D. University of North Carolina 1928

HUGH MONROE BROWN

Professor of Physics

B. A. 1920, M. A. 1921, University of Denver; Ph. D. University of California, 1927

*On leave.

THOMAS STEPHEN BUIE*

Professor of Agronomy

B. S. Clemson Agricultural College 1917; M. S. Iowa State College 1927; Ph. D. Iowa State College, 1928

WILLIAM WILDER BURTON

Assistant Professor of Mathematics

Ph. B. Brown University 1906; M. A. Mercer University 1918

FRED HARVEY HALL CALHOUN

Professor of Geology and Mineralogy

B. S. 1898, Ph. D. 1902, University of Chicago

AURA M. CARKUFF

Assistant Professor of Agricultural Economics

B. S. 1925, M. S. 1927, Kansas State Agricultural College

PETER CARODEMOS

Assistant Professor of Chemistry

B. S. Tufts College 1922; Ph. D. Cornell University 1927

JULIUS LAFAYETTE CARSON, JR.

Associate Professor Physical Education

B. S. Clemson Agricultural College 1914; Graduate Work University of Illinois, 1925

ELWYN LORENZO CLARKE

Professor of Civil Engineering

B. S. University of Illinois 1902

JOSHUA CRITTINDEN CODY

Associate Professor of Physical Education and Head Coach
Vanderbilt University

GILBEART HOOPER COLLINGS

Associate Professor of Agronomy

B. S. Virginia Polytechnic Institute 1915; M. S. University of Illinois 1917; Ph. D. Rutgers University 1925

WILL GILES CRANDALL

Professor of Education

B. S. Cornell University 1918; Graduate Work Cornell University 1929

SYDNEY J. L. CROUCH

Professor of Religion

Scotch College, Western Australia, 1910; Biblical Seminary, New York, 1915; B. D. Hartford Theological Seminary 1922

DONALD DEXTER CURTIS

Professor of Mechanics

B. E. University of Iowa 1919; Graduate Work University of Washington; University of Iowa

*Resigned (November 1, 1929).

DAVID WISTAR DANIEL

Professor of English

A. B. Wofford College 1892; M. A. Vanderbilt University 1901; Graduate Work University of Chicago Summer 1899; Litt. D. Wofford College 1914

CHARLES STEBBINS DOGGETT*

Professor Emeritus of Textile Chemistry and Dyeing

M. S. Clemson Agricultural College; Oberlin College; University of Leeds; University of Munich; Swiss Federal Polytechnic; Royal Prussian Polytechnic

IVY WILLIAM DUGGAN

Associate Professor Education

B. S. Clemson Agricultural College 1919

DAVID DUNAVAN

Assistant Professor of Entomology and Zoology

B. S. Oregon Agricultural College 1925; M. S. Iowa State College 1928; Graduate Work Cornell University 1929

SAMUEL BROADUS EARLE

Professor of Mechanical Engineering

A. B. 1898, A. M. 1899, Furman University; M. E. Cornell University 1902. Courses with General Electric Company

ROBERT KNIGHT EATON

Professor of Carding and Spinning

A. B. Bowdoin College 1905; Graduate Work Philadelphia Textile School

CLIFFORD OTIS EDDY

Associate Professor of Entomology

B. S. 1920; M. S. 1923; Ph. D. Ohio State University 1929

ROBERT OLIVER FEELEY

Professor of Veterinary Science

D. V. S. New York University 1906

BERNHARD EDWARD FERNOW

Professor of Mechanical Engineering

A. B. 1904, M. E. 1906, Cornell University

EDWIN JONES FREEMAN

Associate Professor of Machine Shop

B. S. Clemson Agricultural College 1922

CHARLES MANNING FURMAN

Professor Emeritus of English

A. B. Furman University 1859

JAMES GILLIAM GEE

Professor of Physical Education

B. S. Clemson Agricultural College 1917; Graduate Work Cornell University 1919-20; University of Florida 1925-27

*Deceased November, 1929.

SANFORD CHARLES GLADDEN

Assistant Professor of Physics

A. B. University of Mississippi 1924; M. S. University of Kentucky 1928

HOWARD EMMITT GLENN

Associate Professor of Civil Engineering

B. S. in C. E. 1922, C. E. 1927, University of Kentucky

WILLIAM EMERA GODFREY

Professor of Physics

A. B. 1893, A. M. 1898, Mercer University; Graduate Work University of Chicago and Cornell University

BEN EDMUND GOODALE

Associate Professor of Dairying

B. S. Iowa State College 1922; M. S. Iowa State College 1929

JOHN K. GOODE

Assistant Professor of Religion

A. B. Richmond College 1898; Graduate of Crozier Theological Seminary 1901

JOSEPH GUYON

Associate Professor of Physical Education

Graduate Carlisle Indian School; Georgia School of Technology

DAVID NIVIN HARRIS

Assistant Professor of Drawing

B. S. Clemson Agricultural College 1908

WYLIE FORT DUPRE HODGE

Assistant Professor of Architecture

Clemson Agricultural College; New York School of Fine and Applied Arts, 1915-16; 1920-21

GEORGE H. HODGES

Assistant Professor of Religion

A. B. Wofford College 1913; Emory University Summer 1929

ALESTER GARDEN HOLMES

Professor of History

B. S. The Citadel 1897; Graduate Work University of Chicago Summer 1911

HOWARD L. HUNTER

Assistant Professor of Chemistry

B. Chem. 1925; Ph. D. 1928 Cornell University

JOSEPH EVERETT HUNTER

Associate Professor of Mathematics

B. S. Clemson Agricultural College 1896; Graduate Work University of Chicago 1902, 1904, 1910; University of North Carolina Summer 1928

JAMES ELSON JEFFRES

Assistant Professor of Military Science and Tactics

B. S. Washington and Jefferson 1917; Graduate The Infantry School 1928

WARD CHARLES JENSEN

*Professor of Agricultural Economics*B. S. University of California 1917; M. S. in Agriculture, Cornell University 1919;
Ph. D. Wisconsin 1927

CLARENCE ALFRED JOHNSON

Associate Professor of Architecture

B. A. Rice Institute 1925; B. S. in Arch. Rice Institute 1927

JAMES MASSIE JOHNSON

Associate Professor of Forge and Foundry

Miller School; Virginia Polytechnic Institute; Ohio State University

WILLIS EDWIN JOHNSON

Assistant Professor Agricultural Education

B. S. Mississippi A. and M. College 1922

(In charge Agricultural Education Work at Seneca, S. C.)

OSCAR RAYMOND JOHNSTON

Assistant Professor of Military Science and Tactics

Graduate United States Military Academy 1920; Graduate The Infantry School 1921

BURR HARRISON JOHNSTONE

*Assistant Professor of Mathematics*Newberry College; A. B. University of South Carolina; Graduate Work University
of Chicago, Cornell University, University of Virginia

FRANCIS MARION KINARD

Assistant Professor of English

A. B. Wofford College 1923; A. M. University of North Carolina 1929

WILLISTON WIGHTMAN KLUGH

*Associate Professor of Drawing*B. S. Clemson Agricultural College 1896; Graduate Work Vanderbilt University
1898; Cornell University 1900

BYRON ADELBERT KLUTTS

*Assistant Professor of Agricultural Education*B. S. Mississippi A. and M. College 1922; Graduate Work Cornell University 1929
(In charge Agricultural Education work Central, S. C.)

PHILIP H. KRON

Assistant Professor of Military Science and Tactics

Graduate the Infantry School 1921

JOSEPH PAUL LAMASTER

Professor of Dairying

B. S. University of Kentucky 1913; M. S. in Agriculture, University of Kentucky, 1928

JOHN DEWEY LANE

Assistant Professor of English

A. B. Newberry College 1920; M. A. University of Virginia 1924; Graduate Work Columbia University 1923 and 1928-29

RUDOLPH EDWARD LEE

Professor of Architecture

B. S. 1896, M. Arch. 1928, Clemson Agricultural College; Graduate Work Cornell University; University of Pennsylvania; Zanerian Art School

WILLIAM LEROY LIPPINCOTT

Professor of Chemistry

B. of Chem. 1918, Graduate Work 1920-21, Cornell University

SIDNEY WAHL LITTLE

Assistant Professor of Architecture

B. Arch. Cornell University 1929; University of Pennsylvania Summer 1925; Certificate Ecole' Americaine des Beaux Arts Fountain Bleau 1927

RUPERT A. MCGINTY

Professor of Horticulture

B. S. Alabama Polytechnic Institute 1913; A. M. Washington University 1919; Graduate Work Cornell University 1926-27

ARTHUR ERNEST McKENNA*

Associate Professor of Weaving and Design

Graduate Rhode Island School of Design 1922; Bradford-Durfee Textile School

ALFRED RIDNER MACORMAC

Professor of Textile Chemistry

B. S. College of the City of New York 1924; Graduate Work Columbia University

JERRY JOSEPH MAHONEY

Associate Professor of Physics

A. B. Indiana State Teachers College 1922; M. A. 1926; Ph. D. 1928 University of California

SAMUEL MANER MARTIN

Professor of Mathematics

B. S. The Citadel 1896; Graduate Work Cornell University Summer 1900; Harvard University Summer 1904; University of Chicago Summer 1908

JOHN LOGAN MARSHALL

Associate Professor of Wood Work

Georgia School of Technology; B. S. Clemson Agricultural College 1909; Bradley Polytechnic Institute 1919

*On leave.

WILLIAM HAYNE MILLS

Professor of Rural Sociology

A. B. Davidson College 1892; B. D. Columbia Theological Seminary 1897

JACK HARRIS MITCHELL

Professor of Chemistry

B. S. 1903, M. S. 1904, Alabama Polytechnic Institute; M. S. University of Illinois 1911

CHARLES LEE MORGAN

Professor of Poultry Husbandry

B. S. University of Kentucky 1918; Graduate Work Iowa State College 1924; M. S. University of Kentucky 1927

CHARLES E. MULLIN

Professor of Textile Chemistry, Dyeing and Finishing

Juniata College 1912; Philadelphia Textile School 1923-25; D. S. University of Nancy (France) 1929

FRED L. MUNSON

Professor of Military Science and Tactics and Commandant of Cadets

A. B. St. Johns Military Academy; Graduate School of the Line 1920; General Staff Corps Eligible List

CHARLES CARTER NEWMAN

Professor of Horticulture

Alabama Polytechnic Institute; B. S. Clemson Agricultural College

ALBERT LEE O'BANION

Professor of Electrical Engineering

B. S. in E. E. University of Texas 1919; Graduate Work University of Texas 1921-23; E. E. Cornell University 1927; M. E. Cornell University 1928

ARTHUR W. PENROSE

Assistant Professor of Military Science and Tactics

B. S. E. Temple University; Graduate The Infantry School 1925

VERD PETERSON

Consulting Professor of Agricultural Education

State Supervisor of Agricultural Education, Columbia, S. C.

FRANK H. POLLARD

Professor of Chemistry

B. of Chemistry 1916, Ph. D. 1922, Cornell University

HENRY RANKIN, JR.

Assistant Professor of English

A. B. 1922, A. M. 1927, University of North Carolina 1928-29

SAM ROSEBOROUGH RHODES

Professor of Electrical Engineering

B. L. 1900, M. S. 1901, Furman University; B. S. 1907, E. E. 1928, Clemson Agricultural College; General Electric Company, 1907-1909; Graduate Work University of North Dakota; Courses Westinghouse Elec. and Mfg. Co.

ORESTES PEARL RHYNE

Professor of Modern Languages

A. B. Lenoir-Rhyne College 1907; A. B. 1908, A. M. 1909, University of North Carolina; Ph. D. Johns Hopkins University 1913

MYRON ARTHUR RICE

Assistant Professor of Botany

B. S. University of California 1916; M. S. in Agriculture, Cornell University 1925

DUANE B. ROSENKRANS

Associate Professor of Botany

A. B. Upper Iowa University 1911; M. A. University of Wisconsin 1917

H. R. SANDERS

Assistant Football Coach

LL. B. Vanderbilt University

CAPERS SATTERLEE

Assistant Professor of Religion

B. A. University of The South 1921; B. D. University of The South 1923

FRANK T. SEARCY

Assistant Professor of Military Science and Tactics

Graduate United States Military Academy; Graduate the Infantry School 1921

AUGUSTUS G. SHANKLIN

Professor of Mathematics

B. S. The Citadel 1893; Graduate Work Cornell University Summer 1908; Columbia University Summer 1911

DAWSON C. SHELDON

Associate Professor of Mathematics

B. S. State College of Washington 1925; M. A. 1927, Ph. D. 1929 University of California

DONALD H. SHENK

Associate Professor of Mechanical Engineering

B. S., M. E. Purdue University 1924; Graduate Work Purdue University 1927-1929; S. P. E. E. Summer School 1929

FRANKLIN SHERMAN

Professor of Entomology and Zoology

B. S. Agriculture, Cornell University 1900; M. S. Maryland Agricultural College 1912

GEORGE RAYMOND SHERRILL

Associate Professor of History and Economics

A. B. Wake Forest 1921; A. M. Columbia University 1925; Ph. D. Columbia University

WILLIAM EDWARD SHINN

Associate Professor of Weaving

B. S. North Carolina State College 1924, M. S. 1928

LAWRENCE VINCENT STARKEY

Professor of Animal Husbandry

B. S. University of Illinois 1914; M. S. University of Wisconsin 1917

JAMES ANNE STEVENSON

Assistant Professor of Civil Engineering

B. C. E. University of Arkansas 1925; M. S., Iowa State College 1927

HAROLD SIMMONS TATE

Assistant Professor of Industrial Education

B. S. Clemson Agricultural College 1925; Graduate Work Columbia University 1926, 1928; George Peabody College 1927

RUPERT TAYLOR

Associate Professor of English

A. B. 1903, A. M. 1906, University of Arkansas; Ph. D. Columbia University 1911

DANIEL WILSON TEARE

Associate Professor of Agricultural Engineering

B. S. Kansas A. & M. College 1927; M. S. Iowa State College 1928

CLEMSON M. WILSON

Consulting Professor of Industrial Education

State Supervisor of Industrial Education, Columbia, S. C.

WALTER BACKUS WILSON

Assistant Professor of Electrical Engineering

General Electric Engineering School; Graduate Lowell Institute of M. I. T. 1922; Columbia University Summer School 1929

INSTRUCTORS

JOHN LELAND BROCK

Industrial Education

B. S. Clemson Agricultural College 1927

EUGENE FRANKLIN CARTEE

Weaving and Design

B. S. Clemson Agricultural College 1925

GEORGE HEYWARD DUNLAP

Carding and Spinning

B. S. Clemson Agricultural College 1928

SUE M. FITZPATRICK

Mathematics

B. S. University of Kentucky 1914; Graduate Work Columbia University Summer 1928

ROWLAND LINWOOD LEE, JR.

Textiles

B. S. Clemson Agricultural College 1925; Georgia School of Technology; Graduate Work N. C. State College Summer 1928

GUSTAVE E. METZ

Mathematics

B. S. Clemson 1927; M. A. University of North Carolina 1928

VERNETTE B. MOORE

Education

B. S. Northwestern University 1909; M. A. Iowa State University 1929

ANDREW MURPHY

A. B. Erskine College 1924; A. M. University of North Carolina 1928

ALBERT RAYMOND REED

Physics

A. B. Wofford College 1925; Graduate Work University of South Carolina

ROBERT RUSSELL RITCHIE

Animal Husbandry

B. S. Iowa State College 1926

JAMES HAGOOD SAMS

Engineering

B. S. Clemson Agricultural College 1924; E. E. Cornell University 1926

LAUREN WHITFIELD SHELLEY

Agronomy

B. S. Clemson Agricultural College 1928

FRANK R. SMITH

Entomology and Zoology

B. S. University of Arkansas 1929

WILLIAM EDWARD TARRANT

Weaving and Design

B. S. Clemson Agricultural College 1927

FREDERICK WILLIAM ZUR BURG

B. S. 1927, M. S. 1928 University of North Carolina

OTHER OFFICERS

VIRGINIA EARLE SHANKLIN
Secretary to the President

GUSTAVE E. METZ, B. S., M. A.
Assistant Registrar

JEAN BEVERLY SLOAN
Assistant to the Registrar

ELIZABETH EVANS PARKER
Stenographer Registrar's Office

CORNELIA AYER GRAHAM
Assistant Librarian

MARY CONRAD STEVENSON, A. B.
Assistant Librarian

FRANCES WHITMIRE EARLE, A. B.
Assistant Librarian

EDWARD BERNARD ELMORE
Bookkeeper

BOYCE B. BURLEY
Assistant Bookkeeper

HELEN MORRISON
Assistant to Treasurer

REBECCA CALHOUN SHIVER
Clerk

MARIE WHITE, R. N.
Head Nurse

MYRTLE DEAN
X-Ray and Laboratory Technician

EUGENE GRIER PARKER, B. S.
Alumni Secretary

CHARLES CARTER NEWMAN, B. S.
Superintendent of Campus and Roads

JOSEPH H. HEWER
Superintendent of Construction and Repairs

JAMES DOUGLAS HARCOMBE
Mess Officer

RUDOLPH E. LEE, A. I. A.
College Architect

PRESTON BROOKS HOLTZENDORFF, JR., LL. B.
General Secretary, Y. M. C. A.

THEO L. VAUGHAN, B. S.
Associate Secretary Y. M. C. A.

JOHN ROY COOPER, B. S.
Assistant Secretary Y. M. C. A.

JOHN K. GOODE, A. B.
Pastor Baptist Church

CAPERS SATTERLEE, B. D.
Rector Episcopal Church

SYDNEY J. L. CROUCH, B. D.
Pastor Presbyterian Church

GEORGE H. HODGES, A. B.
Pastor Methodist Church

FERTILIZER INSPECTION AND ANALYSIS

RICHARD NEWMAN BRACKETT, A. B., PH. D.

Chief Chemist and Director of Fertilizer Division

BENJAMIN F. ROBERTSON, B. S.

Head of Fertilizer Analysis

JOHN TREUTLEN FOY, B. S.

Assistant Chemist (Fertilizer Analysis)

BENJAMIN FREEMAN, B. S.

Assistant Chemist (Fertilizer and Miscellaneous Analysis)

DAVID HILL HENRY, B. S.

Secretary Board of Fertilizer Control

LIVESTOCK SANITARY WORK STAFF COLUMBIA, S. C.

W. K. LEWIS, V. S., M. D. V., *State Veterinarian and Director*

ASSISTANT STATE VETERINARIANS

DR. H. D. BRADSHAW

DR. E. T. FISHER

DR. R. A. MAYS

DR. O. L. OSTEEN

DR. F. K. PETERSON

DR. JACK SCOTT

STANDING COMMITTEES OF THE FACULTY 1929-1930

The President is ex officio a member of all committees

ATHLETICS:

Calhoun, *Chairman*; Barre, Goodale, Milford, Washington.

CATALOGUE:

President Sikes, *Chairman*; Littlejohn, Washington.

CHAPEL:

Daniel, *Chairman*; Earle, Freeman, Lippincott.

CURRICULUM:

(Special)

DAY AND SPECIAL STUDENTS:

Washington, *Chairman*; Munson, Henry, Littlejohn.

ENTRANCE REQUIREMENTS:

Daniel, *Chairman*; Calhoun, Holmes, Martin, Washington.

FACULTY PROGRAM:

Brown, *Chairman*; Duggan, Fernow, Hunter, H. L., Mullin, Cody.

GRADUATE STUDIES:

Calhoun, *Chairman*; Armstrong, Barre, Willis.

IRREGULAR STUDENTS:

Hunter, J. E., *Chairman*; Aull, Kinard, Klugh, Pollard.

LIBRARY:

Miss Doggett, *Chairman*; Calhoun, Crouch, Holmes, Lane, Mills, Rhyne.

REEXAMINATION AND PROMOTION:

Washington, *Chairman*; Calhoun, Daniel, Earle, Kinard, Marshall, Martin, Tate.

SCHEDULE:

Washington, *Chairman*; Aull, Eaton, Guyon, Kinard, Lippincott, Penrose, Rhodes.

SECONDARY SCHOOLS RELATIONS:

Washington, *Chairman*; Burton, Crandall, Gee, Hunter, J. E., Kinard, Mahoney, Pollard, Miss Doggett.

STUDENT LOANS:

Henry, *Chairman*; Evans, Littlejohn.

STUDENT ORGANIZATIONS:

Henry, *Chairman*; Calhoun, Eaton, Freeman.

STUDENT PUBLICATIONS:

Lane, *Chairman*; Metz, Mullin, Littlejohn, Parker, Sherrill.

SUMMER SCHOOL:

Calhoun, *Chairman*; Crandall, Daniel, Klugh, Littlejohn, Washington, Willis.

UNIFORM:

Munson, *Chairman*; Eaton, Evans, Littlejohn.

VISITORS:

Miss Shanklin, *Chairman*; Henry, Littlejohn, Munson, Washington.

AGRICULTURAL EXPERIMENT STATION STAFF

- H. W. BARRE, B. S., A. M., *Director*.
G. H. AULL, M. S., *Assistant Director*.*
W. B. ALBERT, PH. D., *Assistant Plant Physiologist*, Florence, S. C.
G. M. ARMSTRONG, PH. D., *Botanist and Plant Pathologist*.
W. B. AULL, B. S., *Associate Bacteriologist*.
J. A. BERLY, B. S., *Assistant State Entomologist*†.
A. B. BRYAN, B. S., B. Litt., *Agricultural Editor*.
A. M. CARKUFF, M. S., *Assistant Agricultural Economist*.
O. L. CARTWRIGHT, M. S., *Assistant Entomologist*.
W. H. CLARKE, B. S., *Assistant Entomologist*.
R. E. CURRIN, *Supt. of Pee Dee Experiment Station*, Florence, S. C.
D. W. DICKSON, B. S., *Supt. A. R. Testing*.
C. O. EDDY, PH. D., *Associate Entomologist*.
E. C. ELTING, A. M., *Associate Dairyman*.
R. O. FEELEY, D. V. S., *Consulting Veterinarian*.
MARY E. FRAYSER, M. A., *Research Specialist in Home Economics*.
E. G. GODBEY, B. S., *Associate Animal Husbandman*.
E. E. HALL, M. S., *Agronomist Boll Weevil Control*, Florence, S. C.
W. C. JENSEN, M. S., *Acting Agricultural Economist*.
E. D. KYZER, B. S., *Supt. Coast Experiment Station*, Summerville, S. C.
J. P. LaMASTER, M. S. Agr., *Dairyman*.
R. A. McGINTY, B. S., A. M., *Horticulturist*.
J. H. MITCHELL, M. S., *Chemist*.
C. L. MORGAN, M. S., *Poultryman*.
A. M. MUSSER, B. S., *Associate Horticulturist*.
W. R. PADEN, PH. D., *Associate Agronomist*.
C. S. PATRICK, B. S., *Head Farms Division*.
J. A. RILEY, M. S., *Supt. of Sand Hill Station*, R. 5, Columbia, S. C.
D. B. RODERICK, A. B., *Assistant Chemist*.
W. B. ROGERS, B. S., *Assistant Agronomist*.
B. A. RUSSELL, B. S., *Assistant Agricultural Economist*.
FRANKLIN SHERMAN, M. S., *Entomologist*.
L. V. STARKEY, M. S., *Animal Husbandman*.
R. W. WALLACE, B. S., *Assistant in Agronomy*.
S. J. WATSON, JR., B. S., *Research Assistant, Pee Dee Station*.

*On leave.

†South Carolina State Crop Pest Commission.

AGRICULTURAL EXTENSION STAFF

W. W. LONG, B. S., LL. D., *Director Extension.*

D. W. WATKINS, B. S., *Assistant Director.**

GEORGE M. ARMSTRONG, PH. D., *Chief Botany and Plant Pathology Division.*

M. H. BRUNSON, *Extension Entomologist.*

A. B. BRYAN, B. S., B. Litt., *Agricultural Editor.*

A. L. DuRANT, B. S., *Extension Livestock Specialist*, Spartanburg, S. C.

P. H. GOODING, M. S., *Extension Poultry Husbandman.*

R. W. HAMILTON, B. S., *Soil Fertility Specialist.*

J. R. HAWKINS, M. S., *Livestock Specialist*, Florence, S. C.

P. M. JACKSON, *Assistant Agricultural Editor.*

S. L. JEFFORDS, *Forage Crop Specialist*, Spartanburg, S. C.

J. P. LaMASTER, M. S., *Chief Dairy Division.*

I. D. LEWIS, B. S., *Assistant State Boys' Club Agent.*

J. T. McALISTER, *Extension Agricultural Engineer.*

R. A. McGINTY, M. A., *Chief Horticultural Division.*

J. S. MATTHEWS, *Dairy Husbandman*, Florence, S. C.

C. L. MORGAN, M. S., *Chief Poultry Division.*

C. A. OWENS, B. S., *Specialist in Packing and Grading*, Aiken, S. C.

E. S. PREVOST, *Bee Specialist.*

G. E. PRINCE, B. S., *Chief Division of Markets*, Aiken, S. C.

FRANKLIN SHERMAN, M. S., *Chief Division of Entomology.*

A. E. SCHILLETTER, B. S., *Extension Horticulturist.*

L. E. STALEY, *State Forester*, State Office Building, Columbia, S. C.

L. V. STARKEY, M. S., *Chief Animal Husbandry Division.*

R. D. STEER, *Extension Agent in Dairying*, Spartanburg, S. C.

B. O. WILLIAMS, B. S., *State Boys' Club Agent.*

Staff located at Clemson College except where another address is given.

*On leave.

DISTRICT AGENTS

A. A. McKeown	First District	Spartanburg, S. C.
J. T. Lazar	Second District	Florence, S. C.
A. H. Ward	Third District	Aiken, S. C.

COUNTY AGENTS

<i>Name</i>	<i>County</i>	<i>Post Office</i>
Z. D. Robertson	Abbeville	Abbeville
C. Lee Gowan	Aiken	Aiken
.....	Allendale	Allendale
S. M. Byars	Anderson	Anderson
W. H. Craven	Bamberg	Bamberg
H. G. Boylston	Barnwell	Barnwell
.....	Beaufort	Beaufort
J. H. Harvey	Berkeley	Moncks' Corner
C. L. McCaslan	Calhoun	St. Matthews
C. W. Carraway	Charleston	Charleston
S. C. Stribling	Cherokee	Gaffney
Ralph Coarsey	Chester	Chester
W. J. Tiller	Chesterfield	Chesterfield
F. M. Rast	Clarendon	Manning
L. W. Alford	Colleton	Walterboro
J. M. Napier	Darlington	Darlington
S. W. Epps	Dillon	Dillon
T. M. Cathcart	Dorchester	St. George
W. H. Barton	Edgefield	Edgefield
R. H. Lemmon	Fairfield	Winnsboro
J. W. McLendon	Florence	Florence
M. M. McCord	Georgetown	Georgetown
W. R. Gray	Greenville	Greenville
E. L. Rogers	Greenwood	Greenwood
J. C. Anthony	Hampton	Hampton
T. M. Evans	Horry	Conway
J. P. Graham	Jasper	Ridgeland
H. D. Green	Kershaw	Camden
W. F. Howell	Lancaster	Lancaster
C. B. Cannon	Laurens	Laurens
R. A. Jackson	Lee	Bishopville
C. S. Addy	Lexington	Lexington
W. R. Wells, Jr.	Marion	Marion
W. D. Wood	Marlboro	Bennettsville
T. W. Morgan	McCormick	McCormick
T. M. Mills	Newberry	Newberry
G. H. Griffin	Oconee	Walhalla
R. F. Kolb	Orangeburg	Orangeburg
T. A. Bowen	Pickens	Pickens
J. R. Clark	Richland	Columbia
Claude Rothell	Saluda	Saluda
Ernest Carnes	Spartanburg	Spartanburg
J. M. Eleazer	Sumter	Sumter
A. M. Vick	Union	Union
L. S. Carter	Williamsburg	Kingstree
L. W. Johnson	York	Rock Hill

STATE, DISTRICT AND COUNTY HOME AGENTS AND SPECIALISTS

Lonny I. Landrum, State Agent, Winthrop College	Rock Hill,	S. C.
Harriette B. Layton, Asst. State Agent, Winthrop College	Rock Hill,	S. C.
Bessie Harper, District Agent	Aiken,	S. C.
Mrs. T. D. Plowden, District Agent	Dalzell,	S. C.
Blanche Tarrant, District Agent	Greenwood,	S. C.
Mrs. Harriet F. Johnson, State Girls' Club Agent, Winthrop College	Rock Hill,	S. C.
Mrs. Dora Dee Walker, Production and Conservation Specialist, Winthrop College	Rock Hill,	S. C.
Miss Juanita Neely, Poultry Specialist, Winthrop College	Rock Hill,	S. C.
Minne Floyd, Foods and Nutrition Specialist, Winthrop College	Rock Hill,	S. C.
Jane Ketchen, Marketing Specialist, Winthrop College	Rock Hill,	S. C.
<i>Name</i>	<i>County</i>	<i>Post Office</i>
Elizabeth Herbert	Abbeville	Abbeville, S. C.
Elizabeth Bailey	Aiken	Aiken, S. C.
Ruth Cannon	Allendale	Allendale, S. C.
Margaret Martin	Anderson (Ch. of Com.)	Anderson, S. C.
Elizabeth McNab	Bamberg	Bamberg, S. C.
Lula Chriesman	Barnwell	Barnwell, S. C.
Stella Gooch	Beaufort	Beaufort, S. C.
Nelle Caldwell	Berkeley	Moncks Corner, S. C.
Carolina S. Alston	Calhoun	St. Matthews, S. C.
Kerby Tyler	Charleston	Charleston, S. C.
Carrie Carson	Chesterfield	Chesterfield, S. C.
Elizabeth Williams	Clarendon	Manning, S. C.
Pearl E. Calvert	Cherokee	Gaffney, S. C.
Mrs. E. J. Evans	Colleton	Walterboro, S. C.
Etta Sue Sellers	Darlington	Darlington, S. C.
Ophelia Sue Barker	Dillon	Latta, S. C.
Margaret McGirt	Dorchester	St. George, S. C.
Mrs. A. G. Courtney	Edgefield	Edgefield, S. C.
Mrs. Minnie E. Doar	Florence (Box 592)	Florence, S. C.
Julia W. Stebbins	Georgetown	Georgetown, S. C.
Louise Fleming	Greenville (Box 642)	Greenville, S. C.
Izora Miley	Greenwood	Greenwood, S. C.
Margaret Cloud	Hampton	Hampton, S. C.
Alma Burgess	Horry	Conway, S. C.
Marie Lamburt	Kershaw	Camden, S. C.
Jennie E. Coleman	Jasper	Ridgeland, S. C.
Mary S. Gilliam	Lancaster	Lancaster, S. C.
Reba Sheppard	Laurens	Laurens, S. C.
Winnie Belle Holden	Lee	Bishopville, S. C.
Mrs. Edna McPherson	Lexington	Lexington, S. C.
Jennie Boyd	Marion	Mullins, S. C.
Ethel Counts	Marlboro	Bennettsville, S. C.
Mary C. Haynie	Newberry	Newberry, S. C.
Sarah Morris	Oconee	Walhalla, S. C.
Alberta Stuckey	Orangeburg	Orangeburg, S. C.
Eleanor Carson	Pickens	Pickens, S. C.
Leona Hewitt	Richland (Ch. of Com.)	Columbia, S. C.
Kate M. Hooper	Saluda	Saluda, S. C.
Annie Ervin	Spartanburg (Ch. of Com.)	Spartanburg, S. C.
Mahala J. Smith	Sumter (Board of Trade)	Sumter, S. C.
Mrs. Elizabeth D. Boykin	Union	Union, S. C.
Margaret Fewell	Williamsburg	Kingstree, S. C.
	York	Rock Hill, S. C.

PART II—ADMISSION; EXPENSES; RULES REGARDING PROMOTION, ETC.

REQUIREMENTS FOR ADMISSION

All applicants for admission to Clemson College must be at least sixteen years of age and at the time of entrance must be free from contagious or infectious disease. A certificate of good moral character and honorable discharge from the last school attended is required.

Students desiring to enter Clemson should apply to the Registrar for application blanks, and these properly filled out, should be returned to him as soon as possible, as late applicants may be crowded out. No student's matriculation will be complete until he has met all entrance requirements.

Students upon arrival at the College at the opening of the session must report at once to the Registrar's office and matriculate before being assigned to rooms in the barracks. No student will be admitted to any classes or examinations before matriculation and payment of fees. Matriculation is equivalent to a pledge to conform to the rules of the institution.

Admission to the College may be gained in one of the following ways:

1. *On Certificate From an Accredited High School.* Graduates from a high school who present a certificate showing the completion of fifteen standard high school units as explained below will be admitted to the freshman class without examination. The applicant must submit to the Registrar a transcript of his high school record showing the subjects taken each year, the length of the class periods, number of weeks each subject was taken, number of hours per week and the grade on each subject. This blank will be furnished by the Registrar on request. It must be signed by the principal and sent to the Registrar after the applicant has completed his high school course. This part of the application should be sent direct by the principal or superintendent. The schools which are recognized as diploma high

schools by the State Department of Education of South Carolina are regarded as accredited high schools for admission to Clemson. Applicants who are graduates of high schools outside of South Carolina will be accepted if they present certificates showing that they are graduates of a high school accredited by the Association of Colleges and Secondary Schools of the Southern States or from high schools which are accredited by their state university.

2. *By Examination.* Students applying for admission who do not present such certificates as are described above are required to stand the entrance examinations. For date of these examinations see the college calendar on page 3.

3. *By Examination and Certificate.* Applicants who are not graduates of accredited high schools, but can give acceptable documentary evidence of having completed the equivalent of fifteen units of work under formal instruction will be required to take examinations on English, mathematics, history and one other subject selected by the Registrar. If they pass these examinations the other units presented will be accepted and they will be considered as having met the entrance requirements and their other units will be validated. All other applicants will be required to take the entrance examinations for the full fifteen units.

Of the units listed below when presented for admission to the freshman class at least three units must be in English, two and a half in mathematics, and two in history. The remaining seven and a half units may be selected from any of the subjects listed below with the conditions noted. The scope of the examination is in keeping with the state high school curriculum.

HIGH SCHOOL SUBJECTS ACCEPTED FOR ADMISSION TO THE FRESHMAN CLASS

English

Grammar (High School text completed)	1
Composition and Literature...	3

History

Ancient (full course)	1
Ancient (short course)	$\frac{1}{2}$
Community Civics (half year)	$\frac{1}{2}$
Modern History	1
American History and Government, or Civics	1

*Modern Languages**

French	2
Spanish	2
German	2

Laboratory Sciences

General Science	1
Biology	1
Chemistry	1
Physics	1
Physical or High School Geography	1

Mathematics

Arithmetic	$\frac{1}{2}$
Algebra, to quadratics	1
Algebra, through quadratics...	$1\frac{1}{2}$
Algebra, through progressions and binomial theorem	2
Plane Geometry	1
Solid Geometry	$\frac{1}{2}$
Trigonometry	$\frac{1}{2}$

*Latin***

Beginners' or First Year and Caesar, 4 books	2
Cicero, 6 orations	1
Virgil, 6 books	1

Vocational Subjects

Agriculture	1 to 4
Bookkeeping	1
Manual Training	1 to 2
Stenography and Typewriting	1 to 3
Textile	1 to 2

*Credit depends upon the time devoted to the subject and the quantity of work accomplished. No credit is allowed for less than 72 weeks' work in Modern Languages.

**No credit is given for 36 weeks' work in Beginners' or First Year Latin.

County Scholarship Examinations. Scholarship examinations are held by each county superintendent of education on the second Friday in July. These examinations will cover English, mathematics (algebra and geometry), history and agriculture. Applicants who wish to compete for scholarships and applicants who are not graduates from accredited high schools should take these examinations. If the applicant finds through these examinations that he is unprepared to enter college, he will be saved the expense of a trip to the College in September.

Entrance Examinations. Entrance examinations are given at the College Administration Building on Monday and Tuesday preceding the opening of the session.

Applicants expecting to gain admission by taking entrance examinations should be present and prepared to take these examinations as scheduled. Examinations can be given at other times only with the permission of the President, and upon the payment of a fee of \$2.00.

Admission to Advanced Standing. Work that has been taken in other colleges will be credited for an equivalent amount of work so far as it applies to any course offered in the College. The applicant must present: (a) a letter of honorable dismissal from the institution last attended, and (b) an official transcript of his record, including entrance credits. College credits given by transfer are provisional and may be cancelled at any time if the student's work is unsatisfactory. A student coming from another institution must spend at least one regular session in the College before he is eligible to apply for a degree.

Admission of Special Students. A limited number of persons properly recommended and over twenty-one years of age may be admitted as special students with the opportunity of pursuing special lines of study or investigation in any of the subjects taught in the College provided they can show evidence of seriousness of purpose. To be admitted as a special student a person must be recommended by the local superintendent of schools or by a responsible person from the industry or line of work which represents the special work he wishes to take in college. Each case must be passed on individually and approved by the President. Special students are not permitted to live in barracks but are subject to the general regulations of the College requiring regular attendance, excellent conduct and diligent work. Degrees are not given special students but a certificate of proficiency will be given when the work completed is deemed worthy.

Registration. A definite time is specified for registration, and all students are required to conform to the schedule. An additional fee of \$2.00 will be charged of any student failing in this requirement. (See dates for registration on college calendar, page 3.) No student who has not paid all dues and fees will be admitted to classes.

Full instructions regarding registration will be furnished by the Registrar.

EXPENSES

Settlement of College Fees. College remittances should be made in cash, by money order, New York Exchange, or by local check, made payable to S. W. Evans, Treasurer. All required fees must be paid before a student can be assigned to a room in the barracks or permitted to begin work.

Juniors and seniors who have the permission of the President may secure board or board and room in the community. Meals may be had at the Clemson Hotel, Y. M. C. A. Cafeteria, The Coffee Shoppe, or at private homes. Room and board cost \$30 to \$35 per month; meals alone about \$25 per month. The rooming place of every such student must be approved by the President. Lists of available rooms may be secured by addressing the Registrar.

The fees and living expenses will be approximately as listed below. A leaflet giving the exact cost, including uniforms, will be mailed to the parents of all applicants prior to the opening of college in September. The cost of books, which varies with the class and course, is not included in the figures given below:

LIVING EXPENSES

Board at \$18.50 a month -----	\$166.50
Laundry at \$1.50 a month -----	13.50
Heat, light and water at \$2.10 a month -----	18.90
<hr/>	
Total Living Expenses -----	\$198.90

FEES

Student Activity Fee -----	\$22.50
Incidental Fee -----	9.00
Laboratory Fee -----	2.25
Maintenance Fee -----	16.00
Hospital Fee -----	11.25
Matriculation Fee -----	3.00
<hr/>	
Total for All Required Fees -----	64.00
<hr/>	
Total Living Expenses and Required Fees-----	\$262.90
Tuition for resident students who pay, add \$40.00.	

Non-resident students pay \$80.00 tuition.

The above fees and tuition charges apply to all matriculated students.

These figures do not include the cost of uniforms. See information in paragraph headed "Uniforms".

Note: The above expenses are for regular cadets who live in the dormitories. This expense will vary with "Day Cadets," "Day Students," and "Special Students". The following statements regarding the above groups of students will give approximately the amounts that must be paid to the College. The student himself must govern the cost involved by living out of the barracks.

A "Regular Cadet" is a member of the corps and rooms in barracks.

A "Day Cadet" is a member of the corps but rooms outside of barracks.

A "Day Student" is one who is taking regular classes and who may be a candidate for a degree, but who is not a member of the corps. He is required to attend all classes and chapel exercises; his place of rooming must be approved by the President.

He must at all times maintain a class standing of "C" or above on fifty per cent of all his work on both daily and semester

grades, measured in terms of semester credits. His conduct must at all times be above reproach. Should he fail to meet these requirements in any detail, he may at the discretion of the President become a day cadet, or a regular cadet with no choice of rooms in barracks, or he may be required to withdraw from college. His entire record will be kept in the Registrar's office.

A day student will at no time be allowed to wear any part of the college uniform.

A "Special Student" is a mature person of serious purpose who is permitted to pursue a special subject for which he is especially qualified. His entire record will be kept in the Registrar's office.

All payments are to be made quarterly in advance as follows:

<i>Date</i> <i>Payable</i>	<i>For S. C.</i> <i>Students Who</i> <i>Pay Tuition</i>	<i>For Students</i> <i>Who Obtain</i> <i>Free Tuition</i>	<i>For</i> <i>Scholarship</i> <i>Students</i>
With Matriculation Card* --	\$ 5.00	\$ 5.00	\$ 5.00
Balance at Entrance -----	73.01	63.01	38.01
Nov. 10, 1930 -----	74.99	64.99	39.99
Jan. 24, 1931 -----	74.95	64.95	39.95
Mar. 22, 1931 -----	74.95	64.95	39.95

Note: The President may require a cadet to withdraw from college if after due and reasonable notice his dues are not paid.

Uniforms. All students are required to wear the regulation uniform of the College. The cost of the uniform garments needed by a student must be deposited with the Treasurer of the College at matriculation in September. The uniforms are made to individual measure and are purchased on the most favorable contract obtainable from a reputable manufacturer. The uniforms are the property of the student. The College merely acts as agent for the student and makes no charge or profit for handling. The total cost of new uniforms is about \$80. The average cost of necessary uniform articles after the first year is about \$40.

*Note: Matriculation Cards are mailed to new students, who have been accepted, in July. Old students receive their Matriculation Cards with second semester report in June.

Students should provide themselves with a blue overall suit, or other protective covering for use in shops and laboratories.

If a student takes proper care of his uniforms and certain garments are serviceable for a second year, he will not be required to purchase a complete new outfit. The cost, therefore, to old students may be considerably reduced.

Any uniform allowances made to R. O. T. C. students by the Federal Government will be credited to the individual when the full amount of the commutation is received by the College.

Medical Fee. The medical fee paid by each student is intended to cover all ordinary cases of sickness and the treatment and medicines necessary. It is not intended to cover fees of doctors or specialists called into consultation, for performing operations, for special nurses, or for any medical or surgical attentions performed away from the College. Such expenses must be borne by the parent. The right of the College Surgeon, with the approval of the President of the College, to incur in behalf of any student under his care any of these extra services is hereby expressly reserved.

Student Activity Fee. This fee entitles a student to admission to all lyceum entertainments, athletic games, privileges of the Y. M. C. A. Building, and subscription to the student publications, *The Tiger*, *The Chronicle*, and *Taps*.

Maintenance Fee. This fee is used to purchase supplies and materials for the use of the students in laboratories, shops, and the Library. Also to care for ordinary repairs and replacements in the barracks due to student use.

Tuition. Tuition is \$40.00 per session, payable quarterly. Free tuition is granted to residents of South Carolina unable to pay the same, provided they comply with the State laws. All applicants for free tuition must file with the College the prescribed application to the State Board of Public Welfare. This blank will be sent to all applicants by August 15th, and must be returned properly filled in before the opening of college.

Immediately after the opening of college, the application is forwarded to the State Board of Public Welfare, which Board is

required by law to investigate the financial standing of the parents or guardian, or the applicant himself, if he is of age. This Board reports its findings, together with its recommendations, to the Clemson College Board of Trustees, who may revoke or confirm the recommendations.

Any person required to pay tuition may appeal to the State Board of Education as provided by law.

Applicants filing the prescribed form will be granted free tuition pending investigation by the State Board of Public Welfare and action by the Board of Trustees. Applicants for free tuition will be notified of the results of the investigation about the first of January.

Students not residents of South Carolina pay \$80.00 tuition.

Refunds to Students. Refunds will be made to students under the following rules:

1. A refund for uniforms will not be guaranteed to students who withdraw from the College after the uniforms have been ordered. If order cannot be cancelled the uniforms will be sent to the cadet upon receipt of the same.

2. A refund for living expenses will be made at the rates charged, but no refund will be made for interruptions of less than two weeks or in cases of discharge issued less than two weeks from the end of the current quarter.

3. No fees will be refunded.

4. A refund of *all* moneys, except the matriculation fee of \$3.00 and \$1.00 per day for board, etc., will be made to a student who leaves college within ten days of the date of his matriculation; provided, however that the refund for uniform cannot be guaranteed if the same has been ordered.

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

6. The College will not be liable for lost or damaged laundry, unless reported within two days after the date upon which laundry was due to be delivered, and then not more than

the actual depreciated value of such articles as have been lost or damaged.

Books and Supplies. The L. C. Martin Drug Co., Inc., conducts a store near the campus and maintains a book and supply store where students may purchase text books, drawing instruments, and other student supplies. A complete list of the text books used in each course with the price of same will be furnished on application.

Each student will be required to own his text books and necessary equipment, except in the case of brothers in the same class who occupy the same room. All cadets shall submit their text books and other equipment for inspection at such times as are ordered.

Optional Expenses. It is not possible to give an estimate of a cadet's expenditures for such amusements as dancing, moving pictures, etc. This depends largely upon the disposition of the young man. The College endeavors to reduce to a minimum the temptation to spend money needlessly, but the authorities cannot be responsible for a cadet's private expenditures. This must be a matter between him and his parents.

Student Aids. There are few opportunities for students to earn money at Clemson by working in their spare time. In an agricultural and mechanical college most of the student's time when he is not in class room is occupied in laboratories, shops and fields. About forty young men secure positions as waiters in the messhall, for which service they are paid at the rate of eight dollars a month. In addition to this help, membership in the Reserve Officers Training Corps entitles freshmen and sophomores to a small commutation on uniforms. Juniors and seniors receive also a ration commutation.

Agricultural and Textile Scholarships: The General Assembly of South Carolina has provided for 223 scholarships for students taking agriculture and textiles. They are distributed among the counties according to the number of representatives. They are worth one hundred and forty dollars each. Appointments to scholarships are made by the State Board of Education. The scholarships are available to needy and worthy stu-

dents in the departments of agriculture and textiles. To secure a scholarship it is necessary to stand an examination held in each county on the second Friday in July. For rules and regulations pertaining to scholarships, write to the Registrar of Clemson College.

Fellowships. A \$500 fellowship is available for part-time work in chemistry. The holder may devote half time to graduate studies and thus obtain the Master's degree in two years. Address inquiries to Dr. R. N. Brackett, Chemistry Department, Clemson College, S. C.

LOAN FUNDS

The Harmon Foundation. The Harmon Foundation of New York City has appropriated funds to assist juniors and seniors who are dependent wholly or in part on their own labor.

The William Wilson Finley Loan Fund. The sum of \$1,000 has been deposited with the College to be used as a loan fund to students living in counties traversed by the Southern Railway or the Blue Ridge Railway.

The George Cherry Foundation. Mrs. Mary Cherry Doyle has donated \$1,000 to aid worthy and needy students from Oconee County and that part of Anderson County including Pendleton. This fund is not available for first year students.

The U. D. C. Loan Fund. The John C. Calhoun Chapter of the U. D. C. has created a fund of \$500.00 to be loaned to lineal descendants of Confederate veterans. This fund is limited to juniors and seniors.

For information in regard to these funds, write Prof. D. H. Henry, Clemson College, S. C.

MEDALS AND HONORS

Trustees' Medal. The Board of Trustees has established a gold medal to be awarded annually to the best speaker among the representatives of the literary societies at Commencement. These representatives are chosen by judges selected by the socie-

ties at the annual public exercises in Memorial Hall. The medal is awarded by judges selected by the faculty. The medal was won in 1929 by Cadet J. C. Galloway, Lee County.

Norris Medal. The following is from the will of Hon. D. K. Norris, a life trustee of Clemson, who died in 1905:

“I give \$500 face value, Norris Cotton Mill stock, to the Trustees of Clemson Agricultural College of South Carolina, on condition the dividend thereon shall be applied annually to the purchase of a gold medal, to be known as the ‘Norris Medal’, to be awarded to the student of Clemson meriting the same at graduation, under such rules and conditions as may be prescribed by the said Board of Trustees, and which medal shall have engraved on it ‘Honos habet onus’ (Honor brings responsibility).”

In 1929 the medal was awarded to Cadet D. B. Sherman, Pickens County.

R. W. Simpson Medal. A medal designated as the “R. W. Simpson Medal” is awarded annually to the best drilled cadet in the freshman, sophomore, or junior class. In 1929 the medal was awarded to F. B. Farr, Brunswick, Georgia.

Literary Society Medals. It is customary for the several literary societies to hold annual contests during the session. Gold medals are usually awarded to the best debaters, orators and declaimers.

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

Farmers’ Certificates of Merit. Beginning with the session of 1914-1915 certificates of merit have been awarded each session to two farmers in South Carolina who have rendered distinguished service in the agricultural development of the State.

National Association of Cotton Manufacturers Medal. For several years this medal has been awarded to the outstanding graduate in Textile Engineering. In 1929 the medal was won by Cadet C. R. Barton, Anderson County.

“Textile Colorist” Medals. Two gold medals are offered each year by the *Textile Colorist Magazine*, Dr. Howard S. Neiman, Editor and Publisher, 233 Broadway, New York City. One of these medals is offered for outstanding work in textile chemistry and dyeing, and the other for outstanding work in spinning and weaving. These medals are awarded to the student of highest standing in these respective subjects, provided that he has satisfactory grades in all other subjects and has completed at least one outstanding piece of special work aside from the regular class work. The medals are not awarded if the above conditions are not fulfilled. In 1928 only one medal was awarded. It was won by Cadet Ross M. Stribling of Rockingham, N. C. These medals were not awarded in 1929.

State U. D. C. Prize. Each year the State organization United Daughters of the Confederacy awards a prize to competitors from the University of South Carolina, The Citadel and Clemson, for the best essay on some historic character or event.

RULES FOR PROMOTION

1. The semester hour shall be the basis of all credits. One recitation hour or three laboratory or shop hours a week if self-contained, or two if considerable work is required out of the class period, shall constitute a semester hour.

2. The standing of a student in his work at the end of a semester shall be based on daily class work, regularity of attendance, tests or other work, and the final examinations.

3. Written examinations shall be required in all subjects at the end of each semester, except in certain laboratory or practical courses where not deemed necessary by the departmental faculty. A student who has been absent from more than one-fourth of the total number of class periods in any subject for a semester is debarred from the final examination.

4. A semester grade once reported to the Registrar shall be the final grade for the period covered.

5. No semester grade shall be given out until the close of the examination period.

6. When an instructor completes a subject he may hold an examination on it before beginning the next subject, provided such examination does not conflict with the regularly scheduled work.

7. The grading system shall be as follows:

A—Excellent. Indicates that the student is doing work of a very high character. The highest grade given.

B—Good. Indicates work that is satisfactory, though not of the highest order.

C—Fair. Indicates work of average or medium character.

D—Pass. Indicates work below the average and unsatisfactory. The lowest passing grade. For promotion to the junior and senior classes a student must have a grade above D on 50 per cent of his total credit hours. For graduation this average is also required.

E—Conditioned. Indicates a failure to satisfy the requirements as to daily recitations, tests or other work, as well as to the final examination, which condition in the opinion of the instructor may be made up by reexamination at some fixed time.

F—Failed. Indicates that a student knows so little of the subject that it must be repeated in order that credit may be received.

I—Incomplete Work. Indicates an absence from examination on account of sickness or other satisfactory reason, or that a relatively small part of the semester's work remains undone. A grade *I* is not to be given a student who has made a grade *F* on his daily work.

8. *Absences from Class. Removal of Grade I.* A student who has been absent from more than one-fourth of the total class periods in a subject during a semester may be dropped from the class. Such a student who is permitted to continue in class shall not stand the final examination until the work missed has been made up.

All class work missed on account of absences for good and

sufficient reasons shall be made up to the satisfaction of the instructor within thirty days after the student returns to classes.

All incomplete grades (*I*'s) for first semester not removed within 30 days after the beginning of the second semester shall become *F*'s.

All incomplete grades (*I*'s) for second semester not removed before the first class day of the first semester shall become failures (*F*'s), and must be taken over as such.

A student who, for reasons satisfactory to the faculty, is absent from any of the first semester examinations will be allowed to make up these examinations during the second semester at the period scheduled for this work. A student who is absent from any of the second semester examinations shall stand them during the make-up period in September. A student who is absent from an examination without excuse is graded *E*.

9. *Special Examinations.* Any request for a special examination must be approved by (1) the instructor concerned, (2) the head of the division concerned, (3) the director of the department, and (4) the registrar. Special examinations are given only on payment of a \$2 fee for each examination. Forms for request may be secured at the Registrar's office. The fee must be paid to the Treasurer. When conditions are complied with and approved, a Special Examination Permit will be issued by the Registrar.

10. *Removal of Conditions.* Only one opportunity shall be given a student to remove a condition (*E*) by a reexamination. A student who fails to pass such a reexamination shall be required to repeat the subject hour for hour in class. Not more than twelve credit hours of conditions for a session shall be removed by reexamination. A student shall not receive a grade higher than *D* when a deficiency is removed by reexamination.

First semester reexaminations shall be held as scheduled by schedule committee, and second semester reexamination just before the opening of college in the fall. All conditions (*E*'s) not removed before the first class day of the first semester shall become failures and be repeated as such. Seniors may remove conditions during the week preceding Commencement.

11. *Removal of Failures.* A student who has failed (made a grade *F*) in a subject cannot receive credit for that subject until it has been repeated hour for hour in class, except that in the case of correlated laboratory work, the number of hours to be taken shall be determined by the instructor. Where separate grades for class and laboratory work are given, that part of the subject shall be repeated in which the failure occurs.

12. *Withdrawals on Account of Unsatisfactory Work.* A student who at the end of the first semester has failed (made a grade *F*) on nine or more credit hours of work shall be required to withdraw from college. A student who at the end of the session has failed (made a grade *F*) on eighteen or more credit hours of work shall not be permitted to return the following session. (Should the application of this rule at the end of the first semester not be to the best interest of an individual student, he may be permitted to continue on probation and schedule a fewer number of hours. Such a student carrying less than a normal schedule must pass on all his work at the end of the next semester or be required to withdraw.)

Any student whose record is generally unsatisfactory at the end of a semester may be dropped from the College, provided the student and his parent or guardian were warned at mid-semester of this probable action.

13. *Promotion and Classification.* Promotion is by subjects; but a student is classified according to the amount of college work completed. The term freshmen is used to apply to new students with the exception of those who have completed as much as a full year of college work elsewhere. Old students who have not passed as much as 25 semester credit hours are also designated as freshmen. To be a sophomore a student must have to his credit at least 25 semester hours and to be a junior a minimum of 65 credits with a grade above *D* on 50 per cent of the credit hours is required. For enrollment in the senior class a student must be within forty credits of the requirements for graduation in his course and he must have completed all of his freshman and sophomore subjects. Every student is responsible for knowing the requirements of his course and his status in regard to meeting these requirements.

14. *Amount of Class Work Permitted and Required. Prerequisites.* The normal amount of work a student is expected to schedule shall be the number of credit hours listed in the curriculum which he is pursuing, plus a proportionate number of electives as explained under "Requirements for Degree". A student shall not be permitted to schedule extra subjects or take over in addition to his normal schedule any work unless he has made during the preceding semester a grade of *B*, or above, on at least 50 per cent of the total scheduled credit hours. Not more than five clock hours of work may be scheduled in addition to the number of credit hours prescribed in the curriculum.

A continuation subject in the next higher class shall not be scheduled until credit has been received for its prerequisites.

15. *Dropping Class Work.* Upon the recommendation of the instructor concerned and approval of the director, a student may be required to drop a subject because of neglect, excessive absences, or lack of application or preparation. A student required to drop a subject shall be placed on probation for the remainder of the semester, and his parent or guardian shall be notified.

A student who at the end of a semester makes a grade *F* on six, but not more than eight, credit hours of work or who makes a grade *E* on ten or more credit hours of work, shall be required to drop from his schedule at least one theoretical subject. (See Rule 12.)

A subject dropped after the middle of the semester is recorded as a subject failed.

16. *Time of Scheduling Work.* All students shall register for classes during the class registration period. A fee of two dollars is charged for late registering for class work.

17. *Deficiencies in Year Courses.* A student who is conditioned (makes a grade *E*) on the first and second semesters' work of a subject continuing throughout the session shall be required to repeat the subject in class at the next recurrence.

A student who receives a grade *F* on first semester of a year

course cannot continue second semester in that course without special permission.

18. *How to Raise a Grade E.* A grade *E* may be removed as prescribed in Section 11. However, if a student makes a grade *E* in a subject which continues beyond the first semester and to the end of the second semester, the instructor may at the end of the session recommend that the grade be raised to a *D*, provided the grade made on the work of the second semester is *A* or *B*. In such a case the recommendation of the instructor shall be made a special report, must be approved by the director of the department, and must accompany the grades of the second semester.

19. *Promotion to the Junior and Senior Classes.* A student shall not be permitted to enroll in the senior class until all the work of the freshman and sophomore classes has been completed. A student shall not be admitted to the junior or senior classes who has not received grades above *D* on 50 per cent of his credit hours.

20. *Requirements for Graduation.* For graduation a student must have completed as many credit hours as are required in his course with a grade above *D* on 50 per cent of the total credit hours. All work must be completed before 5 P. M. on the Saturday preceding Commencement.

Residence of at least one regular session shall be required for graduation.

21. *Seniors Failing to Graduate.* A senior who fails to graduate because of either one *E* or one *F* on any subject shall have an opportunity of removing it by examination during the make-up period in September, provided he can furnish evidence of having done satisfactory study. Failing to do this he shall take the subject over with the next class.

22. *Change in Course.* Aimless shifting is discouraged; but for good reasons a change in course may be made at end of any semester. The student must meet the full requirements of the course to which he changes.

