CATALOG

OF THE

UNIVERSITY OF KENTUCKY

1917—1918

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FRANKFORT, KY.

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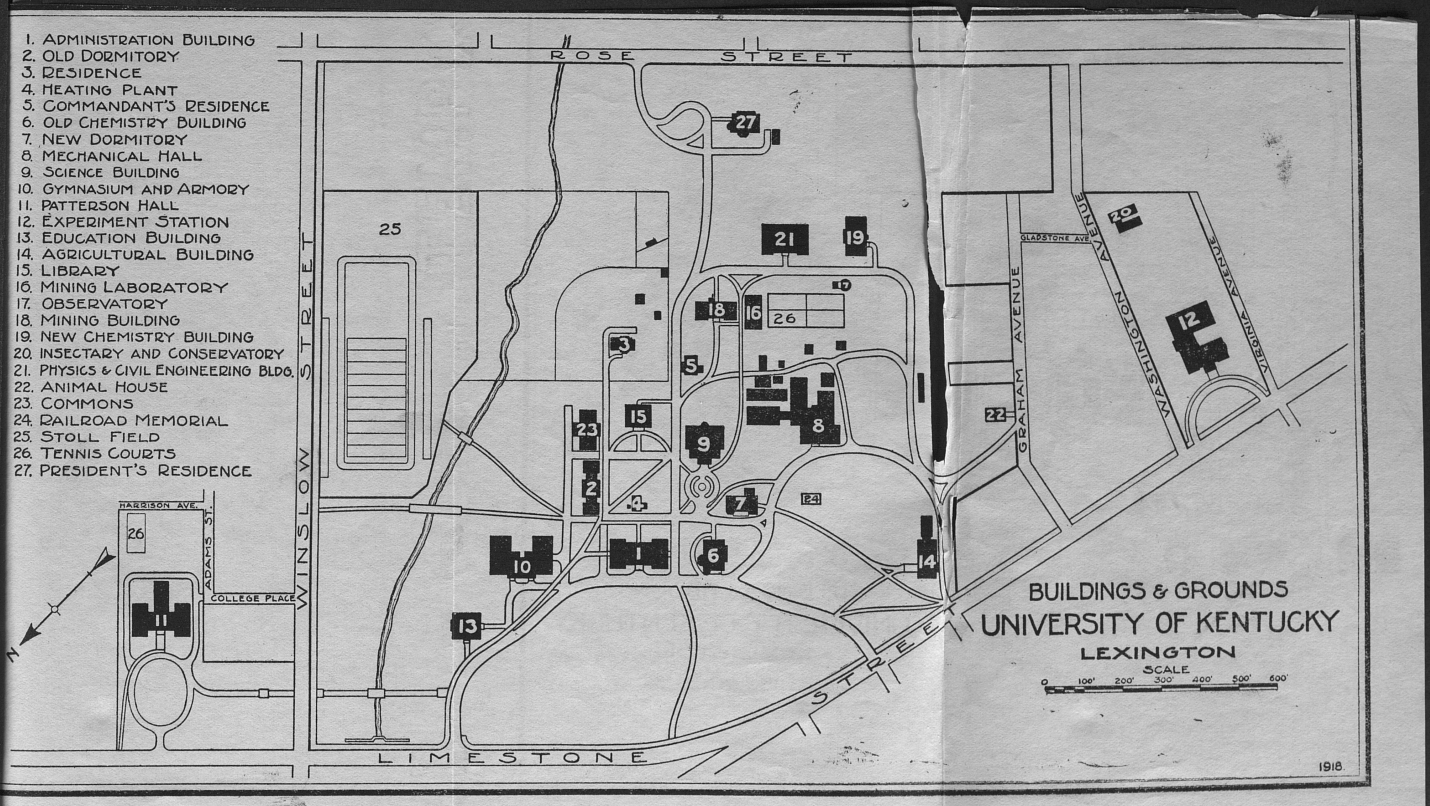
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11. PATTERSON HALL
12. EXPERIMENT STATION
13. EDUCATION BUILDING
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20. INSECTARY AND CONSERVATORY
21. PHYSICS & CIVIL ENGINEERING BLDG.
22. ANIMAL HOUSE
23. COMMONS
24. RAILROAD MEMORIAL
25. STOLL FIELD
26. TENNIS COURTS
27. PRESIDENT'S RESIDENCE
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LIMESTONE STREET
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ADAMS ST.
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VIRGINIA AVENUE
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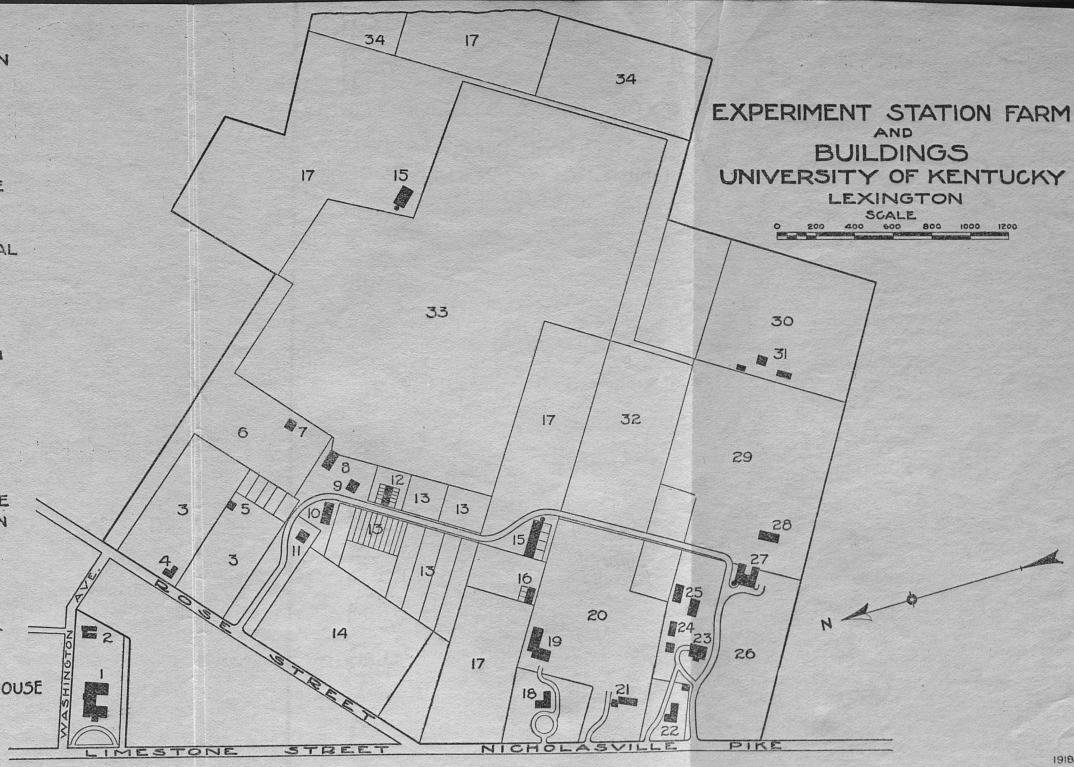
10. VETERINARY HOSPITAL
11. RESIDENCE
12. PIGGERY
13. SWINE LOTS
14. SOIL EXPERIMENTS
15. STEER FEEDING BARN
16. SHEEP BARN
17. ANIMAL HUSBANDRY
18. RESIDENCE
19. BARN
20. HORTICULTURE
21. CONSERVATORY
22. DIRECTOR'S RESIDENCE
23. GENERAL UTILITY BARN
24. FEED MILL
25. TOBACCO HOUSES
26. PASTURE
27. DAIRY BARN
28. FEED STORAGE HOUSE
29. PASTURE
30. POULTRY PLANT
31. LABORATORY & FEED HOUSE
32. ORCHARD
33. AGRONOMY
34. TOBACCO PLOTS



1918.

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1918

MAY

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UNIVERSITY CALENDAR

1918		
Sept. 11, 12, 13, 14	Wed. Thurs. Fri. Sat.	Examinations for entrance.
Sept. 11, 12, 13, 14	Wed. Thurs. Fri. Sat.	Examinations to remove conditions.
September 16, 17	Mon. to Tues. 4 p. m.	Registration for first semester.
September 18	Wednesday	Instruction begins.
October 14	Monday	Registration for work in Agriculture.
(Registration for work in Home Economics September 16, 17)		
November 28	Thursday	Thanksgiving holidays.
December 6	Friday	Annual Debate, Union and Patterson Literary Societies.
Dec. 20 to Jan. 7, 1919	Friday noon to Tuesday 8 p. m.	Christmas Holidays.
1919		
Jan. 18 to 25	Sat. to Sat.	Mid-year examinations.
February 3, 4	Mon. to Tues. 4 p. m.	Registration for second semester
February 5	Wednesday	Instruction resumed.
February 22	Saturday	Washington's Birthday.
April 18	Friday	Work in Agriculture closed.
	Commencement Week	
June 8	Sunday	Baccalaureate Sermon.
June 9	Monday	Board of Trustees meets.
June 10	Tuesday	Class Day.
June 10	Tuesday	Alumni Banquet.
June 11	Wednesday	Commencement

SCHEDULE OF ENTRANCE EXAMINATIONS

WEDNESDAY, SEPTEMBER 11, 1918

8.00 to 10.00 A. M.	English (Reading and Practice)
10.00 to 12.00 A. M.	English (Study and Practice)
8.00 to 10.00 A. M.	Greek (Grammar and Composition)
10.00 to 12.00 A. M.	Greek (Homer and Xenophon)
1.30 to 3.30 P. M.	German (1, 2, 3)
3.30 to 5.30 P. M.	Solid Geometry

THURSDAY, SEPTEMBER 12, 1918

8.00 to 10.00 A. M.	Latin (Grammar, Composition and Caesar)
10.00 to 12.00 A. M.	Latin (Cicero and Virgil)
8.00 to 10.00 A. M.	History (Ancient, Medieval, and Modern)
10.00 to 12.00 A. M.	History (English, American and Civil Govt.)
1.30 to 3.30 P. M.	French
1.30 to 3.30 P. M.	Trigonometry

FRIDAY, SEPTEMBER 13, 1918

8.00 to 10.00 A. M.	Plane Geometry
10.00 to 12.00 A. M.	Chemistry
10.00 to 12.00 A. M.	Physics
1.30 to 3.30 P. M.	Botany
1.30 to 3.30 P. M.	Physiology

SATURDAY, SEPTEMBER 14, 1918

8.00 to 10.00 A. M.	Algebra
10.00 to 12.00 A. M.	Physical Geography
8.00 to 10.00 A. M.	Geology

EXAMINATIONS FOR THE REMOVAL OF CONDITIONS

Examinations for the removal of conditions will be held during the week preceding the opening of the first semester.

Part I
OFFICERS OF ADMINISTRATION AND INSTRUCTION

BOARD OF TRUSTEES

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Virgil O. Gilbert, Superintendent of Public Instruction—Ex-officio
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H. M. Froman, Ghent (Board of Agriculture)
R. G. Gordon, Louisville (1924)
J. R. Rash, Henderson (Board of Agriculture)
P. Preston Johnston, Jr., Lexington (1922)
J. Irvin Lyle, New York (1924)
Richard C. Stoll, Lexington (1924)
James W. Turner, Paintsville (1922)
Rainey T. Wells, Murray (1922)
..... (1920)
..... (1920)

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Richard C. Stoll, Vice Chairman
Wellington Patrick, Secretary.

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Richard C. Stoll

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THE UNIVERSITY

OFFICE OF THE PRESIDENT

WELLINGTON PATRICK, A. M., Secretary

OFFICE OF THE BUSINESS AGENT

DAVID HOWARD PEAK, A. M., Business Agent
JAMES BASIL LYONS, Cashier
RUBY STIVERS, Bookkeeper
CARRIE BEAN, Clerk, (Supply Department)

OFFICE OF THE REGISTRAR

EZRA L. GILLIS, A. B., Registrar and Secretary of the Senate
LIZZIE LEE GRADDY, Assistant Registrar
KATHERINE W. OWENS, Chief Clerk.

DEAN OF WOMEN

ANNA JACKSON HAMILTON, M. A.

DEAN OF MEN

COLUMBUS RUDOLPH MELCHER, A. M.

UNIVERSITY PHYSICIAN

JOSEPH WILLIAM PRYOR, M. D.

LIBRARY

MARGARET ISADORA KING, A. B., Librarian
MARGARET HELMSING TUTTLE, Assistant in Library
MINNIE EVELYN NEVILLE, Assistant in Library

UNIVERSITY Y. M. C. A.

JOHN E. JOHNSON, B. S., B. D., M. A., Secretary

RESIDENCE HALLS

ADELAIDE CRANE, Director of Residence Hall for Women
ELIZABETH D. PICKETT, Dietitian
MRS. SARAH WEST MARSHALL, Supervisor of Residence Halls for Men

OFFICE OF SUPERINTENDENT OF BUILDINGS AND GROUNDS

ARCHIE O. WHIPPLE, E. M., Supt. of Buildings and Grounds
LON D. MOORE, Foreman
CHARLES AUBREY, Engineer
THOMAS AUBREY, Engineer
ISAAC C. WATKINS, Engineer

UNIVERSITY COMMONS

MRS. A. T. MILLION, Manager of Cafeteria

STENOGRAPHIC BUREAU

ASSIGNED

NANCY B. BENTLEY, Stenographer (College of Mining Engineering)
JOHN ADAM BITTERMAN, Stenographer (College of Civil Engineering)
TERESA EUGENIA BUCHIGNANI, A. B., Stenographer (College of Arts and Science)
GERMAINE CRUMBAUGH, Stenographer (College of Agriculture)
ETHEL JELLEY, Stenographer (College of Mechanical and Electrical Engineering)
EDITH LOVE, Stenographer (Department of Chemistry)
VIOLA L. MERIGOLD, Stenographer, President's office
MAPLE MOORES, Stenographer (Office of Registrar)
*MRS. NELL H. TURNER, Stenographer (College of Mechanical and Electrical Engineering)

UNASSIGNED

WELLINGTON PATRICK, A. M., Director
MINNIE PHERIGO, Head Stenographer
ELMA ALLEN, Stenographer
MRS. KATHERINE HUGHES LYON, Stenographer
AILEEN BRADLEY PROCTOR, Stenographer

---

*On leave of absence.

THE COLLEGES

THE COLLEGE OF ARTS AND SCIENCE

PAUL PRENTICE BOYD, M. A., PH. D., Dean

THE COLLEGE OF AGRICULTURE

THOMAS POE COOPER, B. S. in Agr., Dean

THE COLLEGE OF CIVIL ENGINEERING

DANIEL VOIERS TERRELL, C. E., Acting Dean

THE COLLEGE OF MECHANICAL AND ELECTRICAL ENGINEERING

FREDERICK PAUL ANDERSON, M. E., Dean

THE COLLEGE OF MINES AND METALLURGY

CHARLES JOSEPH NORWOOD, M. S., Dean

THE COLLEGE OF LAW

WILLIAM THORNTON LAFFERTY, A. M., Dean

THE GRADUATE DEPARTMENT

GLANVILLE TERRELL, A. M., PH. D., Chairman of Committee

THE UNIVERSITY SUMMER SESSION

JAMES THOMAS COTTON NOE, A. M., Director

OFFICERS OF INSTRUCTION

PROFESSORS

FRANK LEROND MCVEY, B. A., PH. D., LL. D. Maxwell Place, Rose St.
President of the University

JOSEPH WILLIAM PRYOR, M. D. 261 North Broadway
Professor of Anatomy and Physiology,
Head of the Department

HARRISON GARMAN, D. SC. 638 South Limestone
Head of the Department of Entomology and
Botany in the Experiment Station

FREDERICK PAUL ANDERSON, M. E. 147 Kentucky Avenue
Dean of the College of Mechanical and Electrical Engineering,
Director of the Experimental Laboratories, Professor
of Mechanical Engineering

CLARENCE WENTWORTH MATHEWS, B. S. 660 South Limestone
Professor of Horticulture, Head of the Department of
Horticulture in the Experiment Station

*ARTHUR MCQUISTON MILLER, A. M. 609 South Limestone
Professor of Geology, Head of the Department

MERRY LEWIS PENCE, M. S. 364 Merino Street
Professor of Physics

CHARLES JOSEPH NORWOOD, M. S. 339 Aylesford Place
Dean of the College of Mines and Metallurgy,
Professor of Mining and Metallurgy

ALFRED CHARLES ZEMBROD, M. A. 456 West Fourth Street
Professor of Romance Languages, Head of the Department

FRANKLIN ELLIOTT TUTTLE, M. A., PH. D. 125 East Maxwell
Professor of Chemistry, Head of the Department

LEON KAUFMAN FRANKEL, M. E. 324 Aylesford Place
Professor of Applied Mechanics, Head of the Department
of Mechanics of Engineering

---

*On leave of absence, 1917-1918.

WILLIAM THORNTON LAFFERTY, A. M. 418 East Maxwell
Dean of the College of Law, Professor of Law

MRS. ROBERT LEE STOUT Frankfort, Ky.
Professor of Physical Education for Women

JOHN JULIAN HOOPER, M. S. A. 609 S. Limestone
Professor of Animal Husbandry, Head of the Department of Animal Husbandry (Dairy Cattle, Horses and Poultry) in the Experiment Station

RALPH NELSON MAXSON, B. S., PH. D. 366 Transylvania Park
Professor of Inorganic Chemistry

GEORGE ROBERTS, M. S. 340 Transylvania Park
Professor of Agronomy, Head of the Department of Agronomy in the Experiment Station

THEODORE TOLMAN JONES, A. M. 316 Aylesford Place
Professor of Ancient Languages, Head of the Department

GLANVILLE TERRELL, A. M., PH. D. 609 S. Limestone
Professor of Philosophy, Head of the Department

JAMES THOMAS COTTON NOE, A. M. 231 East Maxwell
Professor of Education, Head of the Department

ALFRED MEREDITH PETER, D. SC., F. A. A. 268 East Maxwell
Head of the Department of Chemistry in the Experiment Station

HENRY ERNEST CURTIS, M. S. 355 Linden Walk
Head of the Fertilizer Department in the Experiment Station and Bursar

JAMES OSCAR LABACH, M. S. Preston Inn
Head of the Food and Drug Department in the Experiment Station

JOB DARBIN TURNER, B. PED., LL. B. 135 Washington Avenue
Head of the Department of Feed Control in the Experiment Station

EDWIN STANTON GOOD, M. S. Nicholasville Pike
Chairman, Animal Husbandry Group, Head of the Department of Animal Husbandry in the Experiment Station

MCHENRY RHOADS, A. M., PH. M. Nicholasville Pike
Professor of Secondary Education

COLUMBUS RUDOLPH MELCHER, A. M. — Preston Inn
Head of the Department of German Languages and Literature

JAMES EDWARD TUTHILL, PH. D. — 253 S. Limestone
Professor of History and Political Science, Head of the Department

LYMAN CHALKLEY, LL. B. — 342 S. Broadway
Professor of Law

WILLIAM EDWIN FREEMAN, A. B., E. E. — 553 West Second
Professor of Electrical Engineering, Head of the Department

*JOHN JAMES TIGERT, M. A. (OXON.) — 119 Bassett Court
Professor of Psychology, Head of the Department

PAUL PRENTICE BOYD, M. A., PH. D. — Waller Ave., Rodes Place
Dean of the College of Arts and Science, Head of the Department of Mathematics and Astronomy

JOSEPH MORTON DAVIS, A. M. — 340 Madison Place
Professor of Mathematics

DANIEL VOIERS TERRELL, C. E. — 651 S. Limestone
Acting Dean of the College of Civil Engineering, Professor of Highway Engineering

FRED MUTCHLER, PH. D. — 337 Transylvania Park
Director of Agricultural Extension

*WILLIAM SNYDER WEBB, M. S. — 363 Transylvania Park
Professor of Physics

LOUIS EDWARD NOLLAU, M. E. — 311 East Maxwell
Professor of Drawing, Head of the Department

EDWARD FRANKLIN FARQUHAR, A. M. — 629 Sayre Avenue
Professor of Literature

LEHRE LIVINGSTON DANTZLER, M. A. — 200 East Maxwell
Professor of Philology, Head of the Department of English

THOMAS JAMES BARR, B. M. E. — 454 Rose Lane
Professor of Mining Engineering

ENOCH GREHAN, A. B. — 348 Aylesford Place
Professor of Journalism, Head of the Department

*On leave of absence.

EZRA L. GILLIS, A. B. — 287 S. Limestone
Registrar and Secretary of the Senate

DAVID HOWARD PEAK, A. M. — 412 Linden Walk
Business Agent

WILLIAM DURRETT NICHOLLS, A. B. — 19 University Place
Head of the Department of Farm Management

STANLEY ATWOOD BOLES, M. A. — 406 Woodland Ave.
Head of the Department of Physical Education

HERBERT NATHAN ROYDEN, CAPT. (WEST POINT) — Com.'s House, Campus
Head of the Department of Military Science

*REUBEN BRENT HUTCHCRAFT, A. B., LL. B. — Paris, Ky
Professor of Law

THOMAS POE COOPER, B. S. IN AGR. — Station Farm
Dean of the College of Agriculture and Director of the Experiment Station

JOHN REGESTER HUMPHREY — 619 Boonesboro Ave.
Head of the Department of Markets, Field Agent in Marketing

MCNEAL C. JAMES, A. B., B. S. IN AGR. — 149 Washington Ave.
Professor of Agricultural Education

†EDWARD WIEST, PH. D.
Head of the Department of Economics and Sociology

†CHARLES ALBERT SHULL, PH. D.
Professor of Plant Physiology and Head of the Department of Botany

†WILLIAM D. FUNKHOUSER, M. A., PH. D.
Head of the Department of Zoology

†CARL A. LAMPERT
Head of the Department of Music

†WALTER LEE SUMMERS, A. B., J. D.
Professor of Law

---

*On leave of absence.
†Appointed May, 1918.