23. *Textbooks and Supplies.* Each student shall be re-

quired to own his individual text books and the necessary equipment, except in the case of brothers in the same class who room together.

All requests from the students to the faculty must be made in writing.

DEGREES AND DIPLOMAS

The degree of *Bachelor of Science* is awarded to those students who satisfactorily complete one of the four-year curricula. The course completed is specified on each diploma.

All work for a degree must be completed by 5 P. M. on the Saturday preceding Commencement. Residence of at least one regular session is required for graduation. Diplomas are delivered to the candidates on recommendation of the Faculty and approval of Board of Trustees. June graduates receive their diplomas Commencement Day.

Every candidate for a degree must pay to the Treasurer of the College prior to graduation the cost of the diploma.

PART III—STUDENT LIFE AND ACTIVITIES

LIVING CONDITIONS

At Clemson students live in barracks under military discipline. The College is located away from the distractions of city life but possesses many of its advantages. A student must at all times be present or accounted for.

The three barracks which house the students are steam heated and electrically lighted from the central power station located in rear of Barracks No. 2. Each building is provided with ample toilet facilities. In addition to the hot and cold water supplied to each of the barracks, running spring water is pumped to each floor for drinking.

The barracks or dormitories are divided into "halls" for military purposes, a unit being assigned to a hall under the supervision of a cadet officer.

Cadet officers remain on duty in the guard room both day and night. A long distance telephone with twenty-four hour service is located in the guard room.

Each student room is equipped with necessary furniture. The beds are single width. Bed linen, bed covers, pillows and towels must be furnished by the students.

All students are required to provide themselves with two mattress covers and two clothes bags. These are regulation articles and can be secured only at the College. One set will likely serve for use during the four years.

The dining hall or mess hall is located in Barracks No. 1 and is under the supervision of the mess officer. The mess hall is well equipped with silverware, china, glassware, table linen, etc. The kitchen and cold storage plant is one of the very best in the South. All students living in the barracks eat in the mess hall.

RESERVE OFFICERS' TRAINING CORPS

Under the provisions of the National Defense Act, the War Department has established at Clemson College an infantry unit of the Reserve Officers Training Corps. All students of the College, unless excused by the President, are required to take a minimum of three hours per week of military training. To be admitted to membership in the corps and to receive the privileges connected therewith, juniors and seniors must be recommended by the President and the Professor of Military Science and Tactics. All members at the completion of the junior class will be required to attend a summer camp, where their expenses will be paid by the Federal Government. After graduation the student may upon the recommendation of his instructors, receive a commission in the Officers Reserve Corps. As long as Clemson College is designated by the War Department as a "Distinguished College", five per cent of its graduates may be commissioned as second lieutenants in the regular army on the same basis as are graduates from the United States Military Academy at West Point.

CARE OF THE SICK

The Surgeon is one of the regular officers of the College, and his special duty is to look after the health of the students. He has charge of the hospital, and supervises all matters pertaining to the sanitation of barracks.

At a specified time every day, students who so desire may consult the Surgeon, and those who are sick are cared for by experienced nurses in the college hospital. In case of necessity students are allowed to consult the Surgeon at any time, or send for him, as may be required.

The material facilities for the hospital have been improved recently. An X-ray machine has been installed which is a very valuable asset.

The College Surgeon who has charge of the sick is assisted by a registered nurse and an X-ray and laboratory technician.

The Surgeon cannot undertake to notify parents every time

a student reports to the hospital for medicine, or for rest on account of some slight complaint. However, they may rest assured that they will be promptly notified of sickness of any consequence. In case of serious illness the Surgeon will telegraph them.

RELIGIOUS INFLUENCES

Clemson co-operates with the various churches and the Y. M. C. A. in the religious training of its students.

Four denominations, Baptist, Episcopal, Methodist, and Presbyterian, have erected churches in the community. All Protestant students are required to attend the Sunday morning services at one of the churches. Arrangements are made for services for students of other denominations.

Free Elective Courses in Religion are offered. This work is not financed by the College. For information regarding these courses see write up under "Description of Courses."

Devotional services are held regularly in chapel. The college pastors conduct these exercises.

Sunday schools and young people's church societies are maintained by the local churches. Attendance upon these services is voluntary.

The Young Men's Christian Association. The Young Men's Christian Association is housed in its own building. The "Y" has become the chief social gathering place and is the center of voluntary religious activity. During the current session approximately 640 students have been enrolled in voluntary Bible study classes. Three trained secretaries are employed by the Association.

The Young Men's Christian Association has supervision of the voluntary religious activities of the students and endeavors to serve the religious, social and physical life of the college community in keeping with the general policies of the international organization. It is a democratic student organization, advised by a board of faculty and business men. The general secretary is elected by this board and he, with the advice and consent of

the board, selects an assistant secretary. The secretaries have no official connection with the College as disciplinarians or instructors.

The student officers are elected annually by the active members. The president has the appointive power and selects a chairman for each committee. The chairman of each committee then selects his committeemen. These chairmen constitute the cabinet and meet regularly each week for consultation and reports. The work is divided into Bible Study, Mission Study, Community Service, Membership Conferences, Socials, Religious Meetings, Church Relationships, Evening Watch, Gospel Teams, and Boys' Work.

Opportunity is afforded each man to enroll in one of the voluntary Bible classes. These classes are led by students, members of the faculty and ministers of the different churches.

The Sunday night union service is held at the Y. M. C. A. and has been attended by approximately three hundred and fifty each night. Local and visiting speakers speak at these services.

Numerous speakers of State-wide and national importance are brought to Clemson through the efforts of the Y. M. C. A.

ATHLETICS

It is the policy of the College to sanction and encourage athletics so long as this does not interfere with studies and other duties. Football, baseball, basketball and track are the most popular sports, and it is assumed that parents are willing for their sons to participate in these games unless the President is definitely notified to the contrary. The College is a member of the Southern Conference (S. C.) and of the South Carolina Intercollegiate Athletic Association (S. C. I. A. A.).

Intercollegiate Athletics. For the regulation of intercollegiate athletics, the faculty has adopted the following rules:

1. No student who has a class mark lower than passing in more than eight hours of work in any one semester shall be allowed during the ensuing semester to take part in any inter-

collegiate contest. Changing from one course to another shall not interfere with the operation of this rule.

At the end of each grading period, the faculty athletic committee will canvass the record of athletes, and if any are found to be so deficient as to endanger their scholastic standing, they will be withdrawn from the squad.

In order to participate in intercollegiate contests, each athletic team may be allowed a maximum absence of ten days during the session (Saturday afternoon, Sunday and holidays not to be included). No one contestant or representative shall be allowed to leave the campus for more than twenty days during the session, except at the discretion of the faculty athletic committee.

2. No member of an athletic team shall be eligible for a managerial position in any other branch of sport.

3. No team shall be allowed to leave the college grounds to participate in any match games unless accompanied by a member of the faculty, who shall be responsible to the faculty for the conduct of the players and coaches while away from the College. Such representative shall be appointed by the chairman of the faculty athletic committee, and his expenses shall be included in the expenses of the trip, provided that when any team, except the football team, leaves the college grounds, the chairman, at his discretion, may appoint a player or a manager in place of a member of the faculty.

4. No student shall be eligible to participate in an intercollegiate contest who is away from the College without proper authority, or without having complied with all the rules or orders issued by the President regarding such matters.

5. It shall be the duty of the faculty athletic committee to see that the foregoing rules and regulations are strictly enforced.

LYCEUM COURSE

A lyceum course, comprising about six numbers and employing some of the best talent on the American platform, is offered as a means of entertainment to students and others.

CLUBS AND SOCIETIES

Dairy Club. This is a student organization composed of juniors and seniors who are taking dairying. The object of this club is to promote interest in the dairy industry and to provide experience for students in leading discussions on various topics of interest in their chosen field. Members of the faculty of this division assist the students in carrying out these objectives.

Horticultural Club. The students who are interested in coming together for a study and discussion of the various phases of the horticultural field—vegetable gardening, truck farming, landseaping, and horticultural inspection work—have an opportunity to do this with the cooperation of the instructional staff of the horticultural division in this organization.

Entomology and Zoology Club. The study of the sciences of entomology and zoology is stimulated by this organization which is operated as a Seminar. Opportunity is provided for making reports of a scientific nature.

Chemistry Science Club. This is a voluntary student organization the purpose of which is to keep in touch with current scientific literature and to provide an opportunity for leading discussions and giving scientific papers on topics of interest.

Agricultural students who major in chemistry as well as students who are candidates for the Bachelor of Science degree in chemistry are eligible to membership in this society. The chemistry faculty cooperates to the fullest in making this organization of real value.

English Club. This is a club composed of students in English, whose purpose is to stimulate a keener interest in good literature. Members of the faculty may become honorary members.

Journalistic Club. The purpose of this club is to stimulate an interest in written and spoken English, and to foster *The Chronicle* as the literary publication of the College. Awards are given those who attain certain definite standards.

The American Institute of Electrical Engineers. The Clem-

son College branch of this organization is composed of instructors and students belonging to the national institution. This branch is maintained with the aim of acquainting the students with current engineering practice and problems.

American Society of Mechanical Engineers. A local branch of the national society, composed of faculty members and of students pursuing mechanical engineering, is established at the College. Meetings are held periodically for the discussion of the latest engineering practices.

American Society of Civil Engineers. Membership in this is limited to civil engineering students as follows: All seniors in good standing, the seven juniors having the highest class standing, and the one sophomore having the highest class standing.

Regular meetings are held monthly, and at such other times as exigencies favor. At these meetings engineering practice is presented and discussed, speakers from outside the College being obtained as often as practicable.

Architectural Society. Students in architecture have formed an organization known as the Minaret Club, for the purpose of bringing them in contact with certain phases of that profession which are not given in the ordinary experience in class work. Occasionally prominent architects from near by cities are invited to lead discussions.

Textile Society. Students of the textile courses have organized a society for a study of this industry in South Carolina. Noted textile leaders are invited to address this organization. Members of the textile faculty cooperate with the students in carrying out their programs.

Dramatic Club. There has been considerable interest aroused in dramas among the student body. This interest has found expression through the work of the Dramatic Club. This work is under the direction of faculty members who are especially interested in dramas.

The Sabre Club, a local honorary military society sanctioned by the College authorities, is active along military lines and is instrumental in making better officers.

Tau Beta Pi, National Scholastic Honorary Engineering Society. A national honorary engineering society drawing its membership from the upper twenty per cent of the students enrolled in the Civil, Electrical and Mechanical Engineering courses, the highest ten per cent being elected during the second semester of the Junior year and the next highest ten per cent during the first semester of the Senior year. The relative standing of a student in his class, from which eligibility for this society is determined, is based upon the weighted average of his scholastic attainments in all of his college work up to the time of selection.

This society was founded in June 1885 at Lehigh University at South Bethlehem, Pennsylvania, and is now represented by active chapters in fifty-six of the leading technical schools and departments of universities in this country. The Clemson College branch, known as South Carolina Alpha, was established on November 23, 1928.

Phi Psi Fraternity. Phi Psi is the largest strictly textile national fraternity. The chapter at Clemson College (Iota) was granted in April, 1927. The objects of this fraternity are: (1) to encourage a high standard in textile work and education; (2) to assist, by every honorable means, the advancement of its members; and (3) to promote good fellowship among congenial men of the schools and colleges having textile departments. Phi Psi was founded in 1903 and now has nine student chapters, numerous alumni chapters, and about fifteen hundred members in all parts of the world. It has an enviable record of high standing and standards. Many of its members are men of great influence in the textile world. Members of Iota Chapter are elected from the students of highest scholastic standing, but must possess many other commendable characteristics.

Agricultural Economic Club. This club meets on the second and fourth Thursdays of each month. The club was organized by students of agricultural economics for the purpose of discussing various phases of economics in its relation to agriculture, industry and commerce. The object of this club is to stimulate more interest in the study of agricultural economics topics, to

encourage sound economic thinking and to further the acquaintanceship of Faculty and students. Membership is open to students majoring in agricultural economics and to members of the college Faculty, Experiment Station staff and Extension Service whose work is of an agricultural economic character. Outside speakers are at times secured for special meetings which are open to the public.

The Band. Clemson College has been noted for its excellent musical organizations, of which the band is the oldest. This organization occupies one section in barracks which affords opportunity for close contact with its members.

Each year the band is invited to many places in the State to give entertainments. The experience that a student has during his four years in college as a member of this organization is very valuable.

The Glee Club. The club is composed of student members and is trained by a student director. Permits are given this club, as to others, to visit neighboring towns to give concerts.

Literary Societies. Three literary societies—the Calhoun, the Columbian, and the Palmetto—furnish a valuable supplement to the work of the College. These societies afford facilities for practice in debate, oratory, declamation, and essay writing, and their members acquire valuable knowledge of parliamentary law and usage. The meetings are held weekly.

A representative is chosen from each society to enter the contest for the Trustees' Medal at Commencement. The societies themselves also award medals annually to the best debater, orator, and declaimer.

The societies occupy halls in the administration building. A small initiation fee is charged, and small yearly dues are collected to meet running expenses. All students are advised to join one of these societies.

The societies also send a representative to the annual contests of the South Carolina Intercollegiate Oratorical Association, which includes the following institutions: Furman Univer-

sity, Wofford College, Clemson Agricultural College, Presbyterian College of South Carolina, Erskine College, Newberry College, South Carolina Military Academy, and the University of South Carolina.

PUBLICATIONS

The Clemson College Chronicle, a monthly magazine designed to encourage literary work among the students, is published jointly by the literary societies.

The Tiger, a weekly paper, is devoted largely to athletics, alumni and local news.

Taps, an annual illustrated volume, is published under the auspices of the senior class.

Agricultural Education, a monthly bulletin, is issued by the Division of Agricultural Education.

News Notes, a weekly pamphlet, and *The Carolina Club Boy*, are issued by the Division of Agricultural Extension.

CLEMSON COLLEGE ALUMNI ASSOCIATION

The Alumni Association has established a permanent office in the main building on the campus. The office is in charge of a secretary, who is employed by the governing board of the Association. The Clemson office is a clearing house for all matters concerning the alumni. In addition to keeping accurate records of addresses and information concerning alumni, the Association has established at the Clemson headquarters a bureau for repairing Clemson class rings, and for securing duplicates of these rings.

A valuable service to alumni is rendered in assisting them in securing employment. Many employers have made contacts with alumni through the Secretary's office.

The Association holds its regular annual meeting at the College on Monday of Commencement. At this meeting all officers, with the exception of the Secretary, are elected. The Secretary is elected by the governing board which is in turn responsible to the general Association for the conduct of its busi-

ness. The purpose of the Alumni Association is to serve the College and the alumni in every possible way. All correspondence regarding its affairs is conducted through the Clemson office.

The Association issues at intervals *The Alumnus*, a publication devoted entirely to college and alumni news.

OFFICERS CLEMSON ALUMNI ASSOCIATION

President

T. W. Thornhill, '14 ----- Charleston

First Vice-President

Claude Douthit, '02 ----- New York City

Second Vice-President

A. M. Klugh, '08 ----- Anderson

Third Vice-President

L. D. Boone, '10 ----- Aiken

Secretary-Treasurer

E. G. Parker, '24 ----- Clemson College

GOVERNING BOARD

Ex-officio

T. W. Thornhill, '14 ----- Charleston

Ex-officio

E. G. Parker, '24 ----- Clemson College

Term Expires 1934

L. O. Mauldin, '00 ----- Greenville

Term Expires 1933

D. W. Watkins, '09 ----- Clemson College

Term Expires 1932

C. W. Legerton, '03 ----- Charleston

Term Expires 1931

E. R. McIver, '05 ----- Florence

Term Expires 1930

A. H. Ward, '14 ----- Aiken

PART IV—ORGANIZATION AND GOVERNMENT

COLLEGE ORGANIZATION BY DEPARTMENTS AND DIVISIONS

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. <i>Agricultural Department</i> $\left\{ \begin{array}{l} \text{Extension} \\ \text{Teaching} \\ \text{Research} \end{array} \right.$
Agricultural Economics
Agronomy
Animal Husbandry
Botany and Bacteriology
Dairying
Education
Geology and Mineralogy
Horticulture
Poultry
Veterinary Science
Zoology and Entomology</p> <p>2. <i>Arts and Science Department</i>
Economics and Sociology
English
History
Mathematics
Modern Languages
Physics
Religion*</p> <p>3. <i>Chemistry Department</i>
Chemistry
Chemical Analysis (Public State Work)</p> <p>4. <i>Engineering Department</i>
Architecture and Drawing
Civil Engineering
Electrical Engineering
Forge and Foundry
Mechanical Engineering
Machine Shop
Wood Shop</p> | <p>5. <i>Military Department</i>
Military Instruction
Military Discipline</p> <p>6. <i>Physical Education</i>
Corrective Gymnastics
Intramural Athletics
Intercollegiate Athletics</p> <p>7. <i>Textile Department</i>
Carding and Spinning
Industrial Education
Textile Chemistry and Dyeing
Textile Research
Textile Testing
Weaving and Designing</p> <p>8. <i>Public State Work</i>
Fertilizer Inspection and Analysis
Live Stock Sanitary Work
Crop Pest Commission Work</p> <p>9. <i>Miscellaneous</i>
President's Office
Registrar's Office
Business Manager's Office
Treasurer's Office
Hospital
Library</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

*Note: Division not financed by the College; but is under the supervision of the Arts and Science Department.

COLLEGE GOVERNMENT

Board of Trustees. The government of the College is vested in a Board of thirteen members, six of whom are elected by the Legislature and seven life and self-perpetuating under the Clemson will. The function of this Board is legislative and not executive. The Board determines the general policy of the College, makes the laws for its government, and directs the expenditure of its funds.

The President is the chief executive and administrative officer of the Board of Trustees. He is the head of the College and is responsible for its satisfactory working and success.

The College is divided into seven teaching departments, namely: Agricultural, Arts and Science, Chemistry, Engineering, Military, Physical Education and Textile. A director is at the head of each department and is responsible to the President for its conduct and success. The departments comprise the various divisions indicated on the preceding page. Each division is in charge of a professor who acts as chief of the division. The President conducts all official business with each department through its director.

The Faculty consists of all officers of instruction in the College. The voting members are the directors, professors, associate professors, and assistant professors.

The faculty meets at least once a month, or whenever called by the President, and is an advisory body to the President, on the instructional work of the College and on such other business as he may bring before it.

Faculty Committees. In order to aid him in his executive duties and to carry on the instructional work of the College, the President appoints committees from the faculty. To these are assigned certain specified lines of work and the committees are clothed with full authority.

The Discipline Committee. The Discipline Committee is composed of six directors of departments and two full professors elected annually by the Board of Trustees. This com-

mittee constitutes the court of the College and tries cadets charged with serious offenses under the regulations. The President is the reviewing authority of the Discipline Committee, and may at his discretion set aside or modify the sentences imposed. A parent, or a cadet over age, has the right to appeal from the sentence of the Discipline Committee to the Board of Trustees, provided the appeal is lodged with the President of the College within thirty days. This appeal must be forwarded to the President of the Board of Trustees, who if he deems the appeal meritorious, shall present it at the next regular or called meeting of the Board.

All trials by the Discipline Committee are open to the public, and all testimony is taken under oath and recorded stenographically as in a civil court. A student on trial may have some member of the faculty to assist him in his defense if he so desires.

CADET MILITARY ORGANIZATION AND GOVERNMENT

Clemson College is operated as a military school,—not for the purpose of making soldiers, but in order that the students may learn important life-lessons of obedience to authority, punctuality, system, courtesy and loyalty. The military system insures proper exercise and physical development, guarantees to the parent that the student shall at all times be present at the College, or away by proper authority, insures attendance upon classes and other duties, and insures proper provision for study as well as for recreation.

The military system places every student on the same basis. All students must dress alike, live under the same conditions, and be subject to the same privileges and the same restraints. No distinction whatever is made because of wealth or social position or any other such consideration. The only distinguished men in a cadet corps are those who achieve the distinction by being able to do some one thing better than their fellow students.

The military system does not in any way interfere with the regular college work, and on the other hand enables this to be carried on at the highest efficiency. It is the military training

more than any other single feature that gives to Clemson's graduates an advantage which is an important factor in their future progress and success.

The President. The President of the College shall have the general command and government of the institution, watching over its administration, discipline and instruction. He shall have authority to make rules from time to time, governing the granting of permits and furloughs to cadets; to inspect anything in a cadet's room or personal baggage; to suspend or modify these regulations, or to publish special regulations when he considers it necessary, which shall have the authority of the Board of Trustees until they shall act on the same. He shall prescribe the hours of study, drill and recreation.

Commandant. The Commandant of Cadets, under the President, has supervision of the Corps of Cadets in all that pertains to its organization, drill, discipline and administration. He shall prescribe the order in which the furniture, bedding, books, clothing, equipment, etc., shall be arranged throughout the barracks and shall make a thorough inspection of the rooms, furniture, arms, equipment and uniforms of the cadets at least once each week. He shall have the right to inspect anything in a cadet's room or personal baggage. He shall perform such other duties as are prescribed in these regulations. He shall have the rank of Colonel.

Assistant Commandants. The Assistant Commandants shall perform such duties as may be prescribed for them by the President or Commandant.

Military Instruction. All students, excepting such students as are excused by the President, must take a minimum of three hours military instruction per week. All who pass the required physical examination must take the Basic Course prescribed by the War Department for the R. O. T. C. during their freshman and sophomore years.

Members of the junior and senior classes are selected by the Professor of Military Science and Tactics, subject to the approval of the President, to take the Advanced Course prescribed

for the R. O. T. C., receiving certain financial benefits allowed by the Federal Government.

Cadet Officers and Non-commissioned Officers. The cadet officers and non-commissioned officers are appointed by the Commandant, subject to the approval of the President. When practicable they shall be appointed from members of the R. O. T. C. who have been most studious and soldier-like in the performance of their duties and most exemplary in their conduct. No cadet may decline any office to which he may be appointed.

As a rule the officers shall be appointed from the senior class, the non-commissioned officers, except corporals, from the junior class, and the corporals from the sophomore class.

Study Hours and Class Hours. Study hours are those parts of the day which are designated for study and shall be prescribed in orders. All hours at which a student has no classes or other duties may be used as study hours and students are expected to use vacant hours during the day as well as the study period after supper for study. Classes are scheduled from 8 A. M. to 6 P. M. daily except Saturday. Classes are scheduled to 1 P. M. Saturday.

Furlough and Passes. Any cadet who has been granted a furlough or pass and who stays over the time stipulated, unless for sickness or other good and valid reason acceptable to the Commandant, will be awarded a punishment not to exceed one month's arrest and twenty demerits. In case a cadet is prevented by sickness from returning at the stipulated time, he must submit a certificate from his attending physician. However, no such certificate will be accepted unless the President or the Commandant has been notified in advance of the expiration of the furlough.

Cadets returning late on furlough or pass are placed in room arrest pending an investigation of the reason of the late return.

All communications from parents requesting furloughs for their sons must be addressed or sent directly to "The Com-

mandant" or to "The President", and must set forth fully the reason for the request. No furloughs will be granted unless the reasons given are considered satisfactory and sufficient justification for any loss of time for absence from classes or other duties. Telegrams which do not explain fully will not be accepted as complying with the above rules. In any case in which business is given as a reason, the nature of the business must be explained fully.

A parent has the right to demand a discharge from college at any time and for any reason but the college authorities reserve the right to grant or refuse to grant furloughs.

Week-End Leaves. Week-end leaves will be granted under conditions prescribed by the President.

Demerits. Any regular cadet who may receive within any one semester more than 100 demerits during his freshman year, or more than 80 demerits during his sophomore year, or more than 70 demerits during his junior year, or more than 65 demerits during his senior year; or any day cadet who may receive within any one semester more than 80 demerits during his freshman year, or more than 70 demerits during his sophomore year, or more than 60 demerits during his junior year, or more than 50 demerits during his senior year shall be required, by the President, to immediately withdraw from college.

Discharge. No cadet unless twenty-one years of age and paying his own way at college shall be honorably discharged except on the written application of his parents or guardian addressed to the President or the Commandant, or for reasons satisfactory to the President.

Motor Vehicles. No cadet, day cadet, special student, or day student shall own or operate any automobile or motorcycle during the regular session of the College, except by special permission from the President.

PART V.—REQUIREMENTS FOR DEGREES, COURSES OF STUDY

REQUIREMENTS FOR DEGREES

The degree of Bachelor of Science is awarded to those students who satisfactorily complete one of the four year curricula. In addition to the prescribed courses at least fourteen hours of free electives are required. Other electives are subject to the approval of the director of the department in which the major course is taken. Any subject is elective provided the requirements of the major curriculum are fulfilled and the student has had the prerequisites of that subject, and meets the other conditions. A minimum of sixteen semester credit hours is required. No student is allowed to take over twenty semester credit hours without special permission of the Registrar. Subjects in major courses other than those prescribed may be elected with the consent of the director.

All work for a degree must be completed by 5 P. M. on the Saturday preceding Commencement. Residence of at least one regular session is required for graduation. Diplomas are delivered to the candidates on Commencement Day. The college also provides for students to complete their requirements for a degree at the end of the first semester. Diplomas are delivered at that time.

Prior to graduation, every candidate for a degree must pay to the Treasurer of the College the cost of his diploma.

A two hour per week non-credit course may be required of all students who do not show a proficiency in English Composition.

Where summer work is scheduled the director may give credit for it as a substitute for practical work.

In the curricula which follow are given the official title and number of the course, the descriptive title, number of semester hours credit, and in parentheses the number of hours per week in class and laboratory, respectively.

COURSES OF STUDY

The College offers the following courses of study:

1. *Agriculture*

Four-year courses in Agriculture with major work in (a) Agronomy, (b) Animal Husbandry, (c) Agricultural Chemistry, (d) Dairy Husbandry, (e) Agricultural Economics, (f) Education, (g) Horticulture, (h) Zoology and Entomology.

2. *Arts and Science*

(a) Four-year General Course.

3. *Chemistry*

Four-year course in Chemistry.

4. *Engineering*

- (a) Four-year course in Architecture.
- (b) Four-year course in Civil Engineering.
- (c) Four-year course in Electrical Engineering.
- (d) Four-year course in Mechanical Engineering.
- (e) Four-year course in Industrial Education.

5. *Textiles*

- (a) Four-year course in Textile Engineering.
- (b) Four-year course in Textile Industrial Education.
- (c) Four-year course in Textile Chemistry and Dyeing.
- (d) Four-year course in Weaving and Designing.
- (e) Four-year course in Yarn Manufacturing.

6. *Summer School*

Short courses are offered during the months of June and July to teachers, cotton graders, agricultural club boys, and college students.

7. *Graduate Studies*

M. S. degrees are offered in Agronomy, Agricultural Economics, Education, Horticulture, Zoology and Entomology, and Textile Chemistry and Dyeing.

1.—AGRICULTURE

The course in agriculture, supplemented by work in mathematics, English, political economy, rural sociology, history, and the natural sciences, allows no differentiation during the first and second years. Its object is to give the student a broad general knowledge of the subject so that he will have a sound foundation for specialization during his junior and senior years. At the end of the sophomore year it is expected that he will be able to choose intelligently which line of agricultural work he desires to follow.

In the junior year a student is given the choice of electing agricultural economics, agricultural education, agronomy, animal husbandry, chemistry, dairying, entomology or horticulture. A major course requires approximately six hours per week of recitations, and six hours per week of laboratory each semester. In addition to the major work during the senior year, a sufficient number of elective courses must be selected to bring the number of semester credit hours up to not less than 16 and not more than 20.

AGRICULTURE

FRESHMAN YEAR

First Semester

Agr. 11, Field Crops.....	3	(3,0)
Chemistry 11, General	3½	(3,2)
English 11, Comp. and Am. Lit..	2	(2,0)
*History 11, Citizenship	3	(3,0)
Math. 15, Ag. Mathematics	3	(3,0)
M. E. 11, Ag. Forge	¾	(0,2)
M. E. 16, Ag. Woodwork	¾	(0,2)
Military Science 11	1	(0,3)
Physical Education 11	¾	(0,2)

17¾

Second Semester

*Ag. Ec.12, Elementary Ag. Ec..	3	(3,0)
A. H. 12, Types and Market Classes of Livestock	3½	(3,2)
Chemistry 12, General	3½	(3,2)
English 12, Comp and Am. Lit..	2	(2,0)
Hort. 12, Veg. Gard.	2½	(2,2)
Military Science 12	1½	(1,2)
Orientation	½	(0,1)
Physical Education 12	¾	(0,2)

17¾

SOPHOMORE YEAR

Botany 21, Agricultural	2½	(2,2)
Chemistry 21, Analytical Qual..	2	(1,3)
English 21, Lit. and Adv. Comp..	2	(2,0)
Geology 21, Agricultural	3	(3,0)
Military Science 21	1	(0,3)
Physics 29	2½	(2,2)
Z. & E. 21, Zoology	2½	(2,2)
Hort. 21, Fruit Growing	2½	(2,2)
Agr. 22, Farm Machinery	2½	(2,2)
Agr. 20, Soils	2½	(2,2)
Botany 22, Agricultural	2½	(2,2)
Chemistry 22, Organic	2	(2,0)
Chemistry 22a, Analy. Quant. ..	¾	(0,2)
Dairy Husb. 20, Dairying	2½	(2,2)
English 22, Lit. and Adv. Comp. 2		(2,0)
Military Science 22	1½	(1,2)

18¾

17¾

*Offered both semesters.

AGRICULTURE

JUNIOR YEAR

First Semester

Econ. & Soc. 33 -----	3	(3,0)
English 31, Public Speaking ---	1	(1,0)
Military Science 31 -----	1	(0,3)
Major required and electives---	11-15	

Second Semester

English 32, Public Speaking --	1	(1,0)
Military Science 32 -----	$\frac{3}{4}$	(0,2)
Major required and electives---	14 $\frac{1}{2}$ -18 $\frac{1}{2}$	

16-20

16 -20

SENIOR YEAR

Military Science 41 -----	1	(0,3)
Major required and Electives---	15-19	

Military Science 42 -----	$\frac{3}{4}$	(0,2)
Major required and Electives---	15 $\frac{1}{2}$ -19 $\frac{1}{2}$	

16-20

16 -20

1a.—AGRONOMY*

JUNIOR REQUIRED

Agr. 31, Fertilizer & Manures --	2	(2,0)
Bacteriology 31, General -----	3 $\frac{1}{2}$	(2,4)
Z. & E. 31, Intro. & App. Ent.--	2 $\frac{3}{4}$	(2,2)
Electives -----	8-12	

Agr. 30, Forage Crops -----	3	(3,0)
Agr. 32, Genetics -----	2 $\frac{3}{4}$	(2,2)
Agr. Ec. 32, Price Economics---	2 $\frac{3}{4}$	(2,2)
Bot. 32, Forestry -----	2 $\frac{3}{4}$	(2,2)
Electives -----	5- 9	

16 -20

16-20

SENIOR REQUIRED

Agr. 41, Adv. Cotton -----	2	(2,0)
Agr. 45, Adv. Crops -----	2	(2,0)
Agr. 47, Adv. Crop Lab. -----	$\frac{3}{4}$	(0,2)
Agr. 49, Plant Breeding -----	2 $\frac{3}{4}$	(2,2)
Agr. 51, Crop Problems -----	1	(1,0)
Electives -----	7 $\frac{3}{4}$ -11 $\frac{3}{4}$	

Agr. 42, Soil Fertility & Man.--	2	(2,0)
Agr. 44, Advanced Soils -----	$\frac{3}{4}$	(0,2)
Agr. 50, Soil Problems -----	1	(1,0)
Bact. 44, Soil Bacteriology ---	3 $\frac{1}{2}$	(2,4)
Electives -----	9-13	

16 -20

16-20

1b.—ANIMAL HUSBANDRY

JUNIOR REQUIRED

A. H. 31, Prin. of Feeding-----	2 $\frac{3}{4}$	(2,2)
Bact. 31, General -----	3 $\frac{1}{2}$	(2,4)
A. H. 33, Pork Production --	2 $\frac{3}{4}$	(2,2)
Electives -----	7 $\frac{1}{2}$ -11 $\frac{1}{2}$	

P. H. 32, Farm Poultry -----	2 $\frac{3}{4}$	(2,2)
Agr. 30, Forage Crops -----	3	(3,0)
A. H. 32, Judging -----	$\frac{3}{4}$	(0,2)
Vet. Sc. 30, Anat & Phys.-----	2 $\frac{3}{4}$	(2,2)
Electives -----	7-11	

16-20

16-20

SENIOR REQUIRED

A. H. 41, Feeds & Feeding-----	2 $\frac{3}{4}$	(2,2)
A. H. 43, Beef Production -----	2 $\frac{3}{4}$	(2,2)
A. H. 45, Adv. Stock Judging--	2 $\frac{3}{4}$	(2,2)
Electives -----	8-12	

A. H. 40, Animal Breeding-----	2 $\frac{3}{4}$	(2,2)
A. H. 42, Sheep Production-----	2 $\frac{3}{4}$	(2,2)
A. H. 50, Spec. Problems -----	1	(1,0)
Electives -----	9 $\frac{3}{4}$ -13 $\frac{3}{4}$	

16-20

16-20

*For description of graduate work of this department see pages 195-196.

1c.—AGRICULTURAL CHEMISTRY

JUNIOR REQUIRED

First Semester

Bacteriology 31, General	-----3½ (2,4)
Chemistry 25, Organic	-----3½ (3,2)
Geol. 33, Mineralogy	-----2½ (2,2)
Chemistry 33, Quantitative	-----1½ (0,4)
Electives	-----5- 9

16-20

Second Semester

Chem. 26, Organic	-----3½ (3,2)
Geol. 34, Mineralogy	-----2½ (2,2)
Chem. 33a, Quantitative	-----1½ (0,4)
Electives	-----8½-12½

16 -20

SENIOR REQUIRED

Chem. 41, Adv. Inorganic	-----2 (2,0)
Chem. 43, Colloids	-----2 (2,0)
Chem. 45, History	-----2 (2,0)
Chem. 47, Tech. Analysis	-----2 (0,6)
Electives	-----8-12

16-20

Chem. 42, Adv. Inorganic	-----2 (2,0)
Chem. 44, Colloids	-----2 (2,0)
Chem. 46, Stoichiometry	-----2 (2,0)
Chem. 50, Thesis	-----2 (0,6)
Electives	-----8-12

16-20

OR

Chem. 31, Physical	-----4½ (3,4)
Chem. 47, Tech. Analysis	-----2½ (0,8)
Electives	-----9-13

16-20

Chem. 32, Physical	-----4½ (3,4)
Chem. 47 or 50, Tech. Analysis or Thesis	-----2½ (0,8)
Electives	-----9-13

16-20

1d.—DAIRY HUSBANDRY

JUNIOR REQUIRED

A. H. 31, Prin. of Feed	-----2½ (2,2)
Bact. 31, General	-----3½ (2,4)
Electives	-----10-14

16-20

Agr. 30, Forage Crops	-----3 (3,0)
Chem. 38, Dairy Chemistry	-----3½ (2,4)
D. H. 30, Judging	-----¾ (0,2)
Vet. 30, Anatomy & Physiology	-----2½ (2,2)
Electives	-----6½-10½

16 -20

SENIOR REQUIRED

D. H. 41, Dairy Manufacturing	-----2½ (2,2)
D. H. 43, Creamery Org. & Man.	-----3 (3,0)
D. H. 45, Feeding and Manage- ment	-----2½ (2,2)
D. H. 47, Genetics	-----2½ (2,2)
D. H. 51, Problems	-----1 (1,0)
Electives	-----4- 8

16-20

Bact. 40, Dairy Bact.	-----3½ (2,4)
D. H. 42, Dairy Manufacturing	-----3½ (2,4)
D. H. 44, Breeding	-----1½ (1,2)
D. H. 48, Adv. Dairy Farm	-----2½ (2,2)
D. H. 50, Problems	-----1 (1,0)
Electives	-----4- 8

16-20

1e.—AGRICULTURAL ECONOMICS*

JUNIOR REQUIRED

First Semester

Ag. Ec. 31, Statistical Md.	1½ (1,2)
Ag. Ec. 33, Farm Acct.	2½ (1,4)
Ag. Ec. 35, Prin. of Mktg.	3 (3,0)
Bact. 31, General	3½ (2,4)
Electives	5½-9½

16 -20

Second Semester

Ag. Ec. 32, Price Economics....	2½ (2,2)
Ag. Ec. 34, Farm Org. & Mgt....	2½ (2,2)
Bot. 32, Forestry	2½ (2,2)
Eng. 32, Business Law	2 (2,0)
Electives	6-10

16-20

SENIOR REQUIRED

Ag. Ec. 41, Farm Movements....	3 (3,0)
Ag. Ec. 43, Agric. Finance	2 (2,0)
Ag. Ec. 49, Cotton Mktg.	3 (3,0)
Electives	8-12

16-20

Ag. Ec. 42, Rural Sociology....	2½ (2,2)
Ag. Ec. 44, Land Economics....	2½ (2,2)
Geol. 40, Econ. Geography	3 (3,0)
Electives	7½-11½

16 -20

1f.—AGRICULTURAL EDUCATION*

JUNIOR REQUIRED

A. H. 31, Prin. of Feed	2½ (2,2)
Ed. 31, Introduction to Ag. Ed....	3 (1,6)
Electives	10½-14½

16 -20

Bot. 32, Forestry	2½ (2,2)
Ed. 32, Ed. Psych.	3 (2,3)
P. H. 32, Farm Poultry	2½ (2,2)
Electives	7½-11½

16 -20

SENIOR REQUIRED

Ed. 41, Prin. of Vocational Ed....	4 (1,9)
Electives	12-16

16-20

Ed. 40, Ag. Prac. Teaching....	5 (0,15)
Ed. 42, Methods in Ag. Ed....	3 (3,0)
Electives	8-12

16-20

1g.—HORTICULTURE*

JUNIOR REQUIRED

Bact. 31, General	3½ (2,4)
Hort. 31, Plant Prop.	2½ (2,2)
Z. & E. 31, Intro. & Appl. Ent....	2½ (2,2)
Electives	7½-11½

16 -20

Ag. 32, Genetics	2½ (2,2)
Bot. 30, Plant Phys.	3½ (2,4)
Hort. 32, Prin. Veg. Prod....	2½ (2,2)
Hort. 33, Land. Gard.	2½ (2,2)
Electives	4½-8½

16 -20

*For description of graduate work in this department see pages 196-199.

1g.—HORTICULTURE*

SENIOR REQUIRED

First Semester

Hort. 41, Syst. Pom.	2½ (2,2)
Hort. 43, Veg. Crops	2½ (2,2)
Hort. 50, Spec. Prob.	1 (1,0)
Electives	9½-13½

16 -20

Second Semester

Agr. Ec. 32, Price Econ.	2½ (2,2)
Hort. 42, Com. Pomology	2½ (2,2)
Hort. 51, Spec. Problems	1 (1,0)
Electives	9½-13½

16 -20

1h.—ZOOLOGY AND ENTOMOLOGY*

JUNIOR REQUIRED

Bact. 31, General	3½ (2,4)
Z. & E. 31, Intro. & App. Ent.	2½ (2,2)
Electives	10-14

16-20

Bot. 30, Plant Physiology	3½ (2,4)
Bot. 32, Forestry	3½ (2,2)
Z. & E. 32, Gen. Ent.	3½ (2,4)
Electives	6½-10½

16 -20

SENIOR REQUIRED

Z. & E. 41, Econ. Ent.	2½ (2,2)
Z. & E. 45, Insect Morp.	2½ (2,2)
Z. & E. 47, Parasitology	2½ (2,2)
Z. & E. 51, Seminar	1 (1,0)
Z. & E. 59, Intro. to Res.	2½ (1,4)
Electives	4½-8½

16 -20

Z. & E. 42, Econ. Ent.	2½ (2,2)
Z. & E. 44, Beekeeping	1½ (1,2)
Z. & E. 46, Syst. Ent.	2½ (1,4)
Z. & E. 48, Ornithology	1 (0,3)
Z. & E. 50, Seminar	1 (1,0)
Electives	7½-11½

16 -20

2.—ARTS AND SCIENCE

This course is planned to meet the needs of those students who for any reason desire general training in the natural and social sciences. It is recommended for men preparing for medicine, law, teaching, and scientific investigation. With properly chosen electives one may complete in two years the minimum requirements for admission to a standard medical college. Those who complete three years of this course and later graduate from a medical college may be awarded the B. S. degree in Arts and Science.

*For description of graduate work of this division see pages 198-199.

ARTS AND SCIENCE

FRESHMAN YEAR

First Semester

English 11, Comp. and Am. Lit..2	(2,0)
History 17, Am. Econ. History..2	(2,0)
Botany 11, General	3½ (2,4)
Chemistry 11, General	3½ (3,2)
Military Sc. 11, Drill	1 (0,3)
Physical Education 11	¾ (0,2)
Language and Math. 17	

or

Math. 11 and 1 hr. elective.....	6 (6,0)
----------------------------------	---------

18¾

Second Semester

English 12, Comp. and Am. Lit..2	(2,0)
History 18, Am. Econ. History..2	(2,0)
Z. and E. 12, Gen. Zoology	3½ (2,4)
Chemistry 12, General	3½ (3,2)
Military Sc. 12, Drill	1½ (1,2)
Physical Education 12	¾ (0,2)
Language and Math. 18	

or

Math. 12 and 1 hr. elective.....	6 (6,0)
----------------------------------	---------

19¼

SOPHOMORE YEAR

English 21, Lit. and Adv. Comp..2	(2,0)
Physics 13, General	4 (3,2)
Military Science 21, Drill	1 (0,3)
Language (Cont.) or Geology 23..3	(3,0)
Groups 1 and 2	8-10

18-20

English 22, Lit. and Adv. Comp..2	(2,0)
Physics 14, General	4 (3,2)
Military Science 22, Drill	1½ (1,2)
Language (Cont.) or Nat. Sc....3	(3,0)
Groups 1 and 2	8-10

18¾-20

JUNIOR YEAR

English 31, Public Speaking ..2	(2,0)
E. and S. 31, Psychology	3 (2,2)
History 31, Hist. of Civiliz.....3	(3,0)
Military Sc. 31, Drill	1 (0,3)
Groups 1 and 2	6-8
Free elective	3

18-20

English (To be approved)	2 (2,0)
E. and S. 32, Psychology	3 (2,2)
History 32, Hist. of Civiliz.....3	(3,0)
Military Sc. 32, Drill	¾ (0,2)
Groups 1 and 2	6-8
Free elective	3

17¾-19¾

SENIOR YEAR

*E. and S. 41, Economics	2 (2,0)
Military Sc. 41, Drill	1 (0,3)
Groups 1 and 2	10-12
Free elective	5

18-20

E. and S. 42, Sociology	2 (2,0)
Military Sc. 42, Drill	¾ (0,2)
Groups 1 and 2	10-12
Free elective	5
English 50, Thesis	¾ (0,2)

18¾-20

Group 1. All courses offered by the following departments or divisions: Agricultural economics, economics and sociology, education, English, history and languages.

Group 2. All courses offered by the following departments or divisions: Botany and bacteriology, chemistry, geology and mineralogy, mathematics, physics and zoology and entomology.

*Offered both semesters.

ADDITIONAL REQUIREMENTS

For graduation in this course at least two years of one foreign language must be completed, either in a standard high school or in college.

Of the minimum of forty-eight semester credit hours to be selected from groups 1 and 2 at least twelve must be advanced work from *one* of these groups, in addition to elementary and prescribed courses.

3.—CHEMISTRY

This course is intended to prepare the student to engage in manufacturing operations involving a knowledge of chemistry, or for employment as chemist in commercial, or fertilizer inspection, or food and feeding-stuff inspection laboratories, and for experiment station or U. S. Government service. A student who has satisfactorily completed this course will also be well equipped to teach elementary chemistry, and to pursue advanced work in chemistry.

Beginning with the junior year, elections are allowed to some extent to enable the student to fit himself for one of the above lines of work by pursuing the subject in the direction of chemical engineering, organic, physical, analytical and sanitary chemistry. The advances in all branches of chemistry have made specialization to some extent necessary, whether the student expects to enter any of the various lines of work open to a graduate of a thorough course in chemistry, or to pursue graduate work. For the latter group, two years of a modern language should be included in the electives chosen as this is a common prerequisite for such graduate work at most universities.

CHEMISTRY

FRESHMAN YEAR

*First Semester**Second Semester*

Chem. 11, General -----	3½ (3,2)	Chem. 12, General -----	3½ (3,2)
English 11, Comp. and Am. Lit.---	2 (2,0)	English 12, Comp. & Am. Lit.---	2 (2,0)
Hist. 17, Am. Ec. Hist. -----	2 (2,0)	History 18, Am. Ec. Hist. -----	2 (2,0)
Math. 11, Trigonometry -----	5 (5,0)	Math. 12, Analytics -----	5 (5,0)
Military Science 11 -----	1 (0,3)	Military Science 12 -----	1½ (1,2)
Phys. Ed. 11 -----	¾ (0,2)	Phys. Ed. 12 -----	¾ (0,2)
Physics 13, General -----	4 (3,2)	Physics 14, General -----	4 (3,2)

18½

19

SOPHOMORE YEAR

Chem. 23, Qualitative -----	4¾ (2,8)	Chem. 24, Quantitative -----	4¾ (2,8)
Chem. 25, Organic -----	3¾ (3,2)	Chem. 26, Organic -----	3¾ (3,2)
Drawing 11, Freehand -----	¾ (0,2)	Drawing 12, Freehand -----	¾ (0,2)
Drawing 13, Mechanical -----	¾ (0,2)	Drawing 14, Mechanical -----	¾ (0,2)
English 21, Lit. -----	2 (2,0)	English 22 -----	2 (2,0)
Math. 21, Dit. Calculus -----	5 (5,0)	Math. 22, Int. Calculus -----	5 (5,0)
Military Science 21 -----	1 (0,3)	Military Science 22 -----	1½ (1,2)

17¾

18½

JUNIOR YEAR

Chem. 31, Physical -----	4½ (3,4)	Chem. 32, Physical -----	4½ (3,4)
Chem. 33, Quantitative -----	1½ (0,4)	Econ. & Soc. 42, Sociology-----	2 (2,0)
Chem. 35, Organic -----	2¾ (2,2)	English 41, Business Law-----	2 (2,0)
*Econ. & Soc. 41, Economics.---	2 (2,0)	Geol. 34, Mineralogy -----	2¾ (2,2)
English 31, Public Speaking ---	2 (2,0)	Military Science 32 -----	¾ (0,2)
Geol. 33, Mineralogy -----	2¾ (2,2)	Electives -----	4½-8½
Military Science 31 -----	1 (0,3)		
Electives -----	0-4		

16-20

16-20

SENIOR YEAR

Chemistry 43, History -----	2 (2,0)	Chemistry 46, Stoich -----	2 (2,0)
Chemistry 43, Colloids -----	2 (2,0)	Chemistry 44, Colloids -----	2 (2,0)
Chemistry 41, Adv. Inorg. -----	2 (2,0)	Chemistry 42, Adv. Inorg. -----	2 (2,0)
Chemistry 47, Tech. Anal. -----	3 (0,9)	Chemistry 50, Thesis -----	3 (0,9)
Military Science 41 -----	1 (0,3)	Military Science 42 -----	¾ (0,2)
Electives -----	6-10	Electives -----	6½-10½

16-20

16-20

4.—ENGINEERING†

4a.—ARCHITECTURE

This course is a well rounded cultural one, fitting the graduate not only for the practice of architecture and building, but

*Offered both semesters.

†Note: For information regarding C. E., E. E., and M. E. professional degrees see page 194.

for a number of allied professions. All work is individual and every effort is made to develop the students' individuality, imagination and creative ability. Skillful draftsmanship and artistic presentation are insisted upon.

Architecture is one of the fine arts and much time is given to freehand drawing, color work, history of architecture, painting and sculpture. Architectural design, the principal subject, extends through four years. In this the student is given a written program of requirements for a building or group of buildings and under the criticism of the instructor works out a solution embodying his own ideas.

Freehand drawing consists of sketching and rendering from casts, nature and life, in pencil, charcoal, pen and ink, crayons, water color and oils. This extends through four years. History of architecture, historic ornament and history of art are taught in the sophomore, junior, and senior years. Strong courses are given in mathematics, graphic statics, strength of materials, reinforced concrete, building construction and in working drawings which consist of complete plans and specifications for a building prepared in the same manner as in the office of a practicing architect.

Each spring students are expected to take an educational trip to one of the large cities to study examples of architecture and construction. Before graduation the student must have practical experience in some branch of the profession. This may be secured during the summer vacations if the student has not secured it before entering college.

The work in architecture occupies especially designed quarters on the top floor of Riggs Hall. One feature is a great drafting room with individual drafting tables. This is a marked advantage as all may study their problems in design and have the benefit of mutual help and criticism. Adjoining is a studio equipped with plaster casts and models suitable for the needs in freehand drawing and color work. This room has alcoves and screens with northern and sky lighting for light control and individual work. Class rooms are equipped with lanterns and slides.

A working library adjoining the drafting rooms contains many volumes covering architecture and allied subjects, photographs, plans and illustrations, lantern slides, drawings, models, and files of the leading architectural magazines, both American and foreign. This is in addition to the main college library. In the structural drafting room is a complete built-in exhibit of building materials and appliances especially arranged for instructional purposes.

ARCHITECTURE

FRESHMAN YEAR

<i>First Semester</i>		<i>Second Semester</i>	
Arch. 11, Elems. of Arch.	1½ (0,4)	Arch. 12, Arch. Design	1½ (0,4)
Arch. 13, Freehand Drawing ..	¾ (0,2)	Arch. 14, Freehand Draw.	1½ (0,4)
Arch. 15, Descrip. Geom.	¾ (0,2)	Arch. 16, Sh. Shad. & Persp.	¾ (0,2)
English 11, Comp. & Am. Lit. ..	2 (2,0)	English 12, Comp. & Am. Lit.	2 (2,0)
French 11	3 (3,0)	French 12	3 (3,0)
Math. 11, Trigonometry	5 (5,0)	Math. 12, Analytics	5 (5,0)
Physics 11, General	4 (3,2)	Physics 12, General	4 (3,2)
Military Science 11	1 (0,3)	Military Science 12	1½ (1,2)
Phys. Ed. 11	¾ (0,2)	Phys. Ed. 12	¾ (0,2)
	<hr/> 18¾		<hr/> 19¾

SOPHOMORE YEAR

Arch. 21, Arch. Design	4¾ (0,14)	Arch. 22, Arch. Design	4¾ (0,14)
Arch. 23, Cast. Drawing	1 (0,3)	Arch. 24, Cast Draw	1 (0,3)
Arch. 25, Hist. of Arch.	3 (3,0)	Arch. 26, Hist. of Arch.	3 (3,0)
French 21	3 (3,0)	French 22	3 (3,0)
Eng. 21, Lit. & Adv. Comp.	2 (2,0)	Eng. 22, Lit. & Adv. Comp.	2 (2,0)
Math. 21, Dif. Calculus	5 (5,0)	Math. 22, Int. Calculus	5 (5,0)
Military Science 21	1 (0,3)	Military Science 22	1½ (1,2)
	<hr/> 19¾		<hr/> 20¾

JUNIOR YEAR

Arch. 31, Arch. Design	7½ (0,22)	Arch. 32, Arch. Design	7½ (0,22)
Arch. 33, Cast Drawing	1 (0,3)	Arch. 34, Cast Drawing	1 (0,3)
Arch. 35, Bldg. Constr.	3 (3,0)	Arch. 36, Bldg. Constr.	2 (2,0)
Arch. 37, Working Drawings	¾ (0,2)	Arch. 38, Working Drawings	¾ (0,2)
Arch. 39, Historic Ornament ..	¾ (0,2)	C. E. 32, Strength of Materials ..	3 (3,0)
*M. E. 31, Mechanics	3 (3,0)	C. E. 34, Graphic Statics	1½ (1,2)
Eng. 31, Public Speaking	2 (2,0)	Eng. 32, Business Law	2 (2,0)
Military Science 31	1 (0,3)	Military Science 32	¾ (0,2)
	<hr/> 18¾		<hr/> 18¾

*Offered both semesters.

ARCHITECTURE

SENIOR YEAR

First Semester

Arch. 41, Arch. Design -----	7	(0,21)
Arch. 43, Bldg. Const. -----	3	(3,0)
Arch. 45, Struct. Design -----	2	(0,6)
Arch. 47, Mech. Plant -----	2	(2,0)
C. E. 47, Reinforced Conc. -----	2	(2,0)
*Econ. & Soc. 41, Econ. -----	2	(2,0)
Military Science 41 -----	1	(0,3)

19

Second Semester

Arch. 42, Arch. Design -----	6½	(0,20)
Arch. 44, Bldg. Const. -----	3	(3,0)
Arch. 46, Struct. Design -----	2½	(0,8)
Arch. 48, Profess. Prac. -----	1	(1,0)
Arch. 40, Life Drawing -----	¾	(0,2)
Arch. 40.5, Hist. of Art -----	2	(2,0)
Econ. & Soc. 42, Sociology -----	2	(2,0)
Military Science 42 -----	¾	(0,2)

19

Eights weeks of practical work in architects' offices or on large building construction approved by the architectural faculty is required for graduation. (Arch. 28.)

4b.—CIVIL ENGINEERING

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

In connection with the technical studies, liberal training is given in English, history, economics, pure mathematics, and the physical sciences. The course will also be found to embrace a considerable amount of drawing, shop work, and short courses in electrical engineering and mechanical engineering.

The distinctive work pursued by students in this course includes the field and office work of surveying and leveling; topographic surveying and drafting; the location and construction of railroads and highways, bridges, and other structures in connection therewith; involving investigation as to the strength of the materials of construction and the theories involved in the use thereof; masonry construction; foundations on land and under water; a particular study of highway engineering, including a laboratory course covering all the standard tests of highway material, both bituminous and non-bituminous; municipal

*Offered both semesters.

and sanitary engineering, including water-supply, sewerage and drainage; and a brief study of engineering law including contracts and specifications. Actual design, as well as analytic investigation, is given in all cases.

A summer surveying camp of two weeks duration is held between the sophomore and junior years.

CIVIL ENGINEERING

FRESHMAN YEAR

First Semester

Drawing 11, Freehand	3/4 (0,2)
Drawing 13, Mechanical	3/4 (0,2)
English 11, Comp. & Am. Lit.	2 (2,0)
History 17, Am. Ec. Hist.	2 (2,0)
Math. 11, Trigonometry	5 (5,0)
M. E. 13, or M. E. 17	1 1/2 (0,4)
Military Science 11	1 (0,3)
Phys. Ed. 11	3/4 (0,2)
Physics 11, General	4 (3,2)

 17 1/2

Second Semester

Drawing 12, Freehand	3/4 (0,2)
Drawing 14, Mechanical	3/4 (0,2)
English 12, Comp. & Am. Lit.	2 (2,0)
History 18, Am. Ec. Hist.	2 (2,0)
Math. 12, Analytics	5 (5,0)
M. E. 14, or M. E. 18	1 1/2 (0,4)
Military Science 12	1 3/4 (1,2)
Phys. Ed. 12	3/4 (0,2)
Physics 12, General	4 (3,2)

 18

SOPHOMORE YEAR

C. E. 21, Surveying	3 1/2 (2,4)
Chem. 11, General	3 3/4 (3,2)
Drawing 25, Mechanical	3/4 (0,2)
English 21, Lit. & Adv. Comp.	2 (2,0)
Math. 21, Dif. Calculus	5 (5,0)
Military Science 21	1 (0,3)
Physics 23, Laboratory	1 (0,2)
Physics 25, Mech. El. & Light	2 (2,0)

 18 3/4

C. E. 22, Surveying	3 3/4 (3,2)
Chem. 12, General	3 3/4 (3,2)
Drawing 26, Structural	3/4 (0,2)
English 22, Lit. & Adv. Comp.	2 (2,0)
Math. 22, Int. Calculus	5 (5,0)
Military Science 22	1 3/4 (1,2)
Physics 24, Laboratory	1 (0,2)
Physics 26, Mech. El. & Light	2 (2,0)

 19 3/4

C. E. 30—Summer Surveying Camp. Two weeks, 3 credits

JUNIOR YEAR

C. E. 35, Railroad Curves	3 (3,0)
C. E. 33, Const. Methods	2 (2,0)
English 31, Pub. Speaking	2 (2,0)
C. E. 31, Mechanics	3 (3,0)
M. E. 33.5, Machine Shop	3/4 (0,2)
M. E. 37, Mech. Engr.	3 (3,0)
M. E. 37.5, Lab.	3/4 (0,2)
Military Science 31	1 (0,3)
Physics 33, Astronomy	2 (2,0)
Electives	0-2 3/4

 17 1/2-20

C. E. 32, Mech. of Materials	3 (3,0)
C. E. 34, Graphic Statics	1 3/4 (1,2)
C. E. 36, Roads & Pavements	3 (3,0)
*Econ. & Soc. 41, Economics	2 (2,0)
English 32, Business Law	2 (2,0)
M. E. 38, Mech. Engr.	3 (3,0)
M. E. 38.5, Lab.	3/4 (0,2)
Military Science 32	3/4 (0,2)
Electives	0-4

 16-20

*Offered both semesters.

CIVIL ENGINEERING

SENIOR YEAR

First Semester

Second Semester

C. E. 41, Struct. Design	-----3	(2,3)
C. E. 43, Road Mat. & Test.	__1	(0,3)
C. E. 45, Reinf. Concrete	-----3	(2,3)
C. E. 49, Hydraulics	-----3	(3,0)
E. E. 51, Elements of E. E.	--2½	(2,2)
Military Science 41	-----1	(0,3)
Geology 43, Eng. Geology	-----2	(2,0)
Electives	-----½-4½	

16-20

C. E. 40, Bridge Design	-----4	(2,6)
C. E. 42, Road M. T. Lab.	____1	(0,3)
C. E. 44, Water Supply	-----3	(3,0)
C. E. 46, Sewerage	-----2	(2,0)
C. E. 48, Municipal Engr. Des.	¾	(0,2)
Econ. & Soc. 42, Soc.	-----2	(2,0)
Military Science 42	-----¾	(0,2)
Electives	-----2¾-6¾	

16-20

4c.—ELECTRICAL ENGINEERING

Electrical engineering is developing so rapidly and is being applied in such widely different fields that it is impossible for any college course to cover it adequately. There are, however, certain fundamental laws which underlie all of the important applications of electricity. In the careful study of the laws and a few of the more fundamental applications, this course attempts to lay the foundation on which the student may rapidly build his professional career in any branch of electrical engineering.

The course includes (1) the study of those subjects which form a necessary foundation for the study of electrical theory and practice; (2) sufficient drawing and shop work to develop the coordination between mind and hand, and at the same time give the student some idea of the possibilities of engineering materials; and (3) other subjects which broaden his intellectual growth.

The student is encouraged to enter into various student activities, to devote time to extensive and diversified reading and to take an interest in public affairs.

ELECTRICAL ENGINEERING

FRESHMAN YEAR

First Semester

Drawing 11, Freehand	-----	½	(0,2)
Drawing 13, Mechanical	-----	½	(0,2)
English 11, Comp. and Am. Lit.	-----	2	(2,0)
History 17, Am. Ec. Hist.	-----	2	(2,0)
Math. 11, Trigonometry	-----	5	(5,0)
M. E. 13, or M. E. 17	-----	1½	(0,4)
Military Science 11	-----	1	(0,3)
Phys. Ed. 11	-----	¾	(0,2)
Physics 11, General	-----	4	(3,2)

17½

Second Semester

Drawing 12, Freehand	-----	¾	(0,2)
Drawing 14, Mechanical	-----	¾	(0,2)
English 12, Comp. & Am. Lit.	-----	2	(2,0)
History 18, Am. Ec. Hist.	-----	2	(2,0)
Math. 12, Analytics	-----	5	(5,0)
M. E. 14, or M. E. 18	-----	1½	(0,4)
Military Science 12	-----	1½	(1,2)
Phys. Ed. 12	-----	¾	(0,2)
Physics 12, General	-----	4	(3,2)

18

SOPHOMORE YEAR

Chem. 11, General	-----	3¾	(3,2)
Drawing 25, Mechanical	-----	¾	(0,2)
*C. E. 23, Surveying	-----	1½	(1,2)
English 21, Lit. & Adv. Comp.	-----	2	(2,0)
Math. 21, Dif. Calculus	-----	5	(5,0)
M. E. 21, or M. E. 22	-----	¾	(0,2)
Military Science 21	-----	1	(0,3)
Physics 21, Mechan. & Light	-----	3	(3,0)
Physics 23, Lab.	-----	1	(0,2)

18¾

Chem. 12, General	-----	3¾	(3,2)
Drawing 28, Mechanical	-----	¾	(0,2)
*Econ. & Soc. 41, Econ.	-----	2	(2,0)
English 22, Lit. & Adv. Comp.	-----	2	(2,0)
Math. 22, Int. Calculus	-----	5	(5,0)
M. E. 22, or M. E. 21	-----	¾	(0,2)
Military Science 22	-----	1½	(1,2)
Physics 22, Elec. & Mag.	-----	3	(3,0)
Physics 24, Lab.	-----	1	(0,2)

19¾

JUNIOR YEAR

Drawing 31, Machine Design	__	1	(0,3)
E. E. 31, D. C. Machinery	-----	5	(5,0)
E. E. 33, Elec. Measurements	-----	1	(0,3)
*M. E. 31, Mechanics	-----	3	(3,0)
M. E. 33, Machine Shop	-----	1½	(0,4)
M. E. 35, Mech. Engr.	-----	3	(3,0)
M. E. 39, Mech. Lab.	-----	¾	(0,2)
Military Science 31	-----	1	(0,3)
Electives	-----	0-4	

16-20

Drawing 32, Mach. Design	-----	1	(0,3)
E. E. 32, A. C. Circuits	-----	5	(5,0)
E. E. 34, Elec. Measurements	-----	1	(0,3)
M. E. 40, Mech. Lab.	-----	¾	(0,2)
M. E. 32, Mechanics	-----	3	(3,0)
M. E. 34, Machine Shop	-----	1½	(0,4)
M. E. 36, Mech. Engr.	-----	3	(3,0)
Military Science 32	-----	¾	(0,2)
Electives	-----	½-4½	

16-20

SENIOR YEAR

E. E. 41, A. C. Machinery	-----	3	(3,0)
E. E. 43, Elec. Circuits	-----	2	(2,0)
E. E. 45, Dynamo Lab.	-----	1½	(0,4)
E. E. 47, Elec. Design	-----	¾	(0,2)
Eng. 31, Pub. Speaking	-----	2	(2,0)
M. E. 41, Mech. Engr.	-----	3	(3,0)
M. E. 43.5, Mech. Lab.	-----	1	(0,3)
M. E. 51, Mech. of Materials	-----	3	(3,0)
Military Science 41	-----	1	(0,3)
Electives	-----	0-3	

17-20

C. E. 52, Hydraulics	-----	2	(2,0)
E. E. 42, A. C. Machinery	-----	3	(3,0)
E. E. 44, Power Trans.	-----	2	(2,0)
E. E. 46, Dynamo Lab.	-----	1½	(0,4)
E. E. 48, Elec. Design	-----	¾	(0,2)
Econ. & Soc. 42, Soc.	-----	2	(2,0)
English 32, Business Law	-----	2	(2,0)
Military Science 42	-----	¾	(0,2)
Electives	-----	2½-6½	

16-20

4d.—MECHANICAL ENGINEERING

The course in mechanical engineering is designed to give the graduate as broad a training as possible and to fit him for some specific type of work.

It embraces practically all forms of engineering which have for their objects the application of the forces of nature to the accomplishment of the processes of industry. The course is designed to give an intimate knowledge of the materials used in engineering, the laws of mechanics and the characteristics of various types of machinery.

The shop courses embrace wood work, forge work, foundry and machine work. The purpose of this instruction is not to turn out skilled workmen but to train those faculties of mind which can best be reached through the work of the hand, and to give the student a clear knowledge of the characteristics and possibilities of the materials used in engineering.

Considerable time is given to the study of the laws of the physical sciences, in such subjects as physics, chemistry, mechanics, electricity and magnetism and thermodynamics.

During the fourth year stress is laid on the application of the fundamental principles already covered so that the graduate may be able to design or manage those types of machines which ordinarily come under the supervision of the mechanical engineer.

The mechanical engineer should have a liberal education; therefore, in addition to the regular technical work, comprehensive training is given in English, history, economics, civics and related subjects.

MECHANICAL ENGINEERING

FRESHMAN YEAR

First Semester

Drawing 11, Freehand	2½	(0,2)
Drawing 13, Mechanical	2½	(0,2)
English 11, Comp. & Lit.	2	(2,0)
History 17, Am. Ec.	2	(2,0)
Math. 11, Trigonometry	5	(5,0)
M. E. 13, or M. E. 17	1½	(0,4)
Military Science 11	1	(0,3)
Phys. Ed. 11	2½	(0,2)
Physics 11, General	4	(3,2)

17½

Second Semester

Drawing 12, Freehand	2½	(0,2)
Drawing 14, Mechanical	2½	(0,2)
English 12, Comp. & Lit.	2	(2,0)
History 18, Am. Ec.	2	(2,0)
Math. 12, Analytics	5	(5,0)
M. E. 14, or M. E. 18	1½	(0,4)
Military Science 12	1½	(1,2)
Phys. Ed. 12	2½	(0,2)
Physics 12, General	4	(3,2)

18

SOPHOMORE YEAR

*C. E. 23, Surveying	1½	(1,2)
Chem. 11, General	3½	(3,2)
Drawing 25, Mechanical	2½	(0,2)
English 21, Lit. & Adv. Comp.	2	(2,0)
Math. 21, Dif. Calculus	5	(5,0)
M. E. 21, or M. E. 22	2½	(0,2)
Military Science 21	1	(0,3)
Physics 21	3	(3,0)
Physics 23, Lab.	1	(0,2)

18½

Chem. 12, General	3½	(3,2)
Drawing 28, Mechanical	2½	(0,2)
Econ. & Soc. 41, Econ.	2	(2,0)
English 22, Lit. & Adv. Comp.	2	(2,0)
Math. 22, Int. Calculus	5	(5,0)
M. E. 22, or M. E. 21	2½	(0,2)
Military Science 22	1½	(1,2)
Physics 22	3	(3,0)
Physics 24, Lab.	1	(0,2)

19½

JUNIOR YEAR

Drawing 31, Machine Design	1	(0,3)
E. E. 31, D. C. Machinery	5	(5,0)
E. E. 33, Elec. Measurement	1	(0,3)
*M. E. 31, Mechanics	3	(3,0)
M. E. 33, Machine Shop	1½	(0,4)
M. E. 35, Mech. Engr.	3	(3,0)
M. E. 39, Lab.	2½	(0,2)
Military Science 31	1	(0,3)
Electives	0-4	

16-20

Drawing 32, Mach. Design	1	(0,3)
E. E. 32, A. C. Machinery	5	(5,0)
E. E. 34, Elec. Measurement	1	(0,3)
M. E. 40, Mech. Lab.	2½	(0,2)
M. E. 32, Mechanics	3	(3,0)
M. E. 34, Mach. Shop	1½	(0,4)
M. E. 36, Mech. Engr.	3	(3,0)
Military Science 32	2½	(0,2)
Electives	½-4½	

16-20

SENIOR YEAR

E. E. 35, Dynamo Lab.	2½	(0,2)
E. E. 53, A. C. Machinery	3	(3,0)
English 31, Public Speaking	2	(2,0)
M. E. 43, Mech. Lab.	1½	(0,4)
M. E. 45, Steam Turbines	2	(2,0)
M. E. 47, Power Plants	3	(3,0)
M. E. 53, Design	2½	(0,2)
M. E. 51, Mech. of Materials	3	(3,0)
Military Science 41	1	(0,3)
Electives	0-3½	

16½-20

C. E. 52, Hydraulics	2	(2,0)
E. E. 36, Dynamo Lab.	2½	(0,2)
Econ. & Soc. 42, Soc.	2	(2,0)
English 32, Business Law	2	(2,0)
M. E. 48, Power Plants	3	(3,0)
M. E. 44, Mech. Lab.	1½	(0,4)
M. E. 46, Gas Engines	2	(2,0)
M. E. 54, Design	2½	(0,2)
Military Science 42	2½	(0,2)
Electives	1½-5½	

16-20

*Offered both semesters.

4e.—INDUSTRIAL EDUCATION

By the enactment of the Smith-Hughes law for the promotion of vocational education, Congress has provided funds for encouraging and assisting in the development of instruction throughout the country in agriculture, home economics, and trades and industries.

The demand for men to serve as teachers of shop subjects, manual training, mechanical drawing, related shop subjects, home mechanics and manual arts, as well as local supervisors in industrial communities, has been responsible for the inauguration of this course. Men who complete this course have the professional qualifications to meet the standards of vocational teachers. Students who take this course should have experience in a trade before entering and are encouraged to secure industrial employment during their vacation. Machine shops, garages, construction work, electrical work and other such trades offer opportunities for this practical experience.

(The College in cooperation with the State Department of Education provides itinerant teacher-training in Industrial Education. See page 229.)

INDUSTRIAL EDUCATION

FRESHMAN YEAR

<i>First Semester</i>		<i>Second Semester</i>	
Drawing 11, Freehand	$\frac{3}{8}$ (0,2)	Drawing 12, Freehand	$\frac{3}{8}$ (0,2)
Drawing 13, Mech.	$\frac{3}{8}$ (0,2)	Drawing 14, Mech.	$\frac{3}{8}$ (0,2)
English 11, Comp. & Lit.	2 (2,0)	English 12, Comp. & Lit.	2 (2,0)
History 17, Am. Ec. His.	2 (2,0)	History 18, Am. Ec.	2 (2,0)
Math. 11 (Trig.)	5 (5,0)	Math. 12, (Anal.)	5 (5,0)
M. E. 13, or M. E. 17	$1\frac{1}{2}$ (0,4)	M. E. 14, or M. E. 18	$1\frac{1}{2}$ (0,4)
Military Science 11	1 (0,3)	Military Science 12	$1\frac{1}{2}$ (1,2)
Phys. Ed. 11	$\frac{3}{8}$ (0,2)	Phys. Ed. 12	$\frac{3}{8}$ (0,2)
Physics 11	4 (3,2)	Physics 12	4 (3,2)
<hr/>		<hr/>	
17 $\frac{3}{8}$		18	

INDUSTRIAL EDUCATION

SOPHOMORE YEAR

First Semester

Chem. 11, General	3½	(3,2)
C. E. 21, Surveying	1½	(1,2)
Drawing 25, Mechanical	¾	(0,2)
English 21, Lit. & Adv. Comp.	2	(2,0)
Math. 21, Dif. Calculus	5	(5,0)
M. E. 21, or M. E. 22	¾	(0,2)
Military Science 21	1	(0,3)
Physics 21-23	4	(3,2)

 18¾
Second Semester

Chem. 12, General	3½	(3,2)
Drawing 28, Mechanical	¾	(0,2)
*Econ. & Soc. 41, Econ.	2	(2,0)
English 22, Lit. & Adv. Comp.	2	(2,0)
Math. 22, Int. Calculus	5	(5,0)
M. E. 22, or M. E. 21	¾	(0,2)
Military Science 22	1¾	(1,2)
Physics 22-24	4	(3,2)

 19¾

JUNIOR YEAR

English 31, Pub. Speak.	2	(2,0)
Ind. Ed. 33, Introduction to		
Ind. Ed.	3	(1,4)
*M. E. 31, Mechanics	3	(3,0)
M. E. 33.5, Mach. Shop	1½	(0,4)
M. E. 31.5, Indus. Arts	¾	(0,2)
Military Science 31	1	(0,3)
Electives	5	

 16

Geology 42, Meteorology	2	(2,0)
Eng. 32, Bus. Law	2	(2,0)
Ind. Ed. 32, Educational		
Psychology	3	(2,3)
M. E. 32, Mechanics	3	(3,0)
M. E. 32.5, Indus. Arts	¾	(0,2)
M. E. 34.5, Machine Shop	1½	(0,4)
Military Science 32	¾	(0,2)
Physics 33, Astronomy	2	(2,0)
Electives	3½	

 18

SENIOR YEAR

M. E. 51, Mech. of Mat.	3	(3,0)
Ind. Ed. 43, Ind. Ed.	4	(0,10)
Military Science 41	1	(0,3)
Electives	8	

 16

E. E. 30, Elec. Machinery	2¾	(2,2)
Ind. Ed. 44, Prac. Teaching	5	(0,15)
Ind. Ed. 46, Problems in Ind.		
Ed.	3	(3,0)
Econ. & Soc. 42, Soc.	2	(2,0)
Military Science 42	¾	(0,2)
Electives	2¾	

 16

 *Offered both semesters.

SUGGESTED ELECTIVES FOR STUDENTS MAJORING IN INDUSTRIAL EDUCATION

Arch. 35 -----	3	(3,0)	Arch. 36 -----	2	(2,0)
Arch. 43 -----	3	(3,0)	Arch. 40.5 -----	2	(2,0)
Arch. 47 -----	3	(3,0)	Arch. 44 -----	3	(3,0)
C. E. 49, Hydraulics -----	3	(3,0)	Arch. 48 -----	3	(3,0)
E. & S. 31, Psychology -----	3	(2,2)	Drawing 26 -----	$\frac{3}{4}$	(0,2)
English 41 -----	2	(2,0)	E. & S. 32, Psychology -----	3	(2,2)
English 43, Journalism -----	2	(2,0)	E. & S. 44, Int. to Psychology -----	2	(2,0)
Geology 31 -----	2	(2,0)	E. E. 56 -----	2	(2,0)
Geology 23 -----	3	(3,0)	English 42 -----	2	(2,0)
History 31 -----	3	(3,0)	Geology 24 -----	3	(3,0)
Ind. Ed. 45, Sp. Methods -----	3	(3,0)	History 32 -----	3	(3,0)
Ind. Ed. 53, Pr. Tch. Evn. Cl. 1			Ind Ed. 48, Principles -----	3	(3,0)
M. E. 47 -----	3	(3,0)	Ind. Ed. 54, Pr. Tch. Evn. Cl. 1		
M. E. 49 -----	2	(2,0)	M. E. 46 -----	2	(2,0)
M. E. 55 -----	$\frac{3}{4}$	(0,2)	M. E. 48 -----	3	(3,0)
R. O. T. C. -----	2	(2,0)	M. E. 50 -----	2	(2,0)
			M. E. 56 -----	$\frac{3}{4}$	(0,2)
			R. O. T. C. -----	3	(3,0)

5.—TEXTILES

5a.—TEXTILE ENGINEERING

The course in textiles is designed to give the student sound training, both theoretical and practical, in the sciences upon which manufacturing processes are based. In formulating the curriculum the several phases of the textile industry were considered. Successful practice in the industry is dependent upon the understanding of these principles and their practical application.

The first year of the course introduces the student to the textile industry and gives some instruction in certain of its phases and at the same time gives him fundamental engineering subjects as well as those of general educational value. The practical work is carried on for the purpose of developing in the student habits of accurate observation and some skill in manipulation, supplementing the theoretical work. In this work special consideration is given to economy of time, precision of results, and attention to details, as well as to methods of fundamental importance.

This course does not necessarily fit one for immediate entrance to an executive position in a mill, but the graduate is in possession of such information, and has acquired such knowledge and experience that he may look forward to a successful

career provided he has the necessary energy, application, and tact.

Students who take this course are encouraged to work in the industry during their vacation periods. Every one is required to work at least four weeks between the freshman and sophomore years and at least four weeks between the sophomore and junior years in a textile plant. Students who have had experience acceptable to the head of the textile department may be excused from this requirement.

TEXTILE ENGINEERING

FRESHMAN YEAR

First Semester

Chemistry 11, General	3½	(3,2)
Drawing 11, Freehand	¾	(0,2)
Drawing 13, Mechanical	¾	(0,2)
English 11, Comp. & Am. Lit.	2	(2,0)
History 17, Am. Ec. Hist.	2	(2,0)
Math. 11, Trigonometry	5	(5,0)
M. E. 17, or M. E. 14	¾	(0,2)
Military Science 11	1	(0,3)
Phys. Ed. 11	¾	(0,2)
Y. M. 11, Textiles	1¾	(1,2)

 18

Second Semester

Chemistry 12, General	3½	(3,2)
Drawing 12, Freehand	¾	(0,2)
Drawing 14, Mechanical	¾	(0,2)
English 12, Comp. & Am. Lit.	2	(2,0)
History 18, Am. Ec. Hist.	2	(2,0)
Math. 12, Analytics	5	(5,0)
M. E. 14, or M. E. 17	¾	(0,2)
Military Science 12	1½	(1,2)
Phys. Ed. 12	¾	(0,2)
W. D. 12, Textiles	1¾	(1,2)

 18¾

SOPHOMORE YEAR

Drawing 25, Mechanical	¾	(0,2)
English 21, Lit. & Adv. Comp.	2	(2,0)
Math. 21, Dif. Calculus	5	(5,0)
M. E. 33.5, Machine Shop	¾	(0,2)
Military Science 21	1	(0,3)
Physics 11, General	4	(3,2)
W. D. 21, Elementary Design	2	(2,0)
W. D. 23, Weaving	¾	(0,2)
Y. M. 21, Pickers	2¾	(2,2)

 18¾

Drawing 28, Mechanical	¾	(0,2)
English 22, Lit. & Adv. Comp.	2	(2,0)
Math. 22, Int. Calculus		
or Y. M. 26, Mill Problems	5	(5,0)
M. E. 34.5, Machine Shop	¾	(0,2)
Military Science 22	1½	(1,2)
Physics 12, General	4	(3,2)
W. D. 22, Adv. Design	2	(2,0)
W. D. 24, Weaving	¾	(0,2)
Y. M. 22, Cards & Drawing		
Frames	2¾	(2,2)

 19¾

JUNIOR YEAR

†M. E. 31, Mechanics	3	(3,0)
M. E. 37, Mech. Engin.	3	(3,0)
M. E. 37.5, Mech. Engin. Lab.	¾	(0,2)
Mil. Sci. 31, Mil. Science	1	(0,3)
T. Chem. 31, Organic	3	(3,0)
W. D. 31, Design	2	(2,0)
W. D. 33, Fabric Analysis	1	(0,2)
W. D. 35, Weaving	1¾	(1,2)
Y. M. 31, Roving Frames	2¾	(2,2)
Electives	2	

 20

E. E. 30, Elec. Eng.	2¾	(2,2)
Eng. 32, Bus. Law	2	(2,0)
Mil. Sci. 32, Mil. Sci.	¾	(0,2)
T. Chem. 32, Organic	3	(3,0)
W. D. 34, Fabric Analysis	1	(0,2)
W. D. 36, Weaving	¾	(0,2)
Y. M. 41, Spinning	3	(2,3)
Electives	6	

 19

†Repeated second semester; approved option may be taken first semester.

TEXTILE ENGINEERING

SENIOR YEAR

First Semester

*E. & S. 41, Econ. -----	2	(2,0)
Eng. 31, Public Speaking -----	2	(2,0)
Mil. Sci. 41, Mil. Science -----	1	(0,3)
T. Chem. 41, Dyeing -----	2½	(2,2)
W. D. 41, Jac. Weaving -----	1½	(1,2)
W. D. 43, Cost Finding -----	3	(3,0)
W. D. 45, Pattern Weaving --	¾	(0,2)
Y. M. 32, Doubling & Draft.....	1½	(1,2)
Y. M. 34, Cotton Grading -----	¾	(0,2)
Y. M. 50, Thesis -----	1	(0,2)
Electives -----	2	

18½

Second Semester

E. & S. 42, Sociology -----	2	(2,0)
Mil. Sci. 42, Mil. Sci. -----	¾	(0,2)
T. Chem. 42, Dyeing -----	2½	(2,2)
T. Chem. 46.5, Microscopy-----	1½	(1,2)
W. D. 44, Warp Preparation-----	2	(2,0)
W. D. 46, Weaving -----	¾	(0,2)
W. D. 48, Knitting -----	¾	(0,2)
Y. M. 42, Combers -----	1½	(1,2)
Y. M. 44, Mill Econ. -----	2	(2,0)
W. D. 50, Thesis -----	1	(0,2)
Electives -----	3	

18

SUGGESTED ELECTIVES

E. & S. 44
Eng. 41 or 43
M. E. 32
R. O. T. C.
T. Chem. 47

M. E. 38
M. E. 38.5
R. O. T. C.
T. Chem. 34 or 40
T. Chem. 46.5

5b.—TEXTILE INDUSTRIAL EDUCATION

This course has for its purpose the preparation of young men for positions of usefulness and responsibility in vocational departments of schools located in textile communities. The course includes instruction in the fundamental principles of education, of engineering, and of the textile industry.

The prime purpose of the course is to prepare for positions as teachers of trade and industrial subjects as such and as principals of schools in mill communities as well as local supervisors of industrial education. As the textile industry is the dominant one in the state, that industry is given special prominence. The course is essentially a combination of instruction in the textile industry and the training of industrial teachers.

(The College in cooperation with the State Department of Education provides itinerant teacher-training in Industrial Education. See page 229.)

*Offered both semesters.

TEXTILE INDUSTRIAL EDUCATION

FRESHMAN YEAR

First Semester

Drawing 11, Freehand	-----	$\frac{3}{8}$	(0,2)
Drawing 13, Mechanical	-----	$\frac{3}{8}$	(0,2)
English 11, Comp. and Am. Lit.	-----	2	(2,0)
History 17, Am. Ec. His.	-----	2	(2,0)
Math. 11, Trigonometry	-----	5	(5,0)
M. E. 17, or M. E. 14	-----	$\frac{3}{8}$	(0,2)
Military Science 11	-----	1	(0,3)
Phys. Ed. 11	-----	$\frac{3}{8}$	(0,2)
Chemistry 11, General	-----	$3\frac{3}{8}$	(3,2)
Yarn Mfg. 11, Textiles	-----	$1\frac{3}{8}$	(1,2)

18

Summer Work ----- 4 weeks

Second Semester

Drawing 12, Freehand	-----	$\frac{3}{8}$	(0,2)
Drawing 14, Mechanical	-----	$\frac{3}{8}$	(0,2)
English 12, Comp. & Am. Lit.	-----	2	(2,0)
History 18, Am. Ec. Hist.	-----	2	(2,0)
Math. 12, Analytics	-----	5	(5,0)
M. E. 14, or M. E. 17	-----	$\frac{3}{8}$	(0,2)
Military Science 12	-----	$1\frac{3}{8}$	(1,2)
Phys. Ed. 12	-----	$\frac{3}{8}$	(0,2)
Chemistry 12, General	-----	$3\frac{3}{8}$	(3,2)
W. D. 12, Textiles	-----	$1\frac{3}{8}$	(1,2)

18 $\frac{3}{8}$

SOPHOMORE YEAR

Physics 11, General	-----	4	(3,2)
Drawing 25, Mechanical	-----	$\frac{3}{8}$	(0,2)
English 21, Lit. & Adv. Comp.	-----	2	(2,0)
M. E. 33.5, Machine Shop	-----	$\frac{3}{8}$	(0,2)
Math. 21, Dif. Calculus	-----	5	(5,0)
Military Science 21	-----	1	(0,3)
W. D. 21, Elem Design	-----	2	(2,0)
W. D. 23, Weaving	-----	$\frac{3}{8}$	(0,2)
Yarn Mfg. 21, Pickers	-----	$2\frac{3}{8}$	(2,2)

18 $\frac{3}{8}$

Summer Work ----- 4 weeks

Physics 12, General	-----	4	(3,2)
Drawing 28, Mechanical	-----	$\frac{3}{8}$	(0,2)
English 22, Lit. & Adv. Comp.	-----	2	(2,0)
Math. 22, Int. Calculus or Y. M.			
26, Tex. Cal.	-----	5	(5,0)
M. E. 34.5, Machine Shop	-----	$\frac{3}{8}$	(0,2)
Military Science 22	-----	1	(0,3)
W. D. 22, Advanced Design	-----	2	(2,0)
W. D. 24, Weaving	-----	$\frac{3}{8}$	(0,2)
Yarn Mfg. 22, Cards and			
Drawing Frames	-----	$2\frac{3}{8}$	(2,2)

18 $\frac{3}{8}$

JUNIOR YEAR

Ind. Ed. 33, Introduction	-----	3	(1,4)
Military Science 31	-----	1	(0,3)
W. D. 31, Dobby Design	-----	2	(2,0)
W. D. 33, Fabric Analysis	-----	1	(0,2)
W. D. 35, Weaving	-----	$1\frac{3}{8}$	(1,2)
Yarn Mfg. 31, Roving Frames	-----	$2\frac{3}{8}$	(2,2)
Yarn Mfg. 41, Spinning	-----	3	(2,3)
M. E. 37 and 37.5, Mech. Eng.	-----	$3\frac{3}{8}$	(3,2)

18

English 32	-----	2	(2,0)
Ind. Ed. 32, Ed. Psych.	-----	3	(2,3)
Military Science 32	-----	1	(0,3)
W. D. 34, Fabric Analysis	-----	1	(0,2)
W. D. 36, Weaving	-----	$\frac{3}{8}$	(0,2)
Yarn Mfg. 32, Doub. and Draft.	-----	$1\frac{3}{8}$	(1,2)
Y. M. 34, Cotton Grading	-----	$\frac{3}{8}$	(0,2)
Yarn Mfg. 42, Combers	-----	$1\frac{3}{8}$	(1,2)
Electives	-----	$5\frac{1}{8}$	

17

SENIOR YEAR

E. & S. 41, Econ.	-----	2	(2,0)
English 31	-----	2	(2,0)
Ind. Ed. 43, Industrial Ed.	-----	4	(0,10)
Military Science 41	-----	1	(0,3)
W. D. 43, Cost Finding	-----	3	(3,0)
Electives	-----	4	

16

Econ. & Soc. 42, Soc.	-----	2	(2,0)
Ind. Ed. 44, Practice Teaching	-----	5	(0,15)
Ind. Ed. 46, Prob. in Ind. Ed.	-----	3	(3,0)
Military Science 42	-----	1	(0,3)
W. D. 44, Warp Prep.	-----	2	(2,0)
Y. M. 44, Mill Economics	-----	2	(2,0)
Electives	-----	3	

18

TEXTILE INDUSTRIAL EDUCATION

PARTIAL LIST OF ELECTIVES FOR STUDENTS MAJORING IN TEXTILE INDUSTRIAL EDUCATION

<i>First Semester</i>		<i>Second Semester</i>	
E. & S. 31, Psychology	-----3 (2,2)	E. & S. 32	-----3 (2,2)
English 41	-----2 (2,0)	English 42	-----2 (2,0)
Geology 31	-----2 (2,0)	E. E. 30	-----2½ (2,2)
History 31	-----3 (3,0)	E. & S. 44	-----2 (2,0)
Ind. Ed. 53, Pr. Tch. Evn. Cl. 1		Geology 24	-----3 (3,0)
M. E. 47	-----2 (2,0)	History 32	-----3 (3,0)
M. E. 49	-----2 (2,0)	Ind. Ed. 54, Pr. Tch. Evn. Cl. 1	
M. E. 55	-----¾ (0,2)	M. E. 48	-----3 (3,0)
M. E. 31.5	-----¾ (0,2)	M. E. 50	-----2 (2,0)
R. O. T. C.	-----2 (2,0)	M. E. 56	-----¾ (0,2)
		M. E. 32.5	-----¾ (0,2)
		R. O. T. C.	-----3 (3,0)

Other courses than the above may be elected with the consent of the head of the division.

All textile courses are either required or may be considered as a group of courses from which to elect.

5c.—TEXTILE CHEMISTRY AND DYEING

The growth of the textile industry in the South has been phenomenal and it offers innumerable opportunities to many young men for rapid advancement to excellent positions of responsibility. At the same time there has more recently developed a very heavy demand for men specially trained in all branches of textile chemistry and dyeing.

There are numerous reasons for this more recent development besides the rapid growth of this particular branch of the industry in the South, with the consequent new dyeing and finishing plants. One of these reasons is the present almost universal use of the new synthetic fibers, the rayons, of which we have no less than four major types, each quite different from the others in many ways, and many varieties and modifications of each type.

Another reason for the present demand for chemists in the textile industry is the many new chemical processes now available for use in dyeing and finishing. Many of these processes

give quite new, novel and very desirable results when properly handled, but require considerably more supervision than some of the older processes. Still another reason is the constantly increasing competition, with the result that prices are lower and a higher quality of work is necessary to obtain the business. New and novel dyeing and finishing effects are in demand; and increasing labor and material costs require greater economies, new and shorter processes, etc. These results are only possible through the cooperation of a competent technical staff.

The course in textile chemistry and dyeing described below has been developed to meet this demand for well trained men to fill these positions. It has been cooperatively developed by many men who have spent years in the textile industry, right out in the mills, on the front line, studying these very problems and processes, and who are entirely familiar with the type of training necessary for this work. The course has not been developed from the purely theoretical or academic standpoint.

The whole idea throughout the planning of this course has been to give the student a thorough and complete four years' course of training in *all of the fundamental subjects of chemistry* and dyeing; and to teach the student to think and use his own mind in applying these fundamentals in the actual laboratory and small scale plant operations; thus tying together theory and practice.

Students completing this course are well equipped to enter into almost any line of chemical work, textile or otherwise, as they have received a thorough training in all of the fundamentals of the science. They have also received special training in the many applications of chemistry to all branches of the textile industry and to dyeing. The graduate is, therefore, well equipped to enter his chosen field of future endeavor.

Graduate work leading to the Master of Science degree is also offered in this department. For advanced graduate courses see pages 201-203.

TEXTILE CHEMISTRY AND DYEING

FRESHMAN YEAR

First Semester

Chemistry 11, General	3½ (3,2)
Drawing 11, Freehand	¾ (0,2)
Drawing 13, Mechanical	¾ (0,2)
English 11, Comp. and Am. Lit.	2 (2,0)
History 17, Am. Ec. History	2 (2,0)
Math. 11, Trigonometry	5 (5,0)
M. E. 17, or M. E. 14	¾ (0,2)
Military Science 11	1 (0,3)
Phys. Ed. 11	¾ (0,2)
Yarn Mfg. 11, Textiles	1½ (1,2)

18

Second Semester

Chemistry 12, General	3½ (3,2)
Drawing 12, Freehand	¾ (0,2)
Drawing 14, Mechanical	¾ (0,2)
English 12, Comp. & Am. Lit.	2 (2,0)
History 18, Am. Ec. History	2 (2,0)
Math. 12, Analytics	5 (5,0)
M. E. 14 or M. E. 17	¾ (0,2)
Military Science 12	1½ (1,2)
Phys. Ed. 12	¾ (0,2)
W. D. 12, Textiles	1½ (1,2)

18½

SOPHOMORE REQUIRED

Chemistry 23, Qualitative	4½ (2,8)	Chemistry 24, Quantitative	4½ (2,8)
English 21, Lit. & Adv. Comp.	2 (2,0)	English 22, Lit. & Adv. Comp.	2 (2,0)
Math. 21, Dif. Calculus	5 (5,0)	Math. 22, Int. Calculus	5 (5,0)
Military Science 21	1 (0,3)	Military Science 22	1½ (1,2)
Physics 13, General	4 (3,2)	Physics 14, General	4 (3,2)
Electives	2 or 3	Electives	2 or 3

19½

20½

SUGGESTED ELECTIVES

Modern Language	3 (3,0)	Modern Language	3 (3,0)
W. D. 21, Elementary Design	2 (2,0)	W. D. 22, Adv. Design	2 (2,0)
Y. M. 21, Pickers	2½ (2,2)	Y. M. 22, Cards & Drawing	2½ (2,2)
R. O. T. C.	2 (2,0)	R. O. T. C.	3 (3,0)

JUNIOR REQUIRED

Chemistry 33, Quantitative	1½ (0,4)	Econ. & Soc. 42, Sociology	2 (2,0)
Econ. & Soc. 41, Economics	2 (2,0)	English 32, Bus. Law	2 (2,0)
English 31, Public Speaking	2 (2,0)	Military Science 32	¾ (0,2)
Military Science 31	1 (0,3)	T. Chem. 34, Tech. Writing	2 (1,2)
T. Chem. 35, Organic Chem.	4½ (4,2)	T. Chem. 38, Organ. Chem.	4½ (4,2)
Electives	8	Electives	8½

19

19½

SUGGESTED ELECTIVES

Chemistry 31, Physical	4½ (3,4)	Chem. 32, Physical	4½ (3,4)
Econ. & Soc. 31, Psychology	3 (2,2)	E. E. 30, Elec. Eng.	2½ (2,2)
M. E. 31, Mechanics	3 (3,0)	Modern Language	3 (3,0)
R. O. T. C.	2 (2,0)	R. O. T. C.	3 (3,0)
Y. M. 31, Roving Frames	2½ (2,2)	Y. M. 32	1½ (1,2)
R. O. T. C.	2 (2,0)	Y. M. 34, Cotton Grading	¾ (0,2)
		R. O. T. C.	3 (3,0)

TEXTILE CHEMISTRY AND DYEING

SENIOR REQUIRED

First Semester

Chemistry 41, Adv. Inorg.	2	(2,0)
Chemistry 47, Tech. Anal.	3	(0,9)
Military Science 41	1	(0,3)
T. Chem. 41.5, Dyeing	5½	(4,4)
T. Chem. 43, Cellulose	1	(1,0)
T. Chem. 45, Tech. Tex. Anal.	1½	(1,2)
T. Chem. 47, Microscopy	1½	(1,2)
Electives	4	

 19½
Second Semester

Chemistry 42, Adv. Inorg.	2	(0,2)
Chemistry 46, Stoichiometry ..	2	(2,0)
Military Science 42	¾	(0,2)
T. Chem. 42.5, Dyeing	5½	(4,4)
T. Chem. 44, Cellulose	1	(1,0)
T. Chem. 46, Tech. Anal.	¾	(0,2)
T. Chem. 48, Rayon	1	(1,0)
T. Chem. 50, Thesis	2	(0,6)
Electives	5	

 19½

SUGGESTED ELECTIVES

Chem. 43, Colloids	2	(2,0)	Chem. 44, Colloids	2	(2,0)
Chem. 45, History	2	(2,0)	Econ. & Soc. 44	2	(2,0)
English 41 or 43	2	(2,0)	R. O. T. C.	3	(3,0)
Modern Language	3	(3,0)	T. Chem. 40, Tech. Writ.	1	(0,2)
R. O. T. C.	2	(2,0)			
T. Chem. 49, Tech. Writing....	1	(0,2)			

5d.—WEAVING AND DESIGNING

This course has been provided to meet a growing demand of those who desire special instruction relating to the weaving and designing of fabrics. Special attention is paid to decorative design, dobby design, jacquard design, pattern weaving and rayon processing. (See 5a, Textile Engineering, for complete write-up.)

WEAVING AND DESIGNING

FRESHMAN YEAR

Arch. 13, Freehand Dr.	¾	(0,2)	Arch. 14, Freehand Dr.	1¾	(0,4)
Chem. 11, General	3¾	(3,2)	Chem. 12, General	3¾	(3,2)
Drawing 13, Mechanical	¾	(0,2)	Drawing 14, Mechanical	¾	(0,2)
English 11, Composition	2	(2,0)	English 12, Composition	2	(2,0)
History 17, Am. Ec. Hist.	2	(2,0)	History 18, Am. Ec. Hist.	2	(2,0)
Math. 11, Trigonometry	5	(5,0)	Math. 12, Analytics	5	(5,0)
M. E. 17 or M. E. 14	¾	(0,2)	M. E. 14, or M. E. 17	¾	(0,2)
Military Science 11	1	(0,3)	Military Science 12	1¾	(1,2)
Phys. Ed. 11	¾	(0,2)	Phys. Ed. 12	¾	(0,2)
Yarn Mfg. 11, Textiles	1¾	(1,2)	W. D. 12, Textiles	1¾	(1,2)

 18

 19½

Summer work.....4 Weeks

WEAVING AND DESIGNING

SOPHOMORE YEAR

First Semester

Drawing 25, Mechanical	-----	3/4	(0,2)
English 21, Lit. & Adv. Comp.	---2		(2,0)
Math. 21, Dif. Calculus	-----	5	(5,0)
M. E. 33.5, Machine Shop	-----	3/4	(0,2)
Military Science 21	-----	1	(0,3)
Physics 11, General	-----	4	(3,2)
W. D. 21, Elem. Design	-----	2	(2,0)
W. D. 23, Weaving	-----	3/4	(0,2)
Y. M. 21, Pickers	-----	2 3/4	(2,2)

18 3/4

Second Semester

Drawing 28, Mechanical	-----	3/4	(0,2)
English 22, Lit. & Adv. Com.	---2		(2,0)
M. E. 34.5, Machine Shop	-----	3/4	(0,2)
Military Science 22	-----	1 3/4	(1,2)
Physics 12, General	-----	4	(3,2)
W. D. 22, Advanced Designing	---2		(2,0)
W. D. 24, Weaving	-----	3/4	(0,2)
Y. M. 22, Cards & Drwg. Frms.	---2 3/4		(2,2)
Y. M. 26, Mill Problems or			
Math. 22	-----	5	(5,0)

19 3/4

Summer work-----4 Weeks

JUNIOR REQUIRED

Arch. 23, Cast Drawing	-----	1	(0,3)
Military Science 31	-----	1	(0,3)
*M. E. 31, Mechanics	-----	3	(3,0)
M. E. 37, Mech. Eng.	-----	3	(3,0)
M. E. 37.5, Mech. Eng. Lab.	---3/4		(0,2)
W. D. 31, Dobby Design	-----	2	(2,0)
W. D. 33, Fabric Analysis	-----	1	(0,2)
W. D. 35, Weaving	-----	1 3/4	(1,2)
W. D. 37, Rayon Processing	---1 3/4		(1,2)
Y. M. 31, Roving Frames	---2 3/4		(2,2)
Electives	-----	2	

19 3/4

Arch. 24, Cast Drawing	-----	1	(0,3)
English 32, Business Law	---2		(2,0)
E. E. 30, Elec. Eng.	-----	2 3/4	(2,2)
Military Science 32	-----	3/4	(0,2)
W. D. 32, Adv. Dobby Design	---2		(2,0)
W. D. 34, Fabric Analysis	-----	1	(0,2)
W. D. 36, Weaving	-----	3/4	(0,2)
Y. M. 41, Spinning	-----	3	(2,3)
Electives	-----	6	

19 3/4

SENIOR REQUIRED

Arch. 33, Cast Drawing	-----	1	(0,3)
English 31, Public Speaking	-----	2	(2,0)
Econ. & Soc. 41, Econ.	-----	2	(2,0)
Military Science 41	-----	1	(0,3)
W. D. 41, Jacquard Weaving	---1 3/4		(1,2)
W. D. 43, Cost Finding	-----	3	(3,0)
W. D. 45.5, Pattern Weaving	---2		(0,6)
W. D. 50, Thesis	-----	3/4	(0,2)
Y. M. 32, Doubling & Dftg.	---1 3/4		(1,2)
Y. M. 34, Cotton Grading	-----	3/4	(0,2)
Electives	-----	2	

17 3/4

Econ. & Soc. 42, Sociology	---2		(2,0)
Military Science 42	-----	3/4	(0,2)
Text. Chem. 46.5, Microscopy	---1 3/4		(1,2)
Text. Chem. 48, Dyeing	-----	1 3/4	(0,4)
W. D. 42, Jacquard Design	---2 3/4		(1,4)
W. D. 44, Warp Preparation	---2		(2,0)
W. D. 46.5, Pattern Weaving	---2		(0,6)
W. D. 48, Knitting	-----	3/4	(0,2)
Y. M. 44, Mill Econ.	-----	2	(2,0)
Electives	-----	3 1/4	

18

SUGGESTED ELECTIVES

E. & S. 44, Int. to Psychology	---2		(2,0)
Eng. 41, The Essay	-----	2	(2,0)
or			
Eng. 43	-----	2	(2,0)
R. O. T. C.	-----	2	(2,0)
M. E. 32, Mechanics	-----	3	(3,0)
M. E. 38, Mech. Eng.	-----	3	(3,0)
M. E. 38.5, Mech. Lab.	-----	3/4	(0,2)
T. Chem. 31 and 32, Org. Chem.	---3		(3,0)
R. O. T. C.	-----	3	(3,0)

*Repeated second semester; approved option may be taken first semester.

5e.—YARN MANUFACTURING

This course is designed to give the student special work in carding and spinning. (See 5a, Textile Engineering, for detailed description.)

YARN MANUFACTURING

FRESHMAN YEAR

First Semester

Chemistry 11, General	3½	(3,2)
Drawing 11, Freehand	¾	(0,2)
Drawing 13, Mechanical	¾	(0,2)
English 11, Comp. & Am. Lit.	2	(2,0)
History 17, Am. Ec. Hist.	2	(2,0)
Math. 11, Trigonometry	5	(5,0)
M. E. 17, or M. E. 14	¾	(0,2)
Military Science 11	1	(0,3)
Phys. Ed. 11	¾	(0,2)
Y. M. 11, Textiles	1½	(1,2)

18

Second Semester

Chemistry 12, General	3½	(3,2)
Drawing 12, Freehand	¾	(0,2)
Drawing 14, Mechanical	¾	(0,2)
English 12, Comp. & Am. Lit.	2	(2,0)
History 18, Am. Ec. Hist.	2	(2,0)
Math. 12, Analytics	5	(5,0)
M. E. 14, or M. E. 17	¾	(0,2)
Military Science 12	1½	(1,2)
Phys. Ed. 12	¾	(0,2)
W. D. 12, Textiles	1½	(1,2)

18½

SOPHOMORE YEAR

Drawing 25, Mechanical	¾	(0,2)
English 21, Lit. & Adv. Comp.	2	(2,0)
Math. 21, Dif. Calculus	5	(5,0)
M. E. 33.5, Machine Shop	¾	(0,2)
Military Science 21	1	(0,3)
Physics 11, General	4	(3,2)
W. D. 21, Elementary Design	2	(2,0)
W. D. 23, Weaving	¾	(0,2)
Y. M. 21, Pickers	2½	(2,2)

18½

Drawing 28, Mechanical	¾	(0,2)
English 22, Lit. & Adv. Comp.	2	(2,0)
Math. 22, Int. Calculus or Y. M.		
26, Mill Problems	5	(5,0)
M. E. 34.5, Machine Shop	¾	(0,2)
Military Science 22	1½	(1,2)
Physics 12, General	4	(3,2)
W. D. 22, Adv. Design	2	(2,0)
W. D. 24, Weaving	¾	(0,2)
Y. M. 22, Cards & Drawing		
Frames	2½	(2,2)

19½

JUNIOR REQUIRED

*M. E. 31, Mechanics	3	(3,0)
M. E. 37, Mech. Eng.	3	(3,0)
M. E. 37.5, Mech. Eng. Lab.	¾	(0,2)
Military Science 31	1	(0,3)
W. D. 33, Fab. Analysis	1	(0,2)
W. D. 35, Weaving	1½	(1,2)
Y. M. 31, Roving Frames	2½	(2,2)
Y. M. 35, Organiz. & Proj.	4	(2,6)
Electives	2	

19

English 32, Business Law	2	(2,0)
E. E. 30, Elec. Eng.	2½	(2,2)
Military Science 32	¾	(0,2)
W. D. 34, Fabric analysis	1	(0,2)
W. D. 36, Weaving	¾	(0,2)
Y. M. 41, Spinning	3	(2,3)
Y. M. 36, Project Continued	3	(1,6)
Electives	6	

19

*Repeated second semester; approved option may be taken first semester.

YARN MANUFACTURING

SENIOR REQUIRED

First Semester

English 31, Pub. Speaking	-----2	(2,0)
E. & S., Economics	-----2	(2,0)
Military Science 41	-----1	(0,3)
W. D. 43, Cost Finding	-----3	(3,0)
W. D. 45, Pattern Weaving	-- ¾	(0,2)
Y. M. 32, Doub. & Drafting	---1 ¾	(1,2)
Y. M. 34, Cotton Grading	-----¾	(0,2)
Y. M. 45, Mill & Pro. Prob.	---3 ¾	(1,8)
Electives	-----4	

18¾

Second Semester

E. & S. 42, Sociology	-----2	(2,0)
Military Science	-----¾	(0,2)
T. Chem. 46.5, Microscopy	---1 ¾	(1,2)
T. Chem. 48, Dyeing	-----1 ¾	(0,4)
W. D. 46, Weaving	-----¾	(0,2)
W. D. 48, Knitting	-----¾	(0,2)
Y. M. 42, Combers	-----1 ¾	(1,2)
Y. M. 44, Mill Economics	-----2	(2,0)
Y. M. 46, (Y. M. 45 Cont.)	---3 ¾	(1,8)
Electives	-----3	

17¾

SUGGESTED ELECTIVES

E. & S. 44, Int. to Psychology	---2	(2,0)	M. E. 32, Mechanics	-----3	(3,0)
Eng. 41, The Essay	-----2	(2,0)	M. E. 38, Mech. Eng.	-----3	(3,0)
	or		M. E. 38.5, Mech. Lab.	-----¾	(0,2)
Eng. 43	-----2	(2,0)	T. Chem. 31 and 32, Organic		
R. O. T. C.	-----2	(2,0)	Chem.	-----3	(3,0)
			R. O. T. C.	-----3	(3,0)

DESCRIPTION OF COURSES

AGRONOMY*

MR. BUIE†

MR. TEARE

MR. COLLINGS

MR. SHELLEY

Agr. 11.—Field Crops—Semester 1 (3 and 0) 3 cr.

A course dealing with the origin, history, botanical characteristics, physiology, ecology, varieties, breeding, soil adaptation, fertilizer requirements, and the cultural methods employed in the production of the most important crops of the United States.

Text-book: *Production of Field Crops*—Hutchinson and Wolfe.

MR. COLLINGS

MR. SHELLEY

Agr. 20.—Soils—Semester 2 (2 and 2) 2 2/3 cr.

A fundamental course in soils, intended to cover the basic principles of soil physics, soil fertility, soil biology, and soil management. It deals with the soil as a reservoir for water, as a medium for root development, as a source of nutrients, and as a home of organisms.

A laboratory course dealing almost exclusively with the physical properties of the soil is also given.

Text-book: *The Nature and Properties of Soils*—Lyon and Buckman.

MR. COLLINGS

MR. SHELLEY

Agr. 21.—Farm Machinery—Semester 1 (2 and 2) 2 2/3 cr.

A course dealing with the use of machinery in the production of farm crops. Studies are made of the design, construction, adjustments and operation of the latest improved field and belt machinery. Laboratory work consists of a detail study and

*On the following pages by Divisions will be found: Name of Division, Staff, Subject Catalog number (in general courses numbered 11-19 inclusive are Freshman courses, 20-29 Sophomore, 30-39 Junior, 40-60 Senior, 500 and above for graduate students only), title of course, semester offered, class and laboratory hours per week, credit in semester hours.

†Resignation effective November 1, 1929; Mr. Collings acting head of division.

testing of the more common farm machines. Field studies are made when conditions permit.

Text-book: *Equipment for the Farm and Farmstead*—Ramsower.

MR. TEARE

Agr. 30.—Forage Crops—Semester 2 (3 and 0) 3 cr.

A course dealing with the characteristics of the various forage crops, with emphasis being laid on those grown in this state. These crops are studied with special reference to their adaptations, growing, harvesting, composition, value and uses, and also with reference to their place in our cropping system.

Text-book: *Forage Crops and Their Culture*—Piper.

MR. SHELLEY

Agr. 31.—Fertilizers and Manures—Semester 1 (2 and 0) 2 cr.

A study of the sources, mining and manufacturing, composition, physical characteristics and uses of fertilizers and manures.

Text-book: *Manures and Fertilizers*—Wheeler.

MR. COLLINGS

Agr. 32.—Genetics—Semester 2 (2 and 2) 2 2/3 cr.

A course dealing with the laws of heredity and equally applicable to plants and animals.

Text-book: *Principles of Genetics*—Sinnott and Dunn.

MR. BUIE MR. SHELLEY

Agr. 41.—Advanced Cotton—Semester 1 (2 and 0) 2 cr.

Prerequisite—Agronomy 11.

An advanced course in cotton dealing with all phases of cotton production.

Text-book: *The Production of Cotton*—Collings.

MR. COLLINGS

Agr. 42.—Soil Fertility and Management—Semester 2 (2 and 0)
2 cr.

A course dealing with the composition of the soil and the influence of crop rotations and fertilizers on the productivity of the soil as shown by field experiments. This course also includes a study of home mixing of fertilizers and the application of commercial plant foods and of lime in agricultural practice. Special attention is directed toward those factors essential for the practical utilization of South Carolina soils.

Text-book: *Soil Management*—Bear.

MR. COLLINGS

Agr. 44.—Advanced Soils—Semester 2 (0 and 2) 2/3 cr.

A laboratory course dealing with the chemical and physical determinations of the properties of South Carolina soils.

Text-book: *Soil Characteristics*—Emerson.

MR. COLLINGS

Agr. 45.—Advanced Crops—Semester 1 (2 and 0) 2 cr.

Prerequisite: Agronomy 11, 30, 32 and 41.

A general course dealing with crops. Particular emphasis is laid upon the production of crops in the southeastern part of the United States.

Text-books: *The Small Grains*—Carleton. *The Corn Crops*—Montgomery.

MR. BUIE

Agr. 46.—Farm Buildings—Semester 2 (2 and 2) 2 2/3 cr.

A course designed to assist students in the planning and arrangement of farm buildings, including the farm home. Lectures and laboratory work are devoted to the arrangement of the farm building lay-out, the design, plan and cost estimation of the major farm buildings.

Text-book: *Farm Buildings*—Foster and Carter.

MR. TEARE

Agr. 47.—Advanced Crop Laboratory—Semester 1 (0 and 2) 2/3 cr.

A course intended primarily for students specializing in agronomy. It includes a morphological study of cotton, corn, small grains and forage crops. Special attention is given to the identification and germination of seeds.

Text-book: *First Book of Grasses*—Chase.

MR. BUIE MR. SHELLEY

Agr. 49.—Plant Breeding—Semester 1 (2 and 2) 2 2/3 cr.

Prerequisite: Agronomy 32.

A study of methods of improving field crops by breeding. All of the common field crops are included and special emphasis is placed on the cotton, corn, tobacco, small grains and forage plants.

Text-book: *Breeding Crop Plants*—Hays and Garber.

MR. BUIE MR. SHELLEY

Agr. 50.—Soil Problems—Semester 2 (1 and 0) 1 cr.

A course with a review and discussion of the latest published information concerning recent developments in the field of soil science.

Text-book: Bulletins, reports and professional magazines will be assigned as references.

MR. COLLINGS

Agr. 51.—Crop Problems—Semester 1 (1 and 0) 1 cr.

A course giving a review and discussion of the latest published information concerning the production of field crops.

Text-book: Bulletins, reports and professional magazines will be assigned as references.

MR. BUIE

Agr. 53.—Agricultural Surveying and Drainage—Semester 1 (2 and 2) 2 2/3 cr.

A survey of small areas with tape, level and rod, computing areas, topographic mapping, design and study of drainage

system; prevention of soil erosion with special emphasis on terracing.

Text-book: *Surveying and Drainage*—Scoates and Ayres.

MR. TEARE

Agr. 55.—Farm Shop—Semester 1 (1 and 2) 1 2/3 cr.

A course designed especially for agricultural educational seniors to meet local needs, as planning and equipping farm shop building, constructing small items of farm equipment from wood, metal and concrete, making simple repairs.

MR. TEARE

Agr. 57.—Farm Motors—Semester 1 (2 and 2) 2 2/3 cr.

Prerequisite: Agronomy 21.

A study of power as applied to agricultural operations through the various forms of farm motors, such as gas engines, tractors, water wheels and electric motors.

Text-book: *Motor Vehicles and Their Engines*—Fraser-Jones.

MR. TEARE

Graduate Work—For description of graduate work see page 196.

AGRICULTURAL ECONOMICS

MR. JENSEN

MR. CARKUFF

MR. MILLS

MR. RUSSELL

MR. WHITE

Ag. Ec. 12.—Elementary Agricultural Economics—Semester 1 or 2 (3 and 0) 3 cr.

A course giving an introductory survey of the entire field of agricultural economics. It deals with the economic side of farming, marketing and spending from theoretical and practical viewpoints. Some of the topics surveyed are systems of farming, the farm considered as a business enterprise, farm power, land, credit, labor, marketing cotton and other farm products, prices, economic cooperation by farmers, and the place of agri-

culture in national production. Statistics will be used as illustrative material.

Text-book: *Introduction to Agricultural Economics*—Gray.

MR. CARKUFF MR. MILLS

Ag. Ec. 31.—Statistical Methods—Semester 1 (1 and 2) 1 2/3 cr.

Prerequisite: *Ag. Ec. 12.*

A course on the meaning and application of statistical methods which will train students to make ordinary statistical studies. Some of the important topics are: sampling, tabular and graphic presentation, averages, ratios and coefficients, dispersion, the theory of probability and error, index numbers, trends and correlations.

Text-book: *Statistical Method*—Jerome.

MR. JENSEN MR. RUSSELL

Ag. Ec. 32.—Price Economics—Semester 2 (2 and 2) 2 2/3 cr.

Prerequisite: *Ag. Ec. 12; E. and S. 33.*

A study of prices as related to successful farming, price levels, cycles and trends as they influence farm programs and farm operations, treatment of prices of farm products, production goods and of commodities purchased for the farm family, relation of prices to booms, depressions and normal times. A review of the qualitative and quantitative aspects of the laws of price will be given.

MR. JENSEN MR. WHITE

Ag. Ec. 33.—Farm Accounting—Semester 1 (1 and 4) 2 1/3 cr.

Prerequisite: *Ag. Ec. 12.*

A critical study is first made of the different types of accounts in existence. The forms of accounts best suited to varying conditions, such as farms of different sizes and types, are then decided on. Actual practice in record-keeping begins with simple operations such as the inventory, the cash-book and the memorandum account. Students will finally carry through a full set of accounts for a farm.

MR. JENSEN MR. RUSSELL

Ag. Ec. 34.—Farm Organization and Management—Semester 2 (2 and 2) 2 2/3 cr.

Prerequisite: *Ag. Ec. 12; E. & S. 33.*

A course dealing chiefly with farm organization and management; economic specialization in relation to agriculture, types of farming and the economic, physical and biological factors determining them, selection and combination of farm enterprises for highest profits, physical and financial organizations of farms, farm operation in areas representative of the important types.

Text-book: *Economics of Farm Organization and Management*—Holmes.

MR. JENSEN MR. WHITE

Ag. Ec. 35.—Principles of Marketing—Semester 1 (3 and 0) 3 cr.

Prerequisite: *Ag. Ec. 12; E. & S. 33 (or concurrently).*

A course dealing with the principles of marketing, marketing programs, marketing services, marketing mechanism, market grades and standardization, storage and warehousing, transportation, future trading, inspection and grading of perishable and staple products. This course includes a discussion of the principles of cooperative marketing.