ASSOCIATE PROFESSORS

*William Joseph Carrel, B. S., C. E. — 371 Linden Walk
Associate Professor of Civil Engineering

**Anna Jackson Hamilton, M. A. — 643 S. Limestone
Dean of Women, Associate Professor of English

Elijah Latham Rees, C. E., M. A. — 726 East Main
Associate Professor of Mathematics

*Mary E. Sweeny, M. S., M. A. — Pine Grove, Ky.
Associate Professor of Home Economics, Head of the Department

Cincinnatus Decatur Killebrew, M. S. — 287 S. Limestone
Associate Professor of Physics

George Marshall Baker, A. M. — 701 S. Limestone
Associate Professor of Education

ASSISTANT PROFESSORS

Mary LeGrande Didlake, M. S. — 481 East Main
Assistant, Department of Entomology and Botany in the Experiment Station

Saxe Dabney Averitt, M. S. — 304 East Maxwell
Chemist, Department of Chemistry in the Experiment Station

Oliver March Shedd, M. S. — 348 Linden Walk
Chemist, Department of Research in the Experiment Station

Harold Hardesty Downing, B. C. E., S. M. — 158 N. Ashland Ave.
Assistant Professor of Mathematics

†Ruby Mildred Buckman, A. B., B. S. — 267 S. Limestone
Assistant Professor of Household Arts

Frank Theodore McFarland, B. S. in Agr., M. S. — 703 S. Limestone
Assistant Professor of Botany

Arza Lytle Wilhoite, M. E. — 412 Rose Street
Assistant Professor of Heat Engineering

---

*On leave of absence.
**On leave of absence, 1918-19.
†Resigned June 5, 1918.

JOHN SHERMAN HORINE, M. E. — 252 East Maxwell
Assistant Professor of Drawing

JOHN JAMES CURTIS, M. E. — 344 Transylvania Park
Assistant Professor of Testing of Materials

†JOSEPH DICKER — 120 Graham Ave.
Superintendent of Shops, Head of the Department of Practical Mechanics

J. EMBRY ALLEN, A. B. — 365 Aylesford Place
Assistant Professor of Law

GEORGE W. VAUGHN, LL. B. — 111 N. Ashland Ave.
Assistant Professor of Law

WILLIAM E. BUTT, M. A. — 412 Woodland Avenue
Assistant Professor of History and Political Science

*ELLEN ANN REYNOLDS, M. S. — 319 Linden Walk
Assistant Professor of Nutrition and Sanitation

GEORGE HAYMAKER VANSELL, A. M. — 452 Rose Lane
Assistant Professor of Zoology

CLAUDE CLAYTON KIPLINGER, A. B. — 344 Harrison Avenue
Assistant Professor of Organic Chemistry

MABEL L. ROE, PH. D. — 209 East Maxwell
Assistant Professor of Botany

JOHN BORN DICKER — 122 Graham Ave.
Superintendent of Shops, Head of the Department of Practical Mechanics

**EDWARD C. MABIE, A. M.
Assistant Professor of Public Speaking

**CLARE BROWN CORNELL, PH. D. — 358 Harrison Ave.
Assistant Professor of Psychology

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*Resigned January, 1918.
**Appointed May, 1918.
†Deceased October 31, 1917.

INSTRUCTORS AND ASSISTANTS

*Sarah Marshall Chorn, A. M. *Instructor in Modern Languages*	Nicholasville Pike
Gordon Thurman *Instructor in Forge and Machine Shop*	131 Virginia Avenue
**James Ray Duncan, B. M. E. *Assistant in Electrical Engineering*	116 Bassett Court
Edwin Joseph Gott, B. S. in Agr. *Instructor in Bacteriology*	819 South Limestone
Clara Warland White *Instructor in Department of Home Economics*	158 East Maxwell
†M. Hume Bedford, Ph. D. *Instructor in Physical Chemistry*	Paris, Ky.
Harry S. Cannon, A. M. *Instructor in German*	287 South Limestone
Margaret McLaughlin, A. B. *Instructor in Journalism*	226 East Maxwell
John Richard Mitchell, A. B. *Instructor in Chemistry*	327 South Upper
‡Mary Frances Jewell, A. B. *Instructor in English*	311 S. Ashland Ave.
Mabel Hardy Pollitt, A. M. *Instructor in German*	University Campus
Marshall Ney States, B. S. *Instructor in Physics*	453 East Maxwell
Virginia F. Anderson, B. S. in Biol. *Instructor in Freehand Drawing*	147 Kentucky Ave.
*Brice Couch Worley, B. S. *Instructor in Assaying and Metallurgy*	321 Grosvenor Avenue

*Resigned February 1, 1918.
**Resigned December 1, 1917.
†On leave of absence.
‡On leave of absence 1917-18.

WILLIAM ARNOLD NEWMAN, C. E. — 219 Rand Ave.
Instructor in Civil Engineering

LINDA BERTRAM PURNELL, B. S. — 348 Harrison Ave.
Instructor in Home Economics and Practice House Instructor

CHARLES HODGE SCOTT, A. B. — 609 South Limestone
Instructor in Geology

*NORTON MOORE WILLIAMS, B. S. — 327 South Upper
Instructor in Chemistry

ALBERT FOSTER HARDMAN, A. B. — Y. M. C. A.
Instructor in Chemistry

**HOMER LLOYD REID, A. B. — 483 East High St.
Instructor in Physics and Mathematics

LESLIE BURGEVIN, M. A. — 720 East High St.
Instructor in English

CHRISTINE HOPKINS, A. B. — 643 S. Limestone
Instructor in English

CECIL CHENAULT HARP, M. E. — 546 Rose Street
Instructor in Experimental Engineering

JOHN T. PRICE, M. A. — 348 Aylesford Place
Instructor in English and Journalism

IDALINO O. CASTRO — 643 S. Limestone
Instructor in Romance Languages

JAMES PARK, A. B. — 229 S. Limestone
Field Coach

LAWRENCE A. COVER, A. B., MUS. B. — 430 N. Broadway
Instructor in Music

MARGARET ISADORE KING, A. B. — 225 S. Limestone
Librarian and Instructor in Library Training

†FLORENCE M. BARRETT, M. A.
Instructor in Romance Languages

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*Resigned February 1, 1918.
**Resigned December 1, 1917.
†Appointed May, 1918.

FELLOWS AND SCHOLARS

HARRY RAYMOND ALLEN, A. B. *Fellow in Mathematics*	216 Bell Court, East
EVA MARGUERITE BROWN, A. B. *Fellow in Education*	145 Woodland Avenue
VERNON GUY GROVE, A. B. *Fellow in Mathematics*	Observatory
GEORGE SLAPPEY, A. B. *Fellow in English*	210 Arlington Avenue
*JOHN J. OWEN, A. B. *Fellow in Chemistry*	Nicholasville, Ky.

*Resigned November 1, 1917.

EXPERIMENT STATION STAFF

THOMAS POE COOPER, B. S. IN AGR. — Station Farm
Director

OLEVA LOUISE GINOCCHIO — 240 Lexington Avenue
Secretary

GEORGE ROBERTS, M. S. — 340 Transylvania Park
Head of the Department of Agronomy

EDMUND J. KINNEY, B. S. IN AGR. — 465 Woodland Avenue
Assistant Agronomist

PERRY ELMER KARRAKER, M. A. — 462 Rose Lane
Assistant Agronomist

AVERY EARLY EWAN, B. S. IN AGR. — Greenville, Ky.
Superintendent Experiment Fields

S. LEVIS HIBBERD, B. S. IN AGR. — Y. M. C. A. Building
Assistant in Agronomy

EDWIN STANTON GOOD, M. S. — Nicholasville Pike
Chairman, Animal Husbandry Group, Head of the Department of Animal Husbandry (Beef Cattle, Sheep and Swine)

T. GEORGE YAXIS, M. S. A. — 488 East High St.
Assistant in Animal Husbandry

JOHN JULIAN HOOPER, M. S. A. — 609 S. Limestone
Head of the Department of Animal Husbandry (Dairy Cattle, Horse and Poultry)

WALTER S. ANDERSON, M. A. — Nicholasville Pike
Assistant in Horse Husbandry

JAMES HOLMES MARTIN, B. S. IN AGR. — 327 South Upper
Assistant in Poultry

JOHN WILLIAM NUTTER — 149 Virginia Avenue
Dairyman

PHILIP E. BACON — 414 Rose Lane
Milk Tester

ALFRED MEREDITH PETER, D. SC., F. A. A. — 268 East Maxwell
Head of the Department of Chemistry

SAXE DABNEY AVERITT, M. S. — 304 East Maxwell
Chemist

OLIVER MARCH SHEDD, M. S. — 348 Linden Walk
Chemist

JAMES SPENCER MCHARGUE, M. S. — 411 Transylvania Park
Chemist

GARRETT DAVIS BUCKNER, PH. D. — 461 N. Limestone
Chemist

*PHILIP LEE BLUMENTHAL, PH. D. — Phoenix Hotel
Chemist

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Bacteriologist

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MARY LEGRANDE DIDLAKE, M. S. — 481 East Main St.
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ERLE VAUGHN, A. B. — 304 S. Limestone
Assistant Entomologist and Botanist

HOWARD HERMAN JEWETT, M. A. — 152 East High St.
Research Assistant Entomologist and Botanist

HOMER PERRY, B. S. IN AGR. — 414 Columbia Avenue
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CARRIE LEE HATHAWAY — 481 East Main Street
Seed Analyst

MARGARET J. PERRY — 414 Columbia Avenue
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Head of the Department of Farm Management

*On leave of absence.

JOHN B. HUTSON, B. S. IN AGR. 152 East Maxwell
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*ELMER INGRAM
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*OWEN SCOTT LEE, B. S. 359 Aylesford Place
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*ROGER W. JONES 216 Bell Court, East
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Acting Head of the Department of Veterinary Science

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Head of the Food and Drug Department

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WALTER REDMON PINNELL, M. D. 258 Delmar Avenue
Bacteriologist, Food and Drug Department

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*On leave of absence.

JOHN WILLIAM MCFARLIN, B. S. Franklin, Ky.
Chief Food Inspector, Food and Drug Department

CHILTON SCOTT PORTER, A. B., PH. G. 430 East Maxwell
Drug Inspector, Food and Drug Department

WILLIS GRANVILLE TERRELL 137 East Second St.
Food Inspector, Food and Drug Department

WILLIAM HERBERT SIMMONS, V. S. Louisville, Ky.
Inspector, Food and Drug Department

N. MINTON CREGOR, B. S. IN AGR. 315 S. Limestone
Inspector, Food and Drug Department

GEORGE MALCOLM ROACH 103 Second Street
Inspector, Food and Drug Department

Clerical Staff

GRACE SNODGRASS — 431 East Sixth Street
Librarian

LILLIE FRANCES LISTON — 270 S. Limestone
Chief Clerk, Food and Drug Department

ANNA WALLIS, A. B. — 326 Aylesford Place
Clerk, Department of Fertilizer Control

FANNY CLARK ROGERS — 646 Central Avenue
Clerk, Department of Feed Control

ETHEL V. T. CASWALL — 333 Grosvenor Avenue
Clerk, Department of Chemistry

LILA BEATRICE TERRY, A. B. — 356 Woodland Avenue
Clerk, Department of Entomology and Botany

MAY GRACE GINOCCHIO — 267 Lexington Avenue
Clerk, Department of Animal Husbandry
(Beef Cattle, Sheep and Swine)

JESSIE FRAZER CASWALL — 333 Grosvenor Avenue
Clerk, Department of Agronomy

FANNIE WALLACE UTTERBACK — 437 Davidson Court
Clerk, Department of Animal Husbandry
(Dairy Cattle, Horses and Poultry)

KATE MCDANIEL — 153 Barr Street
Clerk, Department of Horticulture

MRS. ELLA FOLEY DRAKE — 165 Virginia Avenue
Clerk, Department of Veterinary Science

RUTH DUCKWALL — Patterson Hall
Clerk, Department of Farm Management

MABEL HUSTON — 149 Virginia Avenue
Clerk, Department of Food and Drugs

MARIE ELIZABETH HEINL — 129 East High Street
Clerk, Department of Administration

AGRICULTURAL EXTENSION STAFF

FRED MUTCHLER, PH. D. *Director*	Lexington, Ky.
T. R. BRYANT, B. S. IN AGR. *Assistant Director*	Lexington, Ky.
GEOFFREY MORGAN *State Agent*	Richmond, Ky.
MORGAN O. HUGHES *Assistant State Agent*	Bowling Green, Ky.
THOMAS H. COLLINS *District Agent*	Richmond, Ky.
FRANCIS E. MERRIMAN *District Agent*	Louisville, Ky.
GEORGE T. WYATT *District Agent*	Hopkinsville, Ky.
BOLLING G. NELSON *District Agent*	Hopkinsville, Ky.
GEORGE ROBERTS, M. S. *Specialist in Agronomy*	Lexington, Ky.
E. J. KINNEY, B. S. IN AGR. *Specialist in Agronomy*	Lexington, Ky.
E. S. GOOD, M. S. *Live Stock Specialist*	Lexington, Ky.
OTIS KERCHER, B. S. IN AGR. *State Leader Boys' Clubs*	Lexington, Ky.
N. R. ELLIOTT, B. S. IN HORTICULTURE *Specialists in Horticulture*	Lexington, Ky.
ARTHUR S. CHAPIN *Poultry Clubs*	Lexington, Ky.
D. D. SLADE *Extension Poultry Specialist*	Lexington, Ky.
WM. D. NICHOLLS, M. S. A. *Farm Management Specialist*	Lexington, Ky.

J. B. Huston, B. S. in Agr. — Lexington, Ky.
Assistant in Farm Management

J. E. Crider, Jr. — Fredonia, Ky.
Specialist in Dairy Organization

John R. Humphrey — Lexington, Ky.
Head of Department of Markets

Orville G. Hankins, B. S. in Agr. — Lexington, Ky.
Boys' Pig Clubs

John U. Field — Versailles, Ky
Field Agent in Marketing

Helen B. Wolcott, M. D. — Lexington, Ky.
State Agent Home Demonstration Work

Margaret D. Jonas — Louisville, Ky.
District Agent Home Demonstration Work

Minnie Parker Durham — Paducah, Ky.
District Agent Home Demonstration Work

Lulie Logan, A. B. — Lexington, Ky.
District Agent Home Demonstration Work

Mrs. Wallace M. Bartlett — Lexington, Ky.
District Agent Home Demonstration Work

Dorothea Scoville, A. B. — Lexington, Ky.
District Agent Home Demonstration Work

Mrs. Eloise Graves, B. S. — Lexington, Ky.
District Agent Home Demonstration Work

Clerical Staff

SUSAN C. KIDD — Lexington, Ky
Bookkeeper, Extension Division

ANNA BERRY JONES — Lexington, Ky.
Secretary to the Director of Extension

MARGARET C. RYAN — Lexington, Ky.
Secretary, Boys' Club Work, Extension Division

PAULINE KLAREN — Lexington, Ky.
Clerk, Agricultural Extension Division

LOUISE CRUMBAUGH — Lexington, Ky.
Clerk, Agricultural Extension Division

KATHERINE MEIER — Lexington, Ky.
Clerk, Agricultural Extension Division

DAISY D. DRYDEN — Lexington, Ky.
Clerk, Agricultural Extension Division

MARY F. SNELL — Lexington, Ky.
Clerk, Extension Division, Department of Markets

HAZEL I. ADAMS — Lexington, Ky.
Clerk, Extension Division

HELEN WILSON — Bowling Green, Ky.
Clerk, Extension Division

ELIZABETH H. GALLOWAY — Richmond, Ky.
Clerk, Agricultural Extension Division

JESSIE ALDRIDGE — Fredonia, Ky.
Secretary to State Agent, Farm Demonstration Work, Extension Division

SETH N. WIGGINTON — Lexington, Ky.
Clerk, Agricultural Extension Division

JESSIE F. CASWALL — Louisville, Ky.
Clerk, Agricultural Extension Division

GERTRUDE SOMMER — Hopkinsville, Ky.
Clerk, Agricultural Extension Division

MARIE ALLISON
Clerk, Agricultural Extension Division

COUNTY HOME DEMONSTRATION AGENTS

NAME	OFFICIAL STATION	COUNTY
Julia N. Amburgey	Whitley City	McCreary
Iris Boggess	Greenville	Muhlenberg
Lillian C. Brashear	Munfordville	Hart
Roxie Campbell	Williamsburg	Whitley
Mrs. Della Davis	Elizabethtown	Hardin
Lotta C. Faris	Richmond	Madison
Mrs. Anna B. Goddard	Harrodsburg	Mercer
Mrs. Jennie C. Crubbs	Junction City	Boyle
Jacqueline Hall	Cynthiana	Harrison
Mrs. Frances Y. Kline	Smithland	Livingston
Mrs. Ozema L. Lyle	Paducah	McCracken
Fleety Lynn	Kuttawa	Lyon
Maude Maguiar	Franklin	Simpson
Mary E. Means	Hopkinsville	Christian
Marie Roberts	Louisa	Lawrence
Caroline Tracy	Hickman	Fulton
Rheda R. Wadlington	Ashland	Boyd
Mrs. Susan G. Weever	Henderson	Henderson

URBAN HOME DEMONSTRATION AGENTS

Wilhelmine Dietemeier	Cincinnati, O.
Hester Ann Lowry	Louisville, Ky.
Elsie Spech	Paducah, Ky.
Elizabeth S. Threlkeld	Lexington, Ky.

COUNTY AGRICULTURAL AGENTS

NAME	OFFICIAL STATION	COUNTY
A. Flem Baker	Elkton	Todd
Guerney C. Baker	Louisa	Lawrence
Horace P. Bird	Elizabethtown	Hardin
Benjamin F. Boggs	Richmond	Madison
E. F. Boyd, Jr.	Maysville	Mason
W. W. Browder	Hartford	Ohio
William Brusse	Frankfort	Franklin
Elliott Buckner	Versailles	Woodford
Armeil Carman	Clinton	Hickman
Robert S. Clough	Benton	Marshall
Orestes F. Floyd	Cynthiana	Harrison

NAME	OFFICIAL STATION	COUNTY
P. Millard Frye	Booneville	Owsley
J. C. Gentry	Harrodsburg	Mercer
Angus N. Gordon	Henderson	Henderson
Morris M. Gordon	Fulton	Fulton
Ivan C. Graddy	Greenville	Muhlenberg
Wm. Jefferson Harris	Bardwell	Carlisle
Benjamin A. Hensley	Paintsville	Johnson
Charles L. Hill	Calhoun	McLean
Kibly V. Layton	Eddyville	Lyon
Samuel J. Lowry	La Grange	Oldham
Harry Logan McMurry	Hindman	Knott
Benjamin H. Mitchell	Mayfield	Graves
Wayland Rhoads	Independence	Kenton
John P. Ricketts	Owenton	Owen
Wm. H. Rogers	Lancaster	Garrard
Louis D. Sandlin	Manchester	Clay
Frank G. Sorrells	Madisonville	Hopkins
Robert F. Spence	Berea	Madison
Chas. L. Taylor	Bardstown	Nelson
John T. Taylor	Louisville	Jefferson
Fay O. Townes	Falmouth	Pendleton
William Tye	Barbourville	Knox
Kenna Lee Varney	Pikeville	Pike
James W. Whitehouse	Owensboro	Daviess
Rodney Whitlow	Russellville	Logan
Wm. Clark Wilson	Ashland	Boyd
John W. Worthington	Alexandria	Campbell

STANDING COMMITTEES OF THE FACULTY

ATHLETICS

Professors Freeman (Chairman), Curtis, Lafferty, D. V. Terrell, Tigert.

BUILDINGS AND GROUNDS

Professors Mathews (Chairman), D. V. Terrell, A. O. Whipple, F. Paul Anderson.

BULLETINS

Professors Dantzler (Chairman), Gillis, Baker.

CHAPEL EXERCISES

Professors Melcher (Chairman), Davis, Mathews.

COMMENCEMENT EXERCISES

Professors Maxson (Chairman), Jones, Captain Royden.

ENTERTAINMENT

Professors Zembrod (Chairman), Hamilton, Sweeny.

GRADUATE STUDY

Professors G. Terrell (Chairman), Tuttle, Tuthill, Good, Freeman.

LIBRARY

Professors Tuttle (Chairman), G. Terrell, Tuthill, Hooper, W. S. Anderson.

MILITARY AFFAIRS

Professors Downing (Chairman), Kinney, Killebrew, Captain Royden.

ORATORY AND DEBATE

Professors Noe (Chairman), Chalkley, Dantzler.

STUDENT PURLICATION

Professors Grehan (Chairman), Farquhar, Hamilton.

STUDENT WELFARE

Professors Melcher (Chairman), Hamilton, Pryor, Barr, Mrs. Stout, Miss Crane.

STUDENT LOAN FUND

Professors Butt (Chairman), Hooper, Frankel, McFarland.

Y. M. C. A.

Professors Melcher (Chairman), Roberts, Bryant, Maxson, Tigert.

PROPOSED FACULTY LEGISLATION

G. Terrell (Chairman), Tuttle, Boyd, Gillis.

UNIVERSITY COUNCIL

The President of the University, Deans Anderson, Boyd, Cooper, Lafferty, Norwood, D. V. Terrell, Hamilton, Melcher, and Professors Mutchler, Roberts, G. Terrell, Tuttle, Gillis. The Registrar is ex-officio Secretary.