MR. CARKUFF

Ag. Ec. 41.—Farmer Movements—Semester 1 (3 and 0) 3 cr.

Prerequisite: *Ag. Ec. 12; E. & S. 33; Senior standing.*

Farmer movements, beginning with the earliest agricultural societies and including the Grange and the Farm Bureau, are studied in order of development. Other forms of farmers' movements growing out of these are also treated in this course.

MR. MILLS

Ag. Ec. 42.—Rural Sociology—Semester 2 (2 and 2) 2 2/3 cr.

Prerequisite: *Ag. Ec. 12; E. & S. 33; Senior standing.*

A study of the social problems of the farmer, and more

particularly of the farmer of South Carolina. Health in the country, illiteracy, recreation, taxation, etc., are discussed.

MR. MILLS

Ag. Ec. 43.—Agricultural Finance—Semester 1 (2 and 0) 2 cr.

Prerequisite: Ag. Ec. 12; E. & S. 33; Senior standing.

A course dealing chiefly with sources of credit for purchasing farm land and for financing farm operations, including a treatment of short term and intermediate credit needs of agriculture as well as an analysis of conditions of the bank credit situation in relation to agriculture under the National and Federal Reserve banking systems.

MR. CARKUFF

Ag. Ec. 44.—Land Economics—Semester 2 (2 and 2) 2 2/3 cr.

Prerequisite: Ag. Ec. 12, 34; E. & S. 33; Senior standing.

Land as a resource, as a factor in production and its relation to economic society are taken up. This course gives a thorough and critical treatment of such subjects as land settlement and colonization, land booms and depressions, land valuation and assessment, land price movements and rent. Economic land holding and economic land utilization are studied from individual, state and national viewpoints.

MR. JENSEN MR. WHITE

Ag. Ec. 49.—Cotton Marketing—Semester 1 (3 and 0) 3 cr.

Prerequisite: Ag. Ec. 12, 35; E. & S. 33; Senior standing.

A careful study of areas in which cotton is grown in the world and in the United States and the most common staple and grade of cotton in each area. An analysis of areas and intensity of mill demand and final consumer demand. A description of local, central spot, spinners', foreign and future markets. The relation of production, demand and prices as well as an evaluation of cooperative marketing of cotton.

MR. CARKUFF

Teaching Facilities:

For several years the division has been carrying on economic research on a considerable scale under local South Carolina conditions. The principal groups of studies are farm management, marketing and consumption, with several projects in each group. Approximately one thousand complete farm business and cost records, in addition to a large number of special types of records and city market tabulations, are now on file in the division. This feature is a distinct teaching advantage because it gives students interesting material with which to work, and eliminates the exclusive use of text-books.

Graduate Work—For description of graduate work see pages 191, 196.

ANIMAL HUSBANDRY

MR. STARKEY

MR. RITCHIE

A. H. 12.—*Farm Animals—Types, Breeds, Market Classes and Grades of Farm Animals*—Semester 2 (2 and 2) 2 2/3 cr.

A course designed to give the student a knowledge of the characteristics and use of the various types of farm animals; the history, methods of improvement, and characteristics of the leading breeds; market demands and market classification of live stock.

Text-books: *Types and Market Classes of Live Stock*—Vaughan. *Types and Breeds of Farm Animals*—Plumb.

MR. RITCHIE

A. H. 31.—*Principles of Feeding*—Semester 1 (2 and 2)
2 2/3 cr.

A study of the composition of feeds, use of feeds, feed requirements and calculation of balanced rations for farm animals; classification and value of feedstuffs.

Text-book: *Feeds and Feeding*—Henry and Morrison.

MR. STARKEY

A. H. 32.—Live Stock Judging—Semester 2 (0 and 2) 2 2/3 cr.

A detailed study of the fundamentals of livestock judging.

MR. RITCHIE

A. H. 33.—Pork Production—Semester 1 (2 and 2) 2 2/3 cr.

Prerequisite: Animal Husbandry 12.

The feeding, breeding and management of swine.

Text-book: *Pork Production*—Smith.

MR. STARKEY

A. H. 40.—Breeding—Semester 2 (2 and 2) 2 2/3 cr.

An advanced study of breeding including the practical application of the principles of genetics to the breeding of farm animals. The course includes a discussion of the subjects of reproduction, variation, heredity, selections, line breeding, inbreeding, cross breeding, grading and other subjects correlated with the breeding and improvement of farm animals.

Text-book: *Animal Breeding*—Rice.

MR. STARKEY MR. RITCHIE

A. H. 41.—Feeds and Feeding—Semester 1 (2 and 2) 2 2/3 cr.

Prerequisite: Animal Husbandry 31.

A detailed study of the composition, digestibility, use and value of different feedstuffs; an advanced study of digestion, absorption, metabolism, and functions of food nutrients, feed requirements and feeding standards.

Text-book: *Feed and Feeding*—Henry and Morrison.

MR. STARKEY

A. H. 42.—Sheep Production—Semester 2 (2 and 2) 2 2/3 cr.

Prerequisite: Animal Husbandry 12 and 31.

The feeding, breeding and management of sheep and swine.

Text-books: *Pork Production*—Smith. *Productive Sheep Husbandry*—Coffey.

MR. STARKEY

A. H. 43.—Animal Production—Horses and Mules and Beef Production—Semester 1 (2 and 2) 2 2/3 cr.

Prerequisite: Animal Husbandry 12 and 31.

In this course the work is divided into two distinct units. In the first half of the semester a study of the breeding, feeding, care and management of horses and mules is taken up, and in the second, a study of the breeding, care and management of beef cattle, is followed, including a careful study of feeding and marketing methods. Textbooks supplemented by station bulletins.

Text-books: *Productive Horse Husbandry*—Gay. *Beef Cattle*—Snapp.

MR. STARKEY MR. RITCHIE

A. H. 45.—Advanced Stock Judging and Meats—Semester 1 (2 and 2) 2 2/3 cr.

A course in the judging of breeding animals and fat stock, and in the slaughtering, cutting, and curing of meats, and the preparation of by-products.

Text-books: *Judging Farm Animals*—Plumb. *Meat and Meat Products*—Tomhave.

MR. RITCHIE

A. H. 47.—Livestock Management—Semester 1 (2 and 2) 2 2/3 cr.

This is a course dealing with practical problems in the management of livestock.

MR. RITCHIE

A. H. 50.—Special Problems in Animal Husbandry—Semester 2 (1 and 0) 1 cr.

Research problems in connection with Animal Production.

MR. STARKEY

ARCHITECTURE

MR. LEE

MR. JOHNSON

MR. LITTLE

MR. HODGE

Arch. 11.—Elements of Architecture—Semester 1 (0 and 4)
1 1/3 cr.

Exercises and studies of architectural elements, walls, openings, the Orders, vaults, etc., treated with reference to their employment in design. Lettering. India ink washes.

MR. LITTLE

Arch. 12.—Architectural Design—Semester 2 (0 and 4) 1 1/3 cr.

Prerequisite: Arch. 11.

Continuation of 11. Problems in elementary design involving the use of the elements.

MR. LITTLE

Arch. 13-14.—Freehand Drawing—Semester 1 (0 and 2) 2/3 cr.
Semester 2 (0 and 4) 1 1/3 cr.

A course covering angular and parallel perspective, the perspective of circles and shading.

The study of pencil technique is stressed for sketching purposes and charcoal work from the cast is given in order to develop a correct sense of values, form and proportion.

MR. HODGE

Arch. 15.—Descriptive Geometry—Semester 1 (0 and 2) 2/3 cr.

Fundamental problems in descriptive geometry are studied and applied to the solution of problems in architecture, leading particularly to the casting of shadows.

MR. KLUGH

Arch. 16.—Shades and Shadows and Perspective—Semester 2
(0 and 2) 2/3 cr.

Prerequisite: Arch. 15.

Problems in the casting of conventional shadows of archi-

tectural forms and the theory and practice of architectural perspective are solved.

MR. KLUGH

Arch. 21-22.—Architectural Design—Semesters 1 and 2
(0 and 14) 4 2/3 cr.

Prerequisite: Arch. 12, 14, 15, 16.

A series of simple problems in design, applying classic proportions to modern buildings; criticism, sketch problems, Beaux-Arts problems; rendering in water color and other mediums.

Architectural library reference books and plates.

MR. JOHNSON MR. LITTLE

Arch. 23-24.—Cast Drawing—Semesters 1 and 2 (0 and 3) 1 cr.

Prerequisite: Arch. 14.

Thorough drill in drawing groups of simple casts of architectural fragments and parts of the figure, in pencil, pen and ink, and charcoal rendering; study of color in theory and practice; water color sketching and out-of-door sketching.

MR. HODGE

Arch 25-26.—History of Architecture—Semesters 1 and 2
(3 and 0) 3 cr.

Study of historic styles and monuments of architecture, classic, mediaeval and Renaissance. This subject is given by illustrated lectures and text-book. The student is required to do research work in the library and to make sketches.

MR. JOHNSON

Arch. 28.—Summer Work—8 weeks.

Each student in architecture is required to spend eight weeks employed in an architect's office, or on a building construction project, or he may be required to make a measured drawing of some designated building of good architectural character. This must meet the approval of the faculty of architecture.

Arch. 31-32.—Architectural Design—Semesters 1 and 2
(0 and 22) 7 1/3 cr.

Prerequisite: Architecture 22.

A series of problems in design, composition and planning, sketch problems, Beaux-Arts problems.

Architectural library reference books and plates.

MR. JOHNSON MR. LITTLE

Arch. 33-34.—Cast Drawing—Semesters 1 and 2 (0 and 3) 1 cr.

Prerequisite: Architecture 24.

Advanced work in the drawing of antique sculpture, study of anatomy. All work is in color. The student may choose his medium such as charcoal, conté, pastel, etc.

MR. HODGE

Arch. 35-36.—Building Construction—Semester 1 (3 and 0)
3 cr., Semester 2 (2 and 0) 2 cr.

Carpentry: study of building materials, their uses and forms; details of frame construction, hardware, estimates and specifications; problems in calculation.

MR. LEE

Arch. 37-38.—Working Drawings—Semesters 1 and 2 (0 and 2)
2/3 cr.

Prerequisite: Architecture 32.

Preparation of complete working drawings for a frame building, large scale detail drawings of its parts, with necessary calculations. Tracing, blue printing.

MR. LEE

Arch. 39.—Historic Ornament—Semester 1 (0 and 2) 2/3 cr.

Prerequisite: Architecture 22, 24, 26.

Motifs in historic ornament. Lectures and large drawings in water color.

MR. JOHNSON

Arch. 40.—Life Drawing—Semester 2 (0 and 2) 2/3 cr.

Studies of the nude and draped figure in charcoal, pencil, and pen and ink. Quick sketches for action and movement. A course designed to meet the needs of the architect. Modeling.

MR. HODGE

Arch. 40.5.—History of Art—Semester 2 (2 and 0) 2 cr.

Lectures on periods and styles of painting and sculpture. Stereopticon and photographs.

MR. LITTLE MR. HODGE

Arch. 41-42.—Architectural Design—Semester 1 (0 and 21) 7 cr.
Semester 2 (0 and 20) 6 2/3 cr.

Prerequisite: Arch. 32.

Advanced problems in architectural design. Composition, planning, etc., worked up in detail. Eight and ten hour sketch problems. Archaeology, Beaux-Arts problems, southern inter-collegiate architectural competition.

Architectural library books and plates as reference.

MR. JOHNSON MR. LITTLE

Arch. 43-44.—Building Construction—Semesters 1 and 2
(3 and 0) 3 cr.

Prerequisite: Architecture 38.

Masonry; study of foundations, mortars, details of masonry construction, steel and concrete estimates, specifications, superintendence, problems in calculation.

MR. LEE

Arch. 45-46.—Structural Design—Semester 1 (0 and 6) 2 cr.
Semester 2 (0 and 8) 2 2/3 cr.

Prerequisite: Architecture 38.

Preparation of complete working drawings and specifications for masonry buildings, detail drawings of the construction with necessary calculations. Steel and reinforced concrete design. Blue printing.

MR. LEE

Arch. 47.—Mechanical Plant—Semester 1 (2 and 0) 2 cr.

A study of various systems of heating and ventilating of buildings, electrical installations, plumbing, etc., with applications to practical problems.

MR. LEE

Arch. 48.—Professional Practice—Semester 2 (1 and 0) 1 cr.

Office management and organization, competitions, laws, contracts, ethics. American Institute of Architects documents.

MR. LEE

BOTANY AND BACTERIOLOGY

MR. ARMSTRONG

MR. AULL

MR. ROSENKRANS

MR. RICE

Bot. 11.—General Botany—Semester 1 (2 and 4) 3 1/3 cr.

A course designed to give a general survey of the principles manifest in the life of plants. The first part of the semester is devoted to a study of the form, structure and physiology of the higher plants, followed by a study of algae, bacteria, fungi, liverworts, mosses, with the application of biological laws. Descriptions, life histories and the adaptation of the representative organisms are considered.

Text-book: To be selected.

MR. ROSENKRANS

Bot. 21.—Agricultural Botany—Semester 1 (2 and 2) 2 2/3 cr.

The structure and functions of the various parts of the higher seed plants and the broad principles of metabolism, growth, and reproduction are first taken up, followed by a study of the lower organisms.

Text-book: *Botany with Agricultural Applications*—Martin.

MR. ROSENKRANS MR. RICE

Bot. 22.—Agricultural Botany—Semester 2 (2 and 2) 2 2/3 cr.

A continuation of course 21, dealing with the changes in form, structure, and methods of reproduction from the lower to

the higher forms of plants. The latter part of the semester is devoted to systematic botany.

Text-book: *Field, Forest, and Garden Botany*—Gray.

MR. ROSENKRANS MR. RICE

Bot. 30.—Plant Physiology—Semester 2 (2 and 4) 3 1/3 cr.

Prerequisite: Botany 10 or 21; one year of chemistry, and one semester of physics.

A study of the use of the different kinds of cells, tissues, and organs of plants, the object being to teach the students how plants live and grow and why they are dependent on certain physical factors, as light, water, air, etc.

Text-book: *Principles of Plant Physiology*—Raber.

MR. ARMSTRONG MR. RICE

Bot. 32.—Forestry—Semester 2 (2 and 2) 2 2/3 cr.

Prerequisite: Botany 10 or 21.

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

Text-book: *Elements of Forestry*—Moon and Brown.

MR. ROSENKRANS MR. RICE

Bot. 41.—Field Crop Diseases—Semester 1 (2 and 2) 2 2/3 cr.

A systematic study of fungi with special reference to species causing diseases of field crops. The students are taught to recognize the more common diseases and the question of prevention and practicable remedies is fully discussed.

Text-book: To be selected.

MR. ROSENKRANS

Bot. 43.—Orchard and Truck Crop Diseases—Semester 1 (2 and 2) 2 2/3 cr.

A study of the fungi causing diseases of all fruits and vege-

tables, special stress being placed upon the symptoms, effect upon the host plants, and control measures.

Text-book: To be selected.

MR. ARMSTRONG

Bact. 31.—General Bacteriology—Semester 1 (2 and 4) 3 1/3 cr.

A course designed to give the student a clear working knowledge of the fundamentals of bacteriology. The relation and importance of bacteria to agriculture are stressed. Particular attention is paid to types found in milk, soil and water.

Text-books: To be selected. Laboratory Manual. *Laboratory Technique in Bacteriology*—Levine.

MR. AULL

Bact. 40.—Dairy Bacteriology—Semester 2 (2 and 4) 3 1/3 cr.

Prerequisite: Bacteriology 31.

A course for seniors who major in dairying. A detailed study is made of the relation of bacteria to milk and milk products.

Text-book: *Dairy Bacteriology* — Hammer. Laboratory Manual: Standard Methods of Milk Analysis and Mimeographed Notes.

MR. AULL

Bact. 42.—Sanitary Bacteriology—Semester 2 (2 and 4)
3 1/3 cr.

Prerequisite: Bacteriology 31.

A course designed to meet the needs of students who major in chemistry. A study is made of the location and protection of water supplies, the purification of water, and the proper disposal of sewage.

Text-books: *Elements of Water Bacteriology*—Prescott and Winslow.

Laboratory Manual: Standard Methods for the Examination of Water and Sewage of the A. P. H. A., and Mimeographed Notes.

MR. AULL

Bact. 44.—Soil Bacteriology—Semester 2 (2 and 4) 3 1/3 cr.

Prerequisite: Bacteriology 31.

This course is primarily for students majoring in agronomy. A study is made of the relation of microorganisms to the nitrogen, carbon, sulphur and iron cycles and to the physical properties of soil.

Text-book: To be selected. *Laboratory Manual of General Microbiology*—Fred and Waksman.

MR. AULL

CHEMISTRY

MR. BRACKETT

MR. LIPPINCOTT

MR. MITCHELL

MR. POLLARD

MR. MURPHY

MR. HUNTER

MR. CARODEMOS

MR. ZUR BURG

Chem. 11-12.—General Chemistry—Semesters 1 and 2 (3 and 2)
3 2/3 cr.

An introduction to chemistry, including the preparation and properties of the common substances, together with the consideration of the fundamental principles of chemical theory. Lecture experiments and laboratory exercises supplement the class work.

Text-books: *Elementary Study of Chemistry*—McPherson and Henderson. *Laboratory Manual; Exercises in General Chemistry*—Pollard.

MR. POLLARD

MR. HUNTER

MR. MURPHY

MR. ZUR BURG

Chem. 21.—Elementary Analytical Chemistry, Qualitative—
Semester 1 (1 and 3) 2 cr.

Prerequisite: Chemistry 11, 12.

A brief study of the qualitative detection of the common elements.

MR. CARODEMOS

Chem. 22a.—Elementary Analytical Chemistry, Quantitative—
Semester 2 (0 and 2) $2\frac{2}{3}$ cr.

A course of instruction in the principles of gravimetric and volumetric methods used in elementary analysis.

MR. CARODEMOS

Chem. 22.—Agricultural Organic Chemistry—Semester 2
(2 and 0) 2 cr.

Prerequisite: Chemistry 11, 12.

A study of those facts and principles of organic and biological chemistry which are fundamental to the sciences dealing with plant and animal life.

Text-book: *Fundamentals of Organic and Biological Chemistry*—Phillips.

MR. CARODEMOS

Chem. 23.—Qualitative Analysis—Semester 1 (2 and 8) $4\frac{2}{3}$ cr.

Prerequisite: Chemistry 11, 12.

The properties and reactions of metallic elements and of the common inorganic and organic acids, also the qualitative analysis of a number of solutions and solid mixtures. In the theoretical work, special attention is paid to the theory of electrolytic dissociation and the law of mass action.

Text-book: *Qualitative Chemical Analysis*—Engelder.

MR. LIPPINCOTT

Chem. 24.—Quantitative Chemistry—Semester 2 (2 and 8)
 $4\frac{2}{3}$ cr.

Prerequisite: Chemistry 11, 12.

Lectures and laboratory instruction designed to prepare students to understand the mathematical relations, and the fundamental laws of chemistry, and to illustrate the principles involved in both gravimetric and volumetric methods used in elementary analysis.

Text-books: *Quantitative Analysis*.—Mahin. *Laboratory Manual of Introductory Quantitative Analysis*.—Nichols.

MR. LIPPINCOTT

*Chem. 25-26.—Organic Chemistry—*Semesters 1 and 2 (3 and 2)
3 2/3 cr.

Prerequisite: Chemistry 11, 12.

A study during the first semester of the underlying principles of organic chemistry; the more common saturated and unsaturated aliphatic hydrocarbons; alcohols and their derivatives; aldehydes and ketones.

The second semester is devoted to the study of amines, polyatomic alcohols; hydroxyacids; carbohydrates; proteins; benzene and some of its homologues and a few of the more important dyes.

The laboratory course involves the preparation and purification of compounds selected from the fatty and aromatic series for the illustration of important synthetic reactions.

Text-books: *Organic Chemistry*—Remsen and Orndorff.
Laboratory Manual of Organic Chemistry—W. R. Orndorff.

MR. LIPPINCOTT

*Chem. 31-32.—Physical Chemistry—*Semesters 1 and 2 (3 and 4)
4 1/3 cr.

Prerequisite: Chemistry 11, 12.

A systematic presentation of modern chemical theory in which special attention is paid to the following topics: gases, liquids, and solids; the theory of solutions; reaction velocity, catalysis and chemical equilibrium; the Phase Rule; colloid chemistry; thermo-chemistry and elementary electro-chemistry.

The laboratory work involves qualitative and quantitative experiments illustrating the principles of physical chemistry and including practice in performing physico-chemical measurements. An important feature of this course is the presentation of detailed reports based upon data obtained in the laboratory.

Text-books: *Physical Chemistry*—Getman. *Laboratory Outlines in Physical Chemistry*.—Briggs.

MR. LIPPINCOTT

Chem. 33-33a.—Quantitative Chemistry—Semesters 1 and 2
(0 and 4) 1 1/3 cr.

Prerequisite: Chemistry 24.

A continuation of Chemistry 24 involving the analysis of limestone, clay, silicates and the products of some important industrial and metallurgical operations as coal, pig iron, steel, etc. Electrolytic methods and separations.

Text-books: Standard reference books.

MR. MITCHELL

Chem. 34.—Gas and Fuel Analysis—Semester 2 (0 and 2) 2/3 cr.

Prerequisite: Chemistry 24.

A course consisting of the analysis of various gases and mixtures of gases, such as coal gas, flue gas, natural gas, air and others. Also the analysis of various fuels.

Text-book: *Gas Analysis*—Dennis.

MR. LIPPINCOTT

Chem. 35-36.—Organic Chemistry—Semesters 1 and 2 (2 and 2)
2 2/3 cr.

Prerequisite: Chemistry 25, 26.

A review and extension of Chemistry 25, 26, the greater portion of time being given to the study of aromatic compounds.

The laboratory work is more advanced and the greater portion of the time will be devoted to quantitative organic analysis.

Text-book: *Organic Chemistry*—Perkin and Kipping.

MR. LIPPINCOTT

Chem. 37.—Agricultural Chemistry—Semester 1 (2 and 0) 2 cr.

Prerequisite: Chemistry 21, 22.

A brief study of the chemistry involved in seed germination, plant growth and plant protection, insecticides and fungicides.

MR. CARODEMOS

Chem. 38.—Dairy Chemistry—Semester 2 (2 and 4) 3 1/3 cr.

Prerequisite: Chemistry 21 and 22.

A study of Chemistry in relation to the dairy industry, acquainting the student with the procedure and the manipulation of apparatus found in the modern dairy laboratory. Analysis of milk and milk products; detection of adulterants, preservatives, colors and spoilage.

MR. CARODEMOS

Chem. 41-42.—Inorganic Chemistry—Semesters 1 and 2
(2 and 0) 2 cr.

Prerequisite: Chemistry 11, 12.

A review, extension and continuation of Chemistry 1, with special reference to the laws and theories of chemistry, and a study of some of the rarer substances.

Text-book: *Smith's Inorganic Chemistry*—Kendall.

MR. BRACKETT

Chem. 43-44.—Colloid Chemistry—Semesters 1 and 2 (2 and 0)
2 cr.

Prerequisite: Chemistry 31, 32.

The general theory of colloid chemistry, with some of its applications in industrial chemistry, dyeing, photography, ceramics, soils, biology, food, etc.

Text-book: *Applied Colloid Chemistry*—Bancroft.

MR. POLLARD

Chem. 45.—History of Chemistry—Semester 1 (2 and 0) 2 cr.

Prerequisite: Chemistry 25, 26.

A study of the development of the science of chemistry from the earliest times to the present day.

Text-book: *History of Chemistry*—Moore.

MR. BRACKETT

Chem. 46.—Stoichiometry—Semester 2 (2 and 0) 2 cr.

Prerequisite: Chemistry 11, 12.

A study of chemical equations, the various kinds in use with their meaning and value; calculations of various kinds involved in chemistry.

Text-book: *Calculations of Quantitative Chemical Analysis*—Hamilton and Simpson.

MR. MITCHELL

Chem. 47-48.—Technical Analysis—Semesters 1 and 2 (0 and 9) 3 cr.

Prerequisite: Chemistry 24.

The analysis of commercial fertilizers, feeding materials, waters, oils, etc.

Text-book: *Methods of the Association of Official Agricultural Chemists*. Standard reference books on quantitative analysis.

Chem. 50.—Thesis—Semester 2 (0 and 9) 3 cr.

Original investigation of an assigned problem in some branch of chemistry selected by the student. This work may be carried out under the supervision of any qualified member of the department staff. A thesis covering the work is a requirement of the course.

MR. BRACKETT AND STAFF

Chem. 52.—Advanced Laboratory Practice—Semester 2 (0 and 3) 1 cr.

Advanced laboratory practice in inorganic, organic, agricultural and sanitary chemistry to suit the needs of the student.

MR. MITCHELL

Chem. 54.—Selected Topics in Chemistry—Semester 2 (4 and 0) 4 cr.

Selected topics in inorganic, organic, industrial, agricultural and sanitary chemistry, to suit the needs of the student.

MR. BRACKETT

Chem. 55.—Elementary Chemistry of Foods and Feeds—
Semester 1 (2 and 0) 2 cr.

Prerequisite: Chemistry 21 and 22.

Discussion of the sources, chemical composition and properties of the principal foods and feeds and their physiological significance.

MR. CARODEMOS

CIVIL ENGINEERING

MR. CLARKE

MR. GLENN

MR. STEVENSON

*C. E. 21-22.—Surveying—*Semester 1 (2 and 4) 3 1/3 cr;
Semester 2 (3 and 2) 3 2/3 cr.

Prerequisite: Math. 11, 12.

A course designed to give the student considerable facility in the theory and use of modern surveying instruments and methods, including the plotting of notes for maps and profiles.

Text-book: *Surveying*—Davis, Foote & Raynor.

MR. CLARKE

*C. E. 23.—Surveying—*Semester 1 or 2 (1 and 2) 1 2/3 cr.

Prerequisite: Math. 11, 12.

A course covering only the more simple and fundamental theory and use of the tape, transit, and level. (Repeated second semester.)

Text-book: *Principles and Practice of Surveying*—Breed and Hosmer.

MR. STEVENSON

C. E. 30.—Summer Camp. (Two weeks in June between the sophomore and junior years.) 3 credits.

Prerequisite: C. E. 21, 22.

A course comprising the complete survey for a road between two selected termini.

MR. CLARKE

C. E. 31.—*Mechanics*—Semester 1 (3 and 0) 3 cr.

Prerequisites: Math. 21, 22; Physics 11, 12.

A course in the methods of analyzing balanced forces acting on a point, a member, or a structure. The graphical and analytical methods of analysis of problems are developed simultaneously. Just enough problems are given in straight line motion of bodies to relate motion with the forces which produce motion. Also a study of center of gravity and moment of inertia of areas is included.

Text-book: *Elements of Practical Mechanics*—MacInnes.

MR. STEVENSON

C. E. 32.—*Strength of Materials*—Semester 2 (3 and 0) 3 cr.

Prerequisite: C. E. 31.

A study of the various structural materials as regards strength of beams, columns and riveted joints; as occur in bridges, buildings, or other structures.

Text-book: *Strength of Materials*—Boyd.

MR. STEVENSON

C. E. 33.—*Construction Methods*—Semester 1 (2 and 0) 2 cr.

This course is of a semi-practical rather than a wholly theoretical nature. It is designed to give the student some mastering of, or at least some insight into, the many and varied problems which have to be met and solved by every superintendent of construction; from foundation to finish.

Text-book: *Standard Construction Methods*—Underwood.

MR. CLARKE

C. E. 34.—*Graphic Statics*—Semester 2 (1 and 2) 1 2/3 cr.

Prerequisite: C. E. 31.

A study of the principles of graphic analysis and the appli-

cation of these principles. This course is designed to cover all common problems of structural design solved by graphics.

Text-book: *Stresses in Simple Structures*—Urquhart & O'Rourke.

MR. STEVENSON

C. E. 35.—*Railroad Curves and Earthwork*—Semester 1
(3 and 0) 3 cr.

Prerequisite: C. E. 21, 22.

A course covering the theory and solution of problems involving simple, compound and reverse curves. Special attention is given to the spiral transition from tangent to curve. The setting of slopestakes and various problems of computation of earthwork from cross sections and also from contours are thoroughly covered in this course.

Text-book: *Railroad Curves and Earthwork*—Allen.

MR. CLARKE

C. E. 36.—*Roads and Pavements*—Semester 2 (3 and 0) 3 cr.

Prerequisite: C. E. 22.

A study of the design, location and construction of roads and pavements.

Text-book: *Roads and Pavements*—Agg.

MR. GLENN

C. E. 40.—*Bridge Design*—Semester 2 (2 and 6) 4 cr.

Prerequisite: C. E. 34; C. E. 32 or M. E. 51; and C. E. 41.

A general course in the field of bridge engineering along with the practice of working out actual designs.

Text-book: *Design of Highway Bridges*—Ketchum.

MR. GLENN

C. E. 41.—*Structural Design*—Semester 1 (2 and 3) 3 cr.

Prerequisite: C. E. 34, C. E. 31 and C. E. 32 or M. E. 51.

A course devoted for the first half of the semester to a

thorough study of built-up sections, riveting and the design of details. The second half is devoted to actual design of structures.

Text-books: *Design of Highway Bridges*—Ketchum; *Stresses in Simple Structures*—Urquhart and O'Rourke.

MR. GLENN

C. E. 42-43.—*Road Materials Testing Laboratory*—Semesters 1 and 2 (0 and 3) 1 cr.

Prerequisite: C. E. 32 and C. E. 36.

The actual tests and analyses of road and construction materials.

Text-book: *Highway Materials*—Bauer.

MR. GLENN

C. E. 44.—*Water Supply*—Semester 2 (3 and 0) 3 cr.

Prerequisite: C. E. 49.

A course devoted to the engineering procedure necessary to determine the quantity and quality of various sources of water supply; the method used to improve the quality of unpotable waters; the construction of works for the collection of water and works for the distribution of water.

Text-book: *Public Water Supplies*—Turneaure & Russell.

MR. CLARKE

C. E. 45.—*Reinforced Concrete Design*—Semester 1 (2 and 3) 3 cr.

Prerequisite: C. E. 31 or M. E. 31; and C. E. 32 or M. E. 51.

A course devoted to the theory and practice of reinforced concrete design.

Text-book: *Design of Concrete Structures*—Urquhart & O'Rourke.

MR. GLENN

C. E. 46.—Sewerage and Sewage Disposal—Semester 2 (2 and 0)
2 cr.

Prerequisite: C. E. 49.

A very specific course covering all the points of theory and practice involved in the construction of a modern sewerage system, and the various methods employed to dispose of sewage in accordance with sanitary law.

Text-book: *Sewerage and Sewage Treatment*—Babbitt.

MR. CLARKE

C. E. 47.—Reinforced Concrete Design—Semester 1 (2 and 0)
2 cr.

Prerequisite: M. E. 51 or C. E. 32.

Similar to course C. E. 45, with same text but without the design period.

MR. GLENN

C. E. 48.—Municipal Engineering Design—Semester 2 (0 and 2)
2/3 cr.

Prerequisite: Registration in C. E. 44 and 46.

A course consisting of an actual design of a water works and sewerage system for some nearby town.

MR. CLARKE

C. E. 49.—Hydraulics—Semester 1 (3 and 0) 3 cr.

Prerequisite: Math. 21, 22.

A course covering the principles of the flow of water, with particular reference to the need of knowledge thereof in connection with the study of water supply systems and sewerage.

Text-book: *Hydraulics*—Daugherty.

MR. CLARKE

C. E. 50.—Thesis—Semester 1 or 2; 1 or 2 cr.

Civil Engineering students of exceptional ability with the permission of the Head of the Civil Engineering Division, may

choose as an elective, the preparation and submission of a thesis covering some phase of Civil Engineering. Those students who desire to submit a thesis, as a part of their free electives, must present to the Head of the Civil Engineering Division, not less than one month prior to the opening of the semester during which such thesis work is intended to be performed, a complete outline of the work contemplated in the proposed thesis and the proposed method of procedure. (Credit depends on the nature of the thesis subject and the amount of time and quality of work.)

MR. CLARKE

C. E. 52.—*Hydraulics*—Semester 2 (2 and 0) 2 cr.

Prerequisite: M. E. 31.

The elementary principles of hydrostatics and the flow of water.

Text-book: *Hydraulics*—Daughtery.

MR. CURTIS

DAIRY HUSBANDRY

MR. LAMASTER

MR. GOODALE

D. H. 20.—*Introductory Dairying*—Semester 2 (2 and 2)
2 2/3 cr.

The object of this course is to give the student a practical working knowledge of dairy breeds, care and management of dairy cows, feeding methods, judging of dairy animals, care and testing of milk and its products, and the manufacture of milk products on the farm.

Text-book: *Productive Dairying*—Washburn. 1925 Edition.

MR. GOODALE

D. H. 30.—*Judging*—Semester 2 (0 and 2) 2/3 cr.

A study of the breeds, type and characteristics of dairy cattle with practice in judging and selection of animals for production and exhibit.

MR. LAMASTER

D. H. 41-42.—Dairy Manufacturing—Semester 1 (2 and 2)
2 2/3 cr. Semester 2 (2 and 4) 3 1/3 cr.

Prerequisite: Dairy 20.

A course dealing with the problems of market milk and the intensive study of the manufacture of butter, cheese, and ice cream.

Text-books: *The Butter Industry*—Hunziker. *Ice Cream*—Turnbow and Raffetto.

MR. GOODALE

D. H. 43.—Creamery Organization and Management—Semester 1 (3 and 0) 3 cr.

Prerequisite: Dairy 20.

A thorough study of the organization and operation of commercial creameries, creamery accounting, advertising and marketing of dairy products.

Text-book: *Management of Dairy Plants*—Mortensen.

MR. GOODALE

D. H. 44.—Breeding—Semester 2 (1 and 2) 1 2/3 cr.

Prerequisite: Dairy 20 and 40—Genetics.

A study of the practical application of the principles of genetics in its relation to dairy cattle breeding. This will be followed by an extensive study of the leading families and individuals of the major dairy breeds.

Text-book: To be selected.

MR. LAMASTER

D. H. 45.—Feeding and Management—Semester 1 (2 and 2)
2 2/3 cr.

Prerequisite: Dairy 20.

An advanced study of feeds, care, management and development of dairy cattle and methods of milk production.

Text-book: *Dairy Cattle Feeding and Management*—Larson and Putney.

MR. LAMASTER

D. H. 47.—Genetics—Semester 1 (2 and 2) 2 2/3 cr.

A course dealing with the laws of heredity with special emphasis on their application in the animal kingdom.

Text-book: *Principles of Genetics*—Sinnott and Dunn.

MR. LAMASTER

D. H. 48.—Advanced Dairy Farming—Semester 2 (2 and 2) 2 2/3 cr.

Prerequisite: Dairy 20.

A study of dairy herds based on milk and feeding records, dairy farming and its relation to soil fertility, and dairy farm management.

Text-book: *Dairy Cattle and Milk Production*—Eckles.

MR. LAMASTER

D. H. 51-50.—Problems—Semesters 1 and 2 (1 and 0) 1 cr.

A study of special research problems in production and manufactures. The thesis problem required of each senior will be reviewed.

MR. LAMASTER MR. GOODALE

DRAWING

MR. LEE

MR. KLUGH

MR. HARRIS

MR. HODGE

Drawing 11, 12.—Freehand Drawing—Semesters 1 and 2 (0 and 2) 2/3 cr.

Drawing is the language of the engineer, and frequently freehand sketching is the mode of expression.

The student is thoroughly drilled in the fundamental principles of perspective, from which he develops the ability to represent engineering shapes. Every effort is made to develop the student's imagination. Machine parts are used for models.

The first semester is prerequisite to the second.

MR. HARRIS MR. HODGE

*Drawing 13, 14.—Mechanical Drawing—*Semesters 1 and 2
(0 and 2) 2/3 cr.

The student is thoroughly grounded in the principles of orthographic projection. The course takes up geometrical problems, lettering, working drawings from sketches and machine parts, tracing and blue printing.

The first semester is prerequisite to the second.

Text-book: *Engineering Drawing—French.*

MR. KLUGH MR. HARRIS

*Drawing 25.—Mechanical Drawing—*Semester 1 (0 and 2)
2/3 cr.

Prerequisite: Drawing 12 and 14.

Fundamentals of descriptive geometry demonstrated in actual working drawings. Relationship of projections to each other in the reading of drawings. The usual types of projections required in class exercises, particularly with reference to intersections and developments.

MR. KLUGH

*Drawing 26.—Structural Drawing—*Semester 2 (0 and 2) 2/3 cr.

Prerequisite: Drawing 12, 14 and 25.

Elementary structural principles, study of symbols, proportions and minor design. Reading of structural drawings, study of methods in drafting, tracing and blue printing.

MR. KLUGH

*Drawing 28.—Mechanical Drawing—*Semester 2 (0 and 2)
2/3 cr.

Prerequisite: Drawing 25.

Shop drawings from sketches and machine parts, assemblies and details required. Use of methods in shop practice, drafting, tracing and blue printing. Reading of drawing.

MR. KLUGH

Drawing 31, 32.—Machine Design—Semesters 1 and 2 (0 and 3)
1 cr.

Prerequisite: Drawing 28.

Principles of machine design carefully studied and worked out in class problems. Theory stressed in lectures with problems required in theory and practice. Working drawings required and reading of them practiced. Tracing and blue printing.

MR. KLUGH

ECONOMICS AND SOCIOLOGY

MR. BREARLEY

MR. SHERRILL

E. & S. 21, 22.—Same as E. & S. 41, but given to Sophomores.

E. & S. 31, 32.—Psychology—Semesters 1 and 2 (2 and 2) 3 cr.

Required for graduation in course 2.

An introductory course in general psychology emphasizing the study of the nervous system, the psychology of learning, and selected problems in social psychology. This course is especially valuable for students taking advanced work in social science or education.

MR. BREARLEY

E. & S. 33.—Economics for Students of Agriculture—Semester 1 or 2 (3 and 0) 3 cr.

Prerequisite: History 17 or Agricultural Economics 12.

An elementary course in descriptive economics similar to Economics and Sociology 41, except that it is somewhat more extended and is especially adapted to the needs of students in agriculture.

MR. BREARLEY

MR. SHERRILL

E. & S. 34.—Same as E. & S. 41, but given to Juniors. Semester 2.

E. & S. 41.—Economics—Semester 1 or 2 (2 and 0) 2 cr.

Prerequisite: History 17 or Agricultural Economics 12.

Required for graduation except in Course 1.

An elementary course in descriptive economics designed to introduce the student to modern business conditions and practices. Among the topics considered are risk-taking, money, banking, business cycles, foreign trade, supply and demand, etc.

MR. BREARLEY MR. SHERRILL

E. & S. 42.—Sociology—Semester 2 (2 and 0) 2 cr.

Required for graduation except in Course 1.

A study of the elementary principles of sociology and of some of the special social problems considered in the light of general principles.

MR. BREARLEY

E. & S. 44.—Introduction to Psychology—Semester 2 (2 and 0) 2 cr.

This course will endeavor to give a summary of the essentials of elementary psychology. The contributions of psychology to the understanding of "human nature" will be stressed.

MR. BREARLEY

E. & S. 45.—Advanced Economics—Semester 1 or 2 (2 and 0) 2 cr.

Prerequisite: Elementary Economics.

This course will continue the work of elementary economics into one of the more special fields. The topics chosen will be adapted to the needs of the class. Registration by permission only.

MR. BREARLEY

E. & S. 46.—Advanced Sociology—Semester 2 (2 and 0) 2 cr.

Prerequisite: Elementary Sociology.

The topics chosen for study in this course will be adjusted

to the interests of the class and will vary from year to year. Registration by permission only.

MR. BREARLEY

EDUCATION

MR. CRANDALL

MR. AYERS MR. DUGGAN MR. KLUTTS MR. JOHNSON

Ed. 31.—Introduction to Agricultural Education—Semester 1 (1 and 6) 3 cr.

The principal purpose of this course is to familiarize students with the work of teachers of agriculture in local communities. Students observe and report on the work of all-day, part-time, evening and day unit classes; community and promotional work; equipment and general organization of a program in agricultural education for a local community. Each trainee will study one or more units of subject matter and will teach all-day students for several ninety-minute periods. Students are expected to spend two afternoons each week in the practice department.

MR. CRANDALL

MR. AYERS

MR. DUGGAN

MR. KLUTTS

MR. JOHNSON

Ed. 32.—Educational Psychology—Semester 2 (2 and 3) 3 cr.

A study of the learning process; how to study; individual differences as affecting educational and vocational performances.

MR. AYERS

Ed. 34.—Problems in Agricultural Education—Semester 2 (3 and 0) 3 cr.

In this course students are expected to become familiar with the Federal and State Acts providing for Vocational Agricultural Education, the functions of the various professional organizations for vocational teachers, and with the State and National organization of vocational agricultural students.

MR. AYERS

Ed. 40.—Practice Teaching in Agriculture—Semester 2
(0 and 15) 5 cr.

Each student is required to assume the work and responsibility of a teacher of agriculture in a local community. Students are expected to organize and conduct part-time, evening class, and day unit courses in addition to the all-day program. Students are to spend five afternoons each week in the practice departments, and teach two evening classes each week for ten weeks.

MR. CRANDALL

MR. AYERS

MR. DUGGAN

MR. KLUTTS

MR. JOHNSON

Ed. 41.—Principles of Vocational Education—Semester 1
(1 and 9) 4 cr.

In this course emphasis is placed on the participation of students in all possible phases of the work of a teacher of agriculture in a local community. Students participate in organizing and conducting all-day, part-time, evening and day unit classes. Students are held responsible for definite phases of community and promotional work. Instruction in principles and methods of teaching is given in connection with students' participation. Students are expected to spend two afternoons each week in the practice departments.

MR. CRANDALL

MR. AYERS

MR. KLUTTS

MR. DUGGAN

Ed. 42.—Methods in Agricultural Education—Semester 2
(3 and 0) 3 cr.

The developing of teaching material in vocational agriculture receives special emphasis in this course. Students are expected to make careful analyses of conditions and practices of farming in a local community as one of the chief sources of subject matter.

MR. CRANDALL

Graduate Work—For description of graduate work see page 198.

ELECTRICAL ENGINEERING

MR. RHODES

MR. O'BANION

MR. WILSON

MR. SAMS

E. E. 30.—Textile Electrical Machinery—Semester 2 (2 and 2)
2 2/3 cr.

Prerequisite: Physics 11, 12.

A course in the essential principles of electrical equipment used in the textile industry, including two hours per week of laboratory practice.

MR. WILSON

E. E. 31.—Direct Current Machinery—Semester 1 (5 and 0)
5 cr.

Prerequisite: Math. 21, 22, Physics 21, 22.

A course embracing the principles and characteristics of direct current machinery and auxiliaries.

MR. O'BANION

MR. SAMS

E. E. 32.—Alternating Current Circuits—Semester 2 (5 and 0)
5 cr.

Prerequisite: E. E. 31.

A physical and mathematical development of alternating current circuits including a thorough drill in the standard methods of solution.

MR. O'BANION

MR. SAMS

E. E. 33, 34.—Electrical Measurements—Semesters 1 and 2
(0 and 3) 1 cr.

Prerequisite: Math. 21, 22, Physics 21, 22, with E. E. 31.

A laboratory study of electric and magnetic circuits, and representative types of electrical instruments including alternating current circuits and instruments in the second semester.

MR. WILSON

E. E. 35, 36.—Dynamo Laboratory—Semesters 1 and 2 (0 and 2)
2/3 cr.

Prerequisite: Should parallel course E. E. 53.

A course similar to E. E. 45, 46 but planned especially for students in mechanical engineering.

MR. SAMS

E. E. 41, 42.—Alternating Current Machinery—Semesters 1
and 2 (3 and 0) 3 cr.

Prerequisite: E. E. 32, 34.

A comprehensive treatment of the theory, characteristics and uses of the leading types of generators, motors, transformers, converters and other electric power equipment; problems in application engineering.

MR. RHODES

E. E. 43.—Electric Circuits—Semester 1 (2 and 0) 2 cr.

Prerequisite: E. E. 32, 34.

An advanced study of the principles of electrostatics and electromagnetics in their relations to apparatus and equipment.

MR. RHODES

E. E. 44.—Power Transmission—Semester 2 (2 and 0) 2 cr.

Prerequisite: E. E. 43.

An application of the principles of E. E. 43 to the problems of transmission and distribution of electric power.

MR. RHODES

E. E. 45, 46.—Dynamo Laboratory—Semesters 1 and 2 (0 and 4)
1 1/3 cr.

Prerequisite: E. E. 32, 34 to parallel E. E. 41, 42.

A laboratory course affording the student opportunity to determine for himself the actual operating characteristics of commercial machinery and control apparatus.

MR. O'BANION

E. E. 47, 48.—Electrical Design—Semesters 1 and 2 (0 and 2) 2/3 cr.

Prerequisite: Should be paralleled by senior courses in E. E.

Problems in design affording the student opportunity to undertake projects involving the various principles of his courses in science and engineering.

MR. RHODES

E. E. 51.—Elements of Electrical Engineering—Semester 1 (2 and 2) 2 2/3 cr.

Prerequisite: Physics 24, 26.

A study of electrical equipment as related to civil engineering. Includes two hours per week of laboratory practice.

MR. WILSON

E. E. 53.—Alternating Current Machinery—Semester 1 (3 and 0) 3 cr.

Prerequisite: E. E. 32, 34.

A study of the principal types of alternating current machines and auxiliaries with special emphasis given to the characteristics of these machines as related to the solution of problems in power engineering.

MR. WILSON

E. E. 54.—Electrical Power Plants—Semester 2 (2 and 0) 2 cr.

Prerequisite: E. E. 41 or 53.

A brief study of the applications of electrical equipment to power plants, sub-stations, etc.

MR. RHODES

E. E. 55.—Thermionic Tubes—Semester 1 (2 and 0) 2 cr.

Prerequisite: E. E. 32.

A study of the characteristics of vacuum tubes for amplification, rectification and transformation of electric power. Includes a series of laboratory experiments.

MR. RHODES

E. E. 56.—Radio Communication—Semester 2 (2 and 0) 2 cr.

Prerequisite: E. E. 55.

This course embraces the essential principles of modern radio reception and transmission. Includes a series of laboratory experiments.

MR. RHODES

ENGLISH

MR. DANIEL

MR. BRADLEY

MR. TAYLOR

MR. LANE

MR. KINARD

MR. RANKIN

English 11, 12.—Composition and American Literature—Semesters 1 and 2 (2 and 0) 2 cr.

This course, which presupposes a knowledge of English grammar and syntax, gives training in composition and rhetoric, and letter writing.

The lives of the chief writers, a study of selections from each, and a class-room reading of many other selections, make up the principal work of the course in literature.

Supplementary Reading: A supplementary reading course embracing some of the best works of the leading authors is required, and written reports are made upon these.

Text-books: Composition and Rhetoric to be selected; *Century Collegiate Handbook of Writing*; Webster's *Secondary School Dictionary*; or a book of higher grade; *English Composition*—Greenough and Hersey; *A Book of American Literature*—Snyder and Snyder.

All freshmen who fail on English 11 are required to schedule in the second semester, in addition to English 12, English 13, 0 credit (1, 0).

English 13 is a non-credit course which gives a review of fundamental English.

MR. TAYLOR

MR. LANE

MR. KINARD

English 21, 22.—Literature and Advanced Composition—
Semesters 1 and 2 (2 and 0) 2 cr.

Prerequisite: English 11, 12.

This is a survey course comprising an intensive study of the types of literature from outstanding authors and is used as a basis for advanced composition. Many of the themes are discussed in class, and consultations are held with students for individual discussion.

Text-books: *Century Collegiate Handbook of Writing*; Webster's *Secondary School Dictionary*, or book of higher grade; *British Poetry and Prose Part II*—Lieder, Lovett, and Root.

MR. RANKIN

MR. BRADLEY

MR. TAYLOR

MR. LANE

MR. KINARD

*English 31.—Public Speaking—*Semester 1 (2 and 0) 2 cr.

Prerequisite: English 21, 22.

In this course a text-book is used for a study of the theory of the subject, but most of the work is practical, stressing correct pronunciation, clear enunciation, and direct natural delivery. Selections are memorized for practice. Original speeches are prepared and delivered. Extemporaneous speaking is required.

MR. DANIEL

*English 31a, 32a.—Public Speaking—*Semesters 1 and 2 (1 and 0)
1 cr.

One period a week for session for agricultural courses.

MR. BRADLEY

*English 32.—Business Law—*Semester 2 (2 and 0) 2 cr.

Prerequisite: English 21, 22.

This course seeks to fix legal principles in the student's mind, to lead him to realize the limitations of the legal knowledge of the layman, to give definite ideas as to how laws operate in actual practice, and to prepare him to carry on

business transactions with such care that he may avoid legal difficulties.

The course begins with a brief survey of the origin, purpose and development of laws; then takes up a study of contracts, sales, agency, negotiable instruments, partnership, corporations, personal property and real property.

Problems from actual cases are discussed in class, the students taking opposing sides. Contracts, notes, mortgages, checks and other papers are written and discussed.

Text-book: *Business Law*—Conyington-Bergh.

MR. DANIEL

English 41, 42.—The Essay—Semesters 1 and 2 (2 and 0) 2 cr.

Prerequisite: English 21, 22.

This course is designed primarily for a study of representative English and American essays from Francis Bacon to modern writers. Some writing is required. Most of the second semester is devoted to a study of representative modern essays.

MR. KINARD

English 43, 44.—Shakespeare—Semesters 1 and 2 (2 and 0) 2 cr.

Prerequisite: English 21, 22.

This course is intended to give the student as comprehensive an acquaintance with the dramatic work of Shakespeare as possible. It is a rapid reading course, a play a week being read and discussed in class. It is not a course in the intensive study of Shakespeare. The plays are taken chronologically so that the student gets some knowledge of Shakespeare's development in dramatic power. The course also provides some general approach to appreciation of plays from the point of view of the theater, and some foundation for the understanding of what constitutes drama as distinguished from other forms of literature.

MR. TAYLOR

English 45.—Journalism—Semester 1 (2 and 0) 2 cr.

Prerequisite: English 21, 22.

Text-books are used as the basis of the course in journalism which is designed to train students in the preparation of technical articles for the general reader and to help those who expect to become leaders in industrial and economic life to do occasional writing for newspapers and other publications.

Text-book: *Newspaper Editing and Writing*.

MR. DANIEL

English 46.—Business English—Semester 2 (2 and 0) 2 cr.

Prerequisite: English 21, 22.

The course in Business English is designed to give instruction in the writing of business letters and forms, in the methods of approaching business men, of securing and holding attention, of presenting plans and propositions. Practical demonstrations are given in the art of securing interviews and conducting conversation. The importance of developing a pleasing personality and courteous habits are stressed.

MR. DANIEL

English 47, 48.—Course in Middle English: Chaucer and Langlands—Semesters 1 and 2 (2 and 0) 2 cr.

Prerequisite: English 21, 22.

The course in Middle English consists (1) of a comparative study of the poetry of Chaucer and Langland as to outstanding differences of versification, etymology, and attitude toward the clerical abuses of the period, and (2) a detailed study of the Canterbury Tales with respect to literary characteristics and verse form.

Text to be chosen.

MR. BRADLEY

English 49.—Agricultural Journalism—Semester 2 (2 and 0) 2 cr.

Prerequisite: English 21, 22.

The course in Agricultural Journalism is practical in nature. It is designed primarily for students in Vocational Agriculture,

and is intended to give them the training necessary for writing agricultural news items for the weekly and daily papers as well as "feature stories" for agricultural journals. At least one "feature story" accepted and published by a reputable farm journal is a minimum requirement of the course.

Text-book: *Agricultural Journalism*—Crawford and Rogers.

MR. BRADLEY

English 50.—Thesis—Semester 2 (0 and 2) 2/3 cr.

A report of an investigation prepared under the direction of a member of the Arts and Science Department and approved as to content by him and as to form by a representative of the English division.

English 51, 52.—Contemporary Literature—Semesters 1 and 2 (2 and 0) 2 cr.

Prerequisite: English 21, 22.

This course is a study of contemporary English and American literature. It consists of wide reading in most of the important literary forms and in written and oral reports.

MR. RANKIN

English 53, 54.—Drama—Semesters 1 and 2 (2 and 0) 2 cr.

Prerequisite: English 21, 22.

The aim of this course is to survey the field of the drama by studying representative or type plays, to stimulate interest in correct speech, and to cultivate a keener appreciation of dramatic technique by class-room rehearsals of important scenes in as many of the plays as time will permit.

MR. LANE

English 55.—The Poetry of Tennyson—Semesters 1 and 2 (2 and 0) 2 cr.

Prerequisite: English 21, 22.

In this course an intensive study is made of Tennyson's poetry and a comparison is made with that of present-day writers.

MR. DANIEL

GEOLOGY AND MINERALOGY

MR. CALHOUN

Geol. 21.—Agricultural Geology—Semester 1 (3 and 0) 3 cr.

In this course geology is considered in its practical relation to agriculture.

Text-book: *Agricultural Geology*—Emerson.

MR. CALHOUN

Geol. 23, 24.—General Geology—Semesters 1 and 2 (3 and 0) 3 cr.

A course in general geology for students in the arts and science group. The first semester will be devoted to structural and dynamic geology; the second semester, which will be elective, to the principles of historical geology.

Text-book: *College Geology*—Chamberlin and Salisbury.

MR. CALHOUN

Geol. 33, 34.—Mineralogy—Semesters 1 and 2 (2 and 2) 2 2/3 cr.

A comprehensive course in crystallography, physical and chemical mineralogy and descriptive and determinative mineralogy.

Text-book: *Blowpipe Analysis*—Moses and Parsons.

MR. CALHOUN

Geol. 40.—Economic Geography—Semester 2 (3 and 0) 3 cr.

A course for men electing agricultural economics. Special attention will be placed upon world conditions.

Geol. 42.—Meteorology—Semester 2 (2 and 0) 2 cr.

A course designed to give the student an adequate conception of the use of meteorological instruments, weather maps, and the general principles of meteorology and climatology as applied to the growing of crops.

Text-book: *Meteorology*—Milham.

MR. CALHOUN

Geol. 43.—Engineering Geology—Semester 1 (2 and 0) 2 cr.

A brief course in which the practical application of geology to engineering is emphasized. Topographical and geological maps are used in connection with the text book.

Text-book: *Elements of Engineering Geology*—Ries and Watson.

MR. CALHOUN

HISTORY

MR. HOLMES

MR. SHERRILL

MR. CARSON

History 11.—Citizenship—Semester 1 or 2 (3 and 0) 3 cr.

This is an orientation course designed to give a survey of the major social institutions and problems with emphasis upon government as a means by which social problems may be solved.

Supplementary and collateral reading is required.

MR. SHERRILL

History 17, 18.—American Economic History—Semesters 1 and 2 (2 and 0) 2 cr.

This course is a brief survey of the economic background of colonization, the Revolution, wars, agriculture, public finance, commerce with special emphasis upon the industrial revolution in the United States and its results.

Reports upon problems are required.

MR. HOLMES

MR. SHERRILL

MR. CARSON

History 31, 32.—History of Civilization—Semesters 1 and 2 (3 and 0) 3 cr.

This is a rapid survey by lectures, recitations and reading of the ancient, mediaeval and modern world.

MR. HOLMES

History 33.—Political Science—Semester 2 (3 and 0) 3 cr.

Elective. Open to Juniors and Seniors only.

This course traces the growth of the Constitution and develops the functions of the national government and of political parties. Some attention is given to comparative government.

Supplementary and collateral reading, with written reports is required.

MR. SHERRILL

HORTICULTURE

MR. MCGINTY

MR. NEWMAN

MR. MUSSER

MR. ANDREWS

Hort. 12.—Vegetable Gardening—Semester 2 (2 and 2) 2 2/3 cr.

Principles and practices relative to the production of vegetables for home use; construction and management of cold frames and hotbeds. Practical work in planting and caring for a garden.

Text-book: *Vegetable Gardening*—Watts.

MR. ANDREWS

Hort. 21.—Fruit Growing—Semester 1 (2 and 2) 2 2/3 cr.

General study of fruits with particular reference to the home orchard sites, soils, propagation, planting, pruning, spraying and varieties.

Text-book: *Orcharding*—Gardner, Bradford and Hooker.

Required equipment—One pair hand pruning shears, one budding knife and one pruning saw.

MR. ANDREWS

Hort. 31.—Plant Propagation and Nursery Management—Semester 1 (2 and 2) 2 2/3 cr.

A study of methods of propagating fruit trees, shrubs and the various kinds of flowering plants. The student is given practical instruction in the propagation of these plants in the

field as well as in the greenhouse. The nursery consists of plantings of various kinds of deciduous and evergreen shrubs as well as the pome and stone fruits.

Text-book: *The Nursery Manual*—Bailey.

MR. NEWMAN

Hort. 32.—Principles of Vegetable Production—Semester 2
(2 and 2) 2 2/3 cr.

A consideration of the principles underlying the practices of the vegetable grower. The course will deal largely with a review of important experimental work in this field and its application to vegetable production problems.

Text-book: *Vegetable Crops*—Thompson.

MR. MCGINTY

Hort. 33.—Landscape Gardening—Semester 2 (2 and 2) 2 2/3 cr.

A study of the principles of landscape art with reference to the improvement of home and school grounds and park areas; mapping, designing and a study of decorative plants, their identification and adaptation to landscape work.

MR. NEWMAN

Hort. 41.—Systematic Pomology and Small Fruits—Semester 1
(2 and 2) 2 2/3 cr.

Systematic Pomology includes the classification, description and nomenclature of native and sub-tropical fruits; identification with reference to relationship and natural classification of varieties and judging and displaying fruits.

Text-book: *Systematic Pomology*—Hedrick.

Small fruits includes the propagation, culture, harvesting and marketing of the blackberry, dewberry, grape, raspberry, strawberry and other small fruits.

Text-book: *Productive Small Fruit Culture*—Sears.

MR. MUSSER

Hort. 42.—Commercial Pomology—Semester 2 (2 and 2)
2 2/3 cr.

Commercial Pomology deals with the practical problems pertaining to fruit growing; establishment and management of large commercial orchards, inter-cropping, cover crops, marketing, etc. Commercial orchards are visited.

Text-book: *Fruit Growing*—Chandler. Supplemented by lectures and assigned readings.

Reference: *Fundamentals of Fruit Growing*—Gardner, Bradford and Hooker.

MR. MUSSER

Hort. 43.—Vegetable Crops—Semester 1 (2 and 2) 2 2/3 cr.

This course deals chiefly with the production of such important vegetable crops as asparagus, beans, cabbage, potatoes, sweet potatoes and watermelons. Attention is given to both the methods and the problems of production. Some time is also devoted to crops of minor importance.

Text-book: *Vegetable Crops*—Thompson; or *Truck Crops*—Jones and Rosa.

MR. MCGINTY

Hort. 50, 51.—Special Problems—Semesters 1 and 2 (1 and 0)
1 cr.

Special subject requiring independent investigations by students specializing in Horticulture. Results submitted in written form.

MR. MCGINTY and HORT. DIV. STAFF

Note: Students majoring in Horticulture who are especially interested in Landscape Gardening will find the following electives helpful: Architecture 13, 14, 23, 24, 33, 34.

Graduate Work—For description of graduate work see pages 198 and 199.

INDUSTRIAL EDUCATION

MR. TATE

MR. BROCK

Ind. Ed. 33.—Introduction to Industrial Education—Semester 1
(1 and 4) 3 cr.

An introductory course required of all students pursuing industrial education. The chief purpose of this course is to orient the students in the field of industrial education. Special emphasis will be placed on familiarizing the students with the needs for vocational education in trades and industries in South Carolina. In order to determine educational needs, job analyses are made in representative industries. As a result of these analyses courses of study are built, based on the educational needs.

MR. TATE

MR. BROCK

Ind. Ed. 43.—Methods in Industrial Education—Semester 1
(0 and 10) 4 cr.

A study of educational needs of textile employees, job analysis of certain jobs in the cotton mill, study of the mill as a whole, construction of courses to be taught in vocational classes and schools. In this course much emphasis is placed on the building of a course of study for all-day vocational classes in high school systems. In addition to this each student selects, organizes, plans, and teaches such approved vocational subject matter as his supervisor may direct. This teaching is done in the practice teaching department.

MR. TATE

MR. BROCK

Ind. Ed. 44.—Practice Teaching in Industrial Education—
Semester 2 (0 and 15) 5 cr.

Students who pursue the curriculum in industrial education are required to observe and teach in evening and part-time classes in trades and industries. Students are expected to organize part-time, general continuation, and evening classes in addition to the work in connection with the all-day program. Students are to spend five afternoons each week in the practice

departments, and teach two evening classes each week for ten weeks.

MR. TATE MR. BROCK

Ed. 45.—Special Methods in Teaching High School Subjects—
Semester 1 (3 and 0) 3 cr.

Among the topics to be considered are the objectives of different high school subjects, course building, methods of evaluating instruction in high school subjects, comparative study of text books and laboratory manuals, and the adaptation of high school courses to local conditions.

MISS MOORE

Ind. Ed. 46.—Problems in Teaching Industrial Subjects—
Semester 2 (3 and 0) 3 cr.

Special emphasis is placed in this course on the teaching of problems in the trades and industries in South Carolina. Such topics as the project method of teaching, lesson types, teaching exercises, type studies, and lesson planning are studied in this course. A term paper is required.

MR. TATE

*Ind. Ed. 48.—Principles of Teaching—*Semester 2 (3 and 0) 3 cr.

This is a course treating of the principles of teaching high school subjects. Such topics as the project method of teaching; lesson types; teaching exercises—recitation, laboratory, supervised study, demonstration, field trip, examinations, type studies, and lesson planning,—are studied in this course.

MISS MOORE

*Ind. Ed. 52.—Practice Teaching—*Semester 2 (0 and 15) 5 cr.

This course is required of all students in arts and science who elect a major in education. Students in arts and science observe and teach in high school departments in public schools located near the College.

MR. TATE

Ind. Ed. 53-54.—Practice Teaching in Evening Classes—
Semester 1 and 2—1 cr.

Each senior majoring in Industrial Education is required, at the discretion of the instructor, to organize, prepare for and teach an evening class in some industrial subject. The evening class meets two hours per night for twenty nights. Elective only on approval of professor in charge.

MR. TATE MR. BROCK

LIBRARY

MISS DOGGETT

*Library 32.—Reference and Bibliography—*Semester 2 (1 and 3)
2 cr.

This is a practical course dealing with problems in the use of the library.

MATHEMATICS

MR. MARTIN

MR. SHANKLIN MR. HUNTER MR. SHELDON MR. JOHNSTONE

MR. BURTON MR. METZ MRS. FITZPATRICK

*Math. 11.—Trigonometry—*Semester 1 (5 and 0) 5 cr.

Prerequisite: Algebra and Plane Geometry.

This course covers plane trigonometry supplemented by numerous related problems and exercises.

The first month will be devoted to a rapid review of the fundamental principles of algebra with special emphasis on the subjects which come in subsequent courses in mathematics.

Text-book: *Trigonometry*—Brink.

MR. SHELDON

MR. JOHNSTONE

MR. BURTON

MRS. FITZPATRICK

*Math. 12.—Analytic Geometry—*Semester 2 (5 and 0) 5 cr

Prerequisite: Mathematics 11.

A course comprising a study of cartesian and polar systems of coordinates, discussion and construction of loci, the

straight line, transformation of coordinates, the circle, parabola, ellipse, hyperbola, general equation of second degree involving two variables, tangents and normals, higher plane curves, equation of the plane, the straight line in space and surfaces of the second order.

Text-book: *Analytic Geometry*—Wilson and Tracy.

MR. SHELDON MR. JOHNSTONE MR. BURTON

Math. 15.—Mathematics for Agriculture—Semester 1 (3 and 0)
3 cr.

A course embracing the study of numerical calculations, algebraic processes, dairy problems, fertilizer formulas, cement mixtures, graphical representations of statistical data, statistics, progressions, interest, annuities, averages, ratios, correlation, etc.

MR. METZ

Math. 17, 18.—Mathematics for Science—Semesters 1 and 2
(3 and 0) 3 cr.

A course especially planned to meet the needs of freshmen taking the arts and science and the pre-medical courses. The work will cover such subjects as ratios, proportion, percentages, elementary statistics, correlations, the use of logarithms, etc.

MR. SHELDON

Math. 21.—Differential Calculus—Semester 1 (5 and 0) 5 cr.

Prerequisite: Mathematics 12.

A study of the differentiation of algebraic and transcendental functions, successive differentiation and development of functions, functions of two variables, tangents, normals, and asymptotes, applications of the derivative in mechanics.

Text-book: *Differential and Integral Calculus*—Love.

MR. MARTIN MR. BURTON MR. SHANKLIN MR. HUNTER

Math. 22.—Integral Calculus—Semester 2 (5 and 0) 5 cr.

Prerequisite: Mathematics 21.

A course in integral calculus giving instruction in elementary forms of integration, integration of rational fractions, the definite integral, successive reductions, integration of functions of two variables, geometric application, multiple integrals, and practical problems arising in engineering subjects.

Text-book: *Differential and Integral Calculus*—Love.

MR. MARTIN MR. SHANKLIN MR. HUNTER MR. BURTON

Math. 32.—Elementary Differential Equations—Semester 2 (3 and 0) 3 cr.

Prerequisite: The completion of calculus with high standing (A or B).

A course designed to give the student a working knowledge of the methods used to solve the elementary differential equations of Engineering Chemistry, and Physics. This course is intended for those who expect to do graduate work or who desire a greater knowledge of the methods employed in scientific and engineering problems.

Text-book: *Differential Equations*—Phillips.

MR. SHELDON

MECHANICAL ENGINEERING

MR. EARLE

MR. CURTIS MR. FREEMAN MR. FERNOW MR. JOHNSON

MR. MARSHALL MR. SHENK MR. SAMS

M. E. 11.—Agricultural Forge—Semester 1 or 2 (0 and 2) 2/3 cr.

A course arranged to suit the needs of the agricultural student—with talks on the materials used.

Text-book: *Farm Blacksmithing*—Friese.

MR. JOHNSON

M. E. 13, 14.—Forge Work—Semester 1 or 2 (0 and 4) 1 1/3 cr.

A course embracing principles of forge work that will acquaint the student with the best methods of up to date practice relating to engineering. The work is in wrought iron and tool steel forgings. About one-third of the time is given to lecture work and two-thirds to practice.

MR. JOHNSON

M. E. 16.—Agricultural Woodwork—Semester 1 or 2 (0 and 2) 2/3 cr.

A course in woodwork planned to familiarize agricultural students with the more common tools used in the building and repairing of farm equipment.

MR. MARSHALL

M. E. 17, 18.—Woodwork—Semester 1 or 2 (0 and 4) 1 1/3 cr.

Includes bench and lathe work and is designed to familiarize the student with tools and machinery commonly used in woodwork.

MR. MARSHALL

M. E. 21.—Woodwork—Semester 1 or 2 (0 and 2) 2/3 cr.

Prerequisite: M. E. 17, 18.

A course consisting of exercises in pattern making with special reference to the principles involved. It is planned to outline to the student a general survey of the most suitable materials, special tools, and fundamental principles involved in this phase of manufacture of machinery.

MR. MARSHALL

M. E. 22.—Foundry—Semester 1 or 2 (0 and 2) 2/3 cr.

A course giving the student a broad view of this work as related to industry from the engineering standpoint. Materials used are cast iron and nonferrous metals.

MR. JOHNSON

M. E. 31.—Mechanics (Statics)—Semester 1 or 2 (3 and 0) 3 cr.

Prerequisites: Math. 21, 22; Physics 11, 12.

Analytical and graphical methods of analyzing force systems and their application to engineering. Also a study of center of gravity, moment of inertia of areas, and friction.

Text-book: *Applied Mechanics*—Poorman.

MR. CURTIS MR. STEVENSON

M. E. 32.—Mechanics (Kinetics)—Semester 1 or 2 (3 and 0) 3 cr.

Prerequisite: M. E. 31.

Continuation of Course M. E. 31. A study of various types of motion, moment of inertia of masses, work, energy and power together with the application of these to engineering.

Text-book: *Applied Mechanics*—Poorman.

MR. CURTIS

M. E. 31.5, 32.5.—Industrial Arts—Semesters 1 and 2 (0 and 2) 2/3 cr.

A course designed for students who wish to teach. Special emphasis is laid on good form in the use of tools and machinery. A part of the course is devoted to policies and practices in organization, administration and supervision of industrial courses.

MR. MARSHALL MR. JOHNSON MR. FREEMAN

M. E. 33, 34.—Machine Shop—Semesters 1 and 2 (0 and 4) 1 1/3 cr.

A course in the fundamental principles of machine shop practice as related to engineering work, embracing the use of tools and machines and the practical study of the composition, properties, uses, and methods of heat treatment of the various metals and their alloys.

MR. FREEMAN

M. E. 33.5.—Machine Shop—Semester 1 (0 and 2) $2\frac{2}{3}$ cr.

A brief course in machine shop practice arranged for civil engineering students.

MR. FREEMAN

M. E. 35, 36.—Mechanical Engineering—Semesters 1 and 2 (3 and 0) 3 cr.

Prerequisite: Math 21, 22.

A general survey of the field of power engineering including fuels, combustion, steam, boilers, boiler room auxiliaries, steam engines and turbines with their auxiliaries, internal combustion engines, and elementary thermodynamics of the steam and gas cycle.

MR. FERNOW

M. E. 37, 38.—Mechanical Engineering—Semesters 1 and 2 (3 and 0) 3 cr.

Prerequisite: Math. 21, 22, Physics 22.

Study of fuels, combustion, steam, boilers, boiler room auxiliaries, and elementary thermodynamics of the steam and gas cycle.

MR. SHENK MR. SAMS

M. E. 37.5, 38.5.—Mechanical Laboratory—Semesters 1 and 2 (0 and 2) $2\frac{2}{3}$ cr.

Prerequisite: Physics 12.

Calibration of thermometers, gauges, study and use of indicators, calibration of nozzles and weirs, analyses of coal and gas, tests of lubricating oils, boilers, engines and turbines.

MR. SAMS MR. SHENK

M. E. 39, 40.—Mechanical Laboratory—Semesters 1 and 2 (0 and 2) $2\frac{2}{3}$ cr.

Prerequisite: Physics 22, 24.

Calibration of thermometers, gauges, study and use of indicators, calibration of nozzles and weirs and tests of simple

hydraulic machinery. Analyses of coal and gas, tests of lubricating oils. Simple engine tests.

MR. FERNOW MR. SAMS MR. SHENK

M. E. 41.—Mechanical Engineering—Semester 1 (3 and 0) 3 cr.

Prerequisite: M. E. 35, 36.

A continuation of M. E. 35 and 36 with special reference to the needs of electrical engineers. Economy and reliability of power plant is emphasized.

MR. SHENK

M. E. 43, 44.—Mechanical Laboratory—Semesters 1 and 2
(0 and 4) 1 1/3 cr.

Prerequisite: M. E. 35, 36, 39, 40.

Efficiency and economy of steam engine, turbines, internal combustion engines, condensers, pumps, refrigerating machinery. In this course the heat balance of power plants is taken up and tests are made on equipment at power station and pumping stations.

MR. FERNOW MR. SHENK

M. E. 43.5.—Mechanical Laboratory—Semester 1 (0 and 3)
1 cr.

Prerequisite: M. E. 35, 36, 39, 40.

Efficiency and economy tests, steam engines, steam turbines, boilers, gas engines, pumps, condensers, refrigerating machinery, etc.

MR. FERNOW MR. SHENK

M. E. 45.—Steam Turbines—Semester 1 (2 and 0) 2 cr.

Prerequisite: M. E. 35, 36.

Study of the principles and design of steam turbines, including different types.

MR. EARLE

M. E. 46.—Gas Engines—Semester 2 (2 and 0) 2 cr.

Prerequisite: M. E. 35, 36.

Thermodynamics of the internal combustion engine, study of fuels, combustion, ignition, efficiency and economy.

MR. EARLE

M. E. 47, 48.—Power Plants—Semesters 1 and 2 (3 and 0) 3 cr.

Prerequisite: M. E. 35, 36.

A critical study of fuels and combustion, heat balance, power plant equipment including steam boilers, prime movers and their auxiliaries.

MR. EARLE

M. E. 49.—Heat and Ventilation—Semester 1 (2 and 0) 2 cr.

Prerequisite: M. E. 37, 38 or M. E. 35, 36.

Principles of heat and ventilation, hot-air, steam and hot water heating systems; methods of ventilation.

MR. SHENK

M. E. 50.5.—Refrigeration—Semester 2 (2 and 0) 2 cr.

Prerequisite: M. E. 37, 38 or M. E. 35, 36.

A study of the practical application of the principles of thermodynamics to refrigeration. A general survey of the methods used in commercial practice.

MR. SHENK

M. E. 51.—Mechanics of Materials—Semester 1 (3 and 0) 3 cr.

Prerequisite: M. E. 31.

A brief course in the properties and requirements for materials of construction including a study of stresses and deformations and the theory of the strength and stiffness of joints, beams and columns.

Text-book: *Strength of Materials*—Boyd.

MR. CURTIS

MR. STEVENSON

*M. E. 53, 54.—Design—*Semesters 1 and 2 (0 and 2) $2\frac{2}{3}$ cr.

Prerequisite: Drawing 32; *M. E. 35, 36.*

The practical design of a complete power plant including; selection of all equipment from catalog data, arrangement of floor space and a complete piping diagram. The net cost of output is estimated.

MR. SHENK

MILITARY SCIENCE

MR. MUNSON

MR. JEFFRES	MR. PENROSE	MR. JOHNSTON	MR. KRON
MR. SEARCY	MR. STACY	MR. NARAMOR	MR. FOWLER

*M. S. 11, 12.—Military Science and Tactics—*Semester 1
(0 and 3) 1 cr. Semester 2 (1 and 2) $1\frac{2}{3}$ cr.

This course includes the theory and practice of rifle marksmanship, hygiene and first aid, physical exercise for the correction of defects in posture, and lessons in command and leadership, military courtesy, scouting and patrolling, guard duty and the use of the automatic rifle.

Text-book: *National Service R. O. T. C. Manual, Vol I.*

MR. JEFFRES MR. FOWLER MR. NARAMOR

*M. S. 21, 22.—Military Science and Tactics—*Semester 1
(0 and 3) 1 cr. Semester 2 (1 and 2) $1\frac{2}{3}$ cr.

Prerequisite: Military Science 12.

This course consists of instruction in command and leadership, the duties of junior leaders, in drills, ceremonies, guard duty in field and garrison, musketry, scouting and patrolling, and combat principles.

Text-book: *National Service R. O. T. C. Manual, Vol. II.*

MR. JEFFRES MR. NARAMOR MR. FOWLER MR. STACY

M. S. 31, 32.—Military Science—Semesters 1 and 2 (0 and 3)
1 cr. and (0 and 2) 2/3 cr.

Juniors who are not members of the R. O. T. C. receive practical instruction in military science. Members of the R. O. T. C. also take M. E. 33 and 34.

MR. MUNSON MR. JEFFRES MR. PENROSE MR. JOHNSTON
MR. KRON MR. SEARCY

M. S. 33, 34.—Military Science and Tactics—Semester 1
(2 and 0) 2 cr. Semester 2 (3 and 0) 3 cr.

Prerequisite: Military Science 22.

This course consists of instruction in the use of standard and special maps, map distances and elevations, and in the making of special maps by improvised methods. It also includes studies of combat principles, 37 mm. gun, 3 inch trench mortar, detailed study of the machine gun, and further study in command and leadership, particularly training and application in the more advanced duties of non-commissioned officers in drill and ceremonies.

Text-book: *National Service R. O. T. C. Manual, Vol. III.*

MR. KRON MR. JOHNSTON

M. S. 41, 42.—Military Science—Semesters 1 and 2 (0 and 3)
1 cr. and (0 and 2) 2/3 cr.

Seniors who are not members of the R. O. T. C. receive practical instruction in military science. Members of the R. O. T. C. also take M. S. 43 and 44.

MR. MUNSON	MR. JEFFRES	MR. PENROSE	MR. KRON
		MR. SEARCY	MR. JOHNSTON

M. S. 43, 44.—Military Science and Tactics—Semester 1
(2 and 0) 2 cr. Semester 2 (3 and 0) 3 cr.

Prerequisite: Military Science 34.

This course comprises the study of infantry weapons, military history and the National Defense Act, administration and

military law, the rules of land warfare, combat principles and tactics, the duties of commissioned officers in command of the platoon and company, field engineering.

Text-book: *National Service R. O. T. C. Manual, Vol. IV.*

MR. PENROSE MR. SEARCY

Class Rooms and Equipment.—The military department has three class rooms and an armory for the storage of equipment. Class rooms are completely equipped with sand tables, drawings, charts and maps for the instruction of the individual class. In addition to the essential equipment for the individual the College has machine guns, 37 mm. guns and trench mortars, automatic rifles, all loaned by the government. Equipment required for class use, such as drawing boards, paper, pamphlets, etc., are furnished the student.

MODERN LANGUAGE

MR. RHYNE

French 11, 12.—*Beginner's French*—Semesters 1 and 2
(3 and 0) 3 cr.

A beginner's course in French; the fundamentals of grammar with emphasis on pronunciation and the learning of idioms, conversation and dictation. In the second semester a reader will be used.

MR. RHYNE

French 21, 22.—*Second-year French*—Semesters 1 and 2
(3 and 0) 3 cr.

Review of grammar, with especial attention to irregular verbs. Conversation and dictation continued. Prose readings from such authors as Balzac, Daudet, Dumas, Hugo, Loti, Maupassant and Mérimée.

MR. RHYNE

French 31, 32.—Scientific Reading—Semesters 1 and 2 (3 and 0)
3 cr.

The authors for reading are selected according to the subject in which the students are most interested.

MR. RHYNE

German 11, 12.—Beginner's German—Semesters 1 and 2
(3 and 0) 3 cr.

The essentials of German grammar. Stress is laid on pronunciation, conversation, and drill in the fundamental constructions. Dictation is given throughout the year. In the second semester an elementary reader is used.

MR. RHYNE

German 21, 22.—Second-year German—Semesters 1 and 2
(3 and 0) 3 cr.

Review of grammar. Conversation and dictation continued. Easy lectures in German. Prose readings from such authors as Baumbach, Freytag, Hauff, Storm and Wildenbruch.

MR. RHYNE

German 31, 32.—Semesters 1 and 2 (3 and 0) 3 cr.

Rapid readings in German prose, literary and scientific. A survey of the work of some of the greatest Germans in the fields of letters and science.

MR. RHYNE

Spanish 11, 12.—Beginner's Spanish—Semesters 1 and 2
(3 and 0) 3 cr.

The essentials of grammar. Pronunciation and drill in the common idioms. Toward the end of the first semester the reading of Spanish texts will be taken up. For the whole of the second semester students taking the course will be expected to subscribe for at least two days a week to the Spanish Daily *La Prensa*.

MR. RHYNE

Spanish 21, 22.—Second-year Spanish—Semester 1 and 2
(3 and 0) 3 cr.

A short review of grammar. Rapid readings in modern and scientific Spanish.

MR. RHYNE

PHYSICAL EDUCATION

MR. GEE

MR. CODY

MR. CARSON

MR. GUYON

P. E. 11, 12.—Semesters 1 and 2 (0 and 2) 2/3 cr.

Physical training is required of all first year students; two one-hour periods per week. Course devoted to such athletic activities as will contribute to health and physical welfare of students. Work consists of gymnastics and seasonal competitive games.

Election of specialized intercollegiate sports — football, basketball, cross-country, boxing, swimming, tennis, wrestling, baseball, track, etc.—may be made by all cadets who have required standard of physical development as shown by the surgeon's complete physical examination.

Work in corrective gymnastics will be given to special groups to correct physical defects detected by the surgeon's examination. These exercises are supervised and approved by the college surgeon.

MR. GEE

MR. CARSON

MR. GUYON

P. E. 31.—Basketball Coaching. Semester 2 (0 and 4) 1 1/3 cr.

Theory and practice of basketball. Special attention to systems of play. Methods of offense and defense. Special attention to fundamentals of the game.

MR. CODY

P. E. 41, 42.—Football Coaching. Semesters 1 and 2 (1 and 4)
2 1/3 cr.

Theory and practice of the modern game of football. Fundamentals such as blocking, tackling, kicking, passing and systems

of offensive and defensive play will be taken up with the idea of imparting a thorough knowledge of the game.

MR. CODY

P. E. 32.—Track Coaching—Semester 2 (1 and 2) 1 2/3 cr.

Fundamentals of the track and field events. Special emphasis to fundamentals, methods, training, forms of procedure in various events, etc.

MR. CARSON

P. E. 44.—Baseball Coaching—Semester 2 (1 and 4) 2 1/3 cr.

Methods of coaching baseball as applied to high school and college teams. Special attention to systems of play and fundamentals of the game.

MR. GUYON

P. E. 46.—Administration of Athletics—Semester 2 (1 and 2)
1 2/3 cr.

Study of the general plan of the physical education program. Consideration of the inter-scholastic, intra-mural and required physical education programs and their coordination in the general program. Budgets of various sports, methods of finance, etc., as applied to the work of the department.

MR. GEE

P. E. 45.—Athletic Training and Treatment of Injuries—
Semester 1 (1 and 4) 2 1/3 cr.

Problems of health and general conditioning of the athletic teams. Matters of diet as related to general training program. Types of bandages as applied to common injuries such as bruises, sprains, etc., will be taken up in practical way. Free access to athletic training room will be given and students will be expected to do their practical work here.

MR. GEE

PHYSICS

MR. GODFREY

MR. BROWN MR. MAHONEY MR. REED MR. GLADDEN

Physics 11, 12.—*General Physics*—Semesters 1 and 2 (3 and 2)
4 cr.

Prerequisite: Algebra, through Quadratics, Plane Geometry.

A course for engineering students covering the fundamental principles of physics in mechanics, heat, magnetism, and electricity as given in the text. In the laboratory elementary quantitative experiments in these subjects are assigned. Carefully prepared reports are required. Mimeographed notes are used as a guide. The student is expected to develop correct methods of observation, make accurate records and present clear, concise reports. Curve plotting is given special attention.

Text-book: *Physics for Colleges*—Milliken, Gale and Edwards.

MR. GODFREY MR. MAHONEY MR. REED MR. GLADDEN

Physics 13, 14.—*General Physics*—Semesters 1 and 2 (3 and 2)
4 cr.

Covers the same subjects as the preceding course but more attention is given to molecular physics and light, and less detailed study is made in mechanics and electricity. There are some changes in the topics covered in the laboratory course, but the same general plan is used.

Text-book: *Physics for Colleges*—Milliken, Gale and Edwards.

MR. MAHONEY MR. REED

Physics 21.—*Sound and Light*—Semester 1 (3 and 0) 3 cr.

Prerequisite: Mathematics 11, 12.

A continuation of Physics 11, 12. Notes on lectures are required, and much problem work is given.

Text-book: *Problems in Physics*—Henderson.

MR. BROWN

Physics 22.—Electricity and Magnetism—Semester 2 (3 and 0)
3 cr.

Prerequisite: Physics 11, 12.

A continuation of the preceding course with a study of electricity and magnetism. A thorough study of direct current circuits is made and many practical problems are solved.

Text-book: *Electrical Engineering*—Vol. 1—Dawes.

MR. BROWN

Physics 23, 24.—Laboratory Physics—Semesters 1 and 2
(0 and 2) 1 cr.

An advanced laboratory course in which modern experimental methods are used in the measurement of several physical constants. The operation of electrical measuring instruments for direct currents is studied and some circuit tests are given.

Text-book: Mimeographed Notes.

MR. GODFREY MR. BROWN MR. MAHONEY

Physics 25, 26.—Mechanics, Electricity, Magnetism and Light—
Semesters 1 and 2 (2 and 0) 2 cr.

A course in the civil engineering curriculum similar to Physics 21, 22, but covering only the essentials to this curriculum. Notes on lectures are required and problem work is assigned. It is taken in connection with laboratory course 23, 24; but some changes are made in the topics studied in the laboratory.

Text-books: *Problems in Physics*—Henderson. *Mechanics*—Franklin and MacNutt.

MR. GODFREY MR. BROWN

Physics 29.—General Physics—Semester 1 (2 and 2) 2 2/3 cr.

A course offered to students in agriculture including a laboratory study of fundamental principles that are applied in this field. Carefully prepared reports are required and references to standard works are assigned for outside study.

As far as possible topics for the experiments are chosen by the students. Smith's *Elements of Applied Physics* is used regularly for reference.

MR. REED

Physics 31, 32.—Advanced Physics—Semesters 1 and 2 (2 and 2)
3 cr.

A course planned to give the student some information regarding more recent developments and methods in physics and the results of recent investigations. Some experiments and demonstrations in the physics of the electron are included.

MR. BROWN

Physics 33.—Elementary Descriptive Astronomy—Semester 1
or 2 (2 and 0) 2 cr.

Prerequisite: General Physics.

A brief course for one semester based upon the text, and repeated during the second semester. The first semester course is given only to students in Civil Engineering.

Text-book: *Astronomy*—John Charles Duncan.

MR. GODFREY

POULTRY HUSBANDRY

MR. MORGAN

P. H. 32.—Farm Poultry—Semester 2 (2 and 2) 2 2/3 cr.

A study of the general principles of poultry production including the importance and scope of the industry, incubation, brooding, feeding, housing, flock management, marketing, parasites and sanitation.

Text-book: *Poultry Science and Practice*.

MR. MORGAN

P. H. 41.—Poultry Judging and Breeding—Semester 1 (2 and 2)
2 2/3 cr.

Prerequisite: P. H. 32; Genetics or pursuing it at the same time.

In this course culling, judging, selection and breeding of poultry will be taken up in detail. Production judging methods will be studied and applied. Show ring judging and the standards and requirements of standard-bred poultry will be taken up. The application of genetics to poultry breeding will be made and methods and practices of breeding and flock improvement will be studied.

MR. MORGAN

*P. H. 42.—Advanced Poultry Husbandry—Semester 2 (2 and 2)
2 2/3 cr.*

Incubation, brooding, feeding, housing, and management of poultry will be taken up in this course. Students will be given opportunity to operate incubators and to do actual work in the brooding of chicks. Feeding methods and practices will be studied in detail. A detailed study of poultry farm management will be included in this course. This course should follow Poultry Husbandry 32.

MR. MORGAN

RELIGION*

MR. CROUCH

MR. GOODE

MR. HODGES

MR. SATTERLEE

*Religion 21, 22.—Old Testament History—Semesters 1 and 2
(2 and 0) 2 cr.*

Free elective for Freshmen and Sophomores. Others admitted by permission.

This course gives briefly the development of the Hebrew People with emphasis upon their moral and spiritual growth. The Old Testament itself will be the text-book.

MR. SATTERLEE

*Religion 23, 24.—Life of Christ—Semesters 1 and 2 (2 and 0)
2 cr.*

Free elective for Sophomores. Others admitted by permission.

*This work is not financed by the College; it is offered as free elective.

The object of this course is to present the facts in the life of Jesus in order of their occurrence. Due regard will be paid to the measure of their importance and influence. Since, however, it will be impossible to separate the incidents of our Lord's life and His teachings, the more important of His discourses will be noticed and a brief analysis of their contents given.

MR. GOODE

Religion 31, 32.—New Testament Outline—Semesters 1 and 2 (2 and 0) 2 cr.

Free elective for Juniors. Others admitted by permission.

This course brings the student in contact with the content of the New Testament, allowing the Bible to speak for itself. A Gospel will be studied in detail, then the expansion of Christianity as recorded in The Acts and The Epistles. Jewish thought and customs, political and historical backgrounds will be surveyed.

MR. CROUCH

Religion 41, 42.—Comparative Religions—Semesters 1 and 2 (2 and 0) 2 cr.

Free elective for Seniors. Others admitted by permission.

Religion is a common possession of the race, found in some form everywhere, and indestructible. The religions of the ancient and modern world are studied and compared.

MR. HODGES

TEXTILE CHEMISTRY AND DYEING*

MR. MULLIN

MR. MACORMAC

T. C. 31.—Organic Chemistry—Semester 1 (3 and 0) 3 cr.

Prerequisite: Chemistry 11, 12.

A general introduction into the theory of organic chemistry, including both the aliphatic and aromatic compounds. This course is particularly intended for Textile Engineers and includes very little laboratory work. While elementary in char-

*Note: For advanced graduate work in this department see pages 201-203.

acter, it is designed to give the student the general knowledge of the subject that is essential to the management of any modern textile plant. T. C. 36 is a more complete and advanced course.

MR. MACORMAC

T. C. 32.—Organic Chemistry—Semester 2 (3 and 0) 3 cr.

Prerequisite: Textile Chemistry 31.

A continuation of T. C. 31, in which particular attention is given to the more complex organic compounds, including the textile fibers, dyestuffs, and other organic compounds used in the textile and related industries, as well as the various chemical processes used in these industries.

MR. MACORMAC

T. C. 34.—Technical Writing—Semester 2 (1 and 2) 1 2/3 cr.

Prerequisite: Textile Chemistry 31.

A course designed to familiarize the student with the technical literature and patents, particularly in the field of chemistry as applied to textiles, dyes, dyeing, finishing, rayon, and related subjects; literature searches; abstracting of technical literature and patents; report writing; technical nomenclature, etc.

MR. MULLIN

T. C. 35.—Organic Chemistry—Semester 1 (4 and 2) 4 2/3 cr.

Prerequisite: Chemistry 12, 23, and 24.

A systematic and thorough course of organic chemistry with special emphasis upon every phase of the subject which touches any branch of the textile industry, but without slighting any of the other important subjects. The most recent theories of matter, valence, etc., are considered and applied in connection with both the aliphatic and aromatic branches of the subject. Structural formulas and equations are used throughout, in connection with the latest and best textbooks.

MR. MULLIN

MR. MACORMAC

T. C. 38.—*Organic Chemistry*—Semester 2 (4 and 2) 4 2/3 cr.

Prerequisite: Textile Chemistry 36.

A continuation of T. C. 36, in which particular attention is given to the aromatic series and the more complex compounds, such as proteins (wool and silk); carbohydrates (starches and cellulose or cotton); azo, anthraquinone and other complex compounds (dyestuffs); enzymes and ferments (desizing products); etc.

The subjects covered in strictly organic chemistry are as follows: General properties, composition, and analysis of organic compounds. Empirical, rational and structural formulas. The classification of organic compounds. The aliphatic series: The paraffins and their halogen derivatives. The alcohols, ethers, aldehydes, ketones, fatty acids, esters, anhydrides, and their derivatives. Grignard reagents. Complex and mixed aliphatic compounds. The sulfur compounds and amines. The cyanogen, phosphorus, arsenic, silicon, and metallo-organic compound. The unsaturated organic compounds and their derivatives. The polyhydric alcohols; hydroxy, dicarboxylic, ketonic and unsaturated acids. The amino acids, proteins and related compounds. The carbohydrates, polymethylenes and cycloparaffins. The aromatic series: Benzene and its homologs. The halogen substitution products. The nitro and amino derivatives. The diazo, azo, and related compounds. The sulfonic acids. The phenols, aromatic alcohols, aldehydes and ketones. The aromatic carboxylic acids, quinones, multinuclear hydrocarbons and their derivatives. Naphthalene and its derivatives. Anthracene and its derivatives. The heterocyclic aromatic ring compounds, Terpenes, camphors, alkaloids and other organic compounds. Dyestuffs and indicators.

The work of the second semester includes a study of the action of the various reagents upon the textile fibers; textile oils; sizes, sizing and desizing; finishing materials; alkalies, soaps, solvent scouring oils, and detergents in general; bleaching agents, etc.

The laboratory work in this course is largely confined to the

most important steps in each field, the practical preparation of various dyestuffs and other chemicals used in the textile and related industries by the processes actually in commercial use. In many cases the experiment is carried through to the practical application of the product in the textile or other industry. The whole idea in this course is to tie up the theory of organic chemistry with practical work in the industries, and particularly the various branches of the textile and related industries.

MR. MULLIN

T. C. 40.—Technical Writing—Semester 2 (0 and 2) 2/3 cr.

Prerequisite: Technical Writing T. C. 49.

Preparation of papers for publication in the technical, scientific, and trade papers. This course is designed to teach the student the valuable art of expression in writing, which is rapidly becoming very important in the technical world.

MR. MULLIN

T. C. 41.—Chemistry and Dyeing—Semester 1 (2 and 2) 2 2/3 cr.

Prerequisite: Textile Chemistry 32, 38 or Chemistry 35.

A general study of the chemistry of the textile fibers, dyestuffs and their application, detergents and scouring, bleaching, size preparation and application, desizing, mercerizing, finishing, etc. This course is designed to give Textile Engineers a good general knowledge of the subject but is not as detailed as T. C. 41.5. While all of the textile fibers are considered, special emphasis is placed upon cotton in every phase of this course.

The laboratory work consists of the scouring and other preparation of the fibers for dyeing, bleaching, mercerizing, etc. Many dyestuffs of every class are applied to the various fibers. Desizing, bleaching, mercerizing, finishing, printing, etc., are also conducted upon a laboratory scale, while certain experiments are conducted on a larger scale. While covering all of the fibers, particular attention is given to cotton.

MR. MULLIN

MR. MACORMAC

T. C. 41.5.—Textile Chemistry and Dyeing—Semester 1
(4 and 4) 5 1/3 cr.

Prerequisite: Textile Chemistry 38 or Chemistry 35.

A full and complete study of the textile fibers, both animal and vegetable, the action of the various reagents upon them, and the various processes through which they pass in the different stages of textile manufacture. While the constitution and manufacture of the numerous dyestuffs are covered in T. C. 38, their classification (based upon application) and application to the different classes of fibers, in all forms usually found in the textile industry are fully covered in this course.

The various modern types of textile machinery used in scouring, bleaching, dyeing, mercerizing, finishing, etc., are covered in principle and in many cases in detail from actual drawings or the machine itself. The action of each reagent commonly used in connection with the different wet processes is considered and, in connection with T. C. 45 and 46, its analysis and specifications for various uses.

While the older methods of dyeing, etc., are not neglected, particular attention is given to the processes now in most common use. Special attention is given to all problems relating to cotton and rayon. The more important subjects, such as vat dyes, the AS naphthols, the substantive dyes on cotton and rayon, etc., are stressed. The more recent advances, such as the fast color bases, fast color salts, soluble vat dyes in dyeing and printing, new mordants, wetting-out agents, stripping and discharging agents, etc., also receive their share of the students' time. Rayon dyeing, including acetate silk, and color fastness, dyestuff evaluation, cross and union dyeing, etc., are considered.

The theory in this course is connected just as closely as possible with the laboratory work, in order to clarify, elucidate and fix the subject in the mind of the student. The laboratory work begins with the scouring of cotton, wool, true silk and rayon. Next comes the action of the various reagents upon these fibers, bleaching, mercerizing, sizing and desizing, mordanting, etc. Every class of dyestuffs is fully considered for all fibers

but those coming into most common use receive particular attention.

MR. MULLIN MR. MACORMAC

T. C. 42.—Chemistry and Dyeing—Semester 2 (2 and 2) 2 2/3 cr.

Prerequisite: Textile Chemistry 41.

A continuation of T. C. 41, in which the more advanced phases of the subject are considered in greater detail. Color matching and compound shades, the vat dyes, naphthol AS series, etc., are covered, both in theory and laboratory.

MR. MULLIN MR. MACORMAC

T. C. 42.5.—Textile Chemistry and Dyeing—Semester 2 (4 and 4) 5 1/3 cr.

Prerequisite: Textile Chemistry 41.5.

A continuation of Textile Chemistry 41.5 in which the more complicated and involved phases of textile chemistry and dyeing receive special attention. Dyestuff testing, color matching, pH control, etc., are also considered. During this semester the student is encouraged to take up some special work on any line he may choose, along with the regular work.

In the laboratory the student continues with the usual dye-pot experiments, but also handles work upon a larger scale, using dyeing machines for raw stock, packages, etc., upon a small plant scale. Again, the student is encouraged to do special work along any line he may select.

MR. MULLIN MR. MACORMAC

T. C. 43.—Cellulose Chemistry—Semester 1 (1 and 0) 1 cr.

Prerequisite: Textile Chemistry 38.

A study of the chemistry and constitution of cellulose, based upon the latest research and theories along this line. The various cellulose derivatives, such as the esters, oxycellulose, etc., are included in this work. This course forms a foundation for the course upon rayon chemistry (T. C. 48) which follows in the next semester, besides giving the student a thorough and prac-

tical knowledge of the latest theories regarding the constitution of our most common and important textile fiber, its chemical reactions, etc.

MR. MULLIN

T. C. 44.—Cellulose Chemistry—Semester 2 (1 and 0) 1 cr.

Prerequisite: Cellulose Chemistry 43.

A continuation of the work of the first semester, including some microscopy. While the chemistry of the rayons is necessarily considered to some extent in this course, it is not taken up in as much detail as in T. C. 48.

MR. MULLIN

T. C. 45.—Analysis of Textile Materials—Semester 1 (1 and 2) 1 2/3 cr.

Prerequisite: Chemistry 23, Chemistry 24, and Textile Chemistry 33.

The technical analysis of the various chemicals and other materials used in the different branches of the textile industry, including the yarns and fabrics themselves, water, soap, sizes, finishes, oils, acids, alkalies, salts, etc.

MR. MACORMAC

T. C. 46.—Analysis of Textile Chemicals—Semester 2 (0 and 2) 2/3 cr.

Prerequisite: Textile Chemistry 45.

A continuation of the laboratory analysis of the various textile chemicals, dyestuffs, etc. Hydrogen ion concentration determinations by both the colorimetric and potentiometric methods, and their applications in the textile industry, etc. After completing this course, the student should be equipped to handle most of the analyses usually found in textile and related plants.

MR. MACORMAC

T. C. 46.5.—Microscopy—Semester 2 (1 and 2) 1 2/3 cr.

The preparation of various textile fibers, yarns, cloths, and starches for microscopic examination. (Similar to T. Chem. 47.)

MR. MACORMAC

T. C. 47.—Microscopy of Textile Materials and Chemicals—
Semester 1 (1 and 2) 1 2/3 cr.

Prerequisite: Textile Chemistry 32 or 38.

The preparation of various textile fibers, yarns, cloths, starches, chemicals, etc., for microscopic examination. Photomicrography, etc. The course is especially planned to enable the student to utilize this valuable means of investigation in the textile and related industries.

MR. MACORMAC

*T. C. 48.—Rayon Chemistry—*Semester 2 (1 and 0) 1 cr.

Prerequisite: Cellulose Chemistry 43.

A study of the chemistry and mechanics involved in the manufacture of the various rayons, nitro, cupra, viscose and acetate; the chemical, physical and textile properties of the various products, etc. While this course is not intended to cover all of the details of rayon manufacture, it does go into the mechanical end of the processes, as well as the chemistry, so that the student is well equipped with the general knowledge necessary to enter the rayon industry.

MR. MULLIN

*T. C. 50.—Thesis—*Semester 2 (0 and 6) 2 cr.

An investigation of an assigned problem relating to textile chemistry, dyes or dyeing, including the preparation of a written report of this work. Where the student has already decided upon some one line of work which he will follow upon graduation, an effort is made to assign the thesis investigation upon this or a closely related subject.

MR. MULLIN MR. MACORMAC

*T. C. 49.—Technical Writing—*Semester 1 (0 and 2) 2/3 cr.

Prerequisite: Technical Writing T. C. 34.

Actual searches of the literature and the preparation of abstracts, papers, reports, etc.

MR. MULLIN

Division Rooms and Equipment.—All work in textile chemistry and dyeing is conducted in the special class room, laboratory and dye house especially provided for this purpose.

Besides the usual dyeing laboratory equipment, the dye house contains a hydroextractor, Franklin process and Columbus package dyeing machines, three different types of cotton raw stock dyeing machines, one of which is also suitable for bleaching purposes, a Hussong skein dyeing machine, a jigger, a printing machine, a Permutit water softening system, fadeometer, denierometer, spectroscope, potentiometric and colorimetric hydrogen ion concentration determination equipment, special rubber-lined rayon dyeing equipment, spray printing equipment, laundry-ometer, etc.

VETERINARY SCIENCE

MR. FEELEY

Vet. 30.—Anatomy and Physiology—Semester 2 (2 and 2)
2 2/3 cr.

A study of anatomy, physiology of digestion, farm sanitation, common diseases, and first aid treatment especially arranged for agricultural students.

The course in anatomy, which is arranged as an introduction to the study of physiology of digestion and stock judging, includes the study of skeletons and the principal articulations, muscles of locomotion and the organs of circulatory, respiratory, digestion, and urinary apparatus. Skeletons, models, and charts are used in this course. The physiology of digestion treats of the chemical and physical processes by which food is made soluble and capable of absorption. Farm sanitation deals with sanitary conditions and with the fundamentals in the control of contagious and infectious diseases. The common diseases and first aid treatment of farm animals are also studied.

Text-book: *Veterinary Science*—Hadley.

MR. FEELEY

Vet. 41.—Diseases of Animals—Semester 1 (2 and 2) 2 2/3 cr.

This course covers the principles of etiology, pathology, diagnosis, and treatment of the various diseases of domestic animals.

MR. FEELEY

WEAVING AND DESIGNING

MR. MCKENNA*

MR. CARTEE

MR. SHINN

MR. TARRANT

W. D. 12.—Textiles—Semester 2 (1 and 2) 1 2/3 cr.

A continuation of the work given the first semester (Y. M. 11) with some emphasis on fabric construction. The object of the course is to give the student a general background for the work which follows, as well as to see the industry as a whole. The student will take up a few typical skills. He will also study the duties of weaver, loom fixer, second hand and overseer of weaving.

Textbooks: I. C. S. on Beam Warpers, Slashers, Northrup Looms; W. D. Division Notes.

MR. CARTEE

MR. TARRANT

W. D. 21.—Elementary Design—Semester 1 (2 and 0) 2 cr.

Production of designs for single cloths derived from the foundation weaves; weaves used for special effects.

Text-book: *Technology of Textile Design*—Posselt; W. D. Division Notes.

MR. SHINN

MR. TARRANT

W. D. 22.—Advanced Design—Semester 2 (2 and 0) 2 cr.

This course is a continuation of principles of weaving design as taught in W. D. 21. Production of designs for extra warp and filling cloths, ply cloths, and pile fabrics.

Textbooks: *Technology of Textile Design*—Posselt; W. D. Division Notes.

MR. SHINN

MR. TARRANT

*On leave 1929-30.

W. D. 23.—*Weaving*—Semester 1 (0 and 2) 2/3 cr.

Instruction in operation of automatic and non-automatic looms; winding; loom fixing.

Textbooks: *Practical Loom Fixing*—Nelson; W. D. Division Notes.

MR. TARRANT

W. D. 24.—*Loom Fixing*—Semester 2 (0 and 2) 2/3 cr.

This course is a continuation of loom fixing as taught in W. D. 23.

A systematic study of the motions of a loom; setting and timing the parts with particular reference to economy in power and supplies.

Text-books: *Cotton Loom Fixing*—Reynolds; W. D. Division Notes.

MR. TARRANT

W. D. 26.—*Mill Problems*—Semester 2 (5 and 0) 5 cr.

This is a continuation of Y. M. 26 and consists of a study of the material which is most likely to be of use in connection with the daily work in the weave room; such as, the mechanical calculations of the loom, the theoretical and practical production of the loom, yarn calculations, fabric calculations, loom equipment and slasher problems.

For further information see Y. M. 26.

Text-books: Clark's Weave Room Calculations; Cotton Mill Calculations—Smith & Quigley; W. D. Division Notes.

MR. CARTEE

W. D. 31.—*Dobby Design*—Semester 1 (2 and 0) 2 cr.

A study of pattern styles; method of combining two or more weaves; ratio of construction for different weaves in patterns; laying out designs when either "ground" or "overall" is given; drawing in and chain drafts and reed plans; reed, harness and

warp calculations. Each student is required to produce ten designs from sketches and cloth specifications.

Text-book: W. D. Division Notes.

MR. CARTEE

W. D. 32.—Advanced Dobby Design—Semester 2 (2 and 0) 2 cr.

A continuation of principles relating to dobbie design as found in W. D. 31. Students will have to make up designs from sketches drawn to scale. Design fabrics similar to samples but of different constructions. Design patterns for pile fabrics and ply cloths.

Text-books: W. D. Division Notes.

MR. CARTEE

W. D. 33, 34.—Fabric Analysis—Semester 1 and 2 (0 and 2) 1 cr.

Methods of distinguishing between cotton, wool, silk and linen; finding per cent of different fibers in fabrics; determining amount of size in fabrics; methods of finding yards per pound from small samples; over-all and ground constructions; per cent of warp and filling; warp and filling numbers; finding weave and looming plans. Each student is required to analyze ten samples the first semester and ten the second semester.

Required equipment: No. 607 Steel Rule; 1" Pick Glass; Pick Needle.

Text-book: W. D. Division Notes.

MR. CARTEE

W. D. 35.—Fancy Weaving—Semester 1 (1 and 2) 1 2/3 cr.

A combination of practical weaving and loom fixing on dobbies and box looms; a study of dobbie harness setting for various types of patterns; a detailed study of dobbies and box motions, and practice in building dobbie and box pattern chains.

Text-books: I. C. S. on Dobbies; Box Motions; W. D. Division Notes.

MR. CARTEE

W. D. 36.—*Fancy Weaving*—Semester 2 (0 and 2) 2/3 cr.

A continuation of the study of machinery relating to fancy weaving, such as two-weave motion; two-cylinder dobbies; multipliers, and automatic box looms.

Text-books: Crompton & Knowles leaflets; W. D. Division Notes.

MR. CARTEE

W. D. 37.—*Rayon Processing*—Semester 1 (1 and 2) 1 2/3 cr.

Instruction in winding, warping, slashing, and weaving rayon.

Text-book: W. D. Division Notes.

MR. SHINN

W. D. 41.—*Jacquard Weaving*—Semester 1 (1 and 2) 1 2/3 cr.

A study of the different types of jacquard machines, types and methods of harness building; laying out designs for different tie-ups; and cutting and lacing; method of repeating and machine lacing; jacquard machine fixing. Each student will be required to make one design for a specified tie-up and to prepare cards therefrom.

Text-books: I. C. S. on Jacquards; W. D. Division Notes.

MR. SHINN

W. D. 42.—*Jacquard Design*—Semester 2 (1 and 4) 2 1/3 cr.

A study of the principles of artistic design for textiles; methods of making original designs by combination of color, weave, and sketches; reproduction of designs from cloth samples. Each student will be required to make one design for a specified tie-up and to prepare cards therefrom.

Text-books: Textile Design and Color—Watson; W. D. Division Notes.

MR. SHINN

W. D. 43.—*Cost Finding*—Semester 1 (3 and 0) 3 cr.

A study of systems of cost finding; individual fabric costs; trade customs; loom appropriation.

Text-book: *Computing Cotton Fabric Costs*—Hill; W. D. Division Notes.

MR. SHINN

W. D. 44.—*Leno Design and Warp Preparation*—Semester 2 (2 and 0) 2 cr.

A study of warping and slashing for gray goods; size mixtures; humidity requirements; methods of dressing colored warps; warping and slashing lay-outs for colored warps; cross weaving on cord and steel doups.

Text-books: I. C. S. on Leno Weaves and Leno Attachments; W. D. Division Notes.

MR. SHINN

W. D. 45, 46.—*Pattern Weaving*—Semesters 1 and 2 (0 and 2) 2/3 cr.

Practice in putting on dobby, box and jacquard patterns.

Textbook: W. D. Division Notes.

MR. SHINN

W. D. 45.5, 46.5.—*Pattern Weaving*—Semesters 1 and 2 (0 and 6) 2 cr.

Practice in putting on dobby, box and jacquard patterns.

Textbook: W. D. Division Notes.

MR. SHINN

W. D. 48.—*Knitting*—Semester 2 (0 and 2) 2/3 cr.

A study of materials used in the manufacture of knitted textiles with special attention paid to proper preparation of cotton, silk, woolen and rayon yarns for the knitting machine. Analytical study of mechanisms of modern hosiery machinery with practice in operating them. Design and manufacture of knitted novelties. Production and Cost calculations. Plant organization and management.

Text-book: W. D. Division Notes.

MR. SHINN

**W. D. 50.—Thesis*—Semester 1 (0 and 2) 2/3 cr.

A selection and study of some fabric to be duplicated, this fabric to be designed, dressed, and woven by the students. A written report will be required.

Division Rooms and Equipment.—The equipment for this division occupies three rooms on the top floor of the textile building, and in addition one office and two class rooms.

Knitting Room.—Two “K” model Scott and Williams 220 needle hosiery machine; one Hemphill 200 needle “Banner” hosiery machine; one Brinton 200 needle ribber; one Brinton trick wheel golf hose machine; one Fidelity French welt hosiery ribber; one Fidelity regular welt hosiery ribber; one Oswald lever winder for bottle bobbin packages; one table of Stet-toe electric drying forms; one Universal cone winder; one Wright Steady Dial looper; one 16-bobbin circular braider; one 13-bobbin flat braider; two Merrow overseaming machines; one 220 needle Banner knitting machine; 14 Gerhardt Hand Knitters.

Warping and Winding Room.—One Davis and Furber dressing machine; one Entwistle beamer; one Draper ball warper; one Draper beam warper; one Lowell Machine Shop single cylinder slasher; one jack spooler; one Altemus quiller; one Payne skein winder; one Steele 2-drum quiller; one 4-spindle Universal “Leeson” No. 90 quiller; one 12-Spindle No. 90 Universal Winder, motor drive; one 12-Spindle Eastwood Rayon Winder.

Weave Room.—One 28-inch Draper loom, 20 harness dobby; one 40-inch Draper loom, 16 harness dobby; two 40-inch Draper looms; two 28-inch Draper looms, steel harness; one 28-inch Draper loom, two harness; one 28-inch Draper loom, multiple cams and extra selvage motion; one Crompton & Knowles, 30-inch. 2 by 1 automatic box loom; one Crompton & Knowles, 30-inch loom, 2 by 2 box, and 16 harness dobby; one Crompton & Knowles 40-inch “gem” loom, 4 by 4 box and 25 harness dobby; one Crompton & Knowles Dobby Silk, 60-inch, 25 harness, 4 by 4 box, motor drive; one Crompton & Knowles automatic dobby dress goods, 40-inch, 25 harness, 4 by 1 box, Leno motion,

*W. D. 50 may be combined with Y. M. 50.

motor drive; one Crompton & Knowles 30-inch loom, 20 harness dobby and Leno motion; one Crompton & Knowles 30-inch, 4 by 1 box loom with 20 harness dobby and Leno motion; one Crompton & Knowles 26-inch Terry towel loom, 3 by 1 box and 16 harness dobby; one Crompton & Knowles, 26-inch Terry towel loom, 2 by 1 box, 16 harness dobby, double cylinder and rocking cylinder motion, positive Terry let-off mechanism; one Crompton & Knowles 64-inch damask loom, 4 by 1 box and 624 hook jacquard; one Crompton & Knowles narrow fabric loom with 416 hook jacquard; one Crompton & Knowles 40-inch loom with 624 hook jacquard; one Crompton & Knowles 30-inch loom with 424 hook Holton jacquard; one Stafford 40-inch, shuttle changing loom, two harness; one Stafford 40-inch, bobbin changing loom, two harness; one Stafford 40-inch, bobbin changing loom, four harness; one Stafford bag loom; one Stafford shuttle changing loom with 624 hook Crompton & Knowles jacquard; one Hopedale, 40-inch automatic loom; one Hopedale automatic loom, multiple harness; one Whiting, 40-inch, plain loom, one Whiting, 27-inch medium duck loom, one Whiting, 40-inch loom, 20 harness dobby; one Kilburn & Lincoln, 36-inch plain loom; one 14-inch hand loom, 25 harness dobby; two Royle French index, piano, card cutting machine; four drawing-in frames, and complementary supply of reeds, combs, harness and pick gears; one extra dobby cylinder motion; one blanket loom.

YARN MANUFACTURE

MR. EATON

MR. LEE

MR. DUNLAP

Y. M. 11.—The Textile Industry—Semester 1 (1 and 2) 1 2/3 cr.

The purpose of this course is to introduce the student to the textile industry through study and discussions on organization, employment, promotion, and the economic importance of the industry and its related fields. The class work may be supplemented by visits to mills. Some periods will be used for a study of certain skills. The student will make a study of the duties of machine tenders, section men and foremen in the picker room, card room and spinning room.

Text-book: Carding and Spinning Division Notes.

MR. EATON

MR. DUNLAP

Y. M. 21.—Pickers—Semester 1 (2 and 2) 2 2/3 cr.

Opening and mixing cotton; study of bale breakers, automatic feeders, intermediate and finisher lappers; various styles of openers, setting and adjusting same; cleaning trunks, different kinds of beater, screens, fans, calendar rolls, evener motion and measuring motion; calculation for drafts, production, speeds, etc.; practice operating pickers and cleaning machinery.

Text-book: *Cotton Yarn Manufacture*—Winchester; Carding and Spinning Division Notes.

MR. LEE MR. DUNLAP

Y. M. 22.—Cards and Drawing Frames—Semester 2 (2 and 2) 2 2/3 cr.

A study of the revolving flat card, principal parts, stripping, clothing, grinding, brushing, and settings; calculations for speeds, production, waste, draft, and constants for same; setting of metallic and leather covered rolls on the drawing frame; care and varnishing leather covered rolls, calculation for speeds and drafts. Practice operating cards, drawing frames, and other machinery.

Text-book: *Cotton Yarn Manufacture*—Winchester; Carding and Spinning Division Notes.

MR. EATON

Y. M. 26.—Mill Problems—Semester 2 (5 and 0) 5 cr. (See W. D. 26.)

This course may be substituted for Math 22 by students who are following the regular T. E. course, or any textile major course. The course is divided in two parts; one half is given under Y. M. 26 and covers problems in waste percentage, draft, twist, production, and organization. The other half of the course is offered by the Weaving and Designing Division under number W. D. 26, and covers the mechanical calculations of looms and problems on loom production, warp and filling preparation, weights of fabrics, and harnesses and reeds.

Text-books: *Cotton Mill Mathematics*—Quigley & Smith; C. & S. Division Notes.

MR. DUNLAP

Y. M. 31.—Roving Frames—Semester 1 (2 and 2) 2 2/3 cr.

The construction and operating of roving frames, study of the slubber, intermediate, roving frame, and jack frame; the different styles of top rolls used and the method of weighting them; making necessary calculations for draft, twist, tension, lay, taper and constants for same; production per spindle and sizing the roving, turns per inch for different hanks.

Practice operating roving frames.