BOARD OF CONTROL—PATTERSON HALL

Mrs. Shelby T. Harbison (Chairman), Mrs. Chas. J. Smith, Mrs. A. M. Harrison.

The President is ex-officio member of all committees.

Part II
GENERAL INFORMATION

HISTORY AND EQUIPMENT

History

AGRICULTURAL and Mechanical Colleges in the United States owe their origin to an act of Congress, entitled "An act donating public lands to the several states and territories which may provide Colleges for the benefit of agriculture and the mechanic arts," approved July 2, 1862. The amount of land donated was 30,000 acres for each representative in the National Congress. Under this allotment Kentucky received 330,000 acres. Several years elapsed before the Commonwealth established an agricultural and mechanical college under this act. When established it was not placed upon an independent basis, but was made one of the colleges of Kentucky University, now Transylvania University, to which institution the annual interest of the proceeds of the congressional land-grant was to be given for the purpose of carrying on its operations. The land scrip had meanwhile been sold for fifty cents an acre, and the amount received—$165,000—invested in six per cent. Kentucky State bonds, of which the State became custodian in trust for the college.

The connection with Kentucky University continued until 1878, when the act of 1865, making it one of the colleges of said university, was repealed; and a commission was appointed to recommend to the legislature of 1879-80 a plan of organization for the institution, including an agricultural and mechanical college, such as the necessities of the Commonwealth required.

The city of Lexington offered to the Commission (which was also authorized to recommend to the General Assembly the place which, all things considered, offered the best and greatest inducements for the future and permanent location of the college) the city park, containing fifty-two acres of land within the limits of the city, and thirty thousand dollars of city bonds for the erection of the buildings. This offer the county of Fayette supplemented by twenty thousand dollars in county bonds, to be used either for the erection of buildings or for the purchase of land. The offers of Lexington and the county of Fayette were accepted by the General Assembly.

By the act of incorporation and the amendments thereto, constituting the charter of the Agricultural and Mechanical College of Kentucky, liberal provision is made for educating, free of tuition,

the energetic young men and women of the Commonwealth whose means are limited. An act of the General Assembly of the Commonwealth of Kentucky, approved March 16, 1908, changed the style and title of the institution from Agricultural and Mechanical College to that of State University, Lexington, Kentucky. The General Assembly, by an act approved March 15, 1916, modified the title to University of Kentucky, Lexington, Ky. The University, with the additional departments which have, from time to time, been opened as the means placed at the disposal of the trustees allowed, is doing a great work in advancing the educational interests of Kentucky. Being entirely undenominational in its character, it appeals with confidence to the people of all creeds and of no creed, and will endeavor, in strict conformity with the requirements of its organic law, to afford equal advantages to all, exclusive privileges to none. The liberality of the Commonwealth, in supplementing the inadequate annual income arising from the proceeds of the land scrip invested in State bonds, has enabled the trustees to begin and carry on, upon a scale commensurate with the wants of our people, the operation of the institution whose management and oversight have been committed to them by the General Assembly of Kentucky.

Scope of Studies

In the act of Congress making provision for the class of institutions to which the University belongs, it is declared that "their leading object shall be, without excluding other scientific and classical studies, and including military, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." To the three departments of agriculture, the mechanic arts, and military science, contemplated in the act as indispensable, an experiment station has been added by the United States, and liberal provision has been made for instruction in all branches of science and in the classics, so that this institution is far more than an argicultural and mechanical college, embracing as it does, not merely the three original departments, but many others.

Kentucky Agricultural Experiment Station

The Agricultural Experiment Station of the University was established by the Executive Committee of the Board of Trustees, September, 1885, when the department was organized and a Director appointed. In 1886 the Experiment Station was recognized and named

by the General Assembly of Kentucky. In 1887 it became the beneficiary of the first annual appropriation of $15,000, under the Hatch Act providing for the establishment of agricultural experiment stations for the states and territories. In 1906 an act of Congress, for the more complete endowment of agricultural experiment stations, known as the Adams Act, appropriated to each state and territory $5,000 for the year ending June 30, 1906, and the same sum with an increase of $2,000 per annum for five years, after which the maximum of $15,000 should continue without change. In 1912 the Kentucky Legislature voted an appropriation of $50,000 annually for the benefit of the Experiment Station.

The work of the Experiment Station is directed to two objects: 1. To a constant succession of experiments made by specialists, in order to learn which application of science will insure the best returns from the farm, the garden, the orchard, the vineyard, the stockyard, and the dairy; 2. To the publication of bulletins announcing such results of the experiments as are found to be valuable to the people of Kentucky who seek profit from any of the prime sources of wealth—the soil, the flock and the herd.

The results of experiments have been published in thirty annual reports, two hundred and fifteen bulletins and twenty circulars; general appreciation of their utility is shown by the fact that, while no bulletins are sent except upon application, the present mailing list of the Experiment Station contains about twenty thousand names, and is constantly increasing.

The Experiment Station is well equipped as to buildings and apparatus and owns a good experiment farm of 240 acres, conveniently situated. It has a staff of 90 persons engaged in eleven departments of research and in correspondence with other stations and with farmers thruout the State. The Kentucky Agricultural Experiment Station is not only an important adjunct to the University in the education of students for the leading industrial pursuits, but it is also, thru its continual diffusion of knowledge to a large proportion of our population, an institution of great usefulness to the Commonwealth.

Location

The University is located in the former city park, in the southern part of the city of Lexington and near the Cincinnati Southern Railway. The site is elevated and commands a good view of much of the city and of the surrounding country.

Lexington, now a growing city of forty thousand inhabitants, is in the heart of the far-famed Blue Grass region, a region distinguished for fertility and healthfulness, wealth and beauty. Numerous schools and churches, an intelligent and refined population, well paved streets, handsome buildings, extensive water works and an unsurpassed system of street electric railways, make Lexington attractive as a seat of learning and place of residence, while the splendid stock farms scattered over the large body of fertile country around it afford advantages hardly equaled elsewhere for the student who desires to become familiar with the best breeds of horses, cattle, sheep and swine in America. Moreover, with railroads diverging in seven directions, Lexington is the railroad center in Kentucky and is in direct connection with Louisville, Maysville, Huntington and Chattanooga, and with more than seventy counties of the Commonwealth. And when to the electric railways now in operation to Georgetown, Paris, Versailles, Frankfort and Nicholasville, those projected to Winchester and Richmond will be added, the hourly trains of these roads will enable students residing near them to attend the University conveniently from their homes.

Grounds

The campus of the University consists of sixty-five acres of land, located within the corporate limits of Lexington. The South Limestone electric car line extends along the western border of the campus, affording opportunity to reach in a few minutes any part of the city. The campus is laid out in walks, drives and lawns, and is planted with a choice variety of native and exotic trees, and shrubs, to which additions are constantly being made. Four acres, forming the northeast portion of the campus, enclosed and provided with grand stands, are devoted to the field sports of the students.

The Mulligan tract of thirteen acres on Rose street was purchased by the University last year. About three-quarters of a mile south of the campus, on the Nicholasville pike, is the Experiment Station farm, consisting of two hundred and forty-three acres. Here the field experiments of the Station are conducted, and students have opportunities to witness tests of varieties of field crops, dairy tests, fertilizer tests, fruit spraying tests—in short, all the scientific experiments of a thoroly organized experiment station. The front of the farm is pasture and orchard. The rear portion is divided off into two one-tenth acre plots, for convenience in making corn tests.

Buildings

Administration Building—This is a structure of stone and brick, 140x68 feet. It contains the offices of the President, the Registrar, the Business Agent, as well as the chapel in which the students and the faculty meet for convocation, and in which are held public gatherings and such other meetings as bring together the entire student body. The remaining space in this building is occupied by recitation rooms.

Chemistry Buildings—The Department of Chemistry is housed in two buildings. The Old Experiment Station Building, seventy feet in length by fifty-four feet in width and two stories high, is devoted to advanced work in chemistry. The new building, with its fine lecture hall, recitation rooms and laboratory, is used exclusively for the large classes in general chemistry. It is the first part of a projected larger building.

Mechanical Hall—This building is of native limestone and brick. It is designed to take care of the work in the College of Mechanical and Electrical Engineering. Shops, laboratories, recitation rooms, lecture rooms, drawing rooms and apparatus are provided to give comprehensive training in the science of dynamic engineering.

Science Hall—This building, erected for the departments of natural science, is three stories in height, 96x97 feet, of pressed brick and trimmed with Bowling Green stone. The first and second stories are occupied by offices, laboratories and lecture rooms, the latter being equipped with opera chairs, projection lanterns and other suitable furnishings. The third floor is occupied by the College of Law.

Gymnasium and Armory—This structure of pressed brick and Bedford stone, 100x157 feet, with the central part three stories high, the right wing one and the left two, stands north of the Administration Building. The first floor of the central portion contains the Armory, the offices of the Commandant, and the Physical Director for Men. The second floor is occupied by the Y. M. C. A. Hall, and the Trustees' Room. The third floor is divided into two literary halls for men and the Alumni Hall. All these rooms are commodious and well adapted to their purposes. In the basement of the left wing are baths, lockers for men, wash stands, closets, and a swimming pool. The second floor, the gymnasium proper, is equipped with first class apparatus. The right wing, Buell Armory, which is 48x96 feet, is used as a drill room during bad weather.

Education Building—This building was erected for the use of the Departments of Education and Home Economics. The structure is of pressed brick and Bedford stone, and the design follows the most approved style of modern school architecture. The first and second

floors contain class-rooms, a department library-room and two offices. The Department of Home Economics occupies the third floor.

Library—This building is the gift of Andrew Carnegie. It is located on the court between the Administration Building and the President's Home, is fifty-six feet square, two stories high, including the tall basement of range-ashlar, is built of pressed brick, and trimmed with terra cotta.

Agricultural Hall—This building, for the erection of which provision was made by the Board of Trustees at their meeting in December, 1906, was completed and occupied in the early summer of 1908. It is three stories in height, 45x100, constructed of pressed brick and Bedford stone and is designed to be a wing of the larger structure which the College of Agriculture will eventually require.

The basement contains the dairy laboratory, potting and propagating room and heating plant. On the first floor are the offices of the Department of Horticulture and Botany, the general and advanced botanical laboratories, and a lecture room. On the second floor are the offices for the Department of Animal Husbandry (Dairy Cattle, Horses and Poultry), bacteriological laboratory, a lecture room, and a reading room for students. The third floor is given over to the work of the Agronomy Department and contains a laboratory for teaching soil physics and soil fertility, a general crops laboratory, a lecture room and an office. A photographic laboratory and dark room are also on this floor. A modern iron-frame laboratory greenhouse for the study of living plants and for experiments is attached to the rear of the Agricultural Building.

Civil Engineering and Physics Building—This building was planned for the technical work of the College of Civil Engineering and the Department of Physics. It is a three-story brick structure 79x127 feet, trimmed with cut stone and occupies the highest point on the University campus. It has floor space of about 40,000 square feet and contains offices, lecture rooms and laboratories to meet the growing needs of the department for which it was planned.

Mining Engineering Buildings—These consist of two buildings, constructed of pressed brick with oolitic limestone trimmings, set at right angles to each other and separated with a passageway twenty-five feet wide. The main building is 45x100 feet, two stories high, with basement ten feet high. This is used for class rooms, reading room, etc. it also contains the State Geological Museum and the offices of the State Department of Mines, with offices for the Chief Inspector of Mines and the First Assistant Inspector. The second building is 40x80 feet, and two stories high. It is devoted solely to laboratory work and is one of the largest mining laboratories in the country.

Observatory—The astronomical observatory is located on the southeastern side of the University campus. It is a substantial brick structure housing an eight-inch equatorial refractor and other necessary appliances for observational work.

Dormitories—The two large brick dormitories on the campus afford lodging for men.

President's Residence—The President's residence is a large two-story brick building east of the Physics building; it was purchased from the Mulligan heirs last year and has been enlarged and repaired.

President Emeritus Patterson's Home—This is a commodious two-story brick structure to the east of the Library.

Commandant's Quarters—The home of the Commandant of the University is a frame cottage near Science Hall.

University Commons—A frame building 100x40 feet was erected in 1914 on the campus near the old dormitory where meals are furnished to University students at cost.

Patterson Hall—This building, the residence of the women students of the University, is a large and handsome three-story brick structure of a hundred and fifty feet front built on a fine site of about three acres fronting two hundred and ten feet on South Limestone street, on which is a line of the City Electric Railway. Within an eighth of a mile of the University on the south, a half mile of the court house, principal hotels and the postoffice on the north, and within easy walking distance of the city churches, Patterson Hall is, for all purposes, admirably located. The building is heated by steam, lighted by electricity and supplied with hydrant and cistern water. It has a front veranda of 14x68 feet, wide halls, a wardrobe in every bedroom, and conveniently located bath rooms. With walks, drives and numerous old forest trees, the spacious front lawn, one of the most beautiful in Lexington, is an inviting place. Ample provision has been made for exercise on the rear lawn, on which are tennis courts and croquet grounds. The gymnasium for women is also contained in the building.

Experiment Station Building—This handsome structure is located on South Limestone street, one-fourth of a mile from the campus, and was completed in the winter of 1904. The building is two stories high with a basement and is constructed of pressed brick with oolitic limestone trimmings. The foundation is of Kentucky gray limestone faced with broken ashlar oolitic limestone. A large portico, with columns extending from the first line to the pediment on a level with the cornice, forms an attractive feature of the building. The cornice is massive, with large brackets. The general design of the building is colonial, adhering mainly to classic proportions. The original

building was 114x60 feet. A large addition to this building, running 92 feet parallel to Washington Avenue and 115 feet parallel to Limestone street, was completed in 1913. This addition provides from forty to fifty additional work rooms and contains 20,700 feet of floor space.

Mrs. Marshall's Home—This is a one and a half story frame building on the southwest corner of the Experiment Station farm, and facing Rose street. It is the property of the Experiment Station.

Farm Buildings—The farm buildings include three dwelling houses, a modern and thoroly equipped dairy farm, a general utility barn, two tobacco barns, two beef cattle barns, one sheep barn, one barn for the study and treatment of live stock, one hog house, numerous small individual hog houses, a feed house for the storage and study of farm crops, a hog cholera serum laboratory, hyperimmune sheds, a new and commodious conservatory, manure sheds, etc.

The Library

The University Library embraces all the books belonging to the colleges and schools of the University. These consist of the General Library, the Law Library, the Experiment Station Library and the various department libraries. The total number of volumes is 33,869, divided as follows:

General Library	16,667
Department Libraries	10,526
Experiment Station Library	6,676
Total	33,869

The University Library is a government depository and receives all the official publications of the United States Government.

The Experiment Station Library is regarded as a branch of the general library and is administered under the direction of the University Librarian. In it are placed depository catalogs of the publications of the U. S. Department of Agriculture and of the Experiment Stations of the various states.

Two hundred and eighty-five periodicals are regularly received by the General Library and two hundred and twenty by the Experiment Station Library.

Laboratories

Agronomy—The Department of Agronomy has laboratories on the third floor of the Agricultural Building for instructional work in farm

crops and in soils. The farm crops laboratory is equipped, and samples of farm crops are provided for laboratory work in farm crops. The soils laboratory is equipped for work in soils physics and soil fertility, and contains the usual apparatus found in such laboratories. The Department also has a laboratory on the first floor of Scovell Hall equipped for research work in certain lines of soil technique. This laboratory is available for a limited amount of advanced instructional work.

Animal Husbandry—In the basement of the Agricultural Building is situated the two dairy laboratories of the Animal Husbandry Department. In one of the laboratories the students are taught to test milk and cream for its butter fat content and also how to determine the acidity of milk and to use the lactometer. In the second laboratory the students are taught to make butter and cheese. The laboratories contain various kinds of separators, churns, butter workers, Babcock testers and other kinds of dairy equipment. Also the cows and dairy utensils at the dairy farm of the Experiment Station are utilized in teaching students. A three-story building has just been erected on the farm of the Kentucky Agricultural Experiment Station which will be utilized in teaching students poultry husbandry. In the basement there is an 1800 egg Mammoth incubator and various smaller incubators. The second floor contains a laboratory where students will be taught to dress fowls and to carry on various poultry studies. The third floor will be arranged as a class room for poultry instruction. The other equipment at the poultry farm consists of twenty-five different types of poultry houses and about 1000 chickens and turkeys, all which constitute laboratory equipment for the teaching of poultry husbandry.

The Animal Husbandry Department (Beef Cattle, Sheep and Swine) has two splendidly equipped laboratories which were furnished for the study of infectious abortion in cows and mares. The equipment consists not only of bacteriological but also biological apparatus, and the laboratories contain a great many of the modern inventions that are necessary for the scientific study of germ diseases. In addition to the general outlay of glassware, surgical instruments, stains, etc., the equipment consists of two gas incubators, one electric incubator, two high speed and one low speed centrifuges, various hot air and steam sterilizers, and an autoclave, etc. Much work has already been done toward the eradication of infectious abortion, and several remedies are now considered of importance in combating this disease. Bacteriological and biological examinations of blood, fetuses, etc., are made in these laboratories free of charge to those persons who are sufficiently interested to send the material.

Biological Laboratory—The new biological laboratory, hyperimmune sheds and infection cots, all erected out of funds provided for in the act of 1912, were completed in June, 1913. The laboratory is a two-story brick building, with Bedford stone trimmings. The first floor contains a general preparation room, in which the hogs are washt and weighed; a large operating room, where the serum is drawn from the hyperimmunes; an enclosed room for the final bleeding of hyperimmunes; a room for the washing and sterilization of all instruments and utensils; and a room for the final preparation and bottling of serum. The second floor contains an office for the veterinarians in charge and a well equipped pathological and bacteriological laboratory for the study and investigation of the diseases of farm animals. The basement contains two cold storage rooms in which the serum is stored; a room in which to mix the serum; a boxing and shipping room, and a room for the heating plant. The first floor and basement are made of reinforced concrete, and everything is arranged and managed in a sanitary manner. The hyperimmune sheds, consisting of concrete pens, have a capacity of from three to five hogs.

The original biological laboratory has been enlarged and converted into a virus laboratory where all the virulent material is handled. This is a frame structure, with concrete floors, divided into four rooms; a preparation room where all animals are washt and prepared for operation; a final bleeding room where all virus animals are bled; a large operating room where immunes are hyperimmunized, and a room for the handling and preparing of virus.

Botany—The Department of Botany occupies two laboratories on the first floor of the Agricultural Building. One of these rooms is used as a general laboratory for beginning work and is capable of accommodating forty-five students. It is well lighted and equipped with individual desks, microscopes and such other apparatus as is necessary for elementary work. The other room available for botany is much smaller and not so well lighted for microscopical work. It is capable of accommodating twelve students and is equipped and used for advanced courses, including plant physiology, plant pathology, histology, etc. The equipment of this laboratory includes in addition to twelve desks, a steam sterilizing oven, a dry air sterilizing oven and a paraffin oven, a chemical case, and a small botanical library. Between the two laboratories, which are adjoining, is small storage room for botanical supplies.

Chemistry—A well furnished laboratory with balance room, nitrogen room, apparatus room and convenient office, comprising, in all, 1300 square feet of floor space on the second floor of Scovel Hall, is

devoted to the general chemical work of the Station, including analysis of soils, limestones and other materials of interest in agriculture, as well as research work. The laboratory is well supplied with the usual equipment for agricultural chemical analysis. Two other laboratories, covering, together, 900 square feet of space on the same floor, are devoted entirely to chemical research relating to agriculture. The department also has the use of a part of the Experiment Station conservatory and of three rooms in the basement for store rooms and work rooms.

In addition to the regular equipment for carrying on what may be designated routine work in general and analytical chemistry, the Department of Chemistry in the College of Arts and Science is supplied with power machines for crushing and grinding coal and ores and for air pressure and vacuum work; electric combustion furnaces and large electric muffle; physico-chemical apparatus; platinum ware; apparatus for testing lubricating and burning oil for viscosity and flash point; apparatus according to Hempel. Orsat and others for the analysis of gases. In the department library will be found complete sets of the following periodicals: American Chemical Journal, Berichte der deutschen chemischen Gesellschaft, Journal of the Chemical Society (London), Journal of Industrial and Engineering Chemistry, Chemical Abstracts. Incomplete sets of the following magazines are being added to as rapidly as available funds will permit: Journal of the American Chemical Society, Zeitschrift fuer analytische Chemie, Chemical News, Journal of the Society of Chemical Industry, Journal Bulletin de la Societe chimique (Paris), Inorganic chemistry is represented by such works as Messian, Traite de Chimie Minerale, 5 vols.; Dammer, Handbuch der anorganischen Chemie, 5 vols.; and many others less pretentious; Beilstein, Handbuch der organischen Chemie, 4 vols. in nine; Richter, Lexikon der Kohlenstoff-Verbindungen, 5 vols; Allen, Commercial Organic Analysis, 4 vols. in eight; and many other smaller works are for reference in the study of organic chemistry. The principal books on analytical, physical and technological chemistry and other branches of the subject are well represented.

Civil Engineering—The laboratory equipment consists of field instruments, described under apparatus materials laboratory road, cement and asphalt laboratories, also standard rattler for testing paving brick and apparatus for making tests of water and sewage.

The cement laboratory occupies a room in the Civil Engineering Building, and is provided with slate tables, testing machines, molding machines, standard steaming apparatus, copper drying apparatus,

scales and such other accessories as are needed in making complete tests of cement and sand.

The Department of Civil and Highway Engineering has a fully equipped laboratory for testing crusher rock, sand, cement, brick, wood and block, stone, asphalt, coal tar products, and all kinds of road oils and dust preventives. This laboratory is in operation thruout the year and free tests will be made when materials are sent prepaid by any county or state official.

Entomology and Botany—The laboratories of the Department of Entomology and Botany of the Experiment Station occupy rooms on the second floor of the building on the corner of South Limestone Street and Washington Avenue. They consist of a large general laboratory devoted to both entomology and botany in which are incubators, an autoclave, a steam sterilizer, a hot air sterilizer, microscopes and other apparatus required for the study of living things, both animals and plants. Adjoining this laboratory is a subdivision devoted to photography, in which are cameras suited to making enlargements and lantern slides, and others constructed for use with the miscroscope. The third room is occupied with the insect collections and is used as a private laboratory by the Head of the Department and assistants who are engaged in research work. A fourth laboratory is devoted to seed testing and is equipped with electric incubators, blowers for the removal of impurities, a refrigerator, chemical balance and other appliances employed in the testing of seeds either for purity or germination.

An Herbarium, a reference collection intended primarily for use in prosecuting a study of the botany of Kentucky, is one of the best, if not the best in the State. It is placed in a large room on the same floor, used also as an assembly room on special occasions.

An out-laboratory, constituting an important part of the equipment of the Department, is an Insectary, consisting of a head house and conservatory devoted to the study of the life-histories of plants and insects and of remedies for their injuries.

The office work for all these laboratories is done in the rooms adjoining them, which are furnished with a very good collection of technical works devoted to entomology and botany, including sets of most of the special serials.

Entomology and Zoology—The laboratories of the Department of Entomology and Zoology of the School of Agriculture are devoted largely to instruction work and are located on the first floor of the Natural Science Building on the University campus. They consist of two large laboratories, one devoted chiefly to zoology, and the other

to entomology. The lecture room of the Department seats about sixty students. A small private laboratory for making preparations and for the use of advanced students adjoins the lecture room; a collection room in which are cases containing types of skeletons of vertebrate animals is used also partly for advanced students.

The office of the department is on the same floor, and is furnished with a small working library devoted very largely to zoological and entomological subjects.

The laboratories are equipped with compound microscopes, microtomes, water baths, charts, a lantern and desks, and other equipment regarded as necessary for giving students both a practical and theoretical acquaintance with entomology and zoology.

Experiment Fields—The Department of Agronomy has an extensive system of experiments in crop production and soil fertility in the State. Fifty-six acres of the Experiment Station farm are devoted to this work. Experiment fields are maintained at Burnside, London, Berea, Lincoln Ridge (Shelby County), Greenville, Russellville, Paducah and Mayfield. There are more than a thousand plots on these fields devoted to the study of soils and crops under the various conditions represented by these different parts of the State. The results of this work are presented to the students in agriculture.

Feed Control—Under an act of the General Assembly of Kentucky of 1906, known as the Kentucky Concentrated Commercial Feeding Stuffs Law—a law regulating the manufacture and sale of commercial feeding stuffs in Kentucky—the feeding stuffs laboratory was established. This laboratory consists of a suite of four rooms and is located in the Kentucky Experiment Station Building. It is equipped with the latest improved scientific apparatus necessary for carrying on the work of the Department of Feed Control.

Fertilizer Control—The fertilizer laboratory is located in the southeast corner, second floor, of the Kentucky Agricultural Experiment Station Building. It is well lighted and consists of a laboratory proper 26 x 24 feet, and a balance room and office adjoining, 18 x 8 feet. The equipment comprises an electric furnace, electric oven, Kjeldahl nitrogen distilling and digestion apparatus, hot water baths and all the other necessary apparatus and appliances used in fertilizer work. Three chemists are actively engaged in analyzing fertilizers, and over fifteen hundred analysis were made during 1915. Commercial fertilizers are analyzed for their content of nitrogen, phosphoric acid and potash.

Food and Drugs—The Department of State Food and Drug Control occupies the eastern half of the first floor of the Experiment Station

Building. The files of the office contain inspection cards showing the sanitary condition of and statistical data connected with the dairies, bakeries, slaughter-houses, grocery stores and other food places in the State. The bacteriological laboratory contains all modern equipment for the examination of foods and waters in the main laboratory, and low-temperature incubators, dust-proof closet and similar equipment in the smaller laboratory. The laboratories for the chemical analysis of food consist of one large laboratory, fully equipped thruout, and a small laboratory for research investigations, a balance room and offices. The laboratories for the analysis of drugs consist of a large laboratory, balance room and office. The laboratories for food technology contain baking ovens and similar equipment for supplementing chemical and bacteriological examinations with physical tests of foods. The basement floor contains a room fitted up as a model bakery, for the purpose of demonstrating experiments on a large scale, and for use in educational work with the trade.

Geology—The department occupies one-half of the second floor of the Natural Science Building. The geological laboratory contains a study collection consisting of representative specimens of fossils and minerals. The mineralogical laboratory is arranged in its furnishings with special reference to its use as a mineral-testing laboratory. The geological lecture room, furnished with folding lecture-room seats, lantern-stand, sliding blackboard, wall screen and means for quickly darkening the room, is admirably adapted to recitation and lecture uses. The collections in mineralogy and paleontology are arranged and classified with special reference to their use in class instruction.

Home Economics—The laboratories of the Department of Home Economics occupy the third floor of the Education Building. The cookery laboratory is equipped with such conveniences and labor-saving devices as will enable the student to cook most efficiently. A well appointed dining room adjoins the cooking laboratory in which the proper setting of the table, the serving of meals and other phases of home making are demonstrated to students.

Textile and dress making laboratories are large and abundantly lighted, also suitably equipped with sewing and drafting tables, sewing machines, dress forms, tailoring and millinery equipment.

The household and physiological chemistry laboratories are provided with gas, water, microscopes, scales and the chemical apparatus best adapted for enabling the students to carry on the work of these courses most successfully.

Horticulture—A greenhouse plant was erected in the summer of 1914 for the Department of Horticulture of the Experiment Station. It

is of semi-iron construction of most approved design, 28 x 85 feet, and was furnished by the Lord & Burnham Co., of Chicago and New York. The greenhouse is equipped with the Skinner sprinkling device and is utilized for purposes of propogation, forcing of vegetables and flowers, and other experiment purposes. Adjoining the greenhouse on the north is an attractive service building 26 x 33 feet constructed of Greendale Rug brick with tile roof. This building contains an office and work room on one side, and a photographic laboratory on the other, with quarters on the second floor for an attendant, while in the basement is installed a very efficient hot water heating plant.

Journalism—The equipment of the Department of Journalism consists of typewriters, desks, individual writing tables, typewriter tables, exchange tables, city editor's table and chairs. For assignments and corrected work a system of reporters' books is used, and announcements of general interest are placed on blackboards. The usual newspaper supplies, a large number of newspapers and up-to-date periodicals, and a library of latest and best works on journalistic subjects are at the disposal of the students.

Mechanical and Electrical Engineering—The laboratories of the College of Mechanical and Electrical Engineering are equipped for experimental work in steam, electrical, gas, and automobile engineering and in testing of materials. For complete information see statements under College of Engineering. This college has a completely equipped wood shop, forge shop, machine shop and foundry.

Mines and Metallurgy—For lecture room illustrations and demonstrations the equipment includes two excellent electric light stereopticons and a reflectoscope, with a large number of special slides; many charts, photographs and blue-prints, illustrating mining methods, mining machinery, and metallurgical operations; large Keuffel & Essar working models of verniers and slide rules; a working model of a shaft hoist with safety catches; examples of mining tools; three handsome cases showing various sorts of "DuPont" explosives; wire rope and electric wire boards; Koerting and Buffalo Forge Company mine-spraying devices; safety lamps of various types; apparatus for instruction in methods of detecting mine gasses and testing safety lamps; apparatus for studying coal dust explosions; types of acetylene mine lamps; a very complete working model of a Cameroon mine pump; types of mine telephones; a pneumatic mine signal; diamond core-drill bits; a small Sirocco mine fan; and instruments for measuring ventilation. A number of large photographs, framed, showing

coal mining operations, have been presented to the College by Prof. R. D. Quickel, fuel agent for the Cincinnati Southern Railroad.

The metallurgical laboratory is provided with several gasoline assay furnaces; a plant of gas assay furnaces; two coke (or charcoal) assay furnaces; two laboratory electric furnaces; crushing, grinding and sampling apparatus; apparatus for "barrel" chlorination; an Abbe double Trojan ball mill; apparatus for studying the cyanide and amalgamation processes; furnaces for the studying of smelting processes and of the heat treatment of iron and steel; apparatus for the study of wet processes for the extraction of non-ferrous metals; of pyrometry and of metallography. Calorimeters for the study of fuels and a special furnace for testing clays are also at the command of the College.

It is intended that the mining laboratory shall not only serve the purpose of instruction, but that it shall prove helpful, as a testing laboratory, to those engaged in the coal, lead, zinc, and spar districts of the State. The present equipment includes, among other things, a standard, full-sized Wilfley concentrating table; an Allis-Chalmers Company three-stamp mill; a Hallet hand jig; a Jarvis jig; a Vezin jig; a Monroe laboratory slime table; a Monroe laboratory classifier; apparatus for instruction in flotation processes of ore separation; a Dings electro-magnetic separator; a Blake-Morscher electro-static separator; various types of mine car wheels; a Wood rock drill; a Hardscog hammer drill; a Nixon rachet coal drill; a Harrison coal-cutting machine, for use in demonstrating the use of compresst air in mining operations; several sets of steel mine timbers (Carnegie Steel Co.), including lining sufficient to illustrate an entry protected according to advanced methods; a Dayton automatic mine door complete; a 6-ton mine locomotive, placed on deposit by the General Electric Company, which is used in the study of the construction of such electric motors; a Campbell coal-washer; a complete model of the St. Bernard Mining Company's coal washery; and a complete ventilating fan and fan house. The fan has been so installed that various problems relating to mine ventilation may readily be studied.

The College owns a Flues "Proto' apparatus. In addition, two sets of Draeger apparatus, provided for the State Mine Inspectors, have been placed in one of the basement rooms of the main building. The latter sets include four oxygen helmets and accessories complete, charging pumps, a mouth-breathing apparatus, electric lamps and charging devices, a water gauge, and a pulmotor. The room has been fitted up so that training may be given in mine rescue work. In-

struction in the use of the apparatus is given to mining students and to visiting miners from time to time.

Physics—The Department of Physics occupies the southern half of the new three-story brick building, planned and constructed to meet the needs of this department and the College of Civil Engineering.

On the first floor are the main office, two large laboratories for advanced work in General Physics and in Heat, a small laboratory, an apparatus room, photographic rooms, and a study room for girls.

On the second floor are situated a large laboratory for elementary work, a reading room, the main apparatus room, and the principal lecture room. The lecture-table is supplied with water, gas, direct and alternating currents, vacuum, and compresst air. A projection outfit has been installed for picture projection and to show refraction, diffraction, interference, polarization, spectra, etc. An interserometer has recently been acquired for measuring light. Stone shelves project externally from some of the windows of this room and other rooms in the building to receive instruments for experimentation with sunlight.

On the third floor are two rooms for lectures and recitations, an office, an optic room, an apparatus room, a store-room, and photographic room.

The basement (as yet in the main unfinished) is well lighted, and has splendid work rooms, all to be finished with concrete floors, giving stability for precision measurements. There are two large rooms for laboratory purposes, a battery room, and a work shop. At present the shop contains the experimental switchboard, a motor (7½ h. p.) generator (5 kw. 125 v.), a smaller motor-generator, tanks for vacuum and compresst air, a compression and exhaust pump driven by an electric motor. A two-wire circuit and a three-wire circuit (partly installed) will extend from the switchboard thru pipe conduits to every work room.

Physiology—The laboratory is provided with a Bausch and Lomb incubator, miscroscopes, microtomes, paraffin bath, etc. Tables are provided for individual students. Each table is equipped with the apparatus necessary for experimental work in physiology. Students also have access to and use the kymograph, artificial circulation scheme (Porter's), capillary electrometer, artificial eye (Kuhne's), heart-holder, ergograph, rheochord, plethysmograph, etc.

The department is supplied with all kinds of models, such as an Auzoux papier mache manikin, Auzoux's models of the eye in full and in section, models of the ear, larynx, side of the face, hand, etc., skeletons in full and in section; complete disarticulated skeletons for

the individual use of students; a spaced skull; a Thoma-Zeiss Haemacytometer; a Dudgeon's and a Marey's Sphygomograph; charts of all kinds, miscroscopes, etc. Microscopic slides are exhibited showing the process of karyokinesis.

Museums

Geology—The Department of Geology is supplied with collections in mineralogy and paleontology, arranged and classified with especial reference to their use in class instruction. There are also a number of reports, both state and national, maps, charts, models, lantern slides and photographic views.

Herbarium—The Department of Entomology and Botany of the Experiment Station possesses an herbarium which is a reference collection, intended primarily to prosecute the study of the botany of Kentucky.

Kentucky Geological Survey—The Museum of the Kentucky Geological Survey occupies commodious quarters in the Mining Engineering Building. The exhibits represent the mineral survey of the State. Notable among the collections are the Kentucky clays, pottery, iron ores and oils.

Drafting Rooms

Civil Engineering—In the Civil Engineering Building are three large well-lighted drafting rooms, provided with individual tables containing lockers for each student's outfit and cabinets for drawing boards. The walls of the drafting rooms are decorated with photographs of actual constructions. A large collection of standard drawings of bridges, buildings, stadiums, railroad construction, sewer construction, water works, power plants, and irrigation structures are also available for examination.

Mechanical and Electrical Engineering—Three well-lighted and convenient drafting rooms are provided, one for freshmen, one for sophomores and juniors, and one for seniors.

Gymnasium

The gymnasium, with a floor space of 48 x 95 feet, contains all the apparatus and necessary equipment for carrying on the work of the department. There is an overhead canvas covered running-track of approximately twenty-four laps to the mile. There is also a large room devoted to boxing, wrestling, and handball on this floor.

In the basement of the left wing are the baths, lockers, washstands, closets, and a swimming pool.

Athletic Field

The new Athletic Field is one of the largest and finest in the entire South. It contains two gridirons for football, a baseball diamond and a running track. These are so arranged that one sport does not interfere with another, the football gridirons lying entirely without the baseball diamond. The running track circles the main gridiron for a quarter of a mile and has a straightway of 220 yards. This field was graded and equipped recently at a great expense. The construction of an asphalt street on Winslow has made the field complete and perfect in all its arrangements.

ADMISSION AND CLASSIFICATION

Students will be admitted to the University as their previous training warrants. They will be admitted to the freshman class, to advanced standing, to special courses as special students, or admitted as graduate students.

ADMISSION TO THE FRESHMAN CLASS

An applicant for admission to the freshman class of any of the Colleges of the University must offer credit for fifteen units* of high school or other secondary school work, so chosen as to include the nine and one-half basic units prescribed by all the colleges. No student will be admitted conditionally.

ENTRANCE SUBJECTS

The units offered for admission to the freshman class must be taken from the list as given below. The numbers indicate the units that may be offered in each subject:

English	3	to 4	Zoology	½	to 1
Algebra	1	to 2	Psychology or Pedagogy		½
Plane Geometry		1	Political Economy		½
History	1	to 3½	Agriculture		½
Solid Geometry		½	Domestic Science		½
Trigonometry		½	Commercial Geography		½
French	1	to 3	Commercial Arithmetic		½
German	1	to 3	Surveying		½
Spanish	1	to 3	Bookkeeping		½
Greek	1	to 3	Manual Training		½
Latin	1	to 4	Drawing		½
Civil Government		½	Physiology	½	to 1
Botany	½	to 1	General Science	½	to 1
Chemistry	½	to 1	Teaching of 6 months or more, holding first class certificate		1
Physics		1			
Physical Geography	½	to 1			
Geology	½	to 1			

*A unit represents a subject pursued five periods a week for one year. Graduates of first-class high schools who have had four full years' work in English of five recitations a week may offer four units in English. No subject offered as an entrance requirement can be counted again in the total credits for the completion of a college course.

BASIC UNITS REQUIRED BY ALL COLLEGES

The following subjects are required for entrance by all Colleges of the University:

English	3
Algebra	1
Plane Geometry	1

The 10 elective units offered must be closen from the list on the preceding page. Only four units may be allowed for vocational subjects.

It is strongly recommended that a student desiring to enter the College of Engineering offer for entrance one unit in Physics, one and one half units in Algebra, and one-half unit in Solid Geometry. If this is not done, he will be required to carry additional courses in college in these subjects to make up the deficiency, which may delay his graduation.

Students may be admitted to the freshman class in one or two ways, either on examination or on presenting a certificate from an approved school. Each of these methods is described on the following pages.

ADMISSION BY EXAMINATION

Examinations for admission will be held at the University on Wednesday, Thursday, Friday and Saturday, September 11-14, inclusive.

All persons who wish to enter the University for the first semester's work, except those whose entrance credits have been accepted by the Committee on Entrance, must take these examinations. They will present themselves at the office of the Registrar at 8:00 a. m. Wednesday, September 11. They will then receive directions concerning the places at which their examinations will be held. For the hours of the examinations, see schedule.

DESCRIPTION OF ENTRANCE UNITS

English. The units in English are based upon the requirements of the College Entrance Examination Board. English 1 and 2 are both included in the specified entrance requirements and are estimated together as three units. First-class high schools maintaining a course in the history of literature in addition and whose graduates have the full course with five recitations a week may be allowed four units for entrance in English.

The complete report of the National Conference on uniform Entrance Requirements in English, which has been adopted as the requirements for college entrance in this subject, follows:

The study of English in school has two main subjects: 1. Command of correct and clear English, spoken and written. 2. Ability to read with accuracy, intelligence and appreciation.

The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English composition governing punctuation, the use of words, sentences and paragraphs, should be thoroly mastered; and practice in composition, oral as well as written should extend thruout the secondary school period. Written exercises may well comprise letter-writing, narration, description, an easy exposition and argument. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written.

The second object is sought by means of two lists of books, headed respectively *Reading* and *Study*, from which may be framed a progressive course in literature covering four years. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some of the more notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads, and with their place in literary history.

1. *Reading—One and one-half units.* The aim of this course is to foster in the student the habit of intelligent reading, and to develop a taste for good literature by giving him a first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention should not be so fixt upon details that he fails to appreciate the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except as otherwise provided under

Group 1

a—Classics in translation— The *Old Testament*, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel

Kings and Daniel, together with the books of Ruth and Esther. The *Odyssey*, with the omissions, if desired, of Books I, II, III, IV, V, XV, XVI, XVII. The *Iliad*, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI. The *Aeneid*, the *Odyssey* and the *Iliad* should be read in English translations of recognized literary excellence. For any selection from this group a selection from any other group may be substituted.

b.—Shakspere—*Midsummer Night's Dream, Merchant of Venice, As You Like It, Twelfth Night, The Tempest, Romeo and Juliet, King John, Richard II, Richard III, Henry V, Coriolanus, Julius Caesar, Macbeth, Hamlet.* The last four subjects may be selected if not chosen for study 2.

c—Prose Fiction—Malory: *Morte d'Arthur* (about 100 pages). Bunyon: *Pilgrim's Progress*, Part 1. Swift: *Gulliver's Travels* (Voyages to Lilliput and to Brobdingnag). Defoe: *Robinson Crusoe*, Part 1. Goldsmith: *Vicar of Wakefield.* Francis Burney: *Evelina.* Scott's Novels: *Any one.* Jane Austen's Novels: *Any one.* Maria Edgeworth: *Castle Rackrent*, or *The Absentee.* Dickens' Novels: *Any one.* Thackeray's Novels: *Any one.* George Eliot's Novels: *Any one.* Mrs. Gaskell: *Cranford.* Kingsley: *Westward Ho!* or *Hereward the Wake.* Reade: *The Cloister and the Hearth.* Blackmore: *Lorna Doone.* Hughes: *Tom Brown's School Days.* Stevenson: *Treasure Island*, or *Kidnapped*, or *Master of Ballantrae.* Cooper's Novel: *Any one.* Poe: *Selected Tales.* Hawthorne: *The House of the Seven Gables* or *Mosses from an Old Manse.* A collection of *Short Stories* by various standard writers.

d—Essays, Biography, etc.—Addison and Steele: *The Sir Roger de Coverley Papers*, or Selections from the *Tatler* and *Spectator* (about 200 pages). Boswell: Selections from the *Life of Johnson* (about 200 pages). Franklin: *Autobiography.* Irving: Selections from the *Sketch Book* (about 200 pages), or *Life of Goldsmith.* Southey: *Life of Nelson.* Lamb: Selections from the *Essays of Elia* (about 100 pages). Lockhart: Selections from the *Life of Scott* (about 200 pages). Thackeray: Lectures on *Swift, Addison* and *Steele,* in the *English Humorists.* Macaulay: Any one of the following essays: *Lord Clive, Warren Hastings, Milton, Addison, Goldsmith, Frederick the Great, Madame d' Arblay.* Trevelyan: Selections from the *Life of Macaulay* (about 200 pages). Ruskin: *Sesame and Lilies*, or Selections (about 150 pages). Dana: *Two Years Before the Mast.* Lincoln: Selections, including at least the two *Inaugurals*, the *Speeches in Independence Hall* and at *Gettysburg*, the *Last Public Address*, the *Letter to Horace Greeley*, together with a brief memoir or estimate of Lincoln. Parkman: *The Oregon Trail.* Thoreau: *Walden.* Lowell: *Selected Essays* (about 150

pages). Holmes: *The Autocrat of the Breakfast Table.* Stevenson: *An Inland Voyage* and *Travels with a Donkey.* Huxley: *Autobiography* and Selections from *Lay Sermons*, including the addresses on "Improving Natural Knowledge," "A Liberal Education," and "A Piece of Chalk." A collection of *Essays* by Bacon, Lamb, DeQuincey, Hazlitt, Emerson, and later writers. A collection of letters by various standard writers.

e—Poetry—Palgrave's *Golden Treasury* (*First Series*): *Books II* and *III*, with special attention to Dryden, Collins, Gray, Cowper, and Burns. Palgrave's *Golden Treasury* (*First Series*): *Book IV* with special attention to Wordsworth, Keats and Shelley (if not chosen for study under 2). Goldsmith: *The Traveler* and *The Deserted Village.* Pope: *The Rape of the Lock.* A collection of English and Scots Ballads, as, for example, some Robin Hood ballads (*The Battle of Otterburn, King Estmere, Young Beichan, Bewick and Grahame, Sir Patrick Spens*), and a selection from later ballads. Coleridge: *The Ancient Mariner, Christabel,* and *Kubla Khan.* Byron: *Childe Harold, Canto III or IV.* and *The Prisoner of Chillon.* Scott: *The Lady of the Lake* or *Marmion.* Macaulay: *The Lays of Ancient Rome, The Battle of Naseby, The Armada, Ivry.* Tennyson: *The Princess,* or *Gareth and Lynette, Lancelot and Elaine, The Passing of Arthur.* Browning: *Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Herve Reil, Pheidippides, My Last Duchess, Up at a Villa—Down in the City, The Italian in England, The Patriot, The Pied Piper, "De Gustibus"—Instans Tyrannus.* Arnold: *Sohrab and Rustum,* and *The Forsaken Mermaid.* Selections from *American Poetry*, with special attention to Poe, Lowell, Longfellow, and Whittier.