Text-book: *Cotton Yarn Manufacture*—Winchester; *Cotton Yarn Problems*—Smith; Carding and Spinning Division Notes.

MR. EATON

Y. M. 32.—Doubling and Drafting—Semesters 1 and 2 (1 and 2) 1 2/3 cr.

Y. M. 31 or equivalent mill experience should precede Y. M. 32.

Calculation for draft, production, weights, and number of machines required for different counts, labor costs, and production of yarn from picker to spinning frame inclusive.

(Semester 1 for Seniors in T. E. 5A and majors 5D and 5E.)

(Semester 2 for Juniors in T. I. E. 5C.)

Text-books: Government bulletins; *Cotton Yarn Problems*—Smith; Carding and Spinning Division Notes.

MR. LEE

Y. M. 34.—Cotton Grading—Semesters 1 and 2 (0 and 2) 2/3 cr.

Classing of cotton according to U. S. Government standards for grades, tinges, and stains; stapling of cotton, study of Sea Island, Egyptian, and all grades of cotton raised in the United States; methods of ginning, marketing, contracts for cotton, receiving and handling cotton at mills, and claims.

(Semester 1 for Seniors in T. E. 5A and majors 5D and 5E.)

(Semester 2 for Juniors in T. I. E. 5C.)

Text-books: Government bulletins; *Cotton Yarn Problems*—Smith; Carding and Spinning Division Notes.

MR. LEE

Y. M. 35 and 36.—Yarn Manufacturing Problems—Semester 1 (2 and 6) 4 cr. Semester 2 (1 and 6) 3 cr.

Prerequisite: Y. M. 21 and 22.

Specified warp and filling yarns to be produced from raw stock. Complete records will be required. Monthly reports will be required. All laboratory work will be individual as much as equipment will allow. The second semester will be a continuation of the first. The one hour theory class to be a round table discussion period for solving problems of manufacture which have arisen in practical periods.

Text-book: To be chosen. Carding and Spinning Division Notes.

MR. EATON

Y. M. 41.—Spinning, Spooling, and Twisting—Semesters 1 and 2 (2 and 3) 3 cr.

Y. M. 31 should precede this course.

Construction and principal parts of spinning spooling machines, such a builder motions, travelers, rolls and creels. Calculations on twisting, drafting, doubling, and constants; wet and dry twisting, amount of twist in different ply and coarse yarns, balanced twist, and thread; size of rings, steel and brass travelers for different counts; calculation for same.

Practice operating spinning and spooling machines.

(Second semester for juniors.)

Text-books: *Cotton Yarn Manufacture*—Winchester; *Cotton Yarn Problems*—Smith; Carding and Spinning Division Notes.

MR. LEE

Y. M. 42.—Combers, Sliver Lap, and Ribbon Lap—Semester 2 (1 and 2) 1 2/3 cr.

Construction, setting, and adjustment of sliver lap and

ribbon lap machines; calculations for draft and production of the same; study of comber, timing, setting for different staples of cotton and production of waste; operation and management of combers and all necessary calculations.

Practice in operating the sliver lap, ribbon lap, and comber machines; also in running test lots of cotton through the different machines.

Text-books: *Cotton Yarn Manufacture*—Winchester; *Cotton Yarn Problems*—Smith; Carding and Spinning Division Notes.

MR. LEE

Y. M. 44.—*Mill Economics*—Semester 2 (2 and 0) 2 cr.

This course is primarily for seniors who have completed all textile courses through the junior year. While it is not a continuation of W. D. 43, it does refer directly to the part of that course which deals with cost finding. Its purpose is to explain the principles of economics as applied to general management. This includes calculations necessary for quotations on prices and deliveries of a number of styles of fabrics; and other problems in which wage and labor conditions, mill construction, and fire and accident insurance are involved.

Students will report on articles assigned them in technical books and periodicals.

Text-book: C. & S. Division Notes.

MR. EATON

Y. M. 45 and 46.—*Yarn Manufacturing Problems*—Semesters 1 and 2. (1 and 8) 3 $\frac{2}{3}$ cr. each.

Prerequisite: Y. M. 35 and 36.

This course is given only to seniors who are taking the yarn manufacturing major course. Each student will be given individual problems both in the school and in nearby mills. Monthly reports will be required. In the second semester the student will be expected to choose his own problem and will map out his method of procedure before attempting to solve the problem.

The recitation hour each week will be used for consultation and for reports on progress.

Textbook: Carding and Spinning Division Notes.

MR. EATON

Y. M. 50.—Thesis—Semester 1 (0 and 2) 1 cr.

Required of all textile engineering seniors.

This course will use all calculations and machinery required to produce warp and filling yarns from raw stock in such quantity and quality as will be necessary for satisfactory weaving. Records must be kept and a written report submitted by each student. This may be combined with W. D. 50 to make a mill project.

Division Rooms and Equipment

Picker Rooms. Pickers—One Atherton automatic feeder; one Atherton breaker lapper; one Atherton finisher lapper.

Card Room. Cards—One Mason 40-inch revolving top flat card for demonstration, one Woonsocket Machine Co., revolving top flat card. Two Saco and Pettie 40-inch cards.

Combing.—One Whitin sliver lapper; one Whitin four head, ribbon lapper, one eight head, Whitin high speed comber.

Drawing Frames.—Two Saco and Pettie drawing frames, four deliveries, stop motions, metallic rolls; one Whitin drawing frame, four deliveries, leather covered rolls; one Woonsocket drawing frame, four deliveries, metallic rolls.

Fly Frames.—One Saco and Pettie 12 x 6 inch, 40 spindle slubber, one Saco Pettie 8 x 4 inch, 64 spindle intermediate, one Saco and Pettie 6 x 3 inch 80 spindle, fine roving frame, one slubber 60 spindles Saco Lowell, one intermediate 72 spindles Saco Lowell, one new Woonsocket fine frame 80 spindles, one Woonsocket 6 x 2½ inch, 96 spindle jack roving frame.

Ring Spinning.—One Saco and Pettie spinning frame, 128 spindles; one Mason spinning frame, 112 spindles; 30 Fales and Jenks spinning frames, 80 spindles each; two Whitin spin-

ning frames, 80 spindles each. One H. & B. 80 spindle, spinning frame. (Loaned) One F. & J. 48 spindle spinning frame equipped with Casablancas long draft attachments; 80 S. K. F. roller bearing spindles.

Spooling.—Two Draper spoolers 40 spindles each; one 24 spindle Easton and Burnham spooler.

Twisting.—One Draper combination wet and dry twister, 48 spindles; two Fales and Jenks wet twisters, 70 spindles each.

Winding.—One Universal winder and doubler; one Foster cone and tube winder.

Reeling.—One Draper 54 inch reel, 50 spindles.

Testing Laboratory. — One Alfred Suter direct yarn counter; one Alfred Suter twist counter; Brown and Sharpe roving reel, yarn scales and weights; Henry L. Scott yarn and cloth tester, two yarn reels, motor driven; Moscrop single strand tester; Emerson conditioning oven; Torsion balance yarn calculating scales and necessary accessories. Mullens Tester.

ZOOLOGY AND ENTOMOLOGY

MR. SHERMAN

MR. DUNAVAN

MR. SMITH

Z. & E. 12.—*General Zoology*—Semester 2 (2 and 4) 3 1/3 cr.

For academic and pre-medical students. The fundamentals of structure and life processes of animals with a survey of the animal kingdom.

Text-book: *Textbook of General Zoology*—Curtis & Guthrie.

Laboratory Manual: *Laboratory Directions in General Zoology*—Curtis & Guthrie.

MR. BERRY

Z. & E. 21.—*General Zoology*—Semester 1 (2 and 2) 2 2/3 cr.

For agricultural students. The fundamentals of structure and life processes of animals and a survey of the animal king-

dom with reference to certain economic groups, to lay a foundation for courses in agriculture which follow.

Text-book: *Textbook of General Zoology*—Curtis & Guthrie.

Laboratory Manual: *Laboratory Direction in General Zoology*—Curtis & Guthrie.

MR. SMITH

Z. & E. 31.—*Introductory and Applied Entomology*—Semester 1
(2 and 2) 2 2/3 cr.

Prerequisite: Z. & E. 11 or 21.

Structure, development, habits, and groups of insects with reference to economic forms and their control.

Text-book: *Applied Entomology*—Fernald.

MR. SHERMAN

Z. & E. 32.—*General Entomology*—Semester 2 (2 and 4) 3 1/3 cr.

Prerequisite: Z. & E. 31.

A comprehensive study of the orders and families of insects, and morphology from the taxonomic view-point; life-history, adaptations, ecological relationships; also practice in collecting, preserving, mounting and labelling specimens for permanent collections.

Text-book: To be selected.

MR. DUNAVAN

Z. & E. 41, 42.—*Economic Entomology*—Semesters 1 and 2
(2 and 2) 2 2/3 cr.

Prerequisite: Z & E. 31.

First semester covers study of insects of field and forage crops, livestock, stored products, and of the household, with control measures; observations in the field.

Second semester covers study of insects of the orchard, garden, general truck, and greenhouse; observations in the field.

Text-book: *Injurious Insects*—Herrick.

MR. DUNAVAN

Z. & E. 44.—*Beekeeping*—Semester 2 (1 and 2) 1 2/3 cr.

An introduction to the scientific and economic phases of beekeeping. The college apiary affords opportunity for information and experience in honey production and apiary management. For senior students.

Text-book: *Beekeeping*—Phillips.

MR. DUNAVAN

Z. & E. 45.—*Insect Morphology*—Semester 1 (2 and 2) 2 2/3 cr.

Prerequisites: Z. & E. 31 and 32.

A study of external and internal anatomy of insects; includes a limited amount of general and histological technique.

Text-book: *Introduction to Entomology*—Comstock.

Laboratory Manual: *Anatomy of Insects*—Comstock and Kellogg.

MR. DUNAVAN

Z. & E. 46.—*Systematic Entomology*—Semester 2 (1 and 4) 2 1/3 cr.

Prerequisites: Z. & E. 31 and 32.

Identification of insects in certain groups to genera and species,—sketches of certain economic species; structural adaptations to modes of life; review of certain important families; practice in collecting and preserving specimens.

References: Volumes and Papers from College and Division libraries.

MR. SHERMAN

Z. & E. 47.—*Parasitology*—Semester 1 (2 and 2) 2 2/3 cr.

Prerequisite: Z. & E. 31.

A study of the forms of animal life parasitic on man; review of characteristics of and controls for those diseases transmitted to man by parasites.

Text-book: *Animal Parasites and Human Disease*—Chandler.

MR. DUNAVAN

Z. & E. 48.—*Ornithology*—Semester 2 (0 and 3) 1 cr.

Prerequisite: Z. & E. 11 or 22.

Field and laboratory study of birds, keeping lists of those identified; consideration of the species, their habits, and relations to human welfare.

References: *Birds of Eastern North America*—Chapman; *Birds of South Carolina*—Wayne.

MR. SHERMAN

Z. & E. 51, 50.—*Seminar*—Semesters 1 and 2 (1 and 0) 1 cr.

Required of seniors majoring in entomology; juniors and sophomores interested are invited to attend without credit and not required to contribute to programs.

Study of various phases of entomological work; activities of notable workers; review of publication sources; problems of beginning workers; consideration of graduate work; special zoological subjects; specimens examined, etc. Visitors of attainment often take part.

Topics handled on round-table basis, members of staff and senior students alternating as leaders.

MR. SHERMAN MR. DUNAVAN MR. SMITH
Other members of staff

Z. & E. 53-52.—*Experimental and Field Entomology*—[1-(4-9)]
2 1/3 to 4 hours credit.

A basic consideration of a wide scope of principles and problems in experimental zoology as they apply to the solution of entomological problems.

Field work: Study of a specific insectary and field problem supplemented by general field surveys of insects and their activities and habits.

Each course may be given alternate summers or may be repeated each summer according to the needs of the students.

MR. EDDY MR. SHERMAN MR. DUNAVAN

Z. & E. 59.—Introduction to Research—Semester 1 (1 and 3 or more) 2 or more cr.

Prerequisite: *Z. & E. 31* (or equivalent).

Study of methods, procedure and technique, in laboratory, insectary and field; compilation and analysis of data; photography, and illustration of data.

Each student completes a problem suitable for a graduation thesis; the data may also be used for civil service thesis.

Hours and credits adjusted to meet the needs of the student and the demands of the problem, but will usually be (1-6), giving 3 credit hours.

MR. DUNAVAN MR. EDDY

Graduate Work—For description of graduate work see pages 200 and 201.

Division Quarters and Equipment

General Laboratory and Lecture Room—This large and well lighted room is on the first floor of the library building and has standard laboratory tables and lockers; has microscopes, lantern, microtome and other equipment.

Divisional Offices—On first floor library building near laboratory and lecture room. Here are kept the files, records and library of the division.

Insecticide Laboratory—A large room on first floor library building used for instruction and practice in preparation of standard insecticides, and for research in insecticide problems. Used by both college and experiment station.

Research Laboratory—A large room on first floor library building, with equipment for research, photography, etc.; used especially for work of experiment station and by students engaged in research.

Research Field—Consists of about four acres of land, having three insectaries (two for biological and one for insecticide studies) and a machinery barn; used by workers of experiment station and advanced students in biological and control studies.

Various crops are grown in this field for study of insects attacking them.

Beekeeping Laboratory and Apiary—A small frame building about one-fifth mile northeast of library, used for work in beekeeping; with equipment for instruction and practice, and a small apiary in the yard.

SUMMER SCHOOL

The summer school is a regular part of the service offered the state. The summer session for 1930 will open June 10th and will close July 19th. During this period instruction will be given as follows:

1. Regular college work.
2. Special training for teachers of agriculture in conducting evening schools.
3. Textile Industrial Education.
4. Specialized instruction in conducting textile testing.
5. A short course combining these two features—industrial education and textiles—for persons who teach evening schools in textiles.
6. Training for foremen in industry.
7. Cotton grading June to July.
8. A conference is planned for executives, superintendents and foremen of the textile industry. It is planned to have outstanding leaders take part in this program.
9. Education for principals of rural schools, principals of mill schools and public school teachers.
10. Methods courses for primary and elementary teachers.

Provisions have been made for rooms and meals for both men and women who are interested in coming to Clemson for the training offered during the summer school.

A copy of the summer school catalog may be had on request addressed to The Registrar, Clemson College, S. C.

FARMERS' WEEK

Date to be announced.

PART VI.—GRADUATE STUDIES

The four years of undergraduate work in college is of necessity planned to cover a rather broad, general field. In these years the student finds himself and lays the foundations for his chosen profession. It is obviously impossible to include intensive technical training in undergraduate work. For students of marked ability, and who desire more technical training in special line of work, the Graduate Studies offer this opportunity. The graduate student does original work in co-operation with and under the direction of trained specialists. He has access to the libraries, the laboratory and field experiments.

The Southeast in general, and South Carolina especially, has need of research work to help solve the many pressing agricultural and industrial problems. It is obviously more practical to study these first hand and under men who are familiar with the situation.

Clemson College is fortunate in having on its faculty many men especially fitted to direct graduate studies and research work, both because of their superior training and because of their familiarity with the varied and complex problems which South Carolina and this section now face. These problems must be solved if the South is to advance in a material way.

Clemson College is ideally situated to become the logical center for investigations of the varied problems of the Southeast. She believes that she can render a great service by offering her teachers, her research staff, her buildings and equipment to train those who have shown the most promise of leadership.

Organization—This work is under the direction of the Committee on Graduate Studies.

Graduate students should register with the Chairman of this Committee.

Degrees Offered—Courses are offered leading to the degrees of Master of Science at Clemson and Doctor of Science in co-operation with the University of Nancy, France, at that institution.

MASTER OF SCIENCE DEGREE

Prerequisite Degree—Candidates for the Master's degree must possess the Bachelor's degree from this institution or one of like standing. If the degree offered is not acceptable, the student may be required to obtain a satisfactory Bachelor's degree or he may be permitted to make good his deficiency by additional work and a longer residence at the College.

Applications—Candidates for the Master's degree must present to the Chairman of the Committee on Graduate Studies a written application for the degree not later than the first of November of the first year's residence. This application must name the major and minor subjects offered for the degree and must contain the signed approval of the heads of the departments concerned. In case the student comes from another institution, a transcript of his college work is required. The application will be passed on within one month after the beginning of the second semester.

When a candidate offers as a part of his work any course not sufficiently described in the catalog, he must include in his application an outline or description of that course.

Application blanks are to be obtained from the chairman of the committee.

Time Required—The student must spend at least one entire academic year in residence at the College as a graduate student devoting his full time to the pursuit of his studies. Assistants and fellows shall be required a longer time proportional to the other duties performed on a 15-hour week basis.

Work Required—The work is fifteen hours per week. Six hours of this work must be in one subject (the major) and of a higher grade than any course offered for undergraduate students in that subject. The other nine hours (the minor or minors) are to be determined and distributed by the professor in charge of the department in which the major subject is selected. No course designed primarily for students of a lower grade than the junior class will be acceptable as a minor. While the major course is six hours, these hours are not the same as in undergraduate work,

for in general the major work will require at least two-thirds of the student's time.

As a rule the student will have had four years of work or its equivalent in the subject selected for his major, and two or three years in the subjects selected as minors.

To obtain credit for a graduate course the student must attain a grade of not less than C. Re-examinations are not permitted. As a rule it is not permissible to select a minor in the same department as the major. More than 50% of a student's grades must be B or above.

Candidates must show proficiency in modern language if necessary to success in research undertaken. Proficiency in statistical methods is required if needed for carrying out research in selected field. Head of department concerned must approve candidate's qualifications in above.

Thesis—A thesis is required showing original research and independent thinking on some subject accepted by the professor under whom the major work is taken. This thesis must be in the hands of the committee not later than two weeks before Commencement Day. Two bound copies are required to be deposited in the library if the thesis is accepted. The thesis must be prepared in conformity with instructions issued by the Graduate Committee.

Examination—A written or an oral examination, or both, will be required before the candidate is recommended to the faculty for the M. S. degree.

Summer School—Six complete summer terms of six weeks each devoted entirely to graduate work will satisfy the time requirement.

Approval of the Committee—The majors and minors, the subject of the thesis, and the thesis itself are all subject to the approval of the Committee on Graduate Studies.

PROFESSIONAL DEGREES IN ENGINEERING

The College offers the following professional engineering degrees: Civil Engineer, Electrical Engineer, and Mechanical Engineer.

The requirements for these degrees are (a) a Bachelor's degree from Clemson College in one of these three branches in engineering, (b) five years of subsequent professional experience, one year of which must have been in responsible charge of engineering or engineering instruction, (c) the preparation of a thesis demonstrating distinct technical ability.

The acceptability of the professional experience and of the thesis will be determined by an examining committee. No resident study is required and no tuition fees are charged.

To become a candidate for a professional degree, the following is the method of procedure:

- (1) Present through the Director of Engineering to the examining committee a comprehensive statement of the nature and extent of professional experience.

- (2) After consultation with the head of the Division concerned prepare an outline of a proposed thesis.

- (3) Upon the approval of the professional work and the subject for thesis, register with the College Registrar. This must be completed by December 1, preceding the conferring of the degree, but candidates are urged to register a year earlier.

- (4) Submit the initial draft of the thesis to the professor in charge by April 1, and the final draft (three typed copies) by May 1.

- (5) Upon acceptance of the thesis, deposit it with the Registrar, and pay a fee of \$15 to the College Treasurer not later than 5 o'clock on the Saturday afternoon preceding the date of the conferring of the degree. This fee covers the cost of diploma and the binding for the thesis.

Attendance upon the Commencement is desirable, but is not required.

DOCTOR OF SCIENCE DEGREE*

By special arrangement with the University of Nancy, Nancy, France, candidates for the Doctor of Science Degree of the University of Nancy will be given full credit in that University for two years residence graduate study pursued in the Textile Chemistry and Dyeing Division of Clemson College, S. C. Candidates for this degree will work at Clemson College, S. C., under the joint direction of the Professeur de Chimie appliquée a la teinture, de l' Université de Nancy, and the Professor of Chemistry, Rayon and Dyeing and Head of the Textile Chemistry Division in the Clemson College Textile Department.

Under this arrangement the Master of Science, after two years of study at Clemson College, may submit his thesis and transcript of his credits to the University of Nancy. Upon the acceptance of his thesis and credits the student is required to report in person to the University of Nancy for examination by its Examining Committee. Upon passing these examinations, the Doctor of Science Degree is awarded.

The University of Nancy is one of the best known, oldest and largest European universities. It is supported by the French Government, through the Department of Education, which issues all degrees. The University of Nancy has long been famous as the seat of medical, pharmaceutical and chemical learning, specializing in textile chemistry, dyestuffs and their application.

DESCRIPTION OF GRADUATE COURSES

AGRONOMY

Agr. 504—Advanced Genetics—Semester 2 (2 and 0) 2 cr.

A course dealing with the more technical phases of genetics, especially as to the laws of inheritance and their operation.

Agr. 506.—Advanced Fertility—Semester 2 (2 and 4) 3 1/3 cr.

A course dealing with the chemical changes occurring in the

*This work will be under the direction of Dr. Ch. Courtot, Professor of Dyestuffs and Dyeing Chemistry, University of Nancy, and Dr. Chas. E. Mullin, Professor of Textile Chemistry, Rayon and Dyeing, Clemson College Textile Department.

soil, especially as influenced by application of commercial fertilizer.

MR. PADEN

Agr. 503.—Advanced Pedology—Semester 1 (2 and 4) 3 1/3 cr.

A course dealing with the more technical physical properties of the soil.

MR. COLLINGS

Agr. 505.—Research Methods—Semester 1 (2 and 0) 2 cr.

A course dealing with the latest methods of field crop and fertilizer research. Emphasis is placed on field plot technic and biometry.

Agr. 501-502.—Research—Semester 1 and 2.

Hours and credit as arranged. Technical Problems dealing with soils and crops research.

AGRONOMY STAFF

Agr. 500.—Seminar—Semester 1 and 2.

Required of all graduate students.

AGRONOMY STAFF

AGRICULTURAL ECONOMICS

Ag. Ec. 501-502.—Research—Semester 1 and 2 (credit to be arranged).

In this course the student is given the opportunity to work on economic research under supervision. The development of correct methods of research is an important feature. A great number and variety of subjects is available. This gives training also in the correct interpretation and presentation of the findings of an economic study.

AGRICULTURAL ECONOMICS STAFF

Ag. Ec. 505.—Advanced Agricultural Economics—Semester 1 (3 and 0) 3 cr.

An advanced course dealing with agricultural economics as applied to South Carolina conditions. Some of the topics taken

up are: diminishing returns, theories of rent, wages, interest and profits, taxation, tariffs, and economic legislation. The course includes a critical study and estimate of policies proposed for agriculture by politicians and others.

MR. JENSEN

Ag. Ec. 506.—Advanced Farm Organization—Semester 2
(3 and 0) 3 cr.

This is a course which treats of the advanced concepts and uses of farm management and cost material. It includes the handling of quantity expenditures or input in production in relation to the physical yields or output in determining the most profitable farm organization. Correlation and other statistical methods are used in determining what given farms should raise or grow. The construction of agricultural outlook reports is taken up.

MR. JENSEN

Ag. Ec. 509.—History of Agricultural Economic Thought—
Semester 1 (3 and 0) 3 cr.

The aim is to develop a consistent and chronological body of thought from the contributions made by leading men up to the present time. This involves study of the following economic schools, particularly as to their ideas on agriculture: Classical, Physiocratic, Historical, National, Socialist, Optimist and Austrain. The thought of agricultural economists from Thaer, Von Thunen and Young up to modern times is carefully studied.

MR. JENSEN

Ag. Ec. 510.—Advanced Statistical Method—Semester 2
(1 and 2) 1 2/3 cr.

A treatment of the most technical problems in statistical method, with some consideration of statistical theory. Familiarity with elementary statistical method as a basis for further study is assumed. Much time is given to simple and multiple correlation, and some time to improved methods of sorting and tabulating data.

MR. JENSEN

Ag. Ec. 519, 520.—Seminar—Semester 1 and 2.

Required of all graduate students.

MR. JENSEN AND AGRICULTURAL ECONOMICS STAFF

AGRICULTURAL EDUCATION

Education 501-502.—Evening Class and Part Time Teaching in Agriculture.—Semester 1 and 2. Cr. 1-5.

This is a course for those persons who desire intensive training through participation to do evening class work. Each person who enrolls in this course is expected to have an automobile, which is necessary equipment in doing evening class work. Part of the work is at the College and part in the field.

MR. CRANDALL AND EDUCATION STAFF

Education 503-504.—Evening Class Teaching in Agriculture—Semesters 1 and 2. Cr. 1-5.

This course is for those persons who desire training through participation to do evening class work with comparatively large land owners, merchants, bankers and other business men.

MR. CRANDALL AND EDUCATION STAFF

Education 500.—Seminar—Semester 1 and 2.

Required of all graduate students.

MR. CRANDALL AND EDUCATION STAFF

HORTICULTURE

Hort. 503.—Methods of Horticultural Research—Semester 1 (3 and 0) 3 cr.

Attention will be given in this course to experiment station organization, the details of planning and executing horticultural investigations, and preparation of manuscripts for publication. A critical study of some of the more important literature of horticulture will be made with the object of acquainting the student with the methods used by various investigators. A comparison and discussion of these methods will aid him in evaluat-

ing intelligently the results obtained not only in the experiments studied but in others as well.

MR. MCGINTY

Hort. 505.—Advanced Pomology—Semester 1 (3 and 0) 3 cr.

A consideration of commercial fruit growing practices in the light of recent investigations in this and related fields. Such problems as the adaptation, improvement, pruning, cultivation and nutrition of pomological plants will be discussed with the detailed results of experiment station and other investigations as a background. A major report involving a survey of the literature of some phase of this subject will be required.

MR. MCGINTY MR. MUSSER

Hort. 504.—Advanced Vegetable Crops—Semester 2 (3 and 0) 3 cr.

Designed to bring the student into intimate contact with the important investigations in this field and to point out their practical application to the problems of the production of vegetable crops.

MR. MCGINTY

Hort. 501-502.—Special Problems—Semester 1 and 2 (Hours as arranged) 1/4 cr.

A study of some specific phase of the growth or handling of horticultural plants or products. This may involve a critical review of the literature of some special subject, or the independent investigation of some problem selected by the student or assigned to him. The work done will form the basis for the thesis required.

MR. MCGINTY MR. MUSSER

Hort. 500.—Seminar—Semester 1 and 2. (1 and 0) 1 cr.

Required of all graduate students.

MR. MCGINTY AND HORTICULTURE STAFF

ZOOLOGY AND ENTOMOLOGY

Z. & E. 503.—Animal Physiology—Semester 1 of odd numbered years (2 and 3) 3 cr.

General animal physiology with special references to insects.

MR. SHERMAN MR. EDDY

Z. & E. 504.—Ecology—Semester 2 of odd numbered years (2 and 3) 3 cr.

Insect ecology with reference to plant and animal ecology, experimental zoology, etc.

MR. SHERMAN MR. EDDY

Z. & E. 505.—Biological Control—Semester 1 of even numbered years (2 and 3) 3 cr.

Consideration of parasites, predators, pathogenic organisms, plant resistance, cultural practices, temperature, humidity, etc.

MR. SHERMAN MR. EDDY

Z. & E. 506.—Insecticides and Toxicity—Semester 2 of even numbered years (2 and 3) 3 cr.

Fundamental study starting with historical review of development of insecticides. Uses and effects of insecticides on insects and plants, resistant factors, etc. Introduction to insecticide research of today.

MR. SHERMAN MR. EDDY

Z. & E. 500.—Seminar—Semester 1 and 2 (1 and 0) 1 cr.

Required of all graduate students.

A round table consideration of important subjects that are not adapted to the usual classroom study. A different phase of entomology will be studied each semester. No subject will be repeated. Credit may be obtained during two entire years.

MR. SHERMAN AND STAFF

Z. & E. 501-502.—Research Work—Semester 1 and 2 and during summer session open to exceptional students (0 and 3 to 15) 1 to 5 cr.

Prerequisite: *Z. & E. 53, 52* or equivalent.

Subject to be chosen by consultation. Problems can be chosen to meet the students' needs and preferences. Conference of one hour per week required when necessary. Candidates for M. Sc. degree must complete a satisfactory problem before graduation. Credit hours to be adjusted at end of each period of work.

MR. SHERMAN AND STAFF

TEXTILE CHEMISTRY, RAYON, AND DYEING

A graduate of the Textile Chemistry course could, by devoting full time to graduate work, fulfill the requirements for the Master's Degree in one year. Other students may be required to take additional courses in case they lack undergraduate training considered necessary for this degree.

T. C. 500.—Seminar—Semester 1 and 2 (1 and 0) 1 cr.

Required of all graduate students.

MR. MULLIN AND STAFF

T. C. 501-502.—Research—Semester 1 and 2.

Hours and credits as arranged. Technical and scientific problems of the textile, dyestuffs and dyeing industries.

MR. MULLIN AND STAFF

T. C. 503.—Advanced Organic Chemistry (Synthetic)—Semester 1. 3 cr.

A course in the manufacture of organic dyestuffs and related textile chemicals.

Prerequisite *T. C. 38*.

MR. MULLIN AND STAFF

T. C. 504.—Advanced Organic Chemistry (Analytic)—Semester 2. 3 cr.

The reactions and properties of organic compounds. Use of group reactions in the identification of organic compounds. Ultimate organic analysis.

Prerequisite: T. C. 503.

MR. MULLIN AND STAFF

T. C. 505-506.—Technical Writing and the Chemical Literature—Semesters 1 and 2.

Hours and credits to be arranged. Actual searches of the technical and patent literature, and the preparation of abstracts, papers, reports, etc.

Prerequisite: T. C. 49.

MR. MULLIN

T. C. 507.—Technology of Textile Fibers—Semester 1. 3 cr.

The chemical composition, physical structure and microscopy of the textile fibers, including all treatment of the fibers up to the time they are to be dyed, and the chemical control of these processes.

Prerequisite: T. C. 42 and T. C. 47.

MR. MULLIN AND STAFF

T. C. 508.—Advanced Dyeing—Semester 2.

Hours and credits to be arranged. A course in the more complicated methods of dyeing, such as the application of the vat dyes and azoic colors, and related products such as the soluble vat dyes. The dyeing of mixed fibers. The consideration of recent advances in dyeing methods and the chemical control of these processes.

MR. MULLIN AND STAFF

T. C. 510.—Printing—Semester 2.

Hours and credits to be arranged. A course in the printing of all types of dyes by modern methods. The consideration

of recent advances in printing. Spray printing, block printing, resist and discharge printing, etc.

MR. MULLIN AND STAFF

T. C. 509.—Starch—Semester 1. 1 to 2 cr.

A study of the constitution and chemistry of the various starches and their uses in the textile industry.

MR. MACORMAC

T. C. 512.—Textile Finishing—Semester 2.

Hours and credits to be arranged. A study of the applications of starch and other products to yarns and fabrics in textile manufacturing and finishing. The chemical processes, methods, machinery and equipment used in these operations.

MR. MULLIN AND STAFF

T. C. 514-515.—The Manufacture and Properties of the Artificial Fibers—Semesters 1 and 2.

Hours and credits as arranged. The course will cover all of the artificial fibers. The textile, dyeing, physical, chemical and all other properties of the various artificial fibers will receive full attention and consideration. In the manufacturing processes particular stress will be placed upon viscose and acetate silk.

MR. MULLIN

PART VII.—GENERAL INFORMATION

HISTORICAL STATEMENT

Clemson College is the result of the scholarship, experience and vision of Thomas G. Clemson. Without thought or inquiry one might conclude that the name represents merely the accident of the marriage of Thomas G. Clemson to Anna Maria, the gifted daughter of John C. Calhoun. But when one has taken the trouble to examine into the life of Clemson, he is likely to conclude that Clemson College marks simply the culmination of years of study, of thought, of experience and of high aim along the lines of science, particularly of science pertaining to agriculture.

Thomas G. Clemson was a Pennsylvania product. He was born in Philadelphia, July 1, 1807. His forbears settled in early colonial days in the rich Pequea valley and here they remained as tillers of the soil of Lancaster county. His father, however, was a merchant of Philadelphia. The name of Clemson is prominent in Pennsylvania today and appears upon the rolls of the army of every war in the nation's history.

Young Clemson, probably about 1826, having become interested in chemistry by study in a laboratory in Philadelphia, decided to go where he would have better opportunities. so he went to Paris.

He worked in chemical laboratories in Paris, attended lectures at the Sorbonne and, in 1828, through the influence of the American Consul, was admitted to the Royal School of Mines of France. In 1831 he received a diploma as Assayer and seems to have been employed in some capacity in Paris as assayer and chemist for most of the years 1832 to 1836.

The latter year found him again a resident of the United States, dividing his time between Philadelphia and Washington, engaged in practicing the profession of consulting mining engineer. His services seem to have been much in demand, for although he either inherited little from his father, or was unlaw-

fully deprived of his inheritance, by 1838 he seems to have acquired a modest competence.

He was of sufficient importance socially to mingle in the highest circles of Washington and to marry John C. Calhoun's daughter. They were married at Fort Hill in November, 1838.

At the same time Mr. Clemson seems to have formed an attachment for his distinguished father-in-law, which remained with him during his long life. The Calhoun and Clemson correspondence contains a large number of letters, which passed regularly between these two men until the former's death in 1850. These letters cover a great range of subjects in which, when it comes to scientific matters, Mr. Clemson was the chief contributor.

For much of the time between 1838 and 1843 the Clemsons lived at Fort Hill. Clemson's letters of this time to Calhoun contain frequent reference to such matters as Calhoun's mining interest at Dahlonega, Georgia, to which Clemson was devoting some attention, and to the activities on the Fort Hill plantation such as the introduction of the English Red Devon cattle, which Calhoun with Clemson's aid introduced into South Carolina at Fort Hill. Calhoun was a practical farmer. Clemson learned from him. Clemson was a scientist with a practical turn. Calhoun learned from Clemson.

In 1843, Clemson, having decided to become a Southern planter, purchased Canebroke plantation in Edgefield district and stocked it with slaves. Many letters between these two men refer to the management of this plantation and to the agricultural economy of the South.

From the vantage point of industrial Belgium, Clemson wrote to Calhoun, May 29, 1846, that he had received a letter from Mr. Pickens, who, as an act of friendship, was giving some attention to Canebroke plantation. Says Mr. Clemson's letter: "He (Mr. Pickens) further states that the negro cloth was all woven on the place." And Clemson adds, "My desire is that everything should be done on the place that could be done, even to making leather and shoes. If we were to suffice our wants on

a plantation, the Southern country would be vastly more prosperous and the character of the people elevated, unless we turn our attention to the arts (no matter how coarse) we shall always be a prey to the superiority of the North and the rest of the world." Clemson as early as this displayed a keen understanding of Southern problems.

The Clemsons went to live in Belgium in 1844, where, until 1851, he served as charge d'affaires of the American Legation.

In Belgium, Mr. Clemson had a rare opportunity of studying European farm problems and developments. It was during the period of his residence in Europe that Liebig and Johnston, famous chemists, were laying the foundation of modern scientific agriculture. He was an interested and appreciative observer.

When the Clemsons, having sold Canebrake plantation and their slaves, returned to the United States in 1851, they went to a Maryland farm. This was a place they called "The Home", near Bladensburg, Maryland, then about four miles from Washington. Here Mr. Clemson lived until the outbreak of the Confederate war. His time seems to have been divided between the practice of his profession of mining engineer and chemist and practical farming or to a study and administration of the sciences pertaining to agricultural practice.

For this period we have fullest record of his scientific and administrative activities and observe him at his best. He is best seen through the columns of *The American Farmer*, a Baltimore agricultural journal, to which he was rather a constant contributor for several years at the solicitation of the editor, through his contributions to the *Journal of the United States Agricultural Society*, and through the reports of the Commissioner of Patents.

In *The American Farmer* of July, 1856, we see him as a promoter of agricultural education. The states were beginning to establish the agricultural colleges, the forerunners of the Land Grant Colleges. Clemson was asked by Robert Bowie, President of the Maryland Agricultural Society, to aid.

In an open letter to Mr. Bowie Mr. Clemson says, in part:

"You do me the honor to say that an expression of my approval would materially aid you in canvassing the State in behalf of the proposed institution.

"The only hope we have for the advancement of agriculture is through the sciences, and yet there is not one single institution on this continent where a proper scientific education can be obtained. Those who wish to cultivate the sciences are compelled to resort to the institutions maintained by the monarchical governments of Europe.

"(By) such a project . . . poor lands will be invigorated, the recuperative energies of exhaustive soils restored and wealth and prosperity will prevail where desolation, want and wretchedness now obtain."

A few months later asked to speak at a banquet at which the Maryland Agricultural College was being promoted, he, declining because of a business engagement in New York, addressed the President of the Agricultural Society, Mr. James T. Earle, in part as follows:

"The subject is one of momentous interest, one of light or darkness, poverty or wealth, and comparative degradation or elevation. The only possible hope for the advancement of the arts is through science. The latter is the foundation upon which the former are built. Those who depend upon routine, must ever be behind, and advancement by that route is almost impossible. Science is correct practice, authentic, unerring history of all that has been discovered and invented since the creation of man.

"Bounteous heaven has given man the raw materials of which this world is composed. It is science that teaches how they may be transformed and made subservient to our wants. Those who look upon this wonderful creation as a heterogeneous haphazard mixture of innumerable materials, are wrong. The science of the world is advancing, has advanced, and will continue to advance as long as civilization continues, and it is questionable if the world has advanced in any other way than through science, at once the cause and effect of civilization."

Says H. B. Learned in *The President's Cabinet*: "In government circles there was throughout the decade (1840-1850) a decided inclination in favor of establishing a Bureau of Agriculture—which would have placed (the agricultural activities) under an official directly responsible to the Secretary of the Interior."

One such effort says Learned was "a project of Buchanan's Secretary of the Interior (Jacob Thompson of Mississippi) in 1859 to place Thomas G. Clemson in direct charge of a Bureau." His title was Superintendent of Agricultural Affairs, a place he held from 1859 to March 4, 1861.

The first Morrill bill providing for the establishment of the Land Grant Colleges was passed February, 1859, but was vetoed by President Buchanan.

Mr. Clemson addressed a letter to *The American Farmer* of date February, 1859, on "The Necessity and Value of Scientific Instruction." A few quotations from this letter reveal his interest and enthusiasm on a subject in which he seems to have been successful in arousing much enthusiasm in others. Says this letter:

"The Advisory Board of Agriculture met last month and held its sittings in the Patent Office at Washington. It was called by the Secretary of the Interior and was composed of gentlemen connected with agriculture"

"So far as I could judge, there was unanimity in favor of Scientific Education . . . Some thought that an independent agricultural bureau, having at its head a Secretary, equal in rank, etc., with other Departments was essential . . . All, as far as I could learn, were in favor of donations of lands, from the public domain to the States, on certain conditions, for the establishment of Agricultural Colleges"

"I have long been of the opinion that the time would surely come, when in this country, more than in any other, the demand for scientific instruction, and that in its highest grade, would be imperative."

"So far as I can understand, there is no higher, no better manner of forming or methodizing the mind, than through the sciences. They open a vista for reflection, which is unbounded; and from the separate works of the Almighty, the inquirer after truth is led, step by step, with increasing admiration, nearer and nearer to the immaculate archetype of creation."

"Science would appear to be the most elevating of occupations for the mind. If we are not permitted to comprehend the Almighty, his works and the laws that govern the universe, are at least partially within our comprehension, and the contemplation must exalt the understanding and purify the mind."

In the capacity of Superintendent of Agricultural Affairs, he set forth his opinions and recommendations in "Preliminary Remarks" in the Patent Office Report, Agriculture for 1860. Says this report:

"The requirements of the present age, and the permanent importance of the subjects embraced in its operations, demand that the powers of this agency of the government should be enlarged. This opinion was expressed in the views I had the honor to submit to the Secretary of the Interior at the period of my being called by that functionary to the position of Superintendent of Agricultural Affairs.

"A vast majority of the intelligent agriculturists of the country, dissatisfied with the limited functions now exercised by the government, not only confidently anticipate, but demand an organization at least equal in importance to that of any other department."

It is not too much to assume, therefore, that Clemson's part, through organizing sentiment and by enthusiastic support, was quite influential in bringing about the passage by Congress of the Morrill Act of 1862 and the Organic Act of May 15, 1862, by which respectively the Land Grant Colleges and the Department of Agriculture were made possible.

In an article on "Fertilizers" published in the Patent Office Reports of 1850 and 1860, Clemson shows a thorough grasp of chemistry, "both as a science, and in its application . . . to agriculture and to industry."

Mr. Clemson resigned his post on March 4, 1861, since his sympathies were with the South. He was beyond military age and might have remained a neutral. But both he and his young son, John Calhoun Clemson, early in 1861, went into the Confederate service. The son rose to a captaincy. Mr. Clemson served until the end of the war being then Supervisor of Mines and Mineral Works.

Mrs. Clemson toward the end of the war, had left her Maryland home to go to live with her mother at Pendleton, South Carolina. Here Mr. Clemson joined her in 1865 and here, or at Fort Hill, he lived for the remainder of his life.

These were the fearful days of Reconstruction. But Mr.

Clemson was scarcely established at Pendleton before he began to turn his attention to the matter of his chief interest—scientific education.

Mr. A. P. Calhoun, to whom Mrs. John C. Calhoun had sold Fort Hill with all the slaves, having died during the war with the bond and mortgage he had given to his mother unpaid, Mrs. Calhoun brought suit of foreclosure against the estate. Mrs. Calhoun died in July, 1866, in the midst of the suit, she having willed the Fort Hill estate,—one-fourth interest to her granddaughter, Floride Clemson Lee, and three-fourths to her daughter, Mrs. Thomas G. Clemson.

The Fort Hill estate sold at public auction for \$15,000 and was bought in by Mr. Thomas G. Clemson acting for his wife and his daughter, Mr. Clemson paying out of his own funds the large costs of the long litigation amounting to something like \$7,000.

Through Mr. Clemson's influence a committee from the Pendleton Farmers' Society was appointed November, 1866, to appeal for—

“Aid to found an institution for educating our people in the Sciences, to the end that our Agriculture may be improved, our worn and impoverished soils be recuperated and the great natural resources of the South be developed.” This committee consisted of Thomas G. Clemson, R. F. Simpson and W. A. Hayne. Other appeals were made in which Mr. Clemson was the mover. In 1869, the minutes of the Society tell of an instructive address on his favorite subject by the President, Mr. Thomas G. Clemson.

In 1871, the last of the Clemson's three children was tragically killed. This was Capt. John Calhoun Clemson. His sister, Mrs. Floride Clemson Lee, had died unexpectedly seventeen days earlier.

Soon after this Mr. and Mrs. Clemson determined to use part or all of the Fort Hill estate, which had now come into the former's possession, for the establishment of an agricultural college.

On August 9, 1874, a committee, selected by Mrs. Clemson, addressed a circular to the people of the State for support for founding a college at Fort Hill. Mrs. Clemson offered land, the circular stated, and "assurances of aid from other sources both able and disposed to give liberal assistance" were assured. A letter from Mr. Clemson to W. W. Corcoran of Washington reveals that this aid was promised from Mr. George Peabody of New York. The people could not or would not respond.

Mrs. Clemson died suddenly in 1875 leaving her share of the Fort Hill estate to Mr. Clemson, who was pledged to carry out Mrs. Clemson's desires.

On October 29, 1878, he addressed a letter to W. W. Corcoran of Washington asking for aid in founding this institution.

Asked for advice, Colonel R. W. Simpson, a member of the General Assembly, addressed a letter dated January 11, 1882, to Mr. Clemson advising him "to execute a deed to the property to the State to take effect at your death, provided the State will agree to erect and maintain an agricultural college".

This will was written shortly after that time by Colonel Rion but was rewritten in 1886 by Colonel Simpson. Mr. Clemson died at Fort Hill April 6, 1888.

Says the will in part:

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

which bear directly upon agriculture. * * * * but to always bear in mind that the benefits herein sought to be bestowed are intended to benefit agriculture and mechanical industries. * * * * I trust I do not exaggerate the importance of such an institution for developing the material resources of the State, by affording its youth the advantages of scientific culture.

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

This will gave all that part of the Fort Hill estate inherited by Mrs. Clemson from her mother and the bulk of Mr. Clemson's other real and personal property. The latter amounted to a sum, which, considering the purchasing power at the time, probably has been only a few times exceeded in a public benefaction in South Carolina.

It provided for a Board of Trustees of seven members, to-wit: R. W. Simpson, D. K. Norris, M. L. Donaldson, R. E. Bowen, B. R. Tillman, J. E. Wannamaker, and J. E. Bradley, who with those chosen by the General Assembly should constitute a governing board in case the State accepted the bequest; but, who, in case the State declined the bequest, should alone constitute a governing board for a private institution.

These seven trustees, along with other friends of the movement, and the agricultural groups in the State developed and organized a public opinion favorable to the plan.

In November, 1889, the General Assembly of South Carolina accepted the terms of the will, and, following the decision of the United States Supreme Court to uphold the will, the State of South Carolina and the full Board of Trustees proceeded to convert the dream of Thomas G. Clemson into the reality of Clemson College.

The College was formally opened in July, 1893, with an enrollment of 446 students. The first graduating exercises were held in December, 1896, with a graduating class numbering

thirty-seven—fifteen in the agricultural courses and twenty-one in the engineering courses.

	1928-29	Total
Enrollment—Regular sessions -----	1,258	11,400*
Graduates by Courses		
Agriculture -----	84	1,322
Mech. Elec. Engineering -----	3	518
Electrical Engineering -----	24	233
Engr. Industrial Education -----	12	12
Mechanical Engineering -----	9	124
Civil Engineering -----	25	229
Architecture -----	12	72
Arts and Science -----	21	59
Chemistry -----	6	75
Textile Engineering -----	8	255
Textile Industrial Education -----	7	57
Total Graduates -----	211	3,066

GROUNDS AND BUILDINGS

Location.—The College is located on the Fort Hill homestead of John C. Calhoun, on the dividing line between Oconee and Pickens counties, in the picturesque foothills of the Blue Ridge. It has an elevation of 800 feet above sea level, and commands an excellent view of the mountains to the north and west, some of which attain an altitude of nearly five thousand feet. The climate is invigorating and healthful, and the surroundings are in every way favorable to the highest physical and mental development.

Clemson is easily accessible by highway being located on one that is paved. State highways number 2 and number 24 pass through Clemson and a bus service is maintained which operates daily at regular intervals on each.

The College is a mile from Calhoun, a town on the main line of the Southern Railway, and four miles from Pendleton,

*Approximate total enrollment to June, 1929.

on the Blue Ridge Railroad. By means of these roads and their connections, the College is easily accessible from all parts of the State. It is connected by telegraph and long distance telephone with all parts of the country. The post office is conveniently situated on the campus, and receives eight daily mails.

Grounds.—The college grounds comprise about 1,544 acres, including the campus, the farm, and the Experiment Station grounds. The campus, including about 200 acres, is laid out in walks, drives, and lawns, and is shaded by a beautiful grove of native forest trees.

Bowman Field, lying just in front of the Academic, Textile, and Y. M. C. A. buildings, provides for part of the military drill.

Riggs Field, a ten-acre athletic field, large and well-arranged, is located to the west of the Y. M. C. A. Building, and provides for baseball, football, track, tennis and military drill.

ADMINISTRATION BUILDING

The administration building is a three-story brick structure, 100 by 132 feet, trimmed with gray sandstone. It contains 36 rooms including recitation rooms, literary society halls, and the offices of the President, the Registrar, the Commandant, the Treasurer, the Business Manager, and the Alumni Secretary. The public Telegraph Office is on the ground floor of this building. Adjoining this building is Memorial Hall, the College Chapel, which has a seating capacity of about eighteen hundred. It is used for religious services and as an assembly room. In the basement are the class rooms and laboratories of the physics division.

LIBRARY

The college library is one of the most beautiful buildings on the campus being of colonial style and constructed of red brick with columns and trimmings of stone. In this building is housed the general and reference library, as well as the experiment station library. There are more than thirty thousand five hundred volumes and approximately ten thousand public documents and government publications.

This building is also used for the Offices of the Administrative Officers of the Agricultural Department and Agricultural Experiment Station as well as the State Crop Pest Commission.

A very commodious reading room is provided and a well selected list of periodicals is made readily accessible to the students.

In the balcony of the reading room are found the oil paintings collected by Mr. Clemson as well as a large collection of portraits.

ENGINEERING BUILDING

The building is of reinforced concrete and tile construction, thoroughly fireproof. Exterior walls are of tapestry brick, and the roof of blended red tile. Entrances and trim are of limestone. In general design the building is the Italian Renaissance style. It has a long central sweep, broken by the main entrance of rusticated limestone surmounted by a balustrade and a broken pediment motif. There are two end pavilions each having a large limestone window with wrought iron balustrades and arched windows above.

The entire basement floor is given over to mechanical and civil engineering laboratories. Provisions are made for a large testing laboratory and a mechanical laboratory of the same size. Smaller laboratories are also provided.

Mechanical and electrical engineering occupy the first floor. Two class rooms, a large laboratory, and an office are included in one half of the floor for the electrical division. Four class rooms and office space for the mechanical engineering division, a department library, and director's offices, comprise the other half.

Engineering drawing rooms and civil engineering class rooms occupy most of the second floor. One wing is devoted to electrical class rooms and laboratories.

The entire third floor, with the exception of one room, is devoted to architecture. Four large drafting rooms, a studio,

two class rooms, an architectural library and offices, are included in the plan for the floor. There is also on the third floor a general assembly room.

MECHANIC ARTS BUILDING

The Mechanic Arts Building is a fireproof structure of steel and brick, consisting of a wing 20' x 120' across the front which contains offices and lecture rooms, with four wings of steel construction extending to the rear covering an area of 210' x 96'. The south wing is two stories and contains the commercial and instructional woodshops. The other wings contain the Foundry, Forge Shop and Machine Shop, each having ample basements. Each shop is lighted by monitor or sawtooth lighting and is of the most modern construction in every respect.

TEXTILE BUILDING

This building is a brick structure of modern cotton mill design, 168 by 75 feet. It is of the slow-burning type, built according to fire insurance regulations, after plans of an experienced mill engineer. The building, although designed for educational and experimental purposes, containing office, lecture rooms and laboratories, retains the more prominent features of a typical Southern cotton mill. This affords the student an opportunity of gaining many points of valuable information in connection with mill construction, along with the manipulation of cotton fibres and the study of cotton mill processes and operations.

CHEMISTRY BUILDINGS

Two brick buildings, each about 80 by 50 feet with two stories and a basement, connected on both floors by glass enclosed passages, are devoted to the work of this department.

The south building is used almost entirely for class work.

The north building serves partly for class work and partly for the analytical work of the Fertilizer Analysis Division, and contains the Chemistry Department Library.

These class rooms and laboratories are well equipped for carrying on the work as offered in the different courses.

FERTILIZER BUILDING

This is a three-story brick building, situated near the south chemistry building, and containing the offices of the Secretary of the Board of Fertilizer Control, fertilizer tag rooms, etc.

The Clemson College Post Office occupies the ground floor of this building.

VETERINARY HOSPITAL

The veterinary hospital is a two-story frame building 48 by 65 feet, with basement 18 by 30 feet. The basement contains a store room. The class room, office and pharmacy, are on the first floor. A laboratory for class work, a private laboratory and a store room for supplies are on the second floor.

DAIRY BUILDING

The dairy building is constructed of red brick trimmed with limestone. In addition to class rooms and laboratories it contains the offices of the following divisions: animal husbandry, dairy, horticulture, and education. It is equipped with modern machinery for the manufacture of butter, ice cream and other dairy products, and for teaching modern methods of dairying.

LIVE STOCK BARNS

The dairy barn will accomodate both the experiment station and college herds. It has separate box stalls for bulls and young stock. The floors are of cement, and cork brick is used on the floors where the cattle lie. The lighting, ventilation, sanitation, stanchions, stalls and the equipment for cleaning and feeding are of the most modern type to be found in the country. There are also four large cement silos conveniently located.

Nearby is a calf barn and a hog barn embodying the most recent improvements in such buildings.

POULTRY PLANT

This is one of the most recent additions to the college facilities. A full time superintendent is employed. His residence is near the other buildings.

The plant consists of several laying houses as well as a large number of colony houses. Besides the buildings and pens there is sufficient equipment for conducting both research and collegiate instruction in poultry husbandry. A large number of fowls is kept at the plant.

The plant was given by a friend of the institution who is interested in promoting the agricultural welfare and readjustment in the State.

Y. M. C. A. BUILDING

This building is in the Italian Renaissance style of architecture, of texture brick with colored tile inserts, terra cotta trimmings, and red tile roof. The interior finish is of stained yellow pine. It contains four floors—basement, mezzanine, first floor, and dormitory floor, giving a total of thirty-six thousand square feet of floor space.

The basement contains a basketball room, kitchen, quick lunch room, two bowling alleys, swimming pool, shower and locker rooms, and general toilet.

The mezzanine floor is given over principally to committee rooms, retiring rooms, and balconies.

On the first floor are the general offices, reading, games, and lounging rooms, a ladies' club room, and an auditorium. The dormitory floor has living rooms, a Masonic lodge room, and motion picture machine facilities.

The building is furnished and equipped to make a large contribution to the religious, social, and physical life of the student body and the community.

RESIDENCES

A number of brick and frame residences, situated on the campus, furnish homes for most of the college teachers and officers.

BARRACKS

The cadet barracks comprise three large brick buildings. One is four stories high and contains 247 rooms for students. The second building is 199 by 42 feet, and contains 104 rooms. The third building is 45 by 190 feet and contains 111 rooms.

These buildings are heated by steam and lighted by electricity, and have an abundant supply of hot and cold water. The rooms in the barracks are furnished with single-width iron cots and other necessary appointments.

FIELD HOUSE

The new field house, 219 by 120 feet, has floor space for three standard basketball courts. Along the sides of the playing floor extend strips of earth floor on which temporary seats are erected. It has a seating capacity of 4,000. When the seats are not in use, the dirt floor will be available for indoor practice of football, baseball or track. Dressing room facilities are provided at one end of the building.

The field house is designed to be the first unit in the physical education building. A campaign among alumni is in process to raise the necessary funds for erecting the central portion of the structure.

CALHOUN MANSION

In accordance with the provisions of Mr. Clemson's will, the former residence of John C. Calhoun is kept in honor of his memory.

Several pieces of furniture and other interesting relics, formerly the property of Mr. Calhoun, are carefully preserved in the Calhoun Mansion, where they may be seen by visitors to the College.

CLEMSON COLLEGE HOTEL

The hotel, a frame building with one eight-room annex, situated on a hill overlooking the campus, is operated by the College. This furnishes a home for many officers and teachers.

HOSPITAL

The hospital, located about a quarter of a mile from the barracks, is a wooden building, especially designed for the purpose. It is in the immediate charge of the Surgeon, who is assisted by two experienced nurses thus insuring the best personal attention to each patient. The hospital is equipped with Victor X-ray machine, and the latest design souresine machine for ear, eye, nose and throat treatment.

There is also a new Burdick ultra-violet ray machine which is of great value in the treatment of dermatological cases and respiratory diseases.

LAUNDRY

This is a brick building especially constructed and fitted with the improved machinery of a modern steam laundry, and is operated exclusively for the students.

FARM BUILDINGS

The college farm is provided with commodious barns and other farm buildings of modern design, which are described more fully in connection with the equipment for instruction in agronomy.

HORTICULTURAL GROUNDS

The ornamental horticultural grounds are situated southeast of the campus. Their acreage is devoted to the growing of various trees, shrubs, and flowers, and affords a beautiful park area as well as a small ornamental nursery. The experimental horticultural grounds are located east of the campus and comprise about twenty acres. This area is devoted to experiments with apples, peaches, grapes, pecans, and small fruits. Vegetable and truck crop experiments are conducted in a fertile

bottom along the banks of the Seneca River, about one mile southwest of the campus.

Greenhouses.—Three modern greenhouses provide excellent facilities for horticultural work.

The General Water Supply is taken from Hunnicutt Creek about three-quarters of a mile above the pump station. The water flows by gravity to a settling basin 36 feet by 36 feet, and from there through two gravity filters having a capacity of three hundred and fifty gallons per minute. The filtered water passes to a storage reservoir from which it is pumped into a stand pipe one hundred feet high having a capacity of 130,000 gallons. From this it is distributed from the main to the various college buildings and to all parts of the campus. This water is tested regularly to see that it is kept free from all contaminations.

PART VIII.—PUBLIC SERVICE

*THE SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION**

The Agricultural Experiment Station of South Carolina is a department of Clemson College. The experiment station at present consists of the main station, which is located at Clemson, and three sub-stations; one at Summerville, in the coastal plain region, one at Florence, in the Pee Dee section, and one at Pontiac, near Columbia, in the sand hill region. The main offices and laboratories of the station are located on the Clemson College campus, while the station experiment farm, consisting of about 200 acres, is east of and adjoining the college campus. The investigations dealing with the fundamental principles of agricultural sciences and with the application of such principles to practical agricultural operations are carried on in the laboratories and on the experiment station farm at Clemson. The experiments looking to the adaptation of such scientific data accumulated here and elsewhere to the conditions peculiar to certain sections of the State are carried on at the sub-stations and at branch laboratories established in certain sections of the State for this purpose.

It is the aim of the experiment station to conduct research work on problems which have a direct practical bearing on the agriculture of the State. With this end in view elaborate experiments relative to the best methods of procedure under various conditions with the principal plants and animals have been undertaken. As progress is made with such experiments the results obtained are given out to farmers in the form of bulletins, circulars and personal letters. Since the establishment of the station 260 such bulletins and 35 circulars have been published, covering practically all phases of agriculture.