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

a—Drama—Shakspere: *Julius Caesar, Macbeth, Hamlet.*

b—Poetry—Milton: *L'Allegro, Il Penseroso,* and either *Comus* or *Lycidas.* Tennyson: *The Coming of Arthur, The Holy Grail, The Passing of Arthur.* The selections from Wordsworth, Keats and Shelley in *Book IV* of Palgrave's *Golden Treasury* (*First Series*).

c—Oratory—Burke: Speech on *Conciliation with America,* Macaulay's Two Speeches on *Copyright* and Lincoln's *Speech at Cooper Union,* Washington's *Farewell Address,* and Webster's *First Bunker Hill Oration.*

d—Carlyle: *Essay on Burns*, with a selection from *Burns' Poems*. Macaulay: *Life of Johnson*. Emerson: *Essay on Manners*.

Examination—However, accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling or other essentials of good usage.

The examination will be divided into two parts, one of which will be on grammar and composition, the other on literature.

In grammar and composition, the candidate may be asked specific questions upon the practical essentials of these studies, such as the relation of the various parts of a sentence to one another, the construction of individual words in a sentence of reasonable difficulty, and those good usages of modern English which one should know in distinction from current errors. The main test in composition will consist of one or more essays, developing a theme thru several paragraphs; the subjects will be drawn from the books read, from the candidate's other studies, and from his personal knowledge and experience quite apart from reading. For this purpose the examiner will provide several subjects, perhaps eight or ten, from which the candidate may make his own selections. He will not be expected to write more than four hundred words an hour.

The examination in literature will include:

A. General questions designed to test such a knowledge and appreciation of literature as may be gained by fulfilling the requirements defined under 1, *Reading*, above. The candidate will be required to submit a list of the books read in preparation for the examination certified by the principal of the school in which he was prepared, but this list will not be made the basis of detailed questions.

B. A test on the books prescribed for study, which will consist of questions upon their content, form and structure, and upon the meaning of such words, phrases and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

Recommendations—

1. That colleges so desiring may set an examination requiring no prescribed books, but testing the same general kind of preparation as that indicated in the foregoing requirements.

2. That individual colleges take such steps as may be found necessary to ascertain whether candidates for entrance possess an adequate equipment in oral English.

3. That schools should recommend a supplementary list for additional reading. This list may well include suitable selections from contemporary literature and books of local interest.

4. That colleges accept *three* or *four* units of credit for admission in English, the number of credits within these limits to be determined by the preparation of the applicants. It is not recommended that four units of credit be given for the amount of work now submitted for three units. This recommendation has for its object the advancement of English teaching in the secondary schools.

Mathematics. The basis for the determination of units in mathematics must be quantity and quality of the work done rather than the time element. For the average student, however, four years' time will be required to do the work here outlined. Two years should be devoted to algebra, a year to plane geometry, and a half year each to solid geometry and plane trigonometry. These subjects may very well be taken in the order named. Some prefer to give one year in algebra, followed by a year in plane geometry; this followed by a return to algebra for a year, the solid geometry and trigonometry coming in the order above indicated. In either plan the use of algebra should be emphasized in the work in geometry The outline for the four years' work follows:

1. *Algebra—One unit.* The four fundamental operations for rational algebraic expressions; factoring, determination of highest common factor and lowest common multiple by factoring; fractions, including complex fractions, ratio and proportion; linear equations, both numerical and literal, containing one or more unknown quantities; problems depending on linear equations, radicals, including extraction of the square root of polynomials and of numbers; exponents, including the fractional and negative; quadratic equations, both numerical and literal containing one unknown; simultaneous quadratic equations; problems depending upon quadratic equations; the binomial theorem for positive integral exponents, the formulas for the nth term and the sum of the terms or arithmetical and geometrical progressions, with appliances.

An additional one-half unit will be allowed for a half year's work in advanced Algebra, provided the work covers determinants, permutations and combinations, complex numbers and theory of equations.

2. *Plane Geometry—One unit.* The usual theorems and constructions of good text-books, including the general properties of plane rectilinear figures; the circle and the measurement of angles; similar polygons; areas; regular polygons and measurement of the circle.

The solution of numerous original exercises, including loci problems, application of line and plane surfaces.

3. *Solid Geometry—One-half unit.* The usual theorems and constructions of good text-books, including the relations of planes and lines in space; the properties and measurements of prisms, pyramids, sylinders, and cones; the sphere and the spherical triangle; the solution of numerous original exercises, including loci problems; application to the measuration or surface and solids.

4. *Trigonometry—One-half unit.* Plane trigonometry should include the definitions and relations of the six trigonometric functions as ratios, the theory of logarithms and the use of tables, the proof of important formulas and considerable practice in trigonometric transformations; the solution of right and oblique triangles.

Latin. For one-half of the reading specified below in any author, equivalents in Nepos, Sallust, Ovid, and other Latin authors, may be offered. In connection with all the readings, there should be constant practice in sight translation and prose composition.

The four units that may be offered in Latin are as follows:

1. *Grammar and Composition—One unit.* The inflections; the simpler rules for composition and derivation of words; syntax of cases and verbs; structure of sentences in general, with particular regard to relative and conditional sentences, indirect discourse, and the subjunctive. Translation into Latin of detached sentences and easy continuous prose based upon Caesar and Cicero.

2. *Caesar—One unit.* Any four books of the Gallic War.

3. *Cicero—One unit.* Any six orations from the following list, or equivalents: The four orations against Catiline, Archias, the Manilian Law, Marcellus, Roscius, Milo, Sestius, Ligarius, the fourteenth Phillipic.

4. *Virgil—One unit.* The first six books of the Aeneid, and so much prosody as relates to accent, versification in general, and the dactylic hexameter.

Greek. The three units that may be offered in Greek are as follows:

1. *Grammar and Composition—One unit.* The common forms, idioms, constructions, and the general grammatical principles of Attic Greek prose. Translation into Greek of detached sentences and very easy continuous prose based upon the Anabasis.

2. *Xenophon—One unit.* The first four books of the Anabasis. In connection with the reading there should be constant practice in sight translation and prose composition.

3. *Homer—One unit.* The first three books of the Iliad (omitting II, 494 to end) and the Homeric constructions, forms and prosody. In connection with the reading in Greek there should be constant practice in sight translation and in prose composition.

German. The three units that may be offered in German are as follows:

1. *First Year—One unit.* During the first year the work should comprise a—careful drill in pronunciation; b—the memorizing and frequent repetition of easy colloquial sentences; c—drill in the rudiments of grammar, that is upon the inflection of the articles, of runiments of grammar—that is upon the inflection of the articles, of such nouns as belong to the language of everyday life, adjectives, pronouns, weak verbs, and the more usual strong verbs; also in the use of the more common prepositions, the simpler uses of the model auxiliaries, and the elementary rules of syntax and word order; d—abundant easy exercises designed not only to fix in mind the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; e—the reading of form 75 to 100 pages of graduated texts from a reader, with constant practice in translating into German easy variations upon sentences selected from the reading lesson (the teacher giving the English), and in the reproduction from memory of sentences previously read.

2. *Second year—One unit.* During the second year the work should comprise: a—the reading of form 150 to 200 pages of literature in the form of easy stories and plays; b—acompanying practice, as before, in the translation into German of easy variations upon the matter read and also in the off-hand reproduction, sometimes orally and sometimes in writing, of the substance of short and easy selected directed to the ends of enabling the pupil, first to use his knowledge with facility, in the formation of sentences, and secondly, to state his knowledge correctly, in the technical language of grammar.

3. *Third year—One unit.* The work should comprise, in addition to the elementary courses, the reading of about 400 pages of moderately difficult prose and poetry, with constant practice in giving, sometimes orally and sometimes in writing, paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; also grammatical drill in the less usual strong verbs, the use of articles, cases, auxiliaries of all kinds, tenses and modes(with special reference to the infinitive and subjunctive), and likewise in word-order and word-formation.

French. The three units may be offered in French are as follows:

1. *First year—One unit.* During the first year the work should comprise: a—careful drill in pronunciation; b—the rudiments of grammar, including the inflection of the regular and the more common irregular verbs, the plural or nouns, the inflection of adjectives, particles, the use of personal pronouns, common adverbs, prepositions, and conjunctions; the order of words in the sentence, and the elementary rules of syntax; c—abundant easy exercises, designated not only to fix in memory the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; d—the reading of from 100 to 175 duodecimo pages of graduated texts, with constant practice in translating into French easy variations of the sentence read (the teacher giving the English), and in reproducing from memory sentences previously read; e—writing French from dictation.

2. *Second year—One unit.* During the second year the work should comprise: a—the reading of from 250 to 400 pages of easy modern prose in the form of stories, plays, or historical or biographical sketches; b—constant practice, as in the previous year, in translating into French easy variations upon the texts read; c—frequent abstracts sometimes oral and sometimes written of portions of the texts already read; d—writing French from dictation; e—continued drill upon the rudiments of grammar, with constant application in the construction of sentences; f—mastery of the forms and use of pronouns, pronominal adjectives, of all but the rare irregular verb forms, and of the simpler uses of the conditional and subjunctive.

3. *Third year—one unit.* This should comprise the reading of from 400 to 600 pages of French of ordinary difficulty, a portion to be in the dramatic form; constant practice in giving French paraphases, abstracts, or reproduction from memory of selected portions of the matter read; the study of a grammar of moderate completeness; writing from dictation.

Spanish. The two units that may be offered in Spanish are as follows:

1. *First year—One unit.* During the first year the work should comprise: a—careful drill in pronunciation; b—the rudiments of grammar, including the conjugation of the regular and the more common irregular verbs, the inflection of nouns, adjectives and pronouns, and elementary rules of syntax; c—exercises containing illustrations of the principles of grammar; d—the reading and accurate rendering into good English of 100 to 175 duedeimo pages of graduated texts, with translations into Spanish of easy variations of the sentences read; e—writing Spanish from dictation.

2. *Second year—One unit.* During the second year the work should comprise: a—the reading of from 250 to 400 pages of modern prose from different authors; b—practice in translating Spanish into English, and English variations of the text into Spanish; c—continued study of the elements of grammar and syntax; d—mastery of all but the rare irregular verb forms and of the simpler uses of the modes and tenses; e—writing Spanish from dictation; f—memorizing of easy short poems.

History. Preparation in history will be given credit upon the basis of time devoted to the study of each branch of the subject, rather than upon the amount of ground covered. It is recommended that not less than one year be given to any of the courses outlined below. The training in history should require comparison and the use of judgment on the pupil's part, rather than the mere use of memory. The use of good text-books, collateral reading, practice in writing, and accurate geographical knowledge are essential. General History will not be accepted as an entrance subject.

1. *Ancient History (to 800 A. D.)—One unit.*
2. *Medieval and Modern History—One unit.*
3. *English History—One unit.*
4. *American History and Government—One unit.*

Physics. *One unit.* The preparation in physics should include individual laboratory work, comprising at least four exercises, illustrating the different phases of the subject; instruction by lecture; table demonstrations, to be used mainly as a basis for questioning upon the general principles involved; and the study of at least one standard text-book, to the end that the pupil may have gained comprehensive and connected views of the most important facts and laws of elementary physics. Original note-books must be submitted.

Chemistry. *One-half to one unit.* The preparation in chemistry should be conducted upon the same general plan suggested for work in physics. Original note-books must be submitted.

Physical Geography. *One-half to one unit.* The preparation in physical geography should include the study of at least one of the modern text-books, accompanied by field work. Original note-books must be submitted.

Physiology. *One-half to one unit.* The preparation in physiology should include a study of the nature of foods and their history in the body; the essential facts of digestion, absorption, circulation, secretion, excretion, and respiration; the motor, nervous, and sensory functions; and the structure of the various organs by which these opera-

tions are performed. A note-book with careful outline drawings of the chief structures studied anatomically together with explanations of these drawings, and the study of a good text-book are essential.

Botany. *One-half to one unit.* The preparation in botany should include a study of the structure and elementary physiology of the seed plants, ecology, the natural history of the plant groups, and classification. The laboratory method of instruction should be emphasized, but no further than can be done with a simple magnifier. Accurate drawings and concise note-book should be prepared by the student.

Zoology. *One-half to one unit.* The preparation in zoology should be along the same lines as those laid down for botany. It should be such as to render the student familiar with the salient characteristics of each of the animal sub-kingdoms. This can be accomplished only by a laboratory study of at least one type animal under such sub-kingdom.

Geology. *One-half to one unit.* The study of geology should include an examination into the causes now in operation as throwing light on those which have operated in the past, followed by a sketch of historical geology. This will involve a presentation of the following topics: atmospheric agencies; the work of underground and surface waters; the work of the sea; internal geological agencies, such as volcanic activity, earthquakes, and slow movements of the earth's crust; structural geology, or the study of rock forms; and finally, physiographic geology, or the interpretation of land forms in the light of their geological history. The text should be supplemented by an examination of rocks, minerals, fossils and by field work, and the pupil should record his observations in a note-book.

Drawing. *One-half to one unit.* The student should be able to show ability to sketch free-hand geometrical figures, such as circles, spirals, polygons, pyramids and cylinders; also common objects, such as chairs, tables, animals, bones, flower. He should be able to copy, by enlarging or reducing its dimensions, the picture of any ordinary object.

Bookkeeping. *One-half unit.* A full term's course must be taken in this subject with recitations five times a week. When a commercial course is given and more time required for this subject, an additional half unit may be allowed.

Vocational Subjects. *Four units.* The subjects of manual training, domestic science, agriculture, commercial geography, commercial arithmetic, may be valued at one unit each when the work done in each is equivalent to a full term of eighteen or twenty weeks with five full recitations. If subjects are given once or twice a week only, not less

than ninety hours may be offered. The work in each subject should include a regular text-book course and this should be directed toward practical application and use.

ADMISSION BY CERTIFICATE

Persons who desire to enter the University by certificate instead of by examination must have their credits certified by the Superintendent or Principal of the school in which they may be secured. Blank forms for such certificates will be furnished by the Registrar of the University on application. These certificates should be properly made out, signed, and should be mailed to the Registrar as early as possible and not later than September 1. Only graduates of accredited schools or those who have completed the accredited course will be admitted upon certificate. A diploma, such as is given at graduation to high school pupils, cannot be substituted for this certificate.

ACCREDITED SCHOOLS

Schools, whether public or private, may be accredited, provided they meet the following requirements:

High schools and other schools doing preparatory work now on the accredited list and that may hereafter be placed thereon may be designated by two forms of classification. The first division, or Class A, may include all the schools which meet the following requirements:

Requirements for Class A

1. The school must offer a standard four-year course of study and require full fifteen entrance credits for graduation therefrom.
2. Three qualified teachers must be employed who devote all their time to high school work.
3. The pupil enrollment must not exceed thirty pupils for each teacher.
4. Two-thirds of the teachers employed must possess an academic scholarship equivalent to graduation from a standard college.
5. A minimum period of forty minutes must be given each recitation.
6. School must be in session not less than thirty-six weeks during the year.
7. The equipment for teaching science must not be less than $150 in value, and the library for reference purposes should not be less in value than $75, exclusive of public documents.

8. Classes must not be too large to properly handle the subject matter of the recitation.

9. The school sentiment both of the school and the community must be harmonious and progressive.

10. The work in school must be approved as satisfactory.

Requirements for Class B

1. The school must maintain a four-year course of study requiring fifteen college entrance credits for graduation.

2. Two qualified teachers must be employed who devote all their time to high school work.

3. The school year must not be less than thirty-six weeks.

4. An average recitation period of forty minutes must be maintained.

5. The equipment for the teaching of science must not be less than $75 in value, and the library for reference purposes must not be less than $60 in value, exclusive of public documents.

6. The enrollment must be limited to thirty pupils for each teacher.

7. The school sentiment must be normal.

8. The work must be approved as satisfactory.

9. The academic scholarship of all teachers must meet the requirements of the State law—high school graduation plus two years in college or normal school, or the equivalent thereof.

A list of accredited schools is prepared by the Committee on Accredited Relations of the Association of Kentucky Colleges, which committee employs all sources of information as to extent and character of work done and courses offered. In every instance the endorsement of the State High School Inspector is indispensible.

A school applying for admission to either accredited list is required to furnish information concerning its work on a blank form furnished by the Association. It is also required to sign an agreement not to make any change in the course of study which will lower in any way the character of the work done without notification to the State Supervisor of High Schools.

No high school will be accepted for accredited relations which does not keep in permanent form a complete record of all work done in school.

The Committee on Accredited Schools favors granting credit by the high school for home project work done out of school hours, provided such project work was performed in accordance with a definite plan, and that satisfactory evidence be given by the pupils that the

project had a definite value and was performed under competent supervision and direction.

After September 1, 1919, no school should be considered for accredited relations which does not require full fifteen college entrance credits for graduation therefrom.

Four units will be allowed for vocational subjects.

The list as at present constituted follows:

ACCREDITED PUBLIC HIGH SCHOOLS

Class A

LOCATION	NAME OF SCHOOL	SUPT. OR PRIN.
Alexandria	County High	Miss C. E. Reiley
Anchorage	Graded High	J. B. Sibley
Ashland	High School	J. W. Bradner
Auburn	County High	J. D. Spears
Augusta	High School	A. J. Jolly
Bellevue	High School	J. W. Ireland
Bowling Green	Western Ky. Normal	H. H. Cherry
Bowling Green	High School	T. C. Cherry
Catlettsburg	High School	J. O. Faulkner
Central City	High School	T. Sanford Williams
Carrollton	High School	J. H. Way
Carlisle	High School	R. D. Squires
Corydon	High School	E. L. West
Covington	High School	H. C. Cox
Cynthiana	High School	R. I. Cord
Danville	High School	J. A. Carnagey
Dawson Springs	High School	J. C. Jenkins
Dayton	High School	L. N. Taylor
Earlington	High School (Atkinson Mem.)	C. E. Dudley
Elizabethtown	High School	J. C. Pirtle
Elkton	High School	H. L. Smith
Eminence	High School	F. A. Scott
Falmouth	High School	G. H. Wells
Flemingsburg	High School	Hardenia Marshall
Fort Thomas	Highlands High School	C. R. Rounds
Frankfort	High School	H. C. McKee
Franklin	High School	E. B. Weathers
Fulton	High School	J. C. Cheek
Georgetown	High School	J. C. Waller

LOCATION	NAME OF SCHOOL	SUPT. OR PRIN.
Glasgow	High School	E. B. Terry
Greenville	High School	E. L. Casto
Hardinsburg	High School	J. C. Steele
Harrodsburg	High School	J. G. Prather
Hartford	High School	J. A. Bruner
Henderson	High School	J. W. Welch
Hickman	High School	J. M. Calvin
Hodgenville	High School	R. H. Shipp
Hopkinsville	High School	G. C. Koffman
La Center	High School	W. H. Sugg
La Grange	High School	W. L. Dawson
Lancaster	High School	P. H. Hopkins
Lawrenceburg	City High School	R. H. Brown
Lawrenceburg	County High School	Mrs. R. Kavanaugh
Lebanon	High School	J. R. Sterett
Lexington	High School	M. A. Cassidy
Louisa	High School	E. M. Kennison
Louisville	Girls' High School	H. B. Moore
Louisville	Boys' High School	L. H. King
Ludlow	High School	W. D. Reynolds
Madisonville	High School	R. H. Gatton
Marion	High School	V. L. Christian
Mayfield	High School	R. M. Lester
Mayslick	County High School	G. E. Everett
Maysville	High School	W. J. Caplinger
Midway	High School	John Howard Payne
Middlesboro	High School	F. A. Cosgrove
Monticello	High School	C. O. Ryan
Mt. Sterling	High School	W. O. Hopper
Morganfield	High School	R. A. Edwards
Murray	High School	J. W. Jones
Newport	High School	R. F. Gaither
Nicholasville	High School	R. L. Kirkpatrick
Owensboro	High School	J. L. Foust
Owenton	High School	B. L. Vallandingham
Paducah	High School	Ralph Yakel
Paris	High School	T. A. Hendricks
Pineville	High School	B. W. Sherrill
Princeton	High School	S. V. Medling
Richmond	Caldwell High School	D. W. Bridges
Richmond	Model High School	C. H. Moore

LOCATION	NAME OF SCHOOL	SUPT. OR PRIN.
Richmond	Eastern Ky. Normal	T. J. Coates
Shelbyville	High School	H. H. Elliott
Somerset	High School	J. P. W. Brouse
Springfield	High School	G. C. Colvin
Stanford	High School	L. N. Caneer
Sturgis	High School	C. C. Justus
Winchester	High School	J. T. Hazelrigg
Winchester	County High School	J. L. Bosley
Wingo	High School	E. H. Smith

Class B

Adairville	County High School	E. H. Ellis
Arlington	High School	L. C. Manning
Athens	County High School	Frances Scott
Bardstown	High School	J. S. Irvine
Bardwell	County High School	J. R. Graves
Barlow	High School	J. B. Ward
Beaver Dam	West Ky. Seminary	E. E. Tartar
Bedford	Trimble County High	P. B. Akin
Benton	High School	O. L. Mulliken
Barbourville	High School	H. M. Oldfield
Bethlehem	County High School	K. B. Wheeler
Bloomfield	Graded High School	George W. Peck
Bradfordville	Graded High School	Gilbert England
Brandenburg	County High School	Mrs. Ella Gregory
Brodhead	High School	J. L. Pilkenton
Brookville	High School	Everett Pfanstiel
Buffalo	High School	L. L. Hudson
Burlington	County High School	J. A. Caywood
Burgin	High School	Miss Lucile D. Sharp
Burksville	High School	C. A. Tanner
Burnside	High School	F. V. McChesney
Butler	High School	Vaught Mills
Cadiz	High School	N. D. Bryant
Calhoun	High School	D. B. Lutz
Campbellsville	County High School	J. P. Boling
Clay	High School	W. W. Johnson
Clinton	County High School	H. W. Puckett
Cloverp rt	High School	C. R. McCoy
Columbia	High School	R. R. Moss
Corinth	County High School	William Moore

LOCATION	NAME OF SCHOOL	SUPT. OR PRIN.
Crutchfield	Graded High School	Nina Kimbro
Cuba	County High School	Myra Peck
Dixon	High School	Oliver Hoover
Dry Ridge	County High School	E. W. Gibson
Edmonton	County High School	A. B. Thompson
Erlanger	High School	P. L. Hamlett
Farmington	County High School	Mrs. W. T. Pearson
Fordsville	High School	O. L. Schultz
Fulghum	County High School	A. M. Wilson
Ghent	High School	E. Y. Allen
Glendale	High School	J. A. Howard
Greendale	County High School	Mrs. W. C. Wilson
Grayson	High School	J. W. Lusby
Guthrie	High School	O. R. Willett
Hardin	High School	J. H. Fitch
Harlan	County High School	F. D. Perkins
Hawesville	Beechmont High School	E. P. Kelly
Hazard	County & City High	R. T. Whittinghill
Heath	County High School	J. S. Ragsdale
Horse Cave	High School	D. D. Donohoo
Howes Valley	High School	J. R. Wilson
Hustonville	High School	J. W. Davis
Hyden	County High School	Alma Faulkner
Independence	Graded High School	C. V. Lucy
Junction City	High School	E. L. Grubbs
Kirkville	County High School	Eugene Spurlock
Leitchfield	High School	P. B. Boyd
Lewisburg	County High School	Nonie Carson
Lexington-Picadome	County High School	Miss M. McCubbing
Little Rock	Graded High School	Byron M. Roberts
Livermore	High School	W. L. Matthews
London	Graded High School	M. H. McNutt
Lowes	County High School	Herbert Rebarker
Mackville	County High School	A. B. Crawford
McHenry	Central Park	F. G. Burd
Middleburg	High School	R. G. Huey
Minerva	County High School	J. A. Caldwell
Morgantown	High School	Miram G. Haynes
Mt. Olivet	County High School	E. E. Allison
Mt. Sterling	County High School	M. J. Goodwin
Mt. Vernon	High School	D. H. Lyon

LOCATION	NAME OF SCHOOL	SUPT. OR PRIN.
New Castle	High School	L. S. Rhoades
Olmstead	County High School	J. W. Taylor
Owensboro	County High School	O. E Baird
Owingsville	City High School	C. F. Martin
Paint Lick	County High School	L. H. Lutes
Paintsville	High School	W. B. Ward
Pembroke	High School	J. R. Claypool
Perryville	County High School	Clarence Adams
Pikeville	County & City High School	T. J. Hendrick
Waco		
Providence	High School	A. L. Morgan
Sedalia	High School	J. S. Brown
Sebree	High School	J. L. Chambers
Sharpsburg	Graded High School	C. P. Caywood
Smith's Grove	County High School	W. P. White
Stamping Ground	Graded High School	Thornton Peck
St. Helens	High School	Mrs. Sylvia Russell
Science Hill	Graded High School	E. E. Bratcher
Scottsville	Graded High School	L. N. Richards
Taylorsville	Graded High School	D. J. Wright
Tompkinsville	High School	W. R. Meers
Union City	County High School	Chester A. Long
Uniontown	Graded High School	J. S. Singleton
Upton	Graded High School	J. M. F. Hayes
Utica	County High School	Warren Payton
Vanceburg	County & Graded	Leland Cook
Versailles	High School	R. G. Lowry
Vine Grove	High School	S. G. Boyd
Waco	County High School	J. R. Robinson
Walton	County High School	J. C. Gordon
Warsaw	High School	F. G. Connolly
Water Valley	County High School	L. E. Hurt
West Liberty	High School	C. W. Croft
Whitesville	County High School	M. F. Hawkins
Williamstown	High School	Henry Newton
Wickliffe	High School	R. K. Pitts

ACCREDITED PRIVATE SCHOOLS

Class A

Barbourville	Union College	E. T. Franklin
Berea	Academy	F. E. Matheny

LOCATION	NAME OF SCHOOL	SUPT. OR PRIN.
Berea	Normal School	C. N. McAllister
Bowling Green	Ogden College	W. M. Pearce
Campbellsville	Russel Creek Acad.	W. G. Welborn
Columbia	Lindsey-Wilson	P. G. Chandler
Corbin	St. Camillus Acad.	Sister Hilda
Danville	Ky. College Prep.	Miss Ruth Andrus
Elkton	Vanderbilt Training	Dr. Clayton
Frenchburg	High School	A. G. Weidler
Georgetown	Cardome Academy	Sister Agatha
Jackson	Collegiate Institute	J. C. Hanly
Lexington	Hamilton College	E. W. McDiarmid
Lexington	Sayre College	J. M. Spencer
Lexington	University Training	A. C. Kuykendahl
London	Sue Bennett Memorial	Prof. Bohn
Lyndon	Ky. Military Institute	Col. C. W. Fowler
Louisville	Collegiate School	Miss Ada S. Blake
Louisville	Training School	W. H. Pritchett
Louisville	St. Xavier	Brother James
Louisville	Ky. Home School for Girls	Miss A. Anderson
Millersburg	Female College	Rev. C. C. Fisher
Millersburg	Military Institute	Col. C. M. Best
Midway	Female Orphans School	Miss Ella Johnson
Morehead	Normal School	Rev. J. W. Hatcher
Nazareth	Nazareth Academy	Sister M. Ignatius
Nerinx P. O.	Loretta Academy	Sister M. Victor
Newport	Acad. Notre Dame, Prov.	Sister I. Catherine
Paducah	St. Mary's Academy	Sister Ignatia
Pikesville	Pikeville Academy	Rev. J. F. Record
Russelville	Bethel College Prep.	J. H. Fuqua
Russelville	Logan Col. Academy	G. H. Crowell
Shelbyville	Science Hill	Mrs. W. T. Poynter
St. Catherine	St. Catherine's Acad.	Sister Francesca
St. Mary's	St. Mary's College	Rev. M. Jaglowicz
St. Vincent	Academy	Sister Estelle
Stanton	Stanton College	J. Kelley Giffen
Versailles	Margaret College	Rev. J. M. Maxon
Williamsburg	Cumberland College	E. E. Wood.
Wilmore	Asbury College Acad.	S. A. Arnold

Class B

LOCATION	NAME OF SCHOOL	SUPT. OR PRIN.
Barbourville	Baptist Institute	J. A. Lowry
Campbellsburg	High School	J. W. Pearcy
Clinton	Marvin Preparatory	George Evans
Guerrant	Highland	Mrs. Rose Wells
Hazel Green	Hazel Green Academy	J. T. McGarvey
Hindman	Settlement School	Miss Emma Parker
Lexington	St. Catherine's Acad.	Sister Constance
Louisville	Holy Rosary Academy	Sister Mary Rose
Nicholasville	Boys' School	T. B. Threlkeld
North Middletown	Classical and Business	J. C. Christopherson
Richmond	Madison Institute	J. B. Cassidy
Salyersville	Magoffin Institute	J. G. Austin

Recapitulation

Public Schools			
	Class A	79	
	Class B	106	
			185
Private Schools			
	Class A	40	
	Class B	12	
			52
			237

Growth of Accredited Schools

As shown by reports of the High School Inspector made in January of this year indicated in this table:

	Public	Private	Total
1910	54	29	83
1911	69	32	101
1912	85	33	118
1913	100	34	134
1914	123	38	161
1915	134	41	185
1916	149	45	194
1917	171	50	221
1918	185	52	237

ADMISSION TO ADVANCED STANDING

Candidates who can present equivalents of any part of the college work may secure advanced standing and thereby reduce the number of hours required for graduation. They may secure this advanced standing by one of two methods:

a—By examination on each subject for which credit is desired.

b—By transfer from a college or university, or by credits satisfactory to the committee on advanced standing. An official statement must be submitted to this committee certifying in detail the work for which credit is desired.

ADMISSION AS SPECIAL STUDENTS

A graduate of another university or college may enter the University to pursue any special work. Other persons may be admitted as special students under the following conditions:

a—They must be at least twenty years of age.

b—They must show the Committee on Entrance good reason for not taking a regular course.

ADMISION AS GRADUATE STUDENTS

The Graduate School is open to students, without distinction of sex, who are graduates of this or any other university or college of recognized standing. In exceptional cases, other persons of proper age and attainments may be admitted as students. Application for admission to this school should be made to the Chairman of the Graduate School Committee, and should be accompanied by official certificates attesting the candidate's completion of an under-graduate course.

For further information, see statement of the Graduate School.

RESIDENCE AND GRADUATION

University Session

The session of the University begins September 16, 1918, and ends June 5, 1919. The first semester ends February 1, 1919; the second semester begins February 4, and ends June 5, 1919.

Entrance Examinations

Entrance examinations will be held the week preceding the opening of the first semester and on the other dates arranged by the Entrance Committee. See the schedule in the first part of the catalog.

Registration

Students are required to register in person, as follows: In 1918-19 they will register for the first semester on September 16 and 17. For the second semester, old students will register February 4; new students will register February 5. The registration for the first semester will be conducted in the Armory. The student will present himself at the desk of the Registrar. Here he fills out the cards given him, signs the registration book, then goes to the business agent to whom he makes payment of his fees. He will then return to the Registrar, and if he is a new student who has offered no entrance credits which have previously been accepted, he will be sent to the Entrance Committee which will pass on any credits he may offer. If he has none, he will be instructed concerning time and place of examinations. Students whose credits have been accepted will be directed to the respective deans of the colleges they desire to enter who will fill out courses of study and assign to classes.

Students who do not register on the appointed days must wait until a later time that shall be designated by the Registrar.

Fees

Incidental fee. Each student will be required to pay an incidental fee as follows:

College of Arts and Science, $12.50 a semester.
College of Agriculture, $12.50 a semester.
College of Engineering, $15.00 a semester.
College of Law, $20.00 a semester.

Student Activities. Each student will be charged a fee of $4.50 a semester for student activities.

Late registration fee. Students entering the University after the regular registration period will be charged an additional fee of $1.00.

No student will be permitted to matriculate later than two weeks after the regular registration period without special permission of the heads of the departments concerned.

Changes in registration. After five days following the regular registration period, a fee of $2.00 will be charged for transfer from one college or school to another.

Late classification fee. Students who fail to arrange classification within the scheduled time will be charged a fee of $1.00.

Fee for change in classification. After five days following the regular registration period, a fee of $1.00 will be charged for any change in schedule.

Late entrance examination fee. A fee of $5.00 will be charged for admission to entrance examinations after the regular examination period. However, if examinations are deserved on only a part of the 15 units, $1.00 a subject up to $5.00 will be charged.

Special examination fee. A fee of $1.00 will be charged for a special examination.

Laboratory Deposit. Each student taking laboratory work is required to make a deposit of $2.50 to cover breakage. The residue of this amount will be returned at the end of the year.

Marking System

After June, 1918, results of work will be recorded in the Registrar's office as follows:

A. Exceptionally high quality, valued at 3 points for each credit.
B. Good, valued at 2 points for each credit.
C. Fair, valued at 1 point for each credit.
D. Poor, but passing, valued at 0 points for each credit.
E. Failure, valued at 0 points for each credit.
I. Incomplete.
X. Absent from examinations.

The *standing* of a student is defined as the ratio of his total number of points to his total number of credits. For example, a student who makes an average mark of C throughout his course of 120 semester hours, would have 120 points and 120 credits, and a standing of *one.* An average mark of B would give the student 240 points and 120 credits and a standing of *two.*

Reports to Parents

Written examinations are held in all classes at the close of the first and second semesters. Reports are sent at these times to the parent or guardian of each student to indicate as nearly as possible the quantity and quality of work done. In addition to these, mid-semester reports are made of all freshmen and of those who are doing unsatisfactory work. Special reports are sent on request at any time.

Conditions and Failures

A *Condition* will not be used in the marking system after the academic year 1917-18. Examinations for the removal of conditions incurred during the second semester, 1917-18, will be held during the week preceding the opening of the first semester 1918-19. A condition not removed at this time will become a failure.

A *Failure* may be removed only by taking the subject again in the class. This must be done as soon as the subject recurs in the University schedule; and studies in which a student has failed take precedence of all others in the arrangement of his course.

Delinquent Students

Students doing unsatisfactory work are reported each week to the Registrar, who arranges the names by colleges and presents them to the council. Such a student is put under the special supervision of his dean. If after a suitable time it becomes apparent that no improvement is to be hoped for, the student is dropped.

Any student whose standing is found delinquent at the end of the semester in one-third of his scheduled credits is placed on probation for the whole of the next semester. His parents are informed of the fact, and during the period of probation he is under the special week to week supervision of his dean. If at the end of this semester of probation he is found delinquent in one-half of his scheduled credits, he is dropped.

Suspension of Irregular Students

When a student becomes irregular in attendance, the Registrar may suspend him from all classes until he has made satisfactory explanation to the Discipline Committee.

Deficiencies in English

Any instructor who finds the written work of any student seriously defective in English is expected to report the case, together with specimen papers, to a committee consisting of the Dean and the Professor

of English, who shall have power to require additional work in composition without credit.

Physical Education

All students are required to take Physical Education two hours per week during their first year in the University. If at any time thereafter the Head of the Department of Physical Education and the Medical Examiner certify to special need for further training in individual cases, the work is to continue.

Students physically disabled may be excused from Physical Education upon the written recommendation of the University medical examiner, by the Dean of the College of Arts and Science.

Students who take part in any athletic sport will be excused from physical education during the season usually allotted to that sport. If a student be found delinquent in practice work, said student shall be required to substitute work in the gymnasium.

Students who, for special reasons, are unable to take Physical Education, may be excused by the Council.

Military Science

All men students are required to drill three hours each week during their freshman and sophomore years.

Any student who is physically untfi to perform military service under the United States Army regulation may be excused by the Dean of the College of Arts and Science, upon the written recommendation of the University medical examiner.

Students who, for special reasons, are unable to drill, may be excused by the Council.

Rules Governing Athletic Teams

Eligibility requirements for participation by any student in intercollegiate athletic contests, are as follows:

1. Presentation of not less than fourteen Carnegie entrance units.
2. Matriculation in person within thirty days (ten days shall be the limit for football men) after the beginning of the regular University year (not counting the days set apart for the matriculation and classification of students.)
3. Pursuit of a course involving at least ten hours of lectures and recitations, counting two hours of laboratory or practical instruction as equivalent to one hour of lecture or recitation.
4. Pursuit of a course involving at least ten hours of lectures and recitations, counting two hours of laboratory or practical instruction

as equivalent to one hour of lecture or recitation, during at least two-thirds of the preceding University year in the case of football men who took part in any intercollegiate football contest at the University last year.

5. Freedom from probation for any cause (see sections for causes for placing students on probation.)

6. Eligibility in accordance with all rules of the Southern Intercollegiate Athletic Association.

No student will be allowed to be absent from the University for more than six school days (counting Saturday as a half day) during any one semester on account of athletic trips. Prior to each trip the Director of Athletics shall furnish the President, the Registrar, the Chairman of the Athletic Committee, and the Dean of each college, a list of the students who are to make the trip and the expected duration of their absence. Students on this list will be excused by their instructors and allowed the privilege of making up any work they may miss and, if made up, it is not to count against them in their final grade.

No athletic team representing the University or any organization in the University, shall participate in any athletic contest without the permission of the Chairman of the Athletic Committee.

General Conduct

In issuing rules for the government of the students, it is not deemed necessary to set forth too many details. Something is taken for granted. It is assumed that the students will conduct themselves in a seemly manner, bearing in mind that their conduct constitutes the basis for the reputation of the institution. It is assumed that the young men understand that intoxication, the visiting of saloons, the introduction of intoxicants upon the campus, gambling in any form, or the visiting of any place of vice is strictly prohibited. It is assumed that all students know that the penalty for immoral or ungentlemanly conduct is suspension or dismissal.

Hazing

All forms of interference with a student's personal liberty by other students, such as is commonly classed under hazing, and complicity in any form of initiation which has incident thereto the exhibition of a student as a public spectacle in a ridiculous light or the treatment of him publicly or privately, even with his consent, in such a way as to endanger life or limb, are forbidden in the institution.

Smoking in University Buildings

Students are prohibited from smoking in any of the recitation rooms, Y. M. C. A. rooms, Armory, Gymnasium, drawing rooms, hallways, doorways, or laboratories of the University.

Residence in Sorority Buildings

Freshmen and sophomores are not permitted to reside in sororiety houses. Juniors and seniors must obtain permission from the Dean of Women for such residence.

Erection of New Dormitories

The Board of Trustees contemplate the erection of suitable dormitories for men in the near future. The Dean of Men has a list of rooms and boarding houses.

Expenses

The necessary expenses, in addition to fees, will be about as follows:

Laundry	$10.00
Books	10.00
Rent of furnished room per week	$1.00 to 2.00
Board in private families per week	3.50 to 5.00
Board and lodging in private families per week	4.00 to 6.00

Students who are required to do military drill must procure the regulation uniform, which will cost about $15.00.

Board and lodging are provided in Patterson Hall for young women, at $4.50 a week. The occupants furnish their own napkins, towels and bedding, except mattresses and pillows, and pay their own laundry bills. Board is furnished to men at the University Commons.

Employment Bureau

Many students find it necessary to earn money with which to help to support themselves while in college. The Y. M. C. A. has organized an employment bureau for the purpose of aiding them in securing work. If a student desires to employ part of his time to earn money, he reports to the bureau the number of hours he can work. Many good positions have been secured for the students in this way. There are about fifty various newspaper routes in the city; all of them are carried by college men. The state farm, which is a part of the University, employs many students. If the prospective student has only one or two hours each day for working, it is so arranged by the farm managers that he is always employed. A number of students

wait on tables at the boarding houses for their board. The merchants and tailoring establishments of the city employ students to carry bundles. Young men are employed at hotels and restaurants; others work at numerous odd jobs at the homes of the citizens. A number of the young men are employed as stenographers in the city. Students seeking employment should apply at the office of the Y. M. C. A.

*Dormitories for Men

Young men may reside in the dormitories on the university campus, or in private houses approved by the faculty. The dormitories afford lodging for about two hundred students. Each student pays a fee of $1.00 a week, for which the University furnishes sheets, towels and pillow cases, and launders them. The janitors attend to the rooms. The matron has her office in the New Dormitory and inspects the rooms of both buildings regularly. If a student is sick, the fact is reported to the medical officer. The medical officer inspects each room regularly as to its cleanliness and general hygenic conditions.

Dormitory for Women

Patterson Hall is the residence open to all unmarried women who are students in any department of the University, who carry at least twelve hours of work. The hall is a handsome three-story building especially constructed for students' use. It contains 68 rooms affording accommodation for one hundred and nineteen students. It is heated by steam and lighted by electricity.

Board is charged at the rate of $4.50 a week; payment is made by the month and is required in advance. Students furnish their own napkins, towels and bedding and pay for their own laundry. A deposit of five dollars is required on the assignment of each room as guarantee of good faith. At the end of the year or when the room is surrendered, this deposit will be returned less such amount as may be assessed for unusual damage to the room or for unpaid bills.

The general administration of the house is in the hands of the House Director, Miss Adelaide E. Crane, who with the Dietitian, have supervision of the house life. A resident nurse will have general charge of the physical welfare of the household.

Applications will be received at any time, but notification of the assignment of rooms will not be sent out until early summer.

The Infirmary and the Nurse

Every provision is made for the care of the students when ill. In each residence hall, one room furnished and fully equipped, is

*Owing to the expansion of the University, the dormitories for men will be used next year for class rooms.

set aside for use when necessary. Should any illness of a serious nature develop, competent physicians are at hand and efficient nurses can be secured thru the Graduate Nurses' Registry. The hospitals of Lexington can also be reached conveniently.

The desire of the University authorities, however, is to "prevent sickness." A free dispensary is operated at the University under the direction of a reputable physician of Lexington and the University Nurse. The physician may be found at the dispensary regularly between 4:15 and 5:15 on Tuesdays and Fridays. The University Nurse may be found at the same hour every day. Students of the University are encouraged to seek advice of the nurse or physician as soon as they feel indisposed. Epidemics and much ill health are prevented in this way. Any advice or treatment given at the dispensary is free. Students are of course at liberty to seek the advice of any physician at any time.