Aside from the research work and the publication of results obtained from such research the experiment station performs various other duties. Among these might be mentioned the ento-

*The Experiment Station staff is given on page 23.

mological and pathological inspection work which aims to protect the farms, orchards and gardens of the State against the introduction of injurious insects and diseases; the biological and soil survey of the State; and the cooperative experimental work carried on with hundreds of farmers in the State. The technically trained experts of the station staff are regarded as authorities in their several specialties and they are constantly giving out information relating to the various lines of agricultural endeavor. More than fourteen thousand personal and circular letters are written annually to residents of the State giving technical information to individuals on special subjects. The station staff also aids in disseminating agricultural knowledge by co-operating with the Extension Service of the College in holding agricultural meetings and conferences and by meeting with the farm demonstration agents and giving to them technical information which they in turn carry direct to the farmers.

Close cooperation is maintained with the various research bureaus of the National Department of Agriculture and with the departments of the College. The laboratories are always open to the inspection of the students and other people of the State. The same is true of the experiment station farm. There is always opportunity for a limited number of students to secure work in the various divisions of the station and to assist in the research work carried on by the members of the station staff.

A full report of the work and expenditures of the Experiment Station is published annually and this report and all other publications of the station are free and will be sent on request. Requests for these should be addressed to H. W. Barre, Director, Clemson College, S. C.

*THE AGRICULTURAL EXTENSION SERVICE**

The agricultural extension work of the College is carried on by the Extension Service in co-operation with the United States Department of Agriculture. The work is supported by Federal appropriations and in part by State and County appropriations. The main development of extension work has come since the enactment of the Smith-Lever Act in 1914. The purpose of Exten-

*The Extension staff is given on page 24.

sion work is to instruct farmers of the State in the practical application of the principles of improved agriculture in both production and marketing. A staff of specialists, some of whom are also members of the Agricultural Faculty, assist the county agents in planning and carrying out demonstrations with farmers over the State.

Publications.—A large number of publications, including bulletins, circulars, posters, and information cards are distributed annually. *The Weekly News Notes* is published to carry matters of timely and practical interest to the editors and a few farmers of the State. A free press plate service is also furnished to those papers requesting it. In addition to this, news letters are issued on an average of three times per week and these are sent only to the newspapers. Monthly letters or printed circulars on poultry, orchards, gardening, dairying and boys' club work are mailed free to those persons especially interested in these subjects.

County Agents.—Every county in the State, by co-operation in providing the finances, may have a county agent. These agents are agricultural college graduates who have had practical farm experience. They devote their time to instructing farmers through demonstrations, personal conferences, meetings, community organizations, publications and letters.

Home Economics Work.—This work is carried on under the immediate supervision of Winthrop College. It is, however, a part of the Extension work under the Smith-Lever Act, and as such is under the general direction of the Extension Service. Nearly every county is provided with one home demonstration agent in the same way that they are provided with county agents.

Negro Demonstration.—A few negro local agents are employed to work with the negro farmers of the State in sections where the negro population is great. These agents are employed in co-operation with the State College at Orangeburg, and the President of the State College acts as District Supervising Agent.

Live Stock.—Work in this project is carried on with the

idea of promoting the live stock interest of the State along sound permanent lines. Those desiring to purchase purebred live stock can in most cases secure them within the State from breeders who have been assisted by the Extension Service. This was not true ten years ago. Live stock agents have also stimulated the growing of pastures and forage crops and have assisted in the feeding and marketing of cattle and the co-operative purchase of materials needed. There is a revival of interest in hogs and sheep and with low cotton prices these lines of live stock work will no doubt make greater demand for assistance on the Extension Service.

Dairying.—The Extension dairymen devote their time chiefly to development work such as bull associations, feed campaigns, dairy schools, advice regarding the construction of silos, barns, purchase of dairy cattle and the testing and improvement of herds.

Corn and Cotton Breeding.—Variety tests of corn and cotton are conducted in a dozen localities in the State along with demonstrations in the field selection of corn and cotton. Up to date this work has resulted in showing what varieties of corn and cotton are best adapted to different sections of the State, and farmers are generally planting those varieties. A number of communities are being given assistance in organizing for growing only one variety of cotton and one of corn. A cotton contest among farmers is conducted annually for the purpose of improving the quality of staple and lowering the costs through larger yields per acre.

Orchards, Gardens and Potato Storage Houses.—Home orchards and gardens, commercial peach and apple orchards are the principal lines of work developed by the Extension horticulturists. The results obtained in the last few years along these lines are far reaching, and point the way for the proper utilization of some of our acres under present conditions.

Poultry Work.—The wisdom of increasing the size and quality of farm flocks is now being emphasized, together with efficiency in marketing poultry products. In 1926, 104 carloads

of live poultry were shipped out. Many hatcheries are in operation and every phase of poultry production is being enlarged. A modern poultry plant at Clemson was given to the College by a friend interested in promoting agricultural welfare and readjustment. This is one of the best poultry plants in the cotton states and serves as a place to work out poultry problems, as well as a demonstration to farmers and for teaching purposes.

Marketing.—Efforts are made to secure convenient and profitable marketing arrangements for the various crops of the State. The organization of co-operative marketing associations is encouraged. Proper grading and loading for shipment are stressed, particularly where farmers are just beginning to produce a new crop. Shipping point inspection has been provided for those who want it in cooperation with the Federal Bureau of Agricultural Economics for the protection of shippers of certain perishable crops. There is produced very little of surplus crops for which some outlet has not been found.

Entomology.—There are two principal lines of this work: first, insect control work, and second, beekeeping work. One specialist is employed who gives his time to the insect work, instructing farmers as to the life history, habits, etc., of insects and control measures.

A specialist in bee keeping is employed to develop this industry. This State has great possibilities along this line.

Boys' Club Work and Short Course.—Boys' agricultural clubs are organized with the idea of enlisting the intelligent interest of the boys, and through them their parents, in improved methods of agriculture. To the winners of certain contests short courses are provided at the College during the summer months.

Organizations.—Whenever conditions are suitable for community organizations, these are encouraged and the full support of the Extension Service is lent towards making them successful.

THE ENGINEERING EXPERIMENT STATION

A majority of the Land Grant Colleges of the United States has established engineering experiment stations. These

have proved of great value in aiding industrial and engineering developments in the various states.

The engineering experiment station of the Clemson Agricultural College was established by the Board of Trustees in July, 1924.

Its purpose is to aid the present industries in the state, to do research work on the material resources of the state with a view of leading to the establishment of new industries, to study methods of leading and utilizing waste products, etc.

In addition to serving the industries of the state and helping to solve the engineering problems for the agricultural interests, it is hoped along and in cooperation with the stations of other states to add to the store of scientific and engineering knowledge. The staff consists of well trained men from the various schools and departments of the college. The laboratories of the several departments of engineering, as well as others, are available for the use of stations in its investigations.

The results of all investigations are to be published in the form of bulletins and circulars to be distributed free to all who may be interested. Copies of publications may be had by applying to the Director of Engineering Experiment Station, Clemson College, South Carolina.

*LIVESTOCK SANITARY WORK**

The Clemson College Live Stock Sanitary Office is a department of Clemson College and is under the supervision of the Agricultural Committee of the Board of Trustees. This office is located in Columbia, S. C., in order that the best interests of the livestock industry may be served, and is in charge of the State Veterinarian, Dr. W. K. Lewis, who is also Director of this Department.

The principal functions of this office are: Tick Eradication, Tuberculosis Eradication and Hog Cholera Control. In addition to these, all reported outbreaks of contagious, infectious and communicable diseases of livestock are investigated, and

*The Livestock Sanitary Work staff is given on page 21.

measures recommended for the control and eradication of the specific condition; and quarantine is maintained against the introduction of diseased livestock into the State.

The Columbia office has recently established a fully equipped laboratory for bacteriological and pathological work, in order that proper and prompt diagnosis of certain diseases may be made. Parasitic research work will be conducted in various sections of the State in connection with the Columbia laboratory.

In addition to the force of veterinarians working out from the Columbia office, Assistant State Veterinarians are located at strategical points in the State so as to be readily available to the farmers in their respective territories.

On July 1, 1925, twenty-two (22) practicing veterinarians of the State were commissioned as Deputy State Veterinarians, to assist the State Veterinarian in the control and eradication of contagious and infectious diseases of livestock. The Deputy State Veterinarians are located principally in the northern and eastern sections of the State, and with the Assistant State Veterinarians located in the middle and southern sections of the State, the Clemson College Live Stock Sanitary Office is in position to render a service to the livestock industry of the State in keeping with its development and maintain the service to the highest degree of efficiency.

The Clemson College Live Stock Sanitary Office also maintains an equipment for handling large stocks of anti-hog cholera serum, virus and veterinary biologics and furnishes these products to the citizens of the State at cost, thereby effecting a saving to them of several thousands of dollars annually.

The live stock sanitary work is required by legislative enactment and is supported by legislative appropriations.

The Bureau of Animal Industry, U. S. Department of Agriculture, co-operates in Tick Eradication, Tuberculosis Eradication, and Hog Cholera Control, and duplicates the amounts appropriated by the State Legislature for these projects.

Fertilizer Inspection and Analysis.—The work of fertilizer

inspection and analysis is under the supervision of the Board of Control consisting of ex-Governor Richard I. Manning, chairman, J. E. Wannamaker of St. Matthews, and J. J. Evans, Bennettsville. The work of inspection is under the immediate supervision of D. H. Henry, Secretary of the Board of Control.

There are inspectors to look after this feature of the work in different parts of the State.

The work of analysis is carried on in the Fertilizer Analysis Division of the Chemical Department and is under the supervision and direction of Dr. R. N. Brackett, Chief Chemist.

The work consists of the analysis of commercial fertilizers as provided for by the Fertilizer Law of the State. This Division also undertakes the analysis of waters, ores, minerals, and other naturally occurring materials, except soils (which are analyzed by the Experiment Station), portions of human bodies in cases of suspected poisoning, as provided for by law, and the analysis of home-mixed fertilizers. All the work of this Division is done free of charge.

MISCELLANEOUS PUBLIC SERVICE

Entomological and Pathological Inspection.—This work is carried on under the direction of the State Crop Pest Commission.

The State Entomologist is Prof. Franklin Sherman, Entomologist, and the State Pathologist is H. W. Barre, Director of Research.

The work of these officers consists in the control of contagious plant diseases and insect pests. Supervision of all nursery stock sold within the State is a duty of the Crop Pest Commission.

A permit tag issued by the State Crop Pest Commission should be attached to every package of nursery stock, seed or plants offered for sale or shipment for planting purposes.

State Vocational Agricultural Judging Contest.—Clemson in cooperation with the State Department of Education conducts annually a contest for students of vocational agriculture.

The nature of this contest is educational and many high school boys have an opportunity thereby of improving themselves in selecting better specimens of various agricultural products. The two schools ranking highest in the contest in 1928 were Pickens, and Pomaria. Capers Lewis of Pickens was awarded a prize as the highest individual contestant.

Textile Testing.—The textile department maintains a yarn testing service for the cotton mills of South Carolina.

Textile Research.—Clemson in cooperation with the Bureau of Agricultural Economics of the United States Department of Agriculture conducts manufacturing tests of grades, staples and varieties of cotton. Valuable reports based on this work are issued from time to time. Copies of the same may be had by addressing either the College or the Bureau of Agricultural Economics.

Service to Textile and Other Industrial Teachers.—The College in cooperation with the State Department of Education is glad to assist those who teach night schools by supplying a trained man to assist in the work of organizing classes, organizing courses of study, making plans for teaching evening classes, and actually teaching vocational subjects. Requests for information regarding this service should be addressed to Professor L. R. Booker, Itinerant Teacher Trainer, Industrial Education Division, Clemson College, S. C.

PART IX.—STUDENT REGISTER

THE CORPS OF CADETS 1929-1930

UNITED STATES ARMY PERSONNEL

Colonel Fred L. Munson	Infantry, (DOL)
Captain James E. Jeffres	Infantry, (DOL)
Captain Arthur W. Penrose	Infantry, (DOL)
1st Lieut. Philip H. Kron	Infantry, (DOL)
1st Lieut. Oscar R. Johnston	Infantry, (DOL)
1st Lieut. Frank T. Searcy	Infantry, (DOL)
Sergeant Gilbert E. Naramor	Detached Enlisted Men's List
Sergeant Roland K. Fowler	Detached Enlisted Men's List
Sergeant Harry W. Stacey	Detached Enlisted Men's List

CADET REGIMENTAL ORGANIZATION

Colonel F. B. Farr
Lieut. Colonel J. B. Bevill
Captain W. H. McLeod, Adjutant
Captain W. D. Craig, Intelligence Officer
Captain M. D. Ware, Plans & Training Officer
Captain H. W. Asbill, Supply Officer
Captain S. B. Earle, Chaplain
Master Sergeant J. S. Davis (Regimental Sergeant Major)
Master Sergeant J. A. Cook (Regimental Supply Sergeant)
Staff Sergeant J. W. Newman (Color Sergeant)
Staff Sergeant L. D. Swearingen (Color Sergeant)

BAND

Captain	R. G. Hodges
First Lieutenant (Executive Officer)	T. Baker
First Lieutenant	F. H. Hendrix
First Lieutenant	A. W. Meetze
First Lieutenant	W. C. Deadwyler
Second Lieutenant	F. M. Banister
Second Lieutenant	S. B. Harper
Second Lieutenant	F. Kellers
Second Lieutenant	J. O. Warren
Second Lieutenant	R. H. Young
Second Lieutenant	V. L. Wilson
First Sergeant	G. L. Dozier
Drum Major	H. T. Mahaffey
Sergeant	L. M. Wolff
Sergeant	J. L. Hart
Sergeant	C. Suber
Corporal	C. S. Bowman
Corporal	G. B. Deadwyler
Corporal	L. H. Mayfield
Corporal	T. G. Willis
Corporal	F. B. Reynolds
Corporal	J. B. Rhinehardt

DRUM AND BUGLE CORPS

Captain	J. B. Rodgers
First Lieutenant	J. H. Allison
Second Lieutenant	B. I. Wickliffe
First Sergeant	J. P. Hetrick
Sergeant	A. A. Webb
Corporal	W. B. Ingalls
Corporal	J. J. Cromer
Corporal	W. B. Martin

REGIMENTAL ORGANIZATION

FIRST BATTALION

Tactical Officer: 1st Lieut. P. H. Kron

Major H. W. Dorsett
 Adjutant 1st Lieut. J. R. Welch
 Sergeant Major Staff Sergeant F. B. Pollard

COMPANY "A" COMPANY "B" COMPANY "C" COMPANY "D"

Captains

Prim, J. M. Barnes, V. M. Geddings, M. T. Wannamaker, T. R.

First Lieutenants

Bostick, D. R. (*) Magill, R. V. (*) Bradley, W. T. (*) Wilson, J. A. (*)
 Coleman, W. N. Burdett, J. W. Gassaway, M. B. Hair, H. B.
 Hiller, B. K. Butler, J. J. Rush, F. S. Riley, E.

Second Lieutenants

Gassaway, J. L. Hunt, D. W. Graves, J. A. Gunnells, C.
 Sackman, G. W. Woodruff, R. C. Pruitt, T. W. Hane, W. W.

First Sergeant

McLaurin, H. M. Watson, N. E. Bennett, W. T. Bolen, G. C.

Sergeants

Adams, J. G. Bauknight, H. D. Bozeman, A. N. Cannon, F. W.
 Clement, R. W. Blake, L. D. Crymes, F. H. Caughman, G. W.
 Long, M. L. Hough, W. B. Day, W. G. Clayton, L. O.
 Owen, R. S. Mills, J. A. Epting, G. H. Ellis, T. E.
 Sowell, D. F. Pugh, G. J. Hudgens, J. D. Miller, E. N.
 Vallentine, R. A. Rose, B. S. Blakeney, W. C.

Corporals

Clerc, G. E. Bailey, J. H. Cave, P. H. Barnwell, J. G.
 Clark, H. M. Bellune, S. Cochran, F. D. Ballew, H. M.
 Cox, D. M. Bennett, O. L. Covington, C. F. Barton, W. S.
 Davis, J. K. Hutchison, W. Dodson, C. R. Davenport, P. J.
 Jordan, W. K. Jones, G. C. Griffith, H. D. DePass, W. B.
 Kelley, E. R. Littlejohn, T. F. Hughes, R. H. Elias, G. E.
 LaBruce, L. P. Pickens, B. R. Johnstone, F. E. Hill, F.
 McCollum, H. A. Sawyer, L. M. Hughston, P. D. Jackson, J. F.
 McCreight, D. W. Settle, H. G. Norris, P. T. Lee, G. W.
 McNinch, J. B. Webb, J. E. Pricher, O. E. Teague, A. S.
 Miller, C. H. Woodson, H. C. Sloan, H. M. Zeigler, A. K.
 Rogers, P. L.
 Siau, F. L.

(*) Indicates Company Executive.

SECOND BATTALION

Tactical Officer: First Lieut. O. R. Johnston

Major J. R. Chisholm
 Adjutant 1st Lieut. J. M. Lawton
 Sergeant Major Staff Sergeant J. F. Hallman

COMPANY "E" COMPANY "F" COMPANY "G" COMPANY "H"

Captains

Parham, H. C. Hewett, B. L. Clement, W. P. Josey, F. H.

First Lieutenants

Wilson, B. S. (*) McCarley, J. H. (*) DuRant, C. (*) Sadler, J. K. (*)
 Crowther, J. C. Hays, W. L. Plexico, M. E. Howard, R. S.
 Dobson, J. H. Snyder, W. C. Hope, T. A. Meares, G. C.

Second Lieutenants

Padgett, O. D. Jones, Robt. M. Hughes, W. F. Torchia, R. E.
 Willis, J. C. Mazyck, E. H. Neely, C. C. Yon, J. H.

First Sergeant

Lee, F. W. Coln, W. A. Dill, H. W. Taggart, C. L.

Sergeants

Crawford, A. R. Chapman, J. L. Hoffman, G. C. Evans, M. B.
 Dashiell, T. I. Cobb, D. J. Kitchens, C. W. Fagg, T. H.
 Hamer, R. P. Folk, H. D. Miller, C. T. Ferguson, J. G.
 Parkman, L. M. Hembree, E. E. Poag, J. R. Hicks, W. L.
 Ridlehuber, W. R. Jay, A. S. Rowell, J. O. Munn, S. B.
 Solomon, H. J. Mann, J. M. Watts, J. G.
 Grant, W. C.

Corporals

Blackwell, D. S. Briggman, G. H. Bowen, W. C. Clyde, T. J.
 Bridges, M. C. Dean, J. H. Chavous, G. W. Ellis, W. K.
 Culp, D. M. Green, O. H. Corley, F. W. Fischer, A. G.
 Harvley, H. C. Harrell, J. S. Dargan, J. P. Jones, W. H.
 Harvin, L. C. Horton, S. F. Gresham, M. L. Lemmon, C. C.
 Howle, E. S. Irby, F. L. Hills, J. T. Kennemur, D. H.
 Johnson, H. H. Newson, S. A. T. James, J. W. Mauldin, W. H.
 McDaniel, O. H. Pursley, W. E. Kearse, H. H. Patterson, E. R.
 Sartor, T. B. Whitlaw, N. O. Shippey, T. L. Ross, C. W.
 Sander, W. A. Talbert, J. W. Saylor, J. H.
 Todd, J. L. Smith, W. R.
 Wilson, F. E.

(*) Indicates Company Executive.

THIRD BATTALION .

Tactical Officer: First Lieut. F. T. Searcy

Major F. Y. Mercer
 Adjutant 1st Lieut. H. S. Tomlinson
 Sergeant Major Staff Sergeant W. C. Crain

COMPANY "I" COMPANY "K" COMPANY "L" COMPANY "M"

Captains

Schumacher, P. D. Robertson, E. H. Smyth, T. L. Smith, R. N.

First Lieutenants

Yarborough, J. H. (*) Wise, G. H. (*) Hudgens, J. A. (*) Zeigler, M. G. (*)
 Dantzler, J. L. Finn, P. S. Sease, J. C. McClure, P. J.
 Power, S. R. Riddle, E. E. Thomas, L. P. Moxon, J. G.

Second Lieutenants

Black, C. S. Clyburn, E. S. McFaddin, J. J. Foster, W. N.
 Swofford, R. P. McMillan, C. Stephens, W. A. Scurry, J. F.

First Sergeant

Gantt, W. D. Rentz, C. V. Dyess, A. J. Shields, W. A.

Sergeants

Anderson, T. P. Epting, E. E. Hendrix, L. E. Heyward, T. S.
 Hagood, G. B. Justus, J. H. McDowell, S. T. Martin, W. J.
 League, J. B. Kirchner, G. F. Ragsdale, C. H. Motes, P. M.
 Padgett, E. E. Lineberger, J. M. Rogers, D. H. Palmer, R. F.
 Seigler, N. P. McKerley, J. A. Sheheen, E. P. Stroud, E. W.
 Smith, H. C. Richardson, W. H. Thomas, C. H.

Corporals

Fisher, B. Bagnal, L. E. Bethea, V. L. Cannon, H. F.
 Fordham, A. D. Baker, Jno. E. Calhoun, P. N. Chapman, R. D.
 Gibson, H. H. Fridy, W. W. Howard, A. D. Montgomery, H. S.
 Goodwin, H. P. Fogle, H. W. Littlejohn, J. P. Moon, D. S.
 Harris, J. M. Hogarth, C. P. Mitchell, M. L. Orr, H. F.
 Jeter, D. G. Hook, F. W. Parkins, R. A. Stoudenmire, C. D.
 Johnstone, A. M. McCraw, L. C. Senn, F. O. Thames, W. M.
 Littlejohn, B. R. Roberts, F. T. Smith, J. K. Walker, J. B.
 Long, V. A. Stubbs, S. W. Suber, T. W. Wofford, W. L.
 Lofton, S. J. Williams, E. A. Dunlap, W. M.
 Smoak, J. J. Murray, J. G.
 Watson, S. D.

(*) Indicates Company Executive.

GRADUATES OF 1929

Class Officers

T. M. Clyburn	President	S. A. Harvin	Secretary-Treasurer
J. B. O'Dell	Vice President	D. B. Sherman	Historian

Architecture

Hubert Adams	Seneca	John Clifton Galloway	Lynchburg
Clarence Holland Albright	Greenville	Elmer Eugene Higgins	Easley
James Martin Caughman	Columbia	J. Franklin Kinsler	Central
Victor Lionel Cheek	Blacksburg	Wilton Earle Mays, Jr.	Easley
James H. Courtney	Aiken	William Hudgens Redfern	
James Edmund Ferguson	Clinton		Charlotte, N. C.
	Dallas Berry Sherman	Clemson College	

Arts and Science

Pierce David Bishop	Sedalia	Everette Vance Johnson	Arcadia
Joel Davis Blackwell	Mayesville	Edward Pollock Jordan	Rock Hill
Motte Ragin Daniel	Hartsville	Herman Frederick Patterson	Williamston
Claudius Wales Fike	Spartanburg	John Douglass Pitts	Rock Hill
Harold Heller	Seneca	Phillip Gendron Porcher, Jr.	Mt. Pleasant
George Marion Hope	Denmark	Claud Elbert Ray	Blackville
Guy Starr Hutchins	Spartanburg	Joseph Hayne Witherspoon	Mayesville

Agriculture—Agronomy Major

Huger Strickland Byrd	Hartsville	Fred Eugene Pearman	Anderson
Wallace Jefferson Camp	Gaffney	Robert Goodman Pridmore	Gaffney
Thomas Heath Copeland	Clinton	Hazel Lee Shands	Ebenezer
Septimus Augustus Harvin	Sumter	Samuel Vaude Stacy	Gaffney
William Oliver Lupo	Lake View	Marvin Brown Stevenson	Marion
Robert Olsen Miller	Jonesville	William Brown Stevenson	Richburg
Thomas Sterling Millford	Johnston	Gilbert Matthew Stone	Willington
James Borroughs O'Dell	Liberty	Thomas William Webb	Aiken
	Charles Reeder Workman, Jr.	Goldville	

Agriculture—Education Major

Harry Aubrey Chapman	Belton	James David O'Quinn	Williams
Wayland Boyce Craven	Gresham	George Forrest Powers	Marion
John Nathaniel Davis	Ware Shoals	William Harold Scott	Princeton
Joseph Marion Eaddy	Leo	Frank Smith	York
John Paul Hendrix	Duncan	Harold Aughtry Smith	Lexington
Francis Edward Kirkley	Kershaw	Clyde Weeks Stroman	Cameron
George Arthur Meares	Greenville	Robert Alton Taylor	Fountain Inn
Riley Franklin Nalley	Easley	Walter Larry Tuten	Early Branch

Agriculture—Animal Husbandry Major

Thomas Milburn Clyburn	Lancaster	Thomas Charles Miller	York
Ralph Jeffers	Holly Hill	Orin Kirkpatrick Pressley	Chester
Raiford Foster McMillan	Abbeville	Theo Mellichamp Reeves, Jr.	Cottageville
	Herman Malphus Tuten	Jacksonboro	

Agriculture—Chemistry Major

Hastings Wyman Jones	Aiken	Ralph Leslie Smith	York
James Robert McComb	Abbeville	Hubert Cooper Snowden	Hemingway

Agriculture—Dairy Husbandry Major

Roderick Glen Ayers -----	Tabor, N. C.	James Watson Guy -----	Chester
Robert Wells Dickson -----	Manning	Rufus Nathan McClain ----	Campobello

Agriculture—Entomology Major

Earle Cochran Murdoch ----	Antreville	Bailey Breazeale Pepper -----	Easley
Ernest Victor Welch -----	Holly Hill		

Agriculture—Horticulture Major

Claud McPherson Burdett-----	Simpsonville	Fredie Hoyt Duffie -----	Saluda
Samuel Dwight Cain, Jr. ----	Hampton	Paul Roe Gibbon -----	Great Falls
James Herbert Cochrane -----	Donalds	Joseph Franklin Hawkins----	Timmons ville
Coy Rockwell Cook -----	Fort Mill	John Mitchell Jenkins, Jr.---	Crowley, La.

Chemistry

Roy Robert Brannon -----	Ashburn, Ga.	George Moyer Dickinson, Jr. ---	Bamberg
William Porter Clyburn -----	Lancaster	William Newton Kline, Jr. ---	Savannah, Ga.
Barry Voltaire Cornwall -----	Alto, Ga.	Thomas Jefferson Mitchell-----	
		-----	New Orleans, La.

Civil Engineering

Joe Luke Adams -----	Meriwether	Robert Cecil Kirkland -----	Ehrhardt
George Thomas Andrews --	Fountain Inn	Jack Hard McCauley -----	Greenville
Julian Burrus Cato -----	Pageland	Jacob Harold Mayer -----	Hodges
Martin Gary Chitty -----	Norway	Henry Samuel Miller -----	Westminster
Forrest Ellison Clary -----	Gaffney	Ryan Dunneho Mitchell -----	Belton
Herbert Witherspoon Cunningham--		Mathias Bealy Richardson ----	Pendleton
-----	Bishopville	Swinton Hamilton Rodgers --	Walterboro
Guy Norman Davis -----	Centenary	Wilfred Patjens Tiencken --	Charleston
St. Clair Davis -----	Centenary	William Day Welch -----	Columbia
Butler Lafayette Edwards----	Fountain Inn	Carlton Terrence Wise --	North Augusta
Frank Pendleton Gaines ---	Westminster	Madison Howell Woodward ----	Barnwell
Charles Atkinson Jackson, Jr. ---	Horatio	William Jackson Wray -----	York
Edwin Gross Young -----	Rock Hill		

Electrical Engineering

Laird Anderson -----	Auburndale, Fla.	Lawrence Edward Marshall, Jr.---	Columbia
Charles Montgomery Bell -----	Chester	Charles Rosamand Martin ----	Greenville
James Franklin Callahan ----	Greenville	William Gordan Parrott, Jr. --	Bishopville
Richard Clyde Carter, Jr. -----	Cope	Hugh DeWitt Poe -----	Cheraw
Hoyt Coleman Causey ----	Tabor, N. C.	Wellon Thomas Rose -----	Sardinia
Henry Martin Killingsworth----	Barnwell	Louis Roth, Jr. -----	York
Frank Williams Lachicotte-----		Louis Frederick Sander -----	Charleston
-----	Charlotte, N. C.	James Dawson Sloan -----	Pendleton
Charles Sidney Lewis -----	Crowley, La.	Robert Carroll Stevenson ----	Winnsboro
Edward Martiu McDonald ----	Charleston	Fletcher Feenstra Tice -----	Rock Hill
John Ballard McLeod -----	Hartsville	Mitchell Albert Wackym -----	Columbia
Clay Randolph Mahaffey -----	Townville	William Parmelee West -----	Charleston

Electrical and Mechanical Engineering

Herbert Wells Hoefler -----	Columbia	Raymond Llewellyn Sweeny ---	Anderson
John Frank Williams, Jr. -----	Sumter		

Mechanical Engineering

Edgar Wilmot Blitch, Jr.-----	Paul Barr Leverette -----	Columbia
----- North Charleston	Ben Kennedy Thomson -----	Landrum
Dixie DeVaux Evans ----- Pamplico	Hamish Turner -----	Landrum
Robert Alexander Lawson --- Charleston	Murray Lee Williams -----	Swansea
David Lanier Wingo -----	Greenville	

Engineering—Industrial Education

Samuel Roy Boleman ----- Townville	James Whitworth Player -----	Elliott
George Pinckney Cobb ----- Easley	Samuel Edward Whitten -----	Pendleton
Louis Henderson Graham ----- Anderson	Milton Boyd Witherspoon -----	Sumter
Robert Mills Hall ----- Pendleton	Clifton Dukes Wright -----	Rock Hill

Textile Engineering

Herman Samuel Barber ----- Clifton	Grady Edward Faulkenberry---Rock Hill
Clarence Russell Barton ----- Anderson	Joel Willard Gray, Jr. ----- Darlington
Carvel Reid Blakeney ----- Lancaster	Joseph Gladney Shedd ----- Monticello
Thomas Earl Dill ----- Greenville	Ross McKnight Stribling-----
	-----Rockingham, N. C.

Textile Industrial Education

James Leander Adams, Jr.-----Rock Hill	Cecil Jerome King ----- Sumter
John Marshall Blackman ----- Pendleton	Ira Stonwall Pitts ----- Westminster
Mell Duggan Eadie ----- Brunswick, Ga.	Thomas Pinckney Townsend--Bennettsville
Walter DuRelle Vincent ----	Orangeburg

THIRTY-THIRD COMMENCEMENT JUNE, 1929

Baccalaureate Sermon

DR. W. A. LAMBETH, Washington, D. C.

Address to the Graduating Class

DR. W. L. POTEAT, President Emeritus,
Wake Forest College, Wake Forest, N. C.

Alumni Speaker

ARNOLD BOYD, '14

*DEGREES CONFERRED SINCE JUNE, 1929, AND PRIOR TO
FEBRUARY, 1930*

Agriculture—Agronomy Major

Herbert Larkin Davis Inman

Agriculture—Animal Husbandry Major

Floyd Fuller Hendrix Greenville

Agriculture—Education Major

Rufus Clifton Alexander Calhoun

Agriculture—Horticulture Major

William Webber Player Elliott

Agriculture

Joseph Clyde McComb Troy

James Blair McCrorey Richburg

Arts and Science

Ben A. Knopf Fairfax

John Irby Rogers, Jr. Bennettsville

Joseph Bletcher Woodham Bishopville

Civil Engineering

Thomas Russell McAbee Inman

James Joseph McLeskey, Jr. Westminster

Engineering Industrial Education

Thomas Carson Anderson Ninety Six

Ernest Leo Epting Peak

Electrical Engineering

Cecil Mack Truluck Motbridge

Mechanical Engineering

George Lee Mikell Edisto Island

OTHER DEGREES AWARDED JUNE 4, 1929

Bachelor of Science—Arts and Science

Dr. A. S. Pearson Woodruff, S. C.

Dr. A. M. Shelamer Greenwood, S. C.

Dr. J. M. van de Erve Charleston, S. C.

J. W. von Hasseln Anderson, S. C.

STUDENT REGISTER

The names are arranged in alphabetical order, and following the names are symbols indicating classes and courses. The numerals preceding the course symbols refer to classes, viz.: 1, Freshman; 2, Sophomore; 3, Junior; 4, Senior (Classified as of first semester. See page 42). A—Agriculture (numeral following A indicates major course for seniors): 1 Agronomy; 2 Animal Husbandry; 3 Agricultural Chemistry; 4 Dairy Husbandry; 5 Agricultural Economics; 6 Agricultural Education; 7 Horticulture; 8 Zoology and Entomology. A&S—Arts and Science. Ar—Architecture. C—Chemistry. E—Engineering (all engineering freshmen, electrical and mechanical sophomore and junior classes). CE—Civil Engineering. EE—Electrical Engineering. ME—Mechanical Engineering. T—Textile. TC—Textile Chemistry. TIE—Textile Industrial Education. EIE—Engineering Industrial Education. S—Special.

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Abernathy, W. C. (1 CE)	Chester	Fort Lawn
Able, E. W. (3 A)	Saluda	Saluda
Abrams, Cecil (1 E)	Newberry	Newberry
Abrams, E. C. (1 E)	Newberry	Newberry
Ackerman, W. E. (1 A)	Colleton	White Hall
Adair, J. R. (2 A)	Laurens	Laurens
Adams, C. W. (1 E)	Oconee	Seneca
Adams, E. J. (1 T)		Birmingham, Ala.
Adams, G. G. (3 CE)	Lexington	Batesburg
Adams, J. G. (3 A&S)	York	Rock Hill
Adams, R. J. (2 T)	Marlboro	McColl
Adams, W. C. (1 T)	York	Rock Hill
Alford, J. C. (2 EE)	Lexington	Batesburg
Allen, C. C. (2 CE)	Clarendon	Summerton
Allen, J. R. (2 E)	Williamsburg	Kingstree
Allgood, B. A. (1 A)	Pickens	Central
Allison, J. H. (4 Ar)	Greenville	Greenville
Allison, L. M. (3 ME)	Richland	Columbia
Amick, W. O. (1 E)	Newberry	Prosperity
Anderson, G. R. (1 A&S)	Florence	Lake City
Anderson, H. D. (1 A)	Florence	Coward
Anderson, J. B. (3 EE)	Marlboro	Bennettsville
Anderson, T. P. (3 CE)	Oconee	Seneca
Anthony, J. H. (1 E)	Cherokee	Gaffney
Armstrong, E. S. (2 E)	York	Fort Mill
Armstrong, W. R. (1 A)	Anderson	Honea Path
Arrington, C. A. (1 E)	Greenwood	Kirksey
Arrington, W. S. (1 T)	Greenwood	Kirksey
Arthur, C. G. (2 CE)		Richmond, Va.
Asbill, H. W. (4 CE)	Richland	Columbia
Ashmore, W. G. (1 T)	Greenville	Greenville
Askins, J. H. (4 TIE)	Florence	Lake City
Atkinson, E. W. (2 E)	Orangeburg	Orangeburg
Atkinson, J. R. (4 EIE)	Sumter	Hagood
Attaway, J. C. (4 TC)	Dillon	Lake View
Aull, L. E. (3 A)	Newberry	Pomaria
Austin, S. L. (1 E)	Greenville	Greenville

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Babb, W. C. (1 A)	Anderson	Anderson
Baer, C. L. H. (1 E)	Spartanburg	Spartanburg
Bagnal, J. G. (1 E)	Sumter	Sumter
Bagwell, L. E. (2 T)	Laurens	Laurens
Bailey, J. H. (2 C)	Dillon	Lake View
Bailey, R. W. (1 A)	Spartanburg	Wellford
Bailey, T. M. (1 E)	Greenville	Greer
Baker, A. T. (1 E)	Marion	Marion
Baker, J. E. (2 TC)	Williamsburg	Cades
Baker, J. E. (1 A)	Kershaw	Bethune
Baker, T. (4 T)	Lancaster	Lancaster
Ballentine, J. M. (1 T)	Anderson	Anderson
Ballentine, L. W. (1 A)	Dorchester	Summerville
Ballentine, R. H. (1 A)	Richland	Ballentine
Ballew, H. M. (2 T)	Greenville	Greenville
Banc, P. W. (1 E)	Marion	Mullins
Banister, C. L. (1 E)	Chester	Chester
Banister, F. M. (4 A&S)	Greenwood	Greenwood
Barbare, L. J. (1 T)	Greenville	Greenville
Barber, J. C. (2 A)	Chester	Chester
Barfield, W. J. (3 TIE)	Bamberg	Denmark
Barnes, V. M. (3 A&S)	Anderson	Anderson
Barnes, W. C. (4 A7)	Hampton	Brunson
Barnwell, J. G. (2 T)	Newberry	Whitmire
Barnwell, W. M. (3 EE)	Charleston	Yonges Island
Barre, C. B. (2 A&S)	Pickens	Clemson College
Barton, P. S. (1 E)	Oconee	Westminster
Barton, W. S. (2 E)	Orangeburg	Orangeburg
Bates, H. C. (3 T)	Greenville	Marietta
Bauknight, H. D. (3 CE)	Richland	Columbia
Beach, A. W. (2 EIE)	Colleton	Walterboro
Bearden, F. E. (1 Ar)	Spartanburg	Spartanburg
Beckham, H. B. (1 E)	Lancaster	Lancaster
Beckham, H. J. (2 E)	Lancaster	Lancaster
Belcher, W. E. (2 A)	Anderson	Iva
Bell, R. L. (1 E) .....	.....	Gastonia, N. C.
Bellamy, R. L. (1 E)	Horry	Loris
Bellunc, S. (2 E)	Georgetown	Andrews
Bennett, O. L. (2 T)	Spartanburg	Spartanburg
Bennett, W. T. (3 EIE)	Bamberg	Olar
Berry, C. C. (1E)	Orangeburg	Orangeburg
Best, W. E. (1 E)	Lexington	Pelion
Bethea, H. M. (1 E)	Dillon	Dillon
Bethea, V. L. (2 E)	Marlboro	McColl
Bevill, J. B. (4 EE)	Anderson	Anderson
Bickley, V. L. (2 A&S)	Lexington	Chapin
Bigger, E. W. (1 A)	York	York
Bishop, J. K. (1 A)	Orangeburg	Cordova
Black, C. S. (3 EE)	Anderson	Honea Path
Black, E. O. (2 EE)	Richland	Columbia
Black, G. A. (3 ME)	Laurens	Clinton
Black, L. C. (2 EE)	Barnwell	Barnwell
Black, O. W. (2 A)	Saluda	Batesburg
Black, R. E. (3 T)	Newberry	Prosperity
Black, R. L. (1 A)	Anderson	Honea Path
Black, W. C. (1 A)	Anderson	Honea Path

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Blackman, S. M. (2 E)	Anderson	Pendleton
Blackwell, D. S. (2 A)	Sumter	Sumter
Blackwell, J. L. (1 A)	Chesterfield	Jefferson
Blake, L. D. (2 A)	Anderson	Belton
Blakely, M. Y. (1 E)	Laurens	Ora
Blakeney, W. C. (3 T)	Lancaster	Lancaster
Bobb, M. L. (1 A)	Newberry	Pomaria
Bodiford, H. O. (EIE)	Barnwell	Blackville
Boggs, H. O. (1 A&S)	Pickens	Calhoun
Bolen, G. C. (3 EE)	Orangeburg	Rowesville
Bonnette, C. H. (1 A)	Orangeburg	Orangeburg
Booth, H. C. (3 ME)	Sumter	Sumter
Booth, P. M. (2 A)	Horry	Aynor
Booth, S. H. (2 A&S)	Greenville	Fountain Inn
Boroughs, P. C. (2 A&S)	Pickens	Norris
Boseman, R. C. (1 E)	Darlington	Darlington
Bostick, D. R. (4 EE)	Beaufort	Beaufort
Bouknight, F. C. (4 A4)	Richland	Irmo
Bouknight, M. A. (1 E)	Richland	Irmo
Boulware, J. H. (2 A)	Newberry	Newberry
Bowen, E. H. (1 CE)	Pickens	Liberty
Bowen, T. O. (1 A)	Pickens	Pickens
Bowen, W. C. (2 A)	Pickens	Pickens
Bowles, M. G. (3 EIE)	Greenwood	Greenwood
Bowles, W. A. (1 E)	Richland	Columbia
Bowman, C. S. (2 T)		Montgomery, Ala.
Boyd, H. L. (4 Ar)	Laurens	Clinton
Boyd, J. R. (1 T)		Columbus, Ga.
Boynton, J. D. (2 A)	Colleton	White Hall
Boseman, A. N. (3 T)	Greenville	Greenville
Bradley, W. T. (4 EE)	Abbeville	Abbeville
Bramlett, J. I. (2 A)	Greenville	Tailors
Breazeale, J. M. (4 A1)	Anderson	Belton
Breedlove, W. (3 CE)	Pickens	Six Mile
Bridges, M. C. (2 TC)	Greenville	Greenville
Briggman, T. E. (1 A&S)	Orangeburg	Orangeburg
Brigman, G. H. (1 E)	Lancaster	Lancaster
Broadway, G. L. (1 A)	Sumter	Sumter
Brock, A. J. (1 E)	Anderson	Honea Path
Brown, A. E. (2 A)	Union	Jonesville
Brown, C. S. (1 C)	Greenville	Greenville
Brown, J. W. (1 E)	Union	Jonesville
Brown, R. L. (1 A)	Florence	Hyman
Brunson, J. B. (1 E)	Allendale	Fairfax
Bryson, G. T. (3 T)	Laurens	Ora
Buffkin, M. R. (4 A4)	Marion	Mullins
Bunch, A. W. (1 E)	Marlboro	McColl
Burdette, J. W. (4 A1)	Greenville	Simpsonville
Burgess, E. A. (1 A)	Anderson	Belton
Burgess, E. F. (2 A)	Anderson	Belton
Burgess, W. A. (1 T)	Anderson	Belton
Burnes, C. F. (1 T)	Richland	Columbia
Burns, F. A. (2 A)	York	Smyrna
Bush, A. J. (1 T)	Spartanburg	Spartanburg
Butler, J. J. (4 EE)	Greenville	Greenville
Byrd, B. W. (2 A)	Darlington	Hartsville

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Byrd, C. F. (1 A&S)	Edgefield	Edgefield
Byrd, E. C. (4 EE)	Orangeburg	Branchville
Byrd, H. L. (1 E)	Georgetown	Georgetown
Byrd, H. P. (4 EIE)	Georgetown	Georgetown
Byrd, H. P. (2 A)	Darlington	Society Hill
Byrd, W. A. (2 C)	Edgefield	Edgefield
Caldwell, J. L. (3 TIE)	Spartanburg	Drayton
Caldwell, P. C. (2 Ar)	Spartanburg	Spartanburg
Caldwell, W. K. (1 E)	Dillon	Dillon
Calhoun, A. M. (1 A)	Marlboro	Clio
Calhoun, P. N. (2 CE) .....	.....	Columbus, Ga.
Camp, M. J. (2 A)	Cherokee	Gaffney
Campbell, J. A. (1 E)	Anderson	Williamston
Campbell, W. G. (1 A)	York	Tirzah
Campbell, W. M. (2 A&S)	York	Tirzah
Campell, L. (1 C)	Greenville	Greenville
Cannon, F. W. (3 A)	Anderson	Honea Path
Cannon, H. F. (2 A)	Anderson	Honea Path
Cantrell, J. W. (2 E)	Pickens	Pickens
Carpenter, J. L. (1 T)	Aiken	Graniteville
Carpenter, J. S. (4 TIE)	Spartanburg	Landrum
Carter, C. W. (2 E)	Oconee	Walhalla
Carter, D. C. (4 C)	Laurens	Clinton
Carter, H. M. (3 A)	Colleton	Smoaks
Carter, J. (4 A7)	Colleton	Lodge
Carter, J. E. (1 A&S)	Colleton	Smoaks
Carter, W. J. (2 A)	Darlington	Lamar
Casey, R. B. (2 A)	Anderson	Anderson
Castillo, R. E. (1 E) .....	.....	Brooklyn, N. Y.
Cathcart, J. M. (2 T)	Anderson	Anderson
Caughman, G. D. (2 E)	Lexington	Lexington
Caughman, G. W. (2 A)	Lexington	Lexington
Caughman, J. S. (2 E)	Lexington	Lexington
Caughman, M. W. (3 EE)	Lexington	Lexington
Causey, R. F. (2 E)	Hampton	Hampton
Cave, P. H. (1 A)	Bamberg	Olar
Chachere, L. E. (1 A&S)	Anderson	Anderson
Chalmers, T. C. (2 T)	Newberry	Newberry
Chamblee, J. C. (2 A)	Anderson	Anderson
Chamblee, L. C. (4 CE)	Anderson	Anderson
Chapman, J. E. (1 E)	Anderson	Anderson
Chapman, J. L. (3 EE)	York	Rock Hill
Chapman, R. D. (2 C)	Anderson	Anderson
Chapman, V. G. (1 C)	Anderson	Anderson
Chappell, P. B. (1 E)	Lee	Bishopville
Chastain, P. G. (1 A)	Greenville	Taylors
Chavous, G. W. (2 A)	Allendale	Allendale
Cheatham, C. H. (1 A)	Florence	Coward
Childers, J. C. (3 T)	Greenville	Greenville
Childress, G. M. (3 TIE)	Greenville	Taylors
Childress, L. E. (2 A)	Greenville	Taylors
Chisholm, J. R. (4 A&S)	Hampton	Garnett
Chumley, C. A. (3 T)	Laurens	Laurens
Clark, H. M. (2 C)	Greenwood	Ware Shoals
Clarkson, C. A. (1 E)	Richland	Hopkins

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Clarkson, R. J. (1 T)	Kershaw	Boykin
Clary, J. E. (1 A&S)	Richland	Columbia
Clayton, H. A. (2 E)	Pickens	Liberty
Clayton, J. M. H. (4 A6)	Pickens	Liberty
Clayton, L. O. (3 A)	Pickens	Pickens
Clement, R. W. (2 EE)	Anderson	Honea Path
Clement, W. P. (4 T)	Spartanburg	Spartanburg
Clerc, G. E. (2 A)	Georgetown	Georgetown
Clifton, F. T. (1 A)	Florence	Florence
Clinton, T. F. (3 A)	York	Edgemoor
Clippard, J. H. (4 EIE)	Spartanburg	Spartanburg
Cloaninger, B. D. (2 A)	Richland	Lykesland
Cloaninger, C. E. (3 A)	Richland	Lykesland
Clyburn, E. S. (4 CE)	Lancaster	Lancaster
Clyde, T. J. (2 A)	Georgetown	Georgetown
Cobb, D. J. (3 EIE)	Richland	Columbia
Cochran, F. D. (2 A)	Greenwood	Donalds
Cochran, J. W. (4 A5)	Clarendon	Manning
Cochran, J. W. (3 EIE)	Oconee	Seneca
Coggins, A. B. (2 E)	Spartanburg	Spartanburg
Coggins, V. R. (1 A)	Spartanburg	Spartanburg
Cohen, J. J. (3 Ar) .....	.....	Augusta, Ga.
Coleman, B. E. (1 T)	Newberry	Silverstreet
Coleman, F. H. (3 EE)	Laurens	Laurens
Coleman, J. R. (1 E)	Florence	Hyman
Coleman, W. N. (4 EE) .....	.....	Anniston, Ala.
Collins, A. (1 A)	Horry	Conway
Collins, J. W. (2 E)	Bamberg	Denmark
Coln, W. A. (2 A)	Chester	Chester
Colvin, H. O. (1 T)	Darlington	Darlington
Comer, R. F. (4 T)	Union	Kelton
Compton, J. B. (1 E)	Union	Union
Connelly, H. P. (2 A&S)	York	Rock Hill
Constan, G. N. (1 C)	Richland	Columbia
Cook, G. H. (2 E) .....	.....	Brunswick, Ga.
Cook, J. A. (3 T) .....	.....	Augusta, Ga.
Cooper, F. R. (1 T)	Greenville	Greenville
Copeland, E. B. (1 A)	Laurens	Clinton
Corley, C. E. (3 CE)	Lexington	Lexington
Corley, F. W. (2 A)	McCormick	McCormick
Corne, T. P. (1 A)	Spartanburg	Duncan
Cothran, C. L. (1 A)	Anderson	Honea Path
Courtenay, C. (2 E)	Richland	Columbia
Covington, C. F. (2 EE)	Spartanburg	Spartanburg
Coward, H. C. (2 A)	Aiken	Aiken
Cox, D. M. (2 A)	Williamsburg	Cades
Cox, L. H. (1 E)	Anderson	Belton
Cox, R. C. (4 A6)	Spartanburg	Woodruff
Craft, V. E. (2 CE)	Lexington	Swansea
Craig, J. (1 C)	Pickens	Central
Craig, W. D. (4 EE)	Lancaster	Lancaster
Cranford, M. R. (1 T) .....	.....	Kings Mountain, N. C.
Crain, W. C. (3 T)	Spartanburg	Spartanburg
Crawford, A. R. (3 A&S)	Saluda	Saluda
Crawford, A. W. (4 A8)	Pickens	Calhoun
Crawford, B. H. (3 T)	Union	Union

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Crawford, W. S. (4 A4)	Pickens	Clemson College
Crews, J. F. (2 E)	Hampton	Hampton
Cromer, J. J. (2 A&S)	Oconee	Seneca
Crook, E. J. (1 A)	York	Fort Mill
Crouch, R. H. (2 A)	Saluda	Saluda
Crouch, W. M. (3 A&S)	Saluda	Saluda
Crout, W. H. (3 T)	Lexington	Edmund
Crow, E. E. (1 A)	Spartanburg	Fairforest
Crowther, J. C. (3 A7)	Anderson	Anderson
Crutchfield, C. E. (3 CE)	Orangeburg	Orangeburg
Crutchfield, G. F. (1 A)	Orangeburg	Orangeburg
Crymes, F. H. (3 C)	Greenwood	Greenwood
Culler, R. P. (1 E)	Orangeburg	North
Cullum, H. M. (1 E)	Greenwood	Greenwood
Culp, D. M. (2 E)	Union	Union
Culp, W. R. (1 A)	Spartanburg	Inman
Cureton, J. L. (1 E)		Greenville, Ala.
Curry, G. R. (2 A)	Laurens	Gray Court
Cuttino, T. E. (2 E)	Sumter	Sumter
Dantzler, J. L. (4 Ar)	Barnwell	Elko
Dantzler, W. D. (1 A)	Orangeburg	Vance
Dargan, H. G. (1 A)	Darlington	Darlington
Dargan, J. P. (2 A)	Darlington	Darlington
Dashiell, T. I. (3 T)	Greenville	Greenville
Davenport, P. J. (1 E)		Augusta, Ga.
David, A. J. (3 EE)	Marlboro	Bennettsville
Davis, B. W. (3 ME)	Charleston	Martins Point
Davis, C. A. (2 E)	Greenwood	Greenwood
Davis, D. P. (2 TC)	Chester	Chester
Davis, E. B. (1 T)		Buchanan, Ga.
Davis, G. W. (1 A)	Pickens	Dacusville
Davis, J. H. (1 A)	Greenville	Greenville
Davis, J. K. (1 T)		Gastonia, N. C.
Davis, J. M. (2 E)	Lancaster	Lancaster
Davis, J. S. (2 CE)		Anniston, Ala.
Davis, J. W. (1 A)		Smyrna, Ga.
Davis, T. B. (3 ME)	Darlington	Darlington
Davis, T. C. (4 A&S)		Shelby, N. C.
Dawsey, C. B. (1 E)	Horry	Conway
Day, W. G. (3 T)	Spartanburg	Cowpens
Deadwyler, G. B. (2 TC)	Greenwood	Greenwood
Deadwyler, W. C. (4 EIE)	Greenwood	Greenwood
Dean, J. H. (2 A)	Newberry	Newberry
Deason, S. K. (1 E)	Barnwell	Barnwell
Decker, J. B. (1 E)		Cumberland, Md.
Delk, L. (2 TC)	Greenville	Greenville
DeMers, C. J. (2 E)	Sumter	Sumter
DePass, W. B. (2 E)	Darlington	Darlington
DeVane, E. P. (1 E)	Horry	Loris
Dickson, W. W. (1 E)	Clarendon	Manning
Dill, H. W. (3 A)	Greenville	Taylors
Dobson, J. H. (4 CE)	Lancaster	Lancaster
Dodson, C. R. (2 E)		Wallburg, N. C.
Dominick, C. B. (1 A)	Greenwood	Greenwood
Dorn, G. B. (1 T)	Greenwood	Greenwood

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Dorsett, H. W. (4 EE)	Saluda	Ridge Spring
Douglass, G. A. (3 EE)	Abbeville	Abbeville
Dove, J. C. (2 T)	Williamsburg	Kingstree
Dowdle, H. J. (3 A)	York	Hickory Grove
Dowdle, L. T. (1 A)	York	Hickory Grove
Dozier, G. L. (3 TC)	Spartanburg	Spartanburg
Dozier, H. L. (2 T)		LaGrange, Ga.
Drake, W. S. (4 T)	Anderson	Honea Path
Drennan, L. W. (2 A)	McCormick	McCormick
Drummond, L. J. (3 EIE)	Greenville	Fountain Inn
Dukes, V. (4 A&S)	Orangeburg	Branchville
Duncan, W. (2 A)	York	Sharon
Dunlap, W. M. (1 E)	York	Rock Hill
Dunn, W. E. (1 E)	Newberry	Newberry
DuPre, E. C. (4 CE)	Richland	Columbia
DuRant, C. (3 EE)	Clarendon	Manning
DuRant, W. E. (1 Ar)	Sumter	Sumter
Durst, G. G. (4 A3)	Greenwood	Greenwood
Durst, J. K. (2 Ar)	Greenwood	Greenwood
Dyess, A. J. (2 Ar)	Aiken	North Augusta
Earle, E. P. (3 A&S)	Pickens	Clemson College
Earle, S. B. (4 Ar)	Oconee	Clemson College
Earnhardt, C. F. (1 E)	Spartanburg	Spartanburg
Edwards, G. L. (3 EIE)	Darlington	Hartsville
Edwards, R. C. (1 T)	Laurens	Fountain Inn
Eison, J. A. (1 E)	Union	Jonesville
Elias, G. E. (2 E)	Spartanburg	Spartanburg
Ellerbe, C. M. (1 T)	Darlington	Darlington
Ellerbe, S. E. (1 E)	Dorchester	Summerville
Elliott, J. B. (1 E)	York	Fort Mill
Elliott, R. V. (2 E)	Clarendon	Summerton
Ellis, J. T. (4 Ar)	Spartanburg	Woodruff
Ellis, T. E. (2 A)	Abbeville	Due West
Ellis, W. K. (2 A&S)	Greenwood	Greenwood
Entrekin, W. G. (2 A)	Pickens	Central
Epps, J. W. (2 A)	Dillon	Latta
Epting, E. E. (3 A)	Newberry	Little Mountain
Epting, G. H. (3 EE)	Newberry	Newberry
Ergle, A. R. (1 A)	Aiken	Ridge Spring
Ervin, H. E. (1 T)	Spartanburg	Spartanburg
Estes, W. M. (3 EE&ME)	Fairfield	Winnsboro
Evans, M. B. (3 A&S)	Beaufort	Beaufort
Ezell, W. W. (1 A)	Spartanburg	Spartanburg
Fagan, J. E. (2 A)	Spartanburg	Campobello
Fagg, T. H. (2 A)	Anderson	Anderson
Farish, C. A. (2 E)	Cherokee	Gaffney
Farr, F. B. (4 A&S)		Brunswick, Ga.
Fellers, H. N. (3 EE)	Newberry	Chappells
Ferguson, H. M. (1 E)	York	York
Ferguson, J. G. (3 ME)	York	York
Finley, W. H. (3 A)	Laurens	Ware Shoals
Finn, P. S. (4 CE)	Sumter	Sumter
Fischer, B. (2 CE)	Beaufort	Beaufort
Fischer, A. G. (2 E)	Richland	Columbia
Flagg, N. B. (1 Ar)		Lake Wales, Fla.

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Fleming, V. R. (1 A)	Laurens	Lanford
Fleming, W. H. (2 A)	Laurens	Lanford
Floyd, C. (1 E)	Greenville	Taylor
Fogle, G. E. (1 T)	Orangeburg	Orangeburg
Fogle, H. W. (2 TC)	Bamberg	Denmark
Folk, H. D. (3 A&S)	Orangeburg	Holly Hill
Folsom, W. F. (1 A&S)	Darlington	Hartsville
Forb, N. J. (1 E)	Saluda	Saluda
Fordham, A. D. (2 T)	Beaufort	Beaufort
Forrest, B. H. (2 A)	Saluda	Ward
Foster, J. L. O. (1 E)	Spartanburg	Chesnee
Foster, L. W. (2 E)	Spartanburg	Spartanburg
Foster, W. M. (4 EE)	Spartanburg	Chesnee
Fraser, B. P. (4 ME&EE)	Georgetown	Georgetown
Fowler, S. R. (1 A)	Union	Kelton
Free, D. A. (1 A)	Union	Jonesville
Freeman, B. (4 A8)	Pickens	Clemson College
Frey, G. N. (1 A)	Spartanburg	Fairforest
Friday, W. W. (2 TC)	Greenwood	Greenwood
Fulmer, J. L. (1 A)	Newberry	Prosperity
Furman, A. G. (1 E)	Greenville	Greenville
Gaines, L. C. (1 E)	Anderson	Anderson
Gallman, R. (1 A)	Union	Union
Galphin, S. P. (1 A)	Orangeburg	Holly Hill
Gantt, R. L. (2 TC)	Pickens	Liberty
Gantt, W. D. (3 CE)	Pickens	Pickens
Garrett, R. (2 E)	Laurens	Lanford Station
Garrison, O. B. (1 A)	Bamberg	Denmark
Garrison, P. H. (1 A)	Oconee	Seneca
Gassaway, J. L. (4 A2)	Anderson	Anderson
Gassaway, M. B. (4 A3)	Anderson	Honea Path
Gaston, W. L. (1 T)	Laurens	Laurens
Geddings, M. T. (4 ME&EE)	Sumter	Wedgefield
George, J. D. (1 E)	Spartanburg	Clifton
George, L. B. (1 T)	Dillon	Latta
George, R. H. (3 CE)	Lexington	Lexington
Geraty, J. R. (2 E)	Charleston	Yonges Island
Gettys, J. L. (2 A)	Kershaw	Lugoff
Gettys, T. S. (1 T)	York	Rock Hill
Gibson, H. H. (2 T)	Spartanburg	Fairmont
Gibson, J. D. (2 ME)	Greenville	Greenville
Gilchrist, W. B. (1 E)	Bamberg	Bamberg
Giles, H. M. (1 A)	Oconee	Townville
Gilland, W. F. (2 E)	Williamsburg	Kingstree
Gilreath, J. H. (1 A)	Greenville	Travelers Rest
Gilreath, R. L. (1 T)	Greenville	Greenville
Gist, W. H. (1 E)	Union	Carlisle
Glenn, N. B. (1 T)	Anderson	Anderson
Glymph, L. M. (1 E)	Oconee	Westminster
Goff, A. T. (3 T)	Lexington	Leesville
Goff, J. T. (1 E)	Saluda	Saluda
Goldsmith, G. W. (3 CE)	Greenville	Piedmont
Goodwin, H. P. (2 T)	Union	Union
Gore, W. E. (1 A)	Horry	Loris
Graham, W. S. (1 A)	Horry	Loris

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Grainger, A. D. (3 A)	Horry	Loris
Gramling, O. S. (1 A)	Orangeburg	Orangeburg
Grant, W. C. (3 ME)	Chester	Chester
Graves, J. A. (4 EE)	Abbeville	Abbeville
Graves, J. H. (2 ME)	Abbeville	Abbeville
Green, C. G. (2 A)	Oconee	Salem
Green, J. L. (3 C)	Anderson	Anderson
Green, O. H. (2 A)	Spartanburg	Spartanburg
Greer, L. E. (1 E)	Greenville	Greenville
Greshman, M. L. (2 A)	Greenville	Simpsonville
Griffin, H. D. (2 T)	Richland	Columbia
Griffith, T. H. (3 EE)	Orangeburg	Cope
Grimsley, C. L. (3 A&S)	Marion	Mullins
Gunnells, C. (4 A4)	Bamberg	Olar
Gunter, R. E. (2 A)	Aiken	Wagner
Guy, J. L. (3 T)	Richland	Columbia
Guy, R. C. (1 A)	Chester	Chester
Guyton, J. M. (1 A&S)	Anderson	Williamson
Guyton, S. D. (1 Ar)	Williamsburg	Kingstree
Hagood, G. B. (3 EE)	Fairfield	Winnsboro
Haile, F. L. (2 E)	Union	Union
Haile, J. (1 E)	Lancaster	Heath Springs
Hair, H. B. (4 A&S)	Calhoun	North
Hall, M. L. (2 T)	Dillon	Dillon
Hallman, C. W. (1 A)	Lexington	Batesburg
Hallman, J. F. (2 TC)	Union	Lockhart
Halsey, M. B. (2 Ar)	Charleston	Charleston
Ham, T. H. (3 T)	Darlington	Darlington
Hambright, F. R. (1 A&S)		Grover, N. C.
Hamer, R. P. (2 EE)	Florence	Timmons ville
Hamilton, A. R. (1 T)	Pickens	Easley
Hamilton, J. M. (4 CE)	Aiken	Graniteville
Hamilton, T. (1 A&S)		Clearwater, Fla.
Hane, J. K. (1 A)	Calhoun	Fort Motte
Hane, W. W. (3 A&S)	Calhoun	Fort Motte
Hanes, R. A. (4 A5)	Dillon	Dillon
Hardy, C. B. (2 A)	Union	Jonesville
Harley, F. L. (1 T)	Orangeburg	Jamison
Harper, S. B. (4 EE)	Anderson	Anderson
Harrell, C. W. (3 CE)	Richland	Columbia
Harrell, D. C. (2 A)	Florence	Effingham
Harrell, J. S. (1 E)	Charleston	Fort Moultrie
Harrelson, D. A. (1 E)	Horry	Loris
Harrelson, R. (2 E)	Horry	Tabor
Harris, J. M. (2 T)	Anderson	Anderson
Hart, J. L. (3 ME)	Spartanburg	Spartanburg
Hart, W. L. (1 A)	Greenville	Simpsonville
Harvin, L. C. (1 A)	Clarendon	Manning
Harvley, H. C. (2 T)	Greenville	Greenville
Hawkins, A. H. (1 A)	Greenville	Travelers Rest
Hawkins, C. A. (1 A)	Greenville	Greenville
Hayes, R. A. (3 T)	Anderson	Anderson
Hays, G. L. (1 CE)	Anderson	Starr
Hays, W. L. (3 A&S)	Anderson	Starr
Hearn, H. R. (3 Ar)	Greenville	Greenville

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Heinemann, J. C. (1 E)	Bamberg	Denmark
Hembree, E. E. (3 EE)	Charleston	Ravenel
Henderson, T. W. (3 ME)	Greenwood	Ninety Six
Hendricks, L. E. (3 A)	Pickens	Easley
Hendrix, F. F. (4 A2)	Greenville	Greenville
Hendrix, F. H. (4 A1)	Lexington	Leesville
Hendrix, H. B. (3 A2)	Lexington	Lexington
Herbert, J. T. (1 T)	Saluda	Saluda
Herlong, H. M. (3 A&S)	Edgefield	Johnston
Herlong, J. P. (1 A)	Edgefield	Johnston
Herndon, G. B. (2 A&S)	Colleton	Walterboro
Hetrick, J. P. (2 CE)	Philadelphia, Pa.	
Heustess, J. H. (4 A4)	Darlington	Hartsville
Hewer, W. F. (4 A4)	Pickens	Clemson College
Hewitt, B. L. (4 A2)	Darlington	Darlington
Hewitt, T. H. (1 E)	Florence	Florence
Heyward, T. S. (2 EIE)	Lexington	Batesburg
Hicks, H. B. (1 E)	Spartanburg	Chesnee
Hicks, J. A. (4 CE)	Darlington	Hartsville
Hicks, W. L. (3 TC)	Greenville	Greenville
Hiers, J. E. (1 T)	Colleton	Round
Higgins, O. M. (1 E)	Georgetown	Georgetown
Hill, F. (2 ME)	Greenville	Greer
Hill, H. G. (2 CE)	Sumter	Sumter
Hiller, B. K. (4 CE)	Richland	Chapin
Hills, J. T. (2 A)	Charleston	McClellanville
Hines, E. A. (4 A&S)	Oconee	Seneca
Hinson, L. O. (4 EIE)	Florence	Scranton
Hiott, W. (2 A)	Anderson	Easley
Hodge, W. D. (2 A)	Clarendon	Alcolu
Hodges, R. G. (4 CE)	Marion	Marion
Hoefer, C. B. (1 E)	Richland	Columbia
Hoffman, G. C. (3 EE)	Bamberg	Bamberg
Hoffman, H. C. (2 T)	Richland	Blythewood
Hoffman, J. L. (2 A)	Bamberg	Bamberg
Hogarth, C. P. (2 CE)	Hampton	Brunson
Holland, J. B. (1 T)	Pickens	Pickens
Hollingsworth, E. W. (1 C)	Greenwood	Greenwood
Holman, R. E. (1 E)	Florence	Florence
Holstein, R. H. (2 A)	Saluda	Monetta
Hook, F. W. (2 EE)	Sumter	Sumter
Hoover, H. O. (1 T)	Orangeburg	Orangeburg
Hopkins, C. D. (1 E)	Orangeburg	Rowesville
Hope, T. A. (4 EIE)	York	Rock Hill
Horry, H. H. (3 A)	Jasper	Ridgeland
Horton, R. G. (3 A5)	Chesterfield	Jefferson
Horton, S. F. (2 A)	Chesterfield	Jefferson
Hough, W. B. (3 CE)	Kershaw	Camden
Howard, A. D. (2 Ar)	Columbus, Ga.	
Howard, H. C. (1 E)	Aiken	Graniteville
Howard, R. S. (3 A&S)	Savannah, Ga.	
Howe, E. S. (2 CE)	Darlington	Darlington
Howze, W. K. (2 TC)	Richland	Columbia
Hoyt, L. R. (1 Ar)	Sumter	Sumter
Huckabee, M. L. (1 T)	Marion	Marion
Hudgens, D. C. (3 A)	Pickens	Central

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Hudgens, E. S. (4 EE)		Flat Rock, N. C.
Hudgens, J. A. (4 A5)		Flat Rock, N. C.
Hudgens, J. D. (2 A)	Anderson	Williamston
Huff, L. B. (1 E)	Greenville	Simpsonville
Huggins, J. P. (3 A)	Horry	Nichols
Hughes, R. H. (2 E)	Spartanburg	Spartanburg
Hughes, W. (1 E)		Pikeville, Ky.
Hughes, W. F. (4 ME)	York	Rock Hill
Hughston, P. D. (2 CE)	Spartanburg	Spartanburg
Humphrey, K. C. (1 T)	Florence	Timmons ville
Hunt, D. W. (4 CE)	Greenville	Greenville
Hunt, J. B. (1 E)	Newberry	Prosperity
Hunt, T. C. (2 E)	Oconee	Walhalla
Hunter, R. L. (3 T)	Laurens	Clinton
Hunter, W. P. (1 A)	Laurens	Waterloo
Hutcheson, E. M. (1 E)	Oconee	Clemson College
Hutchison, W. (2 A&S)	Oconee	West Union
Hyde, S. (2 C)	Charleston	Charleston
Ingalls, F. R. (1 E)		Scotia, N. Y.
Ingalls, W. B. (2 E)		Scotia, N. Y.
Irby, F. L. (2 E)		Jacksonville, Ala.
Irby, H. H. (1 E)	Spartanburg	Cross Anchor
Jackson, A. E. (2 A)	Florence	Florence
Jackson, F. C. (1 E)		Torrington, Conn.
Jackson, H. L. (4 A5)	Sumter	Horatio
Jackson, J. F. (2 A)	Chesterfield	Mt. Croghan
Jackson, M. P. (4 EE)	Florence	Florence
Jackson, O. W. (3 EE)	Orangeburg	Orangeburg
James, J. W. (2 E)	Darlington	Darlington
Jerrard, C. E. (3 EE)	Greenville	Greenville
Jay, A. S. (2 T)		Elberton, Ga.
Jefferies, J. E. (1 A)	Cherokee	Gaffney
Jenkins, H. N. (2 A)	Barnwell	Kline
Jeter, D. G. (2 E)	Fairfield	Wallaceville
Jett, L. E. (1 E)	Union	Union
Johnson, H. H. (2 T)	Pickens	Liberty
Johnson, J. B. (1 Ar)	York	Rock Hill
Johnstone, A. M. (2 E)	Newberry	Newberry
Johnstone, F. E. (2 A)	Georgetown	Georgetown
Jones, C. M. (2 A)	Colleton	Ashton
Jones, D. S. (3 A7)	Anderson	Anderson
Jones, G. C. (2 E)	Oconee	Walhalla
Jones, M. W. (4 A&S)		New Bern, N. C.
Jones, R. A. (2 T)	Newberry	Newberry
Jones, R. M. (2 E)	Beaufort	Beaufort
Jones, R. M. (3 A)	Colleton	Ashton
Jones, R. M. (4 A2)	Anderson	Starr
Jones, W. H. (2 A&S)		Chickamauga, Ga.
Jordan, W. H. (1 A)	Horry	Conway
Jordan, W. K. (2 A)	Florence	Coward
Josey, F. H. (4 EIE)	Lee	Bethune
Joye, J. D. (1 A)	Darlington	Lamar
Justus, J. H. (2 A&S)	Spartanburg	Inman

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Kay, W. P. (2 A&S)	Anderson	Belton
Karelitz, M. H. (1 E)	Greenville	Fountain Inn
Kearse, H. H. (2 A)	Bamberg	Olar
Keisler, B. E. (4 A6)	Lexington	Gilbert
Keith, J. A. (4 ME)	Pickens	Pickens
Keith, W. A. (1 T)		Hendersonville, N. C.
Keller, W. B. (1 A&S)	Pickens	Clemson College
Kellers, F. (4 EE)	Laurens	Clinton
Kelly, E. R. (2 A)	Florence	Florence
Kennedy, J. A. (4 TIE)	Spartanburg	Spartanburg
Kennemur, D. H. (2 TC)	Pickens	Liberty
Kent, A. P. (2 CE)		Bloomfield, N. J.
Kinard, A. R. (4 EE)	Bamberg	Ehrhardt
Kinard, D. T. (1 A)	Greenwood	Ninety Six
King, J. C. (1 A&S)	Horry	Loris
King, V. E. (1 A)	Anderson	Piedmont
King, W. W. (3 Ar)	Charleston	Charleston
Kinghorn, J. A. (2 CE)	Beaufort	Beaufort
Kinghorn, J. B. (1 CE)	Beaufort	Beaufort
Kinsler, M. E. (1 E)	Pickens	Central
Kinsler, R. T. (2 T)	Pickens	Central
Kirchner, G. F. (3 EE)	Greenville	Greenville
Kirkland, C. D. (1 E)	Bamberg	Ehrhardt
Kish, J. L. (2 C)		Brooklyn, N. Y.
Kitchens, C. W. (3 EE)	Laurens	Laurens
Kittles, W. H. (1 E)	Fairfield	Shelton
Kizer, W. P. (1 E)	Orangeburg	Holly Hill
Kneece, H. E. (2 A)	Aiken	Batesburg
Kuykendal, C. N. (3 Ar)	York	Rock Hill
LaBruce, L. P. (2 A)	Georgetown	Georgetown
LaGrone, J. W. (2 A&S)	Saluda	Johnston
Lambert, J. M. (1 Ar)	Florence	Florence
Lanford, J. L. (1 E)	Spartanburg	Woodruff
Latham, E. E. (1 A)	York	York
Latimer, W. M. (2 Ar)	Anderson	Belton
Lawlor, W. K. (1 C)	Greenville	Greenville
Lawrence, B. R. (2 EE)	Oconee	Seneca
Lawton, E. G. (1 E)		Thacker, W. Va.
Lawton, F. A. (1 E)		Thacker, W. Va.
Lawton, J. M. (4 A&S)	Hampton	Garnett
Layton, C. V. (1 A)	Spartanburg	Enoree
Layton, W. H. (3 TIE)	Greenwood	Ninety Six
League, J. B. (3 TC)	Greenville	Greenville
Lee, D. D. (1 E)	Dillon	Hamer
Lee, F. W. (3 CE)	Spartanburg	Spartanburg
Lee, G. W. (2 EE)	Orangeburg	Orangeburg
Lee, H. M. (4 TIE)	Spartanburg	Landrum
Lee, O. A. (2 EE)	Richland	Columbia
Lee, S. S. (1 E)	Orangeburg	Orangeburg
Lee, W. Z. (1 E)	Oconee	Walhalla
Leister, D. M. (2 ME)	Oconee	Walhalla
Leitner, L. T. (4 EE)	Marion	Marion
Lemmon, J. L. (4 A3)	Lee	Lynchburg
Lemon, C. C. (2 A&S)	Barnwell	Barnwell
Leonard, D. O. (2 A&S)	Spartanburg	Spartanburg
Lepley, J. B. (1 E)	Charleston	Charleston

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Leslie, E. E. (2 A)	York	Rock Hill
Lester, J. E. (3 EE)		Hogansville, Ga.
Lewis, J. H. (3 EE)		Estherwood, La.
Lewis, O. C. (3 A)	Horry	Loris
Lightsey, E. O. (1 A&S)	Hampton	Crocketville
Ligon, J. C. (2 A&S)	Greenville	Greenville
Lindsay, R. H. (1 E)	Anderson	Anderson
Lineberger, J. M. (2 Ar)	Greenville	Greenville
Lipscomb, W. E. (2 A&S)	Cherokee	Gaffney
Littlefield, J. W. (1 T)	Spartanburg	Landrum
Littlejohn, B. R. (2 CE)	Anderson	Belton
Littlejohn, J. P. (2 E)	Oconee	Clemson College
Littlejohn, T. F. (2 A)	Union	Jonesville
Livingston, J. D. S. (2 CE)	Newberry	Silverstreet
Livingston, P. S. (1 A)	Newberry	Silverstreet
Livingston, T. F. (2 A)	Aiken	Sally
Livingstone, E. M. (4 A)	Orangeburg	North
Livingstone, L. A. (1 A)	Orangeburg	North
Lofton, S. J. (2 E)	Charleston	McClellanville
Logue, J. F. (1 A)	Edgefield	Edgefield
Long, E. (3 T)	Anderson	Anderson
Long, J. A. (3 Ar)	Saluda	Saluda
Long, M. L. (3 EE)	Newberry	Silverstreet
Long, R. F. (3 CE)	Fairfield	Blair
Long, V. A. (2 A)	Newberry	Prosperity
Love, J. F. (3 A)	York	McConnellsville
Lowry, S. E. (2 E)	Oconee	Seneca
Lupo, J. W. (1 C)	Dillon	Lake View
Lynch, C. W. (1 A&S)	Florence	Coward
Lynch, T. L. (1 A)	Pickens	Pickens
Lynn, J. C. (1 A)	Greenville	Taylors
Lytle, W. F. (1 E)	York	Fort Mill
McAbee, T. R. (4 CE)	Spartanburg	Inman
McAlister, H. J. (1 A)	Anderson	Pendleton
McAlister, J. M. (1 T)	Anderson	Anderson
McCall, A. E. (1 E)	Lee	Lynchburg
McCarley, R. J. (4 CE)	Richland	Columbia
McChesney, S. J. (1 A)	Spartanburg	Woodruff
McClendon, G. B. (4 EIE)	Barnwell	Blackwell
McClure, P. J. (4 CE)	Spartanburg	Chesnee
McCollum, H. A. (2 C)	Marlboro	McColl
McComb, J. C. (4 A6)	McCormick	Troy
McCormick, H. W. (2 E)	Charleston	Charleston
McCoy, F. G. (1 E)	Aiken	Aiken
McCravy, W. L. (1 E)	Laurens	Laurens
McCraw, L. C. (2 A)	Cherokee	Gaffney
McCreight, D. W. (2 A)	Chesterfield	Ruby
McCrorey, J. B. (4 A6)	Chester	Richburg
McCutchen, J. (1 T)	Union	Union
McCutchen, T. R. (1 T)	Lee	Bishopville
McDaniel, H. D. (2 A)	Laurens	Laurens
McDaniel, O. H. (2 E)	Charleston	Charleston
McDowell, S. T. (3 C)	York	Rock Hill
McFaddin, J. J. (4 EE)	Clarendon	Gable

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
McGee, R. H. (2 A)	Anderson	Belton
McGee, R. L. (4 A3)	Anderson	Belton
McGee, W. H. (1 A)	Anderson	Starr
McGee, W. L. (4 A1)	Anderson	Starr
McGrew, G. E. (1 T)	Sumter	Sumter
McKellar, T. P. (2 A)	Greenwood	Greenwood
McKenna, A. E. (4 T)	Oconee	Clemson College
McKenzie, G. S. (1 A)	Marion	Mullins
McKerley, J. A. (3 ME)	Barnwell	Elko
McKibben, H. A. (1 E)	York	Fort Mill
McLaurin, C. L. (1 E)	Richland	Columbia
McLaurin, H. M. (2 A)	Sumter	Wedgfield
McLaurin, J. N. (2 CE)	Kershaw	Bethune
McLees, W. H. (1 E)	Oconee	Walhalla
McLeod, J. A. (2 A)	Dillon	Latta
McLeod, V. C. (3 EE)	Lee	Camden
McLeod, W. H. (4 A7)	Beaufort	Beaufort
McLeskey, J. J. (4 CE)	Oconee	Westminster
McMakin, B. R. (1 E)	Spartanburg	Wellford
McMeekin, C. L. (3 A&S)	Fairfield	Monticello
McMeekin, J. G. (1 E)	Fairfield	Wallaceville
McMeekin, M. P. (2 E)	Fairfield	Monticello
McMillan, C. (4 A1)	Saluda	Saluda
McMillan, O. (1 A)	Saluda	Saluda
McNinch, J. B. (2 A)	Greenwood	Ware Shoals
McPherson, J. M. (4 EE)	Georgetown	Georgetown
McSwain, G. R. (1 E)	Cherokee	Gaffney
Mace, J. Z. (1 Ar)	York	Rock Hill
Macmillan, W. R. (1 E)	Charleston	Charleston
Maddox, E. R. (2 A)	Kershaw	Blaney
Magill, R. V. (3 CE)	Greenville	Greenville
Mahaffey, C. R. (1 A&S)	Greenville	Fountain Inn
Mahaffey, H. T. (3 T)	Lancaster	Lancaster
Major, E. M. (1 T)	Anderson	Belton
Mann, J. M. (3 CE)	LaGrange, Ga.	LaGrange, Ga.
Mansfield, E. R. (3 ME)	Spartanburg	Spartanburg
Marett, E. C. (1 A)	Oconee	Fair Play
Marsh, W. S. (2 T)	Edgefield	Trenton
Martin, B. C. (1 E)	Laurens	Laurens
Martin, B. F. (3 E)	Greenville	Greenville
Martin, B. R. (1 A&S)	Hartford, Conn.	Hartford, Conn.
Martin, F. D. (2 A)	Greenville	Simpsonville
Martin, F. H. (1 T)	Greenville	Greenville
Martin, H. D. (1 E)	Greenville	Greenville
Martin, H. M. (1 E)	Greenville	Fountain Inn
Martin, J. E. (2 A)	Anderson	Pendleton
Martin, J. S. (3 A&S)	Fairfield	Strother
Martin, W. B. (2 A&S)	Greenville	Greenville
Martin, W. J. (3 A)	Greenwood	Greenwood
Mason, M. C. (2 A)	McCormick	McCormick
Mathis, Q. E. (4 EIE)	Florence	Timmons ville
Matthews, T. G. (1 T)	Saluda	Saluda
Mattison, W. T. (4 A3)	Anderson	Honea Path
Mauldin, W. H. (2 A&S)	Hampton	Hampton
Mayfield, L. H. (2 T)	Greenville	Greer

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Mayfield, W. D. (1 A)	Greenville	Marietta
Mays, A. R. (2 E)		Amarillo, Texas
Mazyck, E. H. (4 EE)	Florence	Timmons ville
Mazyck, H. B. (3 EE)	Florence	Timmons ville
Meares, G. C. (4 A6)	Horry	Nichols
Medlin, W. H. (1 E)	Marlboro	Bennettsville
Meetze, A. W. (4 C)	Lexington	Leesville
Megginson, W. J. (2 A)	Charleston	Charleston
Mercer, F. Y. (4 ME)	Georgetown	Georgetown
Middleton, L. B. (4 Ar)	Charleston	Charleston
Mikell, G. L. (4 EE)	Charleston	Edisto Island
Mikell, W. H. (1 E)	Charleston	Charleston
Miley, J. P. (3 CE)	Hampton	Brunson
Miller, C. H. (2 TC)	Marlboro	Tatum
Miller, C. T. (2 EIE)	Darlington	Hartsville
Miller, E. N. (2 A)	York	York
Miller, G. F. (2 E)		Helen, Ga.
Miller, H. H. (1 E)		Martin, Ga.
Miller, J. D. (3 A)	Union	Jonesville
Miller, J. W. (1 C)	Orangeburg	Holly Hill
Miller, M. G. (1 E)	Abbeville	Abbeville
Miller, R. T. (1 A&S)		Tampa, Fla.
Mills, J. A. (2 ME)	Sumter	Sumter
Minicucci, R. (1 Ar)		Waterbury, Conn.
Mitchell, J. H. (1 C)	Pickens	Clemson College
Mitchell, L. M. (2 EE)	Beaufort	Beaufort
Mitchell, M. F. (3 CE)	Anderson	Belton
Moise, E. W. (1 Ar)	Sumter	Sumter
Montgomery, H. S. (2 E)	Williamsburg	Kingstree
Montgomery, L. K. (1 Ar)	Williamsburg	Kingstree
Monts, W. L. (1 E)	Richland	Columbia
Moon, D. S. (2 T)	Oconee	Westminster
Mooneyhan, C. S. (2 A)	Lee	Elliott
Moore, A. T. (1 A)	Richland	Lykesland
Moore, E. C. (1 A)	Sumter	Dalzell
Moore, F. B. (1 E)	Marlboro	McColl
Moore, H. M. (2 A&S)	Marion	Sellers
Moore, J. B. (1 A)	Anderson	Anderson
Moore, J. L. (1 A)	Marlboro	McColl
Moore, J. P. (1 E)	York	Guthriesville
Moore, S. H. (2 A&S)	York	Rock Hill
Moore, W. F. (4 A6)	Pickens	Calhoun
Morris, E. L. (1 E)		Washington, D. C.
Morrison, W. T. (4 A2)	Anderson	Anderson
Mosley, V. (1 E)	Orangeburg	Orangeburg
Moss, C. S. (1 A)	Spartanburg	Spartanburg
Moss, J. R. (1 A)	York	Rock Hill
Motes, P. M. (3 A)	Laurens	Mountville
Mouchet, J. R. (2 E)	Anderson	Starr
Moxon, J. G. (4 A5)	Hampton	Varnville
Mullikin, T. S. (3 A)	Anderson	Pendleton
Mulwee, S. M. (1 T)	Spartanburg	Pacolet Mills
Munn, S. B. (3 A&S)	Kershaw	Jefferson
Murph, W. S. (1 E)	Kershaw	Camden
Murphy, B. G. (2 E)	Marlboro	McColl
Murphy, S. A. (2 A)	Anderson	Pendleton

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Murphy, T. F. (1 T)	Charleston	Charleston
Murray, J. G. (2 A)	Charleston	Edisto Island
Myers, C. C. (1 E)	Oconee	Seneca
Myers, H. L. (1 A&S)	Florence	Scranton
Myers, T. R. (1 E) .....	.....	Hartwell, Ga.
Nalley, C. D. (1 T)	Pickens	Easley
Nance, J. H. (1 T)	Laurens	Cross Hill
Nash, J. R. (1 E)	Greenville	Greenville
Nathans, J. N. (1 A&S)	Charleston	Charleston
Neal, C. A. (3 E)	Greenville	Greenville
Neely, C. C. (4 ME)	York	Ogden
Neely, E. C. (1 A)	York	Rock Hill
Neely, T. W. (3 A)	York	Rock Hill
Neely, W. G. (2 A)	York	Ogden
Neely, W. J. (1 A)	York	Rock Hill
Nesbitt, S. L. (1 A&S)	Spartanburg	Wellford
Nettles, J. S. (1 C)	Kershaw	Lugoff
Nettles, W. C. (4 A1)	Sumter	Sumter
Neuffer, C. H. (1 C)	Abbeville	Abbeville
Newman, J. B. (1 A)	Sumter	Sumter
Newman, J. W. (3 A&S)	Oconee	Clemson College
Newson, S. A. T. (2 T) .....	.....	LaGrange, Ga.
Nichols, E. L. (3 A&S)	York	Rock Hill
Nimitz, F. K. (3 CE)	Charleston	Charleston
Nimmer, W. A. (1 T)	Clarendon	Manning
Nisbet, J. E. (2 A&S)	Lancaster	Van Wyck
Nivins, H. B. (2 C)	York	York
Norris, G. F. (3 T)	Greenville	Greenville
Norris, P. T. (2 A&S)	Greenville	Piedmont
Norton, D. B. (2 TC) .....	.....	Gibson, N. C.
Oates, R. M. (2 A)	York	Tirzah
O'Cain, M. C. (3 CE)	Orangeburg	Orangeburg
Orr, G. L. (4 A&S)	Oconee	Westminster
Orr, H. F. (1 T)	Anderson	Pendleton
Ouzts, J. B. (2 EIE)	Edgefield	Edgefield
Owen, R. S. (3 A)	Orangeburg	Orangeburg
Owens, F. N. (3 EE)	York	Rock Hill
Owens, M. B. (1 E)	Charleston	Navy Yard
Owings, H. R. (1 T)	Laurens	Gray Court
Pace, C. M. (2 T)	Spartanburg	Spartanburg
Padgett, E. E. (2 A)	Saluda	Saluda
Padgett, G. D. (2 E)	Colleton	Jacksonboro
Padgett, O. D. (4 A1)	Edgefield	Edgefield
Padgett, T. P. (1 A)	Lexington	Steedman
Padgett, W. H. (1 A)	Colleton	Jacksonboro
Padgett, W. N. (1 A)	Saluda	Saluda
Page, B. L. (2 A)	Dillon	Lake View
Palmer, C. L. (2 A)	Anderson	Pendleton
Palmer, R. F. (3 A)	Greenwood	Bradley
Parham, H. C. (4 A7)	Charleston	Charleston
Parker, I. S. (1 A)	Sumter	Dalzell
Parkins, R. A. (2 TC)	Greenville	Greenville
Parkman, L. M. (3 EE)	Saluda	Epworth
Parrott, P. M. (1 T)	Sumter	Sumter

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Partridge, W. F. (3 CE)	Pickens	Pickens
Patrick, J. C. (1 A)	Fairfield	White Oak
Patterson, E. R. (2 CE)	Richland	Columbia
Patterson, J. L. (3 EE)	York	Rock Hill
Patterson, W. J. (3 ME)	Greenwood	Ninety Six
Paulling, J. M. (1 C)	Calhoun	St. Matthews
Peake, S. R. (1 A)	Richland	Columbia
Pettus, W. S. (S)	York	Fort Mill
Petty, R. J. (1 T)	Union	Lockhart
Philips, J. R. (1 T)		Gadsden, Ala.
Phillips, C. R. (1 T)		Columbus, Ga.
Phillips, P. C. (2 E)	Charleston	Ravenel
Pickelsimer, J. E. (2 A)	Anderson	Piedmont
Pickens, B. R. (2 E)	Spartanburg	Spartanburg
Pinckney, B. D. (1 E)	Beaufort	Bluffton
Plexico, M. E. (4 A3)	York	Rock Hill
Poag, J. C. (1 E)	Lancaster	Lancaster
Poag, J. R. (3 T)	York	Rock Hill
Pollard, F. B. (2 T)	Greenville	Greenville
Pollard, V. B. (3 A&S)	Greenville	Greenville
Pollock, J. M. (1 E)	Spartanburg	Spartanburg
Potts, T. M. (1 A)	York	Fort Mill
Power, S. R. (4 Ar)		Charlotte, N. C.
Price, G. W. (2 EIE)	Colleton	Walterboro
Prickett, F. L. (1 A)	Calhoun	St. Matthews
Prichard, B. E. G. (4 A1)	Oconee	Westminster
Priester, A. U. (1 T)		LaGrange, Ga.
Prim, J. M. (4 EE)		Brunswick, Ga.
Pritcher, O. E. (2 A)	Orangeburg	Vance
Proctor, L. K. (1 E)	Cherokee	Gaffney
Pruitt, T. W. (4 ME)	Anderson	Anderson
Pugh, G. J. (3 ME)	Newberry	Prosperity
Pursley, W. E. (2 A)	York	York
Quattlebaum, P. (1 E)	Horry	Conway
Query, J. E. (1 A&S)	Spartanburg	Wellford
Ragsdale, C. H. (3 EE)	Fairfield	Blairs
Rambo, B. P. (2 A)	Greenwood	Ninety Six
Ramey, E. L. (3 T)	Greenville	Greenville
Ramino, A. (1 CE)		Leon, Nicaragua
Ramseur, A. R. (4 T)	Oconee	Newry
Ready, E. L. (1 A)	Saluda	Johnston
Reed, H. M. (1 C)	Anderson	Anderson
Reese, L. W. (4 EIE)		Emporia, Va.
Reeves, W. A. (1 T)		LaGrange, Ga.
Reid, W. L. (1 E)	Fairfield	Blackstock
Rentz, C. V. (3 EE)	Hampton	Varnville
Reynolds, F. B. (2 E)	Greenwood	Greenwood
Rhem, B. H. (1 A&S)	Williamsburg	Rhems
Rhem, L. F. (1 A&S)	Williamsburg	Morrisville
Rhinehardt, J. B. (1 TC)		Gastonia, N. C.
Richardson, W. H. (3 EE)	Laurens	Laurens
Richardson, M. D. (1 E)	Beaufort	Beaufort
Richey, J. B. (1 A)	Greenville	Piedmont
Richey, R. M. (1 E)		Carteret, N. J.

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Riddle, E. E. (4 T)	Laurens	Laurens
Ridgeway, W. A. (3 A)	Clarendon	Jordan
Ridlehuber, W. R. (2 A)	Greenwood	Greenwood
Rigdon, C. A. (1 A)	Pickens	Pickens
Riley, E. (4 A4)	Orangeburg	Cordova
Riley, R. F. (1 E)	Hampton	Garnett
Rippelmeyer, H. A. (3 Ar)	Chester	Chester
Rivers, I. N. (1 E)	Chesterfield	Mt. Croghan
Rivers, W. H. (1 E)	Richland	Columbia
Roberson, S. R. (3 A&S)	Pickens	Easley
Roberts, F. T. (1 T)	Laurens	Laurens
Robertson, E. H. (4 EE)	Charleston	Charleston
Robertson, J. D. (3 C)	Anderson	Pendleton
Robinson, D. H. (1 E)	Fairfield	Blackstock
Robinson, J. F. (1 C)	Pickens	Easley
Robinson, R. J. (2 Ar)	Richland	Columbia
Rochester, M. C. (2 A)	Oconee	Salem
Rochester, S. B. (2 A)	Oconee	Salem
Rodgers, J. B. (3 A&S)	Richland	Columbia
Rogers, B. D. (1 E)	Marlboro	Clio
Rogers, D. H. (3 EIE)	Marion	Mullins
Rogers, E. P. (3 A)	Marion	Mullins
Rogers, H. L. (1 T)	Anderson	Belton
Rogers, H. M. (1 E)	Dillon	Dillon
Rogers, J. A. (1 A)	Marion	Marion
Rogers, J. I. (4 A&S)	Marlboro	Bennettsville
Rogers, J. T. (4 A6)	Anderson	Pendleton
Rogers, L. T. (3 EE)	Dillon	Dillon
Rogers, P. G. (1 E)	Marlboro	Blenheim
Rogers, P. L. (2 A)	Marion	Mullins
Rogers, R. W. (1 E) .....	.....	Gainesville, Ga.
Rollins, A. P. (1 E)	Charleston	Charleston
Rose, B. S. (3 T)	Greenville	Greenville
Ross, C. W. (2 E)	Florence	Florence
Ross, H. E. (1 A)	Greenville	Taylors
Rowell, J. O. (3 A)	Marion	Marion
Rowland, C. G. (3 A&S)	Pickens	Central
Royall, E. M. (1 E)	Charleston	Charleston
Rush, F. S. (4 TIE)	Lexington	Lexington
Sackman, G. W. (4 EE) .....	.....	Miami, Fla.
Sadler, J. K. (4 EIE)	Greenville	Greenville
Salley, G. S. (2 CE)	Aiken	Salley
Salley, O. J. (1 E)	Aiken	Salley
Salley, R. J. (1 A)	Orangeburg	Orangeburg
Salley, T. B. (2 A)	Calhoun	St. Matthews
Sample, J. W. (2 A)	Saluda	Saluda
Sander, W. A. (2 EE)	Charleston	Charleston
Sanders, H. E. (1 E)	York	Rock Hill
Sanders, J. W. (2 A)	Barnwell	Ulmers
Sanders, R. W. (4 A1)	Beaufort	Ridgeland
Sansbury, A. B. (4 EIE)	Florence	Timmons ville
Sartor, M. H. (4 A8)	Union	Union
Sartor, T. B. (2 E)	Union	Union
Satcher, J. A. (2 A)	Saluda	Ward
Sawyer, L. M. (2 T)	Georgetown	Georgetown

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Saylors, J. H. (2 A&S)	Anderson	Belton
Schachte, W. L. (1 E)		Pittsfield, Mass.
Schroder, W. E. (1 E)	Oconee	Walhalla
Schumacher, P. D. (4 A8)	Oconee	Walhalla
Scott, J. D. (1 E)	Cherokee	Blacksburg
Scruggs, J. W. (1 A&S)		Brevard, N. C.
Scurry, J. F. (4 CE)	Newberry	Chappells
Sease, E. C. (1 A)	Newberry	Newberry
Sease, G. A. (1 E)	Newberry	Prosperity
Sease, J. C. (4 CE)	Newberry	Prosperity
Seawright, C. A. (3 A&S)	Anderson	Anderson
Seawright, C. A. (1 A)	Spartanburg	Inman
Seigler, N. P. (3 A)	Anderson	Starr
Senn, F. O. (2 A)	Calhoun	Swansea
Settle, H. G. (2 A)	Spartanburg	Inman
Setzler, F. M. (2 C)	Newberry	Whitmire
Severance, J. M. (1 A)	Florence	Florence
Sharpe, F. J. (2 Ar)		Charlotte, N. C.
Shaw, A. E. (1 E)	Richland	Columbia
Shaw, E. B. (2 E)	Sumter	Sumter
Shealy, N. C. (2 A)	Lexington	Edmund
Shedd, O. C. (2 T)	Fairfield	Strother
Sheheen, E. P. (3 A&S)	Kershaw	Camden
Sheppard, W. A. (2 EE)	Aiken	Graniteville
Sherard, G. B. (1 A&S)	Anderson	Belton
Sherard, H. R. (4 A&S)	Anderson	Belton
Sherrill, D. (2 EE)		Sanford, Tenn.
Shields, W. A. (2 A)	Richland	Columbia
Shippey, T. L. (2 CE)	Spartanburg	Spartanburg
Shirley, L. E. (1 E)	Anderson	Honea Path
Shuler, D. C. (2 A)	Orangeburg	Vance
Siau, F. L. (1 E)	Georgetown	Georgetown
Siegel, R. (1 A&S)	Anderson	Anderson
Simpson, C. F. (1 A)	Laurens	Barksdale
Simpson, P. C. (1 C)	Anderson	Anderson
Sims, L. R. (1 C)	Pickens	Central
Sinclair, B. B. (1 E)	Union	Union
Singleton, B. (1 A)	Oconee	Westminster
Singleton, W. G. (1 T)	Oconee	Westminster
Sloan, A. L. (1 A)	Greenville	Simpsonville
Sloan, E. M. (1 E)	Anderson	Pendleton
Sloan, H. M. (2 E)	Oconee	Walhalla
Sloan, H. N. (2 A&S)	Greenwood	New Market
Small, R. E. (2 E)	Kershaw	Kershaw
Smith, B. L. (1 Ar)		Newnan, Ga.
Smith, G. H. (4 CE)	Marion	Mullins
Smith, G. M. (1 A)	Greenville	Greenville
Smith, G. P. (2 T)	Greenville	Greenville
Smith, H. C. (3 E)	Newberry	Kinards
Smith, J. F. (2 EE)	Anderson	Anderson
Smith, J. K. (2 A&S)	Greenville	Simpsonville
Smith, J. M. (3 EIE)	Greenville	Greenville
Smith, J. M. (2 A&S)	Saluda	Saluda
Smith, M. H. (2 A)	Spartanburg	Cowpens
Smith, M. M. (2 E)	Oconee	Walhalla
Smith, O. R. (1 A)	Pickens	Central

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Smith, R. B. (3 T)	Union	Jonesville
Smith, R. N. (4 CE) .....	.....	Savannah, Ga.
Smith, R. P. (2 A&S)	Spartanburg	Spartanburg
Smith, R. W. (1 A)	Anderson	Anderson
Smith, T. E. (3 A)	Kershaw	Bethune
Smith, W. R. (2 A&S)	Greenville	Greer
Smoak, C. G. (2 E)	Orangeburg	Cordova
Smoak, J. J. (2 T)	Bamberg	Bamberg
Smoak, J. R. (1 A)	Orangeburg	Orangeburg
Smoak, T. T. (3 EE)	Orangeburg	Orangeburg
Smyth, L. P. (1 E) .....	.....	Hendersonville, N. C.
Smyth, T. L. (4 T) .....	.....	Hendersonville, N. C.
Snowden, B. E. B. (2 E)	Charleston	Charleston
Snyder, W. C. (4 EE) .....	.....	Schenectady, N. Y.
Solomon, H. J. (3 CE) .....	.....	Harms, Tenn.
Solomons, W. S. (1 A&S)	Hampton	Estill
Sowell, D. F. (3 A)	Kershaw	Camden
Sparks, F. L. (1 E)	Cherokee	Gaffney
Spearman, J. M. (2 E)	Pickens	Easley
Speed, G. M. (2 A&S)	Anderson	Iva
Speight, G. A. (2 A&S) .....	.....	Hamlet, N. C.
Spencer, W. H. (1 T)	York	Catawba
Speth, E. B. (3 T) .....	.....	Augusta, Ga.
Stanley, T. G. (1 A&S)	Hampton	Hampton
Stanton, F. B. (2 A)	Dillon	Fork
Stanton, W. F. (1 A)	Dillon	Little Rock
Stephens, J. H. (3 CE)	Spartanburg	Woodruff
Stephens, W. A. (4 A&S)	Anderson	Williamston
Stephenson, R. D. (1 E)	Lee	Bishopville
Stevens, C. B. (3 ME)	Charleston	Martins Point
Stewart, C. L. (2 CE)	Oconee	Westminster
Stewart, W. (1 E)	Greenville	Simpsonville
Storen, L. E. (1 A)	Charleston	Charleston
Stoudemire, D. O. (2 CE) .....	.....	Augusta, Ga.
Stoudenmire, C. D. (2 A&S)	Sumter	Sumter
Stover, E. M. (1 T)	Fairfield	Winnsboro
Strickland, J. R. (2 EE)	Hampton	Fairfax
Strom, L. D. (1 E)	Edgefield	Edgefield
Stroud, E. W. (3 A)	Spartanburg	Woodruff
Stubbs, S. W. (2 E)	Sumter	Sumter
Suber, C. (3 T)	Anderson	Williamston
Suber, H. W. (2 T)	Newberry	Whitmire
Suber, T. W. (2 T)	Newberry	Whitmire
Sullivan, A. C. (1 A)	Greenwood	Greenwood
Sutherland, J. F. (2 E)	Abbeville	Abbeville
Sutherland, M. H. (1 A)	Pickens	Pickens
Swearingen, L. D. (3 T)	Edgefield	Trenton
Swofford, R. P. (4 EE)	Cherokee	Gaffney
Taggart, C. L. (3 TIE)	Greenwood	Greenwood
Talbert, J. W. (2 A)	McCormick	McCormick
Talbert, T. B. (1 A)	McCormick	McCormick
Talley, J. F. (1 E)	York	Rock Hill
Tarrant, W. H. (2 TIE)	Greenwood	Greenwood
Tatum, J. H. (2 T) .....	.....	Opelika, Ala.
Taylor, J. H. (1 A)	Marion	Nichols

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Taylor, W. C. (2 A)	Greenville	Fountain Inn
Teague, A. S. (2 E)	Greenville	Greenville
Thackston, R. K. (1 A)	Greenville	Greenville
Thames, W. M. (2 E) .....	.....	Jacksonville, Fla.
Thomas, C. H. (2 ME)	Greenville	Greenville
Thomas, L. P. (4 CE)	Union	Carlisle
Thompson, A. G. (3 C)	Anderson	Starr
Thompson, F. A. (1 E)	Spartanburg	Spartanburg
Thompson, J. W. (1 E)	Charleston	Charleston
Thompson, S. W. L. (4 CE) .....	.....	Chattanooga, Tenn.
Thomson, W. B. (1 T)	Abbeville	Abbeville
Thornton, F. L. (1 A&S)	Laurens	Laurens
Timmons, H. A. (1 A&S)	Florence	Lake City
Todd, J. L. (2 A)	Horry	Loris
Todd, W. J. (1 A)	Horry	Loris
Tollison, A. C. (2 A)	Pickens	Central
Tomlinson, H. S. (4 EE)	Florence	Olanta
Tomlinson, H. W. (1 T)	Florence	Olanta
Torchia, R. E. (4 A&S) .....	.....	Savannah, Ga.
Toth, G. (1 E) .....	.....	Carteret, N. J.
Touchstone, W. N. (3 T)	Richland	Columbia
Towles, D. Q. (1 A)	Charleston	Meggett
Towles, E. B. (1 E)	Barnwell	Barnwell
Townsend, E. H. (3 A)	Charleston	Martins Point
Townsend, G. E. (3 C)	Anderson	Anderson
Townsend, J. S. (2 A)	Charleston	Martins Point
Trammell, W. H. (1 E)	Greenville	Greenville
Tribble, W. F. (1 E)	Anderson	Anderson
Trotti, S. H. (2 A)	Chesterfield	Chesterfield
Trowell, W. W. (4 A&S)	Aiken	Langley
Truesdell, B. R. (1 A&S)	Kershaw	Camden
Turner, G. C. K. (1 E)	Cherokee	Gaffney
Turner, H. F. (1 E)	Greenwood	Greenwood
Turner, J. (1 Ar) .....	.....	Carteret, N. J.
Turner, J. E. (3 A)	Sumter	Mayesville
Turner, J. M. (2 EE)	Georgetown	Georgetown
Turrentine, D. C. (4 T)	Greenville	Greenville
Twitty, W. B. (1 E)	Lancaster	Heath Springs
Vallentine, R. A. (2 A)	Orangeburg	Cope
Vance, J. (3 EE)	Laurens	Owings
Vance, W. W. (1 E)	Allendale	Allendale
Van de Erve, J. F. (3 ME)	Charleston	Charleston
Vaughan, D. M. (2 T)	Newberry	Newberry
Vaughn, B. M. (1 A)	Spartanburg	Duncan
Verner, S. L. (2 E)	Oconee	Walhalla
Voigt, R. J. (1 E)	Charleston	Charleston
Wait, J. W. (1 Ar) .....	.....	Union, N. J.
Waldrop, J. B. (1 A&S)	Anderson	Belton
Walker, C. P. (1 E)	Oconee	Walhalla
Walker, J. B. (2 E)	Greenwood	Greenwood
Walker, J. S. (3 EE)	Oconee	Walhalla
Walker, L. L. (1 E)	Orangeburg	Orangeburg
Wall, J. B. (2 E)	Anderson	Anderson
Wallace, L. A. (1 A)	Williamsburg	Cades
Wallenburg, W. G. (1 E)	Richland	Columbia

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Walters, J. V. (1 T)	Spartanburg	Spartanburg
Wannamaker, C. V. (1 A)	Lexington	Swansea
Wannamaker, T. R. (4 C)	Lexington	Swansea
Ward, J. J. (1 E)	Georgetown	Waverly Mills
Ware, M. D. (4 Ar)	Darlington	Darlington
Warner, H. D. (4 EE)	Lexington	Lexington
Warren, G. (1 A&S)	Hampton	Hampton
Warren, J. O. (4 A&S) .....	.....	Mt. Vernon, N. Y.
Watson, E. L. (4 A6)	Edgefield	Johnston
Watson, J. H. (2 E)	Saluda	Batesburg
Watson, N. E. (3 A)	Greenwood	Bradley
Watson, S. D. (2 A)	Orangeburg	Orangeburg
Watson, T. M. (1 E)	Richland	Columbia
Watson, W. T. (3 EE)	Laurens	Laurens
Wattley, P. A. (1 E) .....	.....	Chicago, Ill.
Watts, J. G. (3 A)	Kershaw	Bethune
Watts, T. K. (3 A7)	Kershaw	Bethune
Weatherford, L. E. (1 E)	Aiken	Aiken
Webb, A. A. (2 A)	Aiken	Aiken
Webb, H. J. (1 A)	Aiken	Aiken
Webb, J. E. (1 A) .....	.....	White Pond
Webb, J. G. (2 A&S)	Saluda	Saluda
Welborn, J. D. (4 EIE)	Pickens	Easley
Welch, J. R. (4 EE)	Richland	Columbia
Welch, M. B. (1 T)	Florence	Olanta
Werts, A. P. (1 E)	Newberry	Silverstreet
Werts, J. R. (2 EE)	Greenwood	Ninety Six
West, J. R. (1 A)	Kershaw	Cassatt
Weston, J. A. (2 TC)	Richland	Gadsden
Wheeler, H. M. (1 E)	Clarendon	New Zion
Whetstone, G. V. (1 A)	Aiken	Perry
White, E. B. (2 A&S) .....	.....	Leesburg, Va.
White, F. C. (2 A&S)	Greenville	Simpsonville
White, J. T. (2 E)	Chester	Chester
White, M. T. (2 E)	Oconee	West Union
Whitlaw, N. O. (2 Ar) .....	.....	Augusta, Ga.
Whitmire, H. C. (2 TC)	Greenville	Greenville
Whittington, F. B. (3 A)	Horry	Loris
Wickliffe, B. I. (4 A&S)	Oconee	West Union
Wideman, J. Y. (2 A&S)	Allendale	Fairfax
Wiggins, L. E. (1 E)	Florence	Effingham
Wiggins, R. C. (4 A6)	Florence	Effingham
Wilburn, C. T. S. (2 A)	Union	Union
Wilburn, W. C. (2 EE)	Cherokee	Kings Creek
Williams, C. W. (1 A)	Dillon	Dillon
Williams, E. A. (2 A)	Colleton	Williams
Williams, F. H. (1 E)	Spartanburg	Spartanburg
Williams, J. B. (2 E)	Greenwood	Ninety Six
Williams, J. W. (2 CE)	Pickens	Dacusville
Williams, R. Y. (1 T)	York	Rock Hill
Williams, W. R. (1 E)	Greenville	Greenville
Williamson, J. C. (1 A)	Williamsburg	Cades
Willimon, E. P. (1 A)	Greenville	Greenville
Willis, E. B. (1 E)	Anderson	Iva
Willis, J. C. (4 A6)	Marlboro	McColl
Willis, T. J. (2 T)	Spartanburg	Clifton

<i>Name and Course</i>	<i>County</i>	<i>Residence</i>
Wilson, B. S. (4 A7)	Charleston	Martins Point
Wilson, C. D. (4 A7)	Richland	Blythewood
Wilson, C. H. (1 A)	Abbeville	Abbeville
Wilson, F. E. (2 T)	Cherokee	Gaffney
Wilson, H. B. (2 Ar)	Newberry	Newberry
Wilson, J. A. (4 C) .....	.....	Roanoke, Ala.
Wilson, J. P. (2 Ar)	Allendale	Fairfax
Wilson, J. W. (1 A&S)	Anderson	Honea Path
Wilson, V. C. (3 E)	Newberry	Newberry
Wilson, V. L. (3 A&S)	Allendale	Fairfax
Wimberly, J. N. (3 A&S)	Orangeburg	Branchville
Windham, E. L. (4 A1)	Darlington	Lamar
Winn, J. C. (1 A)	McCormick	Plum Branch
Wise, G. H. (4 A5)	Saluda	Saluda
Wofford, W. L. (2 A)	Laurens	Laurens
Wolfe, J. E. (2 A)	Orangeburg	Rowesville
Wolff, L. M. (3 Ar)	Allendale	Allendale
Wood, A. D. (1 A)	Laurens	Ware Shoals
Wood, J. R. (3 A)	Laurens	Ware Shoals
Wood, W. E. (1 A)	Spartanburg	Greer
Woodruff, R. C. (3 EIE)	Greenville	Greenville
Woodson, H. C. (2 E) .....	.....	Albany, Ga.
Woodward, H. E. (4 Ar)	Barnwell	Williston
Workman, J. T. (2 A)	Laurens	Clinton
Wray, J. B. (1 A)	Spartanburg	Spartanburg
Wright, B. H. (1 T)	Greenville	Greenville
Wright, J. K. (2 A)	Fairfield	Shelton
Wright, W. G. (1 C)	Greenwood	Ware Shoals
Wyant, H. L. (2 E)	Newberry	Chappells
Wylie, C. C. (2 E)	York	Rock Hill
Yarborough, J. H. (4 A3)	Chester	Chester
Yeargin, J. A. (4 CE)	Laurens	Gray Court
Yon, J. H. (4 A6)	Orangeburg	Orangeburg
Yongue, P. G. (2 E)	Chester	Fort Lawn
Young, J. E. (2 E)	Greenwood	Greenwood
Young, L. H. (1 C)	Pickens	Central
Young, R. H. (4 CE) .....	.....	Atlanta, Ga.
Youngblood, A. R. (1 E)	Barnwell	Elko
Youngblood, D. F. (2 EIE)	York	Rock Hill
Zeigler, A. K. (2 A)	Orangeburg	Orangeburg
Zeigler, M. G. (3 CE)	Bamberg	Denmark
Zimmerman, C. G. (3 A)	Spartanburg	Woodruff
Zuvich, T. J. (1 CE) .....	.....	Brooklyn, N. Y.

*ENROLLMENT BY COUNTIES, STATES AND COUNTRIES FOR
1929-30*

<i>County</i>	<i>Total</i>
Abbeville	10
Allendale	7
Aiken	19
Anderson	98
Bamberg	16
Barnwell	12
Beaufort	12
Calhoun	7
Charleston	39
Cherokee	14
Chester	12
Chesterfield	7
Clarendon	11
Colleton	15
Darlington	21
Dillon	18
Dorchester	3
Edgefield	11
Fairfield	16
Florence	32
Georgetown	15
Greenville	92
Greenwood	40
Hampton	16
Horry	19
Jasper	1
Kershaw	17
Lancaster	15
Laurens	38
Lee	8
Lexington	25
Marion	16
Marlboro	16
McCormick	8
Newberry	37
Oconee	44
Orangeburg	44
Pickens	48
Richland	43
Saluda	26
Spartanburg	73
Sumter	27
Union	26

Williamsburg	12
York	55

Total for South Carolina I,141

Alabama	9
Connecticut	3
Florida	5
Georgia	33
Illinois	1
Kentucky	1
Louisiana	1
Maryland	1
Massachusetts	1
New Jersey	5
New York	7
Nicaragua	1
North Carolina	18
Pennsylvania	1
South Carolina	I,141
Tennessee	3
Texas	1
Virginia	3
Washington, District of Columbia	1
West Virginia	2

Grand Total I,238

SUMMARY OF SUMMER SESSION 1929

Agriculture Teachers	25
Teachers' Course	116
College Courses	68
Cotton Grading	19

Total 228

*SUMMARY BY CLASSES AND COURSES FOR THE REGULAR
SESSION*

CLASS	Agriculture	Engineering	Electrical Engineering	E. E. & M. E.	Mechanical Engineering	Civil Engineering	Textile Engineering	Tex. Chem.	Chemistry	Arts & Science	Architecture	Eng. Ind. Education	Tex. Ind. Education	TOTALS
Senior	59	...	27	2	6	22	9	1	4	17	8	13	5	173
Junior	45	4	36	1	15	23	29	3	6	25	7	9	5	208
Sophomore	130	86	20	...	6	22	37	16	9	36	12	6	1	381
Freshman	142	186	...	...	...	6	70	1	19	35	14	1	...	474
Special .....	...	...	...	...	...	...	...	...	...	1	...	1	...	2
Totals .....	...	...	...	...	...	...	...	...	...	...	...	...	...	1238

*GENERAL SUMMARY OF ENROLLMENT FOR 1929-30
(First Semester)*

Regular College Session First Semester	1,238
Summer Session	228
Enrollment	1,466
Less individuals enrolled in both regular and summer sessions...	65
Total individuals in attendance	1,401

GIFTS AND BEQUESTS

Technological education and scientific research have been advanced, not only by public support, but also by many private benefactions. Gifts and cooperation from individuals to Land-Grant colleges have been generous and are increasing.

Clemson College was founded upon private munificence. Thomas G. Clemson bequeathed the bulk of his estate to the Trustees for advancing higher education based upon the sciences. The Y. M. C. A. was constructed by funds from private sources, Mr. John D. Rockefeller contributing \$50,000, and friends of the college subscribing \$25,000. Another friend made donations of \$25,000 for the Poultry Plant and \$10,000 to aid in a building at a branch Experiment Station. Colonel D. K. Norris, one of the original Trustees, bequeathed a block of cotton mill stock to endow a medal awarded annually for scholastic excellence. Clemson alumni are raising funds for a Physical Education Building. Materials and equipment for both research and instructional purposes have been donated by interested persons.

Clemson College is largely supported by the State of South Carolina, but the College is in need of funds in addition to these appropriations. For scientific research in agriculture, engineering, chemistry and dyeing, and textiles, private donations could be used advantageously. Funds are also needed for an Agricultural Building, a Hospital, a Textile Building, a Dormitory, and a Physical Education Building. Gifts or bequests for these or other purposes, in whatever amounts, will be carefully administered by College authorities.

The following form is suggested as a proper legal form to be used for testamental bestowment of funds:

*I hereby give and bequeath to the Trustees of
Clemson Agricultural College for the use of the
Clemson Agricultural College (The A. & M. Col-
lege of South Carolina) Clemson College, South
Carolina*

----- Dollars (\$)
for the purpose of -----
Signed -----

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