Student Advisers

For Men—The Deans of the various colleges select for each man upon matriculating in their college one member of the Faculty who assumes toward that student the relation of student adviser. He advises the student in all matters and looks after his general welfare; he endeavors especially to direct the student's social and moral life. The student is made to feel that the University is interested in him personally, and that it wishes to make him a useful member of the university community and of society. The advisers are under the direction of the President.

For Women—All young women are under the supervision of the Dean of Women.

Convocation

Religious exercises are conducted in the Chapel every Tuesday morning under the direction of the Chapel Committee. Members of the Faculty, ministers of the various churches of Lexington, and visiting educators address the students at these gatherings. Music is furnished by the best talent of the city and student body. Provision is also made for a meeting on Friday morning, when matters of general student interest may be considered.

Churches in Lexington

The churches of Lexington extend to all the university students a cordial invitation to enter into Christian fellowship with them. They welcome all students to their services irrespective of church relation-

ship. Frequent receptions by the young people's associations of the various churches are given for the university students. The pastors visit the University, preach special sermons for students, and are glad to welcome them in their homes. Each church has a Bible class especially for students, usually conducted by a university professor.

Recommendation of Teachers

The University strives to secure appointments for its graduates in the schools and academies of the state and elsewhere. To this end it keeps on file the names of all former students so that it may be able at any time to assist them to positions, and be of service to the high schools of the state. The demand for University of Kentucky graduates is constantly increasing. The institution will be glad to receive any information concerning vacancies.

University Woman's Club

The Woman's Club, consisting of the professors' wives and other ladies of the University, exerts a most helpful influence upon the social and moral life of the community. Entertainments are given under their auspices. During the past year they were active in looking after the sick and needy among the students. They welcome students in their homes.

The Library

Books may be taken out by all officers and students of the University, by teachers in the public schools of the state, and by others having special permission. The whole collection is placed on open shelves accessible to all readers.

The general library is open as follows:

Week-days (legal holidays excepted) 8 a. m. to 9:30 p. m.

Sundays during regular session, 2 to 5:30 p. m.

Vacation periods, 9 to 12 M. daily.

The Experiment Station library is open from 8 a. m. to 5 p. m. daily except Saturday, when the hours are from 8 a. m. to 1 p. m.

It is the purpose of the library to be of the greatest possible service to both faculty and students of the University, and for this reason as few restrictions as possible are placed on the issuance of books and the use of them in the library reading room. Every effort is made to help students to an intelligent use of the reference books and periodicals and to aid in the work of the various student activities, including all clubs and literary societies.

Residence Requirement for the Bachelor's Degree

To be eligible for the Bachelor's Degree the candidate must have been a resident student of the University during at least one year's session.

Senior Classification

No student in the University shall be considered a member of the senior class in any year, eligible to graduate in June of that year, unless, at the beginning of the collegiate year, he shall have satisfied the requirements of senior classification in his respective college.

College of Arts and Science. A student to be eligible for senior classification, must have completed 90 credits with a standing of 1.

College of Agriculture. A student, to be eligible for senior classification, must have completed 97 credits (exclusive of Gymnasium and Drill) with a standing of 1.

College of Engineering. To be eligible for senior classification, a student must have completed all the prescribed work below the senior year with a standing of 1.

Collge of Law. A student to be eligible for senior classification, must have completed three years of college work, two years of Law, and in addition, thirty credits in some other college. He must also have a standing of 1. For students entering under the age of twenty-one the rule will be effective beginning with the class of 1919, and will apply to all students beginning with the class of 1920.

A student in any college, to be classified as a junior, must have within 6 credits of the normal amount of work, and a standing of 1; to be classified as a sophomore, he must have within 10 credits of the normal amount.

Commencement Honors

Students are graduated "With High Distinction" who attain a standing for the course of 2⅜.

Students are graduated "With Distinction" who attain a standing of 2⅛.

Students may receive "Special Mention" in a subject who attain a standing of 2 and are recommended by the department concerned for especially good work.

A student in the University prior to June, 1918, to be eligible for honors, must have met the former requirements for honors for that part of his course.

Degrees

The following degrees will be conferred upon undergraduates who have completed the work as prescribed in the various colleges:

Bachelor of Arts (A. B.)
Bachelor of Science (B. S.)
Bachelor of Science in Agriculture (B. S. Agr.)
Bachelor of Science in Home Economics (B. S. in H. E.)
Bachelor of Laws (LL. B.)
Bachelor of Civil Engineering (B. C. E.)
Bachelor of Mechanical Engineering (B. M. E.)
Bachelor of Mining Engineering (B E. M.)
Bachelor of Metallurgical Engineering (B. Met. E.)

The following advanced degrees are conferred in the Graduate School:

Master of Arts (A. M.)
Master of Science (M. S.)
Master of Science in Agriculture (M. S. Agr.)
Civil Engineering (C. E.)
Mechanical Engineer (M. E.)
Electrical Engineer (E. E.)
Mining Engineer (E. M.)

For further information concerning advanced degrees, see statement of the Graduate School.

SCHOLARSHIPS AND PRIZES

Graduate Fellowships and Scholarships

For the encouragement of research and scholarship the following scholarships and fellowships have been established in the various departments of the University of Kentucky: Five scholarships with a stipend of $200 each; two fellowships with a stipend of $500 each; ten assistantships with a stipend of $400 each.

The scholars and fellows will be expected to devote their whole time to graduate work. The assistants will do no regular teaching, but will assist the heads of the departments in such work as they may require, as in laboratories, reading papers, etc. In general, they will be expected to spend two years in the University before receiving their first advanced degree. These fellowships are open to those who already hold, or will receive at the close of the curent academic year, a bachelor's degree, or its equivalent, from any college or university of good standing, provided the student has shown some special aptitude for the line of work he desires to pursue.

Application for a fellowship should be made to Glanville Terrell, Chairman of the Graduate School Committee, not later than April 15.

Southern Railway Scholarship

The Southern Railway offers a cash prize of $1,000 to be awarded in the College of Agriculture. The beneficiary must, after graduation, devote himself to the pursuit of agriculture for three years at some point along the line of the Southern Railway. The beneficiary is appointed by the President of the University. The money is available in four installments, the first payment being made at the beginning of the freshman year.

Tau Beta Pi Scholarship

The Tau Beta Pi Society offers a cash prize of $100 to the student of the engineering college who attains the highest scholarship during the freshman and sophomore years. The prize is available at the beginning of the junior year.

Bennett Prize

Pursuant to the will of the late Mr. Bennett, of New York, a cash prize of $20 in gold is offered to the student of the University who shall submit the best paper on some topic relating to the Origin and

Development of Parliamentary Institutions. This prize is awarded in May.

Barker Trophy

President Barker has given the Union and Patterson Literary Societies a $50 silver cup, for the possession of which they compete in annual debate. The successful society in this contest retains custody of the cup until the next debate.

Crum Prize

By kindness of Mr. George W. Crum a medal valued at $20 is offered annually to the Patterson Society. The conditions are imposed by the society and the medal awarded before the Christmas holidays.

Patterson Prize

Ex-President James K. Patterson offers to the Patterson Society a medal to be awarded annually on March 26, upon conditions imposed by the society.

Oratorical Prize

The Union Society offers a $15 gold medal to the successful competitor in an oratorical contest. This contest occurs on February 22 in the university chapel.

Declamation Prize

A $10 gold medal is offered annually, by the Union Society, to the successful contestant in declamation. This is open to all members of the society.

Journalism Prizes

Prizes will be awarded for practical work in the second semesters of second, third and fourth years. These contests will be open to students only of the three classes in Journalism.

Second Year. $5 in gold for best story, minimum 2,000 words, on subject to be assigned.

Third Year. $5 in gold for best description, minimum 5,000 words, of Experiment Station or Agricultural College and story of work accomplished by it that year.

Fourth Year. $5 in gold for best account of convention gathering of state importance, no limit as to words. $10 for best dramatic

criticism on performance at Opera House, performance to be indicated by the head of department, and review to be written the night of the play and before local papers are issued. $5 for best current news story of spontaneous origin.

Mining Prize for Freshmen

The College of Mines and Metallurgy offers a prize of $10 to that member of its freshmen class who attains the best record in class attendance during the year.

The American Law Book Company Prize

The American Law Book Co., of New York, offers as a prize to the law student who makes the best general average during the year a set of Student's Edition of CYC in twelve volumes, which set is a reproduction of the text of the forty-volume edition of CYC.

Callaghan & Company Prize

Callaghan & Company, Law Book Publishers, of Chicago, offer as a prize to the law student of the junior year who makes the best general average a Cyclopedic Law Dictionary.

Blackstone Institute Prize

The Blackstone Institute, of Chicago, offers to the student who makes the best general average in the junior year, a set of fifteen volums of "Modern American Law."

Military Prizes

A cash prize of $65 will be awarded to the best drilled company.

$5 will be awarded to the best drilled individual cadets in the freshman and sophomore classes respectively.

These prizes will be awarded at the annual Spring Competition.

Intercollegiate Apple Judging League Prize

The Intercollegiate Apple Judging League offers a handsome silver trophy for the most expert judging by teams of three students each from the agricultural colleges composing the league. Students in pomology of the Kentucky College of Agriculture compete annually for this prize, which must be won in three successive contests before it becomes the permanent possession of any institution.

State Horticultural Society Prize

In January, 1916, the Kentucky State Horticultural Society provided the "Junior Cup," a silver trophy, for excellence in apple judg-

ing by members of the junior class in pomology, the winner in each successive year for ten years to have his name inscribed upon the cup, which is to remain permanently in the care of the Department of Horticulture.

Commissioner of Agriculture Prizes

The State Commissioner of Agriculture has provided prizes aggregating $125 for the best judging of the various classes of live stock to be competed for annually by students of the College of Agriculture, at the Kentucky State Fair at Louisville.

A. S. H. B. Association Trophy

The American Saddle Horse Breeders' Association offers at the State Fair each year a handsome silver trophy to be given to the best student judge of saddle horses at the Fair.

Ewing Prize

For the best judging of dairy cattle by students of the freshman class of the College of Agriculture, Messrs. D. H. Ewing's Sons, of Louisville, donate an annual prize of $25 to be competed for at the Kentucky State Fair.

Bowles Prize

For the best judging of dairy cattle by a student of the freshman class of the College of Agriculture, Hon. J. B. Bowles, of Bardstown, Kentucky, offers an annual prize of $25.

J. F. Cook Prize

Mr. J. F. Cook, of Lexington, Kentucky, will offer a gold watch fob, properly inscribed, to the student in the College of Agriculture, who shows the greatest ability in the judging of jack stock.

The ability of the student to judge jack stock will be tested by visiting a farm where a large number of these animals are kept and where the students will express their opinion regarding the relative merits of the animals.

National Dairy Show Trophies and Scholarships

During the past four years students of the Department of Animal Husbandry in the College of Agriculture have competed at the National Dairy Show at Chicago for the handsome trophies offered for the best judging of dairy cattle by students of state agricultural colleges. These trophies are as follows:

A. Sweepstakes trophy offered by the National Dairy Show Association for the agricultural college team making the highest average score in judging cattle of all the dairy breeds.

B. Sweepstakes trophy offered by Hoard's Dairyman, Ft. Atkinson, Wisconsin.

The National Dairy Show Association offers a first and second scholarship for the best and second best individual judging of all dairy breeds. These scholarships may be used in defraying the expenses of the students at any agricultural college in the United States.

International Live Stock Exposition Trophies and Prizes

A trophy is offered for the best judging of heavy horses, beef cattle, sheep and hogs at the International Live Stock Exchange at Chicago each year, to be competed for by selected teams from American colleges of agriculture.

A trophy is offered by the American Saddle Horse Breeders Association to the agricultural college student judging team doing the best and most efficient judging of saddle horses at the International Live Stock Exposition.

A number of scholarships are also offered at this Exposition for the best individual judging of fat stock.

In the above named contests the Kentucky College of Agriculture has stood high among the agricultural colleges in the number of winnings. This College now holds the National Saddle Horse trophy, and the Ayrshire Dairy Cattle trophy mentioned above.

C. Trophy for the best judging of Holstein-Friesian cattle.

D. Trophy for the best judging of Jersey cattle.

E. Trophy for the best judging of Guernsey cattle.

F. Trophy for the best judging of Ayrshire cattle.

In addition to these trophies, the American Jersey Cattle Club, the American Guernsey Cattle Club, and the Holstein-Friesian Association of America, each offers a $400 scholarship to the Agricultural College student making the highest individual score in judging its respective breed of cattle.

Interscholastic Tournament Prizes

The winners of first, second, and third places in each event of the Interscholastic Tournament are awarded a gold, silver, and bronze medal respectively. The contestant winning the largest number of points in the track and field events is awarded an individual championship gold medal. The high school winning the largest number of points in the tournament is given a championship loving-cup, to be retained one year after being won.

ORGANIZATIONS AND STUDENT ACTIVITIES

Y. M. C. A.

The Young Men's Christian Association is the largest student organization in the University. The objectives of the Association are: (1) to lead men into and develop them in the Christian life; (2) to co-operate with the church and train men for service in it; (3) to promote a program of unselfish service; (4) to unite the student body in promoting the highest good of the University and the individuals who compose it; and (5) to unite the Christian students of the University with the world-wide Christian student brotherhood.

Four rooms are occupied by the Association on the second floor of the Alumni Building. Books and magazines, newspapers, free stationery, games, a piano, an Edison phonograph and telephone are provided. These rooms offer a convenient place for the students to meet in a social way.

A program of religious education is provided which includes practical and devotional talks and addresses on missions and social betterment. An effort is made to promote Sunday School attendance and to co-operate with the churches in various relations. Social service is promoted in connection with the state reformatory, the Sunday Schools, the city public schools, and other organizations. It is felt that such training makes a man more public-spirited and better fitted to work out his community problems after graduation.

Mr. J. E. Johnson is the General Secretary for the University. Associated with him are representative students who form the cabinet. The Board of Management is composed of students, members of the Faculty, and representative citizens of the Lexington churches.

The Association maintains an employment bureau which assists worthy students in securing work. For further information, see page 85.

Y. W. C. A.

Every woman entering the University is invited and urged to identify herself with the Y. W. C. A., for this organization is an interesting and important feature of every woman's life in the University. It endeavors to help her to learn that that life counts most which serves most.

The Association has two well-equipped rooms in Patterson Hall, one for the religious meetings and the other for the cabinet meet-

ings and reading room. Meetings are held every Sunday at 6:45 p. m., the programs being arranged by a committee of students. Student Bible classes are conducted during the first semester and Mission classes the second. Morning Watch has been introduced this year and the services are held at 7 a. m. every morning, which have added a great deal to the religious spirit of the students.

A great deal more social work has been done in the last year, in which the students have shown much enthusiasm. Each year a large delegation is sent to the Blue Ridge Conference in North Carolina to bring back enthusiasm and plans for the following year. Receptions are held during the first month of the year, and other social functions follow thru the winter.

The President for the year 1918-19, Miss Mildred Graham, and fourteen cabinet members have charge of the Association work. There is also an Advisory Board, consisting of the Dean of Women and six other women of the University and the city of Lexington, who have shown especial interest in the Association.

The Union Literary Society

This, the oldest of the literary associations connected with the University, was formed in 1872 by the consolidation of the Yost Club and the Ashland Institute, and operates under a charter from the legislature. It occupies quarters on the third floor of the Alumni Building. The society meets every Saturday evening for debate, declamations, etc.

The Patterson Literary Society

This society, formed in 1887 and, at the suggestion of Governor Knott, named in honor of the President of the University, was chartered in 1888. Its hall is located in the third floor of the Alumni Building. Meetings for debate, declamation, etc. are held each Saturday evening.

The Philosophian Literary Society

This society, instituted in 1882, by young women of the University, for literary improvement and social pleasure, offers besides the usual weekly meetings, public entertainments, consisting of declamations, essays, criticism, and addresses. Meetings are held in Patterson Hall on Wednesday evenings.

Horace Mann Literary Society

All students taking work in the Department of Education are eligible to active membership in the Horace Mann Society. The

society meets promptly at seven o'clock on Thursday evening of each week in a recitation room in the Education Building. The session is limited to one hour and the discussion, debates and papers are devoted to literary and educational subjects. Two or three times during the year the work of the society is given over for the hour to parliamentary drill. The work done here is valuable training for teachers and those who expect to take part in any kind of public exercises in life.

Henry Clay Law Society

The Henry Clay Law Society is an organization composed of the law students, which convenes once each week in a hall provided for its use. In this society the students by study and actual practice learn the rules of parliamentary law and their use in deliberative assemblies. They organize legislative assemblies and learn the procedure in the framing and passage of bills, both state and federal. Subjects of a public nature are discussed in order to familiarize the students with the affairs of the country which will confront them in their experience as citizens and professional men.

Agricultural Society

The Agricultural Society is composed of students in the College of Agriculture. Problems of interest to agricultural students are discussed. Lecturers address the society frequently. It convenes every Monday evening in the Agricultural Building.

Tau Kappa Alpha

The Tau Kappa Alpha Society is a national honorary oratorical fraternity. The local chapter was organized in 1913. Its purpose is to encourage public speaking, especially in oratory and debate. To be eligible for membership a student must have represented the institution in some intercollegiate contest.

Debating Teams and Oratorical Contests

The University of Kentucky is a member of the State Intercollegiate Debating Association and participates annually in a debate with one of the following schools: Georgetown, Transylvania, Centre.

Representatives of the College of Law participate annually in a debate with representatives of the law college of the University of Cincinnati.

The University is represented each year in the intercollegiate oratorical contest. The various colleges of the state constitute the membership of this oratorical association.

An Intercollegiate Oratorical Peace Association has been organized, and the University is represented each year in this contest. There are also several annual inter-society contests in public speaking.

Brooks Civil Engineering Society

The Brooks Engineering Society, named in honor of the former Dean of the College, is a flourishing organization, and gives abundant opportunity for the discussion of general and special engineering topics. Meetings are held monthly.

Mechanical and Electrical Engineering Societies

The American Society of Mechanical Engineers has a branch in the University of which all seniors in Mechanical and Electrical Engineering are members. Meetings are held every two weeks in the heat engineering room. Each member receives a copy of the transactions of the society, and the papers contained therein are used as the bases of discussions. Many lecturers of note address the society during the year.

The American Institute of Electrical Engineers has a branch society in the University of which all seniors in this college are members. Meetings are held every two weeks in the heat engineering room. The monthly proceedings of the Institute are received by each member, and the papers contained therein are the bases of discussion. Many prominent electrical engineers visit the University during the year and address these meetings.

Class societies are organized in every freshman class in this college. Each adopts a distinctive name and remains intact thruout the four years of the undergraduate course. Meetings are held at times to suit the schedules. During the first three years topics of engineering and literary interest are discussed at the meetings. Lectures by the members of the faculty and others frequently make up the program. In the senior year the society becomes a social organization inasmuch as the technical and literary work is carried on by the student branches of the American Society of Mechanical Engineers and the American Institute of Electrical Engineers.

Mining Society

The Kentucky Mining Society was organized in 1908, and was admitted as a Student Branch of the American Institute of Mining Engineers in 1911. It is also a local branch of the Kentucky Mining Institute. Meetings are held on the first Tuesday of each month.

Tau Beta Pi

The Tau Beta Pi Association is an honorary engineering student organization which was founded at Lehigh University in 1885. A student to be eligible to election as a member must maintain an average grade in all his studies thruout his freshman, sophomore, and junior years that will rank him among the first one-fourth of his class who are matriculated in the College of Engineering. Members are elected twice each year. In the spring those who rank among the first one-eighth of their class up to the end of the first semester of the junior year are eligible to election. In the fall those who rank among the first one-fourth of their class up to the end of their junior year are eligible to election, and also the man who leads his class thru the freshman and sophomore years. This latter man is known as the Tau Beta Pi Scholar. The Kentucky Alpha Chapter was founded at the University in 1902. Meetings are held on alternate Monday evenings in the senior reading room.

Alpha Zeta

Alpha Zeta is an honorary agricultural fraternity. The membership is confined at this University to the junior and senior students in the College of Agriculture who attain a rank in scholarship placing them among the upper two-fifths of their classes. Alpha Zeta is a national fraternity consisting at the present time of twenty-three chapters in the leading agricultural colleges in the country. The object of the fraternity is to stimulate interest in the study of scientific agriculture and, in a measure, to reward students and others who have shown themselves exceptionally proficient in scholarship.

Student Loan Fund

Alpha Zeta and the classes of 1895 and 1916 each has a small loan fund for needy students. Ordinarily the maximum loan to a single student is twenty-five dollars and is available only to those who have been in residence one half year. The University is also laying the foundation for a large loan for this purpose.

Athletics

Under this head are included football, baseball, basketball, tennis and track athletics. Participation in these forms of athletics by students is voluntary, altho, in certain seasons, and under conditions prescribed by him, the director of physical education for men exempts those who do consistent and satisfactory work in the above forms of athtletics from regular work in the gymnasium.

Intercollegiate contests are held in all these forms of athletics. The interest in these contests is very intense at times. It is intended thru interest in athletics and in these contests to develop a love of outdoor sports and a proper attitude toward life among the students.

The University is a member of the Southern Intercollegiate Athletic Association, and athletics are conducted according to the rules of this association. The management of athletics is in the hands of the students, subject to a committee of the faculty appointed by the President. The student organization controlling athletics is called the Athletic Association. Membership in this organization is obtained by payment of five dollars. For this five-dollar fee, in addition to membership in the athletic association, the student receives more than five dollars' worth of coupons, which are accepted at their face value for admission to games and contests. For rules governing eligibility to athletic teams, see under Residence and Graduation.

Tennis Club

The Tennis Club is an organization of students who are desirous of promoting tennis as a college sport. A membership fee of one dollar is charged and the payment of this fee entitles the member to the use of the four club courts on the campus. The club holds a tennis tournament for its members annually.

Kentucky Interscholastic Tournament

The University holds annually a state-wide contest in public speaking, music and track athletics for high school students. The number of representatives which any school may send to the tournament is not generally limited, but it is suggested that the representatives be selected after a contest held at home. A preliminary contest is held at the University for the purpose of reducing the number of contestants to a convenient program for the finals. The winners of the first, second and third places in each event are awarded gold, silver and bronze medals respectively. The contestant winning the largest number of points in the tournament is awarded an individual

championship gold medal, and the high school winning the largest number of points in the tournament is given a championship loving cup, to be retained for one year after being won. All high schools in the state, both private and public, are eligible and are invited to send representatives.

Musical Clubs

The Glee Club is an organization of university students for the cultivation of vocal and instrumental talent. It is under the direction of a competent director and furnishes students an excellent opportunity to develop their musical gifts. Entertainments are given during the year in Lexington and nearby towns.

The Orchestra and the Band are also student organizations. The former furnishes the music for student functions in the chapel. The Band is the musical organization of the corps of cadets.

The Strollers

The Strollers is the dramatic club of the University. Each year the Strollers give a play in Lexington and sometimes in neighboring towns. Opportunity is offered to students to prove their histrionic ability in an annual contest held under the auspices of the Strollers on Hallowe'en, which is popularly known as "Amateur Night." All students are eligible to try out for parts in the play, altho membership in the organization is necessary to the making of a part.

White Mathematics Club

The White Mathematics Club is composed of instructors, graduate students and major students of the Department of Mathematics. It meets every Tuesday at 3:30 p. m., at which time the various members present special topics of general interest or lead the discussion in portions of some book adopted for the year's study.

History Club

The History Club is an organization composed of the instructors and students of the Department of History. It admits as members also all those interested in this field of work. It meets once a month in the rooms of the department in the Education Building.

Political Economy Club

The Political Economy Club is composed of instructors and advanced students of the Department of History and Economics. Meetings are held monthly.

English Club

The English Club is composed of the instructors and the students of the Department of English. Meetings are held monthly to discuss questions of interest to the department.

Biology Club

The Biology Club is an organization composed of members of the faculty and students interested in biology and kindred sciences. Meetings are held once a month in the Science Building. During the spring excursions are made to points of interest in central Kentucky.

Library Club

The Library Club is composed of members of the classes in library training. Its object is to stimulate and keep alive interest in the library training. Meetings are held twice a month.

The Canterbury Club

The Canterbury Club is a literary fraternity organized in 1912 for the purpose of stimulating interest in creative literary art. Membership is limited to fifteen for any one year. Only students who show marked interest in and talent for story writing, poetry, criticism, or drama will be received for membership. Eligibility for membership is based primarily upon ability as exhibited in specimens submitted to the club for criticism, and no student is admitted who is not unanimously elected. The club meets every Thursday night at eight o'clock in the office of the Education Building.

Press Association

The University of Kentucky Press Association was organized in 1912. Membership in this organization is open to all students in college who correspond for newspapers. Weekly meetings are held in the rooms of the Department of Journalism. All students, whether taking work in journalism or not, are encouraged to join this association.

Publications

The Kentucky Kernel is published every Thursday thruout the college year by the student body of the University for the benefit of the undergraduates, alumni, and faculty of the institution.

The Transit is issued monthly by the students of the College of Civil Engineering.

The Kentucky Law Journal is issued monthly by the students of the College of Law.

The Rural Kentuckian is a monthly magazine published during the academic year by the students of the College of Agriculture.

The Press Bulletin is published bi-weekly by the University. Its object is to acquaint the public with the work of the institution.

The University of Kentucky Index is a leaflet issued bi-weekly by the University.

The Experiment Station Bulletin Publications report the research work in the College of Agriculture.

The Weekly Bulletin is issued weekly for the purpose of giving to the students, faculty and friends of the University notice of all meetings, lectures, and entertainments upon the campus or in the city which are of general interest to the students and the university community. This publication is conducted by the Department of Journalism.

The Semi-Monthly Farm Bulletin is issued on the 1st and 15th of each month by the Extension Division of the College of Agriculture. This sheet is distributed free to about 4,500 farmers, and is sent to the entire press of Kentucky.

The Kentucky High School Quarterly was established January, 1915, and is published four times a year under the auspices of the Department of Education. It is a high school quarterly devoted chiefly to Kentucky secondary education. Its purpose is largely to bring the high schools of the state into touch with each other thru its columns and to gather materials and publish articles of interest and value to high school teachers.

Part III
COLLEGES AND SCHOOLS

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THE UNIVERSITY ORGANIZATION

College of Arts and Science

Department of Anatomy and Physiology
Department of Ancient Languages and Literatures
Department of Art and Design
Department of Bacteriology
Department of Botany
Department of Chemistry
Department of Economics and Sociology
Department of Education
Department of English Language and Literature
Department of Geology
Department of German Language and Literature
Department of History and Political Science
Department of Journalism
Department of Mathematics and Astronomy
Department of Military Science
Department of Music
Department of Philosophy
Department of Physical Education
Department of Physics
Department of Psychology
Department of Romance Languages and Literatures
Department of Zoology

College of Agriculture

The College

Department of Agronomy
Department of Animal Husbandry (Beef Cattle, Sheep and Swine)
Department of Animal Husbandry (Dairy Cattle, Horses and Poultry)
Department of Farm Management
Department of Home Economics
Department of Horticulture
Department of Markets
Department of Veterinary Science

Experiment Station

Department of Administration
Department of Agronomy
Department of Animal Husbandry (Beef Cattle, Sheep and Swine)
Department of Animal Husbandry (Dairy Cattle, Horses and Poultry)
Department of Chemistry
Department of Entomology and Botany
Department of Farm Management
Department of Feed Control
Department of Fertilizer Control
Department of Food and Drug Control
Department of Horticulture
Department of Markets
Department of Veterinary Science

Extension Division

Club for Boys and Girls
Farm Demonstration
General Extension Work thru Departments (Agronomy, Animal Husbandry, Dairying, Soil Fertility, Farm Management, Feed Control, Horticulture, Veterinary Science and Marketing)
Home Demonstration
Negro Demonstration

College of Enginering

(As provided for in resolutions of Board of Trustees, adopted June, 1917)

Department of Civil Engineering
Department of Drawing
Department of Electrical Engineering
Department of Industrial Engineering
Department of Mechanical Engineering
Department of Mechanics of Engineering
Department of Mines and Metallurgy
Department of Practical Mechanics
Department of Rural Highway Engineering

College of Law

Graduate School

Summer Session

COLLEGE OF ARTS AND SCIENCE

OFFICERS OF INSTRUCTION AND ADMINISTRATION

FRANK LEROND MCVEY, PH. D., LL. D.
President of the University.
PAUL PRENTICE BOYD, M. A., PH. D.
Dean of the College of Arts and Science,
Head of the Department of Mathematics and Astronomy

Professors

BOLES, STANLEY ATWOOD, M. A.
Head Department of Physical Education, Director of Athetics

DANTZLER, LEHORE LIVINGSTON, A. M.
Head, Department of English Language and Literature

DAVIS, JOSEPH MORTON, A. M.
Professor of Mathematics

FARQUHAR, EDWARD FRANKLIN, M. A.
Professor of Literature

FUNKHOUSER, W. D., M. A., PH. D.
Head, Department of Zoology

GREHAN, ENOCH, A. B.
Head, Department of Journalism

JAMES, MCNEAL COLE, B. S. in AGR., A. B.
Professor of Agricultural Education

JONES, THEODORE TOLMAN, A. M.
Head, Department of Ancient Languages and Literatures

LAMPERT, CARL ALBERT
Head, Department of Music

MAXSON, RALPH NELSON, PH. D.
Professor of Inorganic Chemistry

MELCHER, COLUMBUS RUDOLPH, A. M.
Dean of Men, Head, Department of German Language and Literature

MILLER, ARTHUR MCQUISTON, A. M.
Head, Department of Geology

NOE, JAMES THOMAS COTTON, A. M.
Head, Department of Education

PENCE, MERRY LEWIS, M. S.
Head, Department of Physics

PRYOR, JOSEPH WILLIAM, M. D.
Head, Department of Anatomy and Physiology

RHOADS, MCHENRY, M. A., PH. M.
Professor of Secondary Education

ROYDEN, HERBERT NATHAN, CAPTAIN (West Point)
Head, Department of Military Science

SHULL, CHARLES ALBERT, PH. D.
Professor of Plant Physiology, Head, Department of Botany

STOUT, MRS. ROBERT LEE
Professor of Physical Education for Women

TERRELL, GLANVILLE, A. M., PH. D.
Head, Department of Philosophy

TIGERT, JOHN JAMES, A. M. (OXON.)
Head, Department of Psychology

TUTHILL, EDWARD, PH. D.
Head, Department of History and Political Science

TUTTLE, FRANKLIN ELLIOTT, M. A., PH. D.
Head, Department of Chemistry

*WEAVER, CHARLES PRESTON, A. M.
Professor of English

†WEBB, WILLIAM SNYDER, M. S.
Professor of Physics

WIEST, EDWARD, PH. D.
Head, Department of Economics and Sociology

ZEMBROD, ALFRED CHARLES, A. M.
Head, Department of Romance Languages and Literatures

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*On leave of absence, 1917-18.
†On leave of absence for duration of war.

Associate Professors

BAKER, GEORGE MARSHALL, M. A.
Associate Professor of Education

*HAMILTON, ANNA JACKSON, M. A.
Dean of Women, Associate Professor of English

KILLEBREW, CINCINNATUS DECATUR, M. S.
Associate Professor of Physics

REES, ELIJAH LAYTHAM, C. E., A. M.
Associate Professor of Mathematics

Assistant Professors

BANCROFT, GEORGE RUSSELL, M. A., PH. D.
Assistant Professor of Chemistry

BECK, MINNIE MCLEOD, A. M.
Assistant Professor of Art and Design

BUTT, WILLIAM EDWARD, A. M.
Assistant Professor of History and Political Science

CORNELL, CLARE BROWN, PH. D.
Assistant Professor of Psychology

**DANIELS, LLOYD CODIE, PH. D.
Assistant Professor of Chemistry

DOWNING, HAROLD HARDESTY, B. C. E., M. S.
Assistant Professor of Mathematics (in Charge of Astronomy)

GILL, ANDREW,
Assistant Director of Athletics and Field Coach

KIPLINGER, CLAUDE CLAYTON, A. B.
Assistant Professor of Chemistry

MCFARLAND, FRANK THEODORE, B. S. in AGR., M. S.
Assistant Professor of Botany

MABIE, EDWARD C., A. M.
Assistant Professor of Public Speaking

VANSELL, GEORGE HAYMAKER, A. M.
Assistant Professor of Zoology

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*On leave of absence, 1918-19.
**Resigned February, 1918.

Instructors and Fellows

ALLEN, HARRY RAYMOND, A. B.
Teaching Fellow in Mathematics

BARRETT, FLORENCE MARIE, M. A.
Instructor in Romance Languages

*BEDFORD, MATHEW HUME, PH. D.
Instructor in Physical and Electro Chemistry

BROWN, EVA MARGUERITE, A. B.
Teaching Fellow in Education

BURGEVIN, LESLIE, A. M.
Instructor in English

†CANNON, HARRY SHARPE, A. M.
Instructor in German

CASTRO, IDALINA
Instructor in Modern Languages

‡CHORN, SARAH MARSHALL, A. M.
Instructor in French

COVER, LAWRENCE ALBERTIS, A. B.
Instructor in Music

GOTT, EDWIN JOSEPH, B. S. in AGR.
Instructor in Bacteriology

GROVE, VERNON GUY, A. B.
Teaching Fellow in Mathematics

HARDMAN, ALBERT FOSTER, A. B.
Instructor in Chemistry

HOPKINS, CHRISTINE, A. B.
Instructor in English

§JEWELL, MARY FRANCES, A. M.
Instructor in English

KING, MARGARET ISADORE, A. B.
Librarian, Instructor in Library Training

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*On leave of absence for duration of war.
†On leave of absence, 1918-19.
‡Resigned February, 1918.
§On leave of absence 1917-18.

McLAUGHLIN, MARGUERITE, A. B.
Instructor in Journalism

MITCHELL, JOHN RICHARD, A. B.
Instructor in Chemistry

PRICE, JOHN T., M. A.
Instructor in English and Journalism

POLLITT, MABLE HARDY, A. M.
Instructor in Ancient Languages and Literatures

*REID, HOMER LLOYD, A. B.
Instructor in Mathematics and Physics

SCOTT, CHARLES HODGE, A. B.
Instructor in Geology

SLAPPEY, GEORGE, A. B.
Teaching Fellow in English

SMITH, GUY W., M. S., PH. D.
Instructor in Mathematics

STATES, MARSHALL NEY, B. S.
Instructor in Physics

‡WILLIAMS, MORTON MOORE, B. S.
Instructor in Chemistry

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*Resigned December, 1917.
†Resigned February, 1918.

INTRODUCTORY STATEMENT

Organization

The College of Arts and Science embraces twenty-two departments: Anatomy and Physiology, Aniient Languages and Literatures, Art and Design, Bacteriology, Botany, Chemistry, Economics and Sociology, Education, English Language and Literature, Geology, German Language and Literature, History and Political Science, Journalism, Mathematics and Astronomy, Military Science, Music, Philosophy, Physical Education, Physics, Psychology, Romance Languages and Literatures, Zoology.

Admission and Fees

Requirements for admission to the College of Arts and Science, as a freshman, or with advanced standing, or as a special student are the same as for other colleges of the University. See page 59. For a statement of fees, see page 80.

Degrees

The college offers courses leading to the following degrees: Bachlor of Arts, Bachelor of Science, A. B. in Journalism, B. S. in Industrial Chemistry.

THE DEGREE OF BACHELOR OF ARTS

For the degree of Bachelor of Arts the student is required to gain a total of 127 credits and 127 points,* subject to the following conditions.

Required of All

Matriculation Lectures, .3 credit.
Physical Education, 2.7 credits.
Military Science (Men), 4 credits.

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* A credit represents one hour of recitation or two hours of laboratory a week for one semester. Drawing, Shopwork, Physical Education, Military Science, and other courses requiring no outside preparation are reckoned at three hours for one credit. For explanation of the point system see page 81.

Group Requirements

(Freshman and Sophomore Years)

English, 6 to 12 credits.
(12 credits, if only 3 units of entrance are presented.)
Foreign Languages, 6 to 18 credits.
(6 credits in 1 language, if 3 or more units of entrance are presented; 12 credits, if only 2 units of entrance; 18 credits if only 1 or no unit of entrance.)
History and Social Sciences, 6 to 12 credits.
(12 credits, including 6 credits in History, if no entrance unit in History is presented.)
Philosophy and Education, 6 credits.
Mathematics and Physical Sciences, 6 to 10 credits.
(Mathematics, Physics, Chemistry, Geology, Astronomy.)
Biological Sciences, 6 credits.
(Botany, Entomology, Zoology, Bacteriology, Physiology.)

Major

20 credits.
(Junior and senior years. Any department or related group, exclusive of elementary courses.)

Minors

20 credits.
(Junior and senior years. One or two minors, to be approved by Head of Major department.)

Electives

(Subject to approval of Dean and Head of Major department.)

Matriculation Lectures

During the first semester of the freshman year, all freshmen are required to attend a series of weekly lectures, given by various members of the faculty and designed to furnish the proper orientation for the work ahead.

Electives in Other Colleges

A student is permitted to elect and count toward graduation courses in the other colleges of the University not to exceed the equivalent of one year's work in Arts and Science.

Maximum and Minimum Credits Allowed

A student is required to carry each semester work amounting to at least 14 credits exclusive of gymnasium and drill. He may carry, without special permission, 16 credits, exclusive of gymnasium and drill. A freshman is not allowed to carry more than those 16 credits during his first semester.

Permission for extra work must be obtained from the Council, on recommendation of the Dean. To be eligible for this privilege the student must have all of the preceding semester's work of A, B, or C grade and must have attained in that semester a standing* of at least 2.

Residence Requirement

To obtain a degree at least one year's work must have been done in residence.

THE DEGREE OF BACHELOR OF SCIENCE

The degree of Bachelor of Science will, if preferred, be granted under the same conditions as govern the degree of Bachelor of Arts, provided that the student has gained 60 credits in Mathematics and Science.

THE DEGREE OF A. B. IN JOURNALISM

The course leading to the degree of A. B. in Journalism is a prescribed course having as its aim a liberal education and the training of men and women for a successful career in the journalistic profession. For a detailed statement of the course see the Department of Journalism, page 152.

THE DEGREE OF B. S. IN INDUSTRIAL CHEMISTRY

The degree of B. S. in Industrial Chemistry is awarded upon completion of a four years' prescribed course which is set out in detail under the Department of Chemistry, page 126. It aims to provide a solid foundation for continued work in chemistry, and enables the students to engage at once in technical work with excellent prospects for success.

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* "Standing" means the ratio of total points gained to total credits carried.

THE PREPARATION OF TEACHERS

The Department of Education provides opportunity for the professional training of teachers. Courses are offered in the Philosophy and History of Education, Educational Psychology, Administration and Method. New courses for the training of teachers in agriculture and vocational subjects have lately been added. By special arrangement with the Lexington City Schools classes from the city high schools will be conducted at the University in order to afford practice teaching under the direction of a supervisor.

Certificates

Under the State law of 1908 all students of the University are eligible for the *Elementary Teacher's Certificate* at the completion of one year's study in the Department of Education. This certificate entitles the holder of it to teach in any public school in the State for a period of two years without further examination.

At the completion of two years' work the student becomes eligible to receive the *Intermediate Certificate*, which entitles the holder to teach in any school of the State for a period of four years without further examination.

At the completion of three years' work an *Advanced Certificate* may be issued, which will entitle the holder to teach in any school in the State for a period of three years. At the end of this period, with the approval of the State Superintendent, a *Life Certificate* may be substituted for the advanced certificate, on the presentation to the college authorities of satisfactory evidence of the candidate's teaching ability and moral character.

The degrees Bachelor of Arts in Education and Bachelor of Science in Education with the approval of the State Superintendent of Public Instruction, will entitle the holder to teach in any of the common schools and high schools of the Commonwealth without further examination during life or good behavior.

PRE-MEDICAL COURSES

The Department of Anatomy and Physiology affords thoro preparation for the study of Medicine. A *Two Years' Course* is offered which complies with the requirements of the American Medical Association and the Association of American Medical Colleges for entrance to all Class A plus medical schools except those requiring a degree for entrance. The *Four Years' Course* meets the requirements for entrance to all medical schools, gives opportunity for advanced standing, and

lays a truly scientific foundation upon which a substantial superstructure may be erected.

COURSES IN COMMERCE

The new Department of Economics and Sociology offers opportunity for preparation for a business career. Courses will be offered in Elementary Economics, Business Organization, Accounting, Money and Banking.

LIBRARY TRAINING.

The College affords, thru the Department of English, opportunity for professional training in library work. Instruction is given in cataloging, classification, reference work, book binding and mending, children's literature, school libraries, etc. These courses should fit students for subordinate positions in the larger libraries and furnish an excellent preparation for a more complete course later on. See page 145.

PREPARATION FOR SOCIAL SERVICE

Courses are being introduced that will fit the student for social welfare work. These include studies in Bible Literature, Economics, Sociology, Psychology, Charities, Penal Institutions, Law, Organic Evolution, etc.

COMBINED COURSES

A student who has gained 97 credits with a standing of 1 in the College of Arts and Science may with the permission of the Deans of the colleges concerned be registered both in the College of Arts and Science and in any other college of the University. When he has gained one full year's credit with a standing of 1 in the other college he will be recommended for the degree of Bachelor of Arts. In this way it will be possible for a student to obtain both the degree of Bachelor of Arts and a degree in Agriculture, Engineering, or Law in 6 years or less.

ANATOMY AND PHYSIOLOGY

Professor Pryor

The Department of Anatomy and Physiology occupies one-half of the second floor of Science Hall. The space assigned to this department includes a large lecture and general recitation room, an office and a laboratory. The lecture room is provided with a Thompson Reflectoscope and Stereopticon with a microscopic attachment. This method of giving illustrated lectures is extensively used. A

large number of lantern slides have been purchased or made. These include all kinds of anatomical, physiological, histological, and pathological subjects, and they have been selected in order to show not only human anatomy, but sufficient comparative anatomy to illustrate the development and evolution of the organ or system. The lecture and general recitation room is perhaps the best equipped room for its purpose to be found in any institution of the South. It is well lighted and ventilated, is provided with the best opera chairs with arm rests, affording every convenience and facility for student and lecturer.

The office contains the nucleus of a library. It is the purpose of the head of this department to provide students with the latest and best books on anatomy, physiology, hygiene, histology, and bacteriology.

The department is supplied with models of all kinds, such as an Auzoux papier mache manikin, Auzoux models of the eye in full and in section, models of the ear, larynx, side of the face, hand, etc., skeletons in full and in section; complete disarticulated skeletons for the individual use of students; a spaced skull; a Thoma-Zeiss Haemacytometer; a Dudgeon's and a Marey's Sphygomograph; charts of all kinds, microscopes, etc. Microscopic slides are exhibited showing the process of karyokinesis.

The method of instruction is by lectures, demonstrations and recitations. Drawings are made on the blackboard in chalk by the instructor, and the student is required to copy them. They include drawings of the heart, and of the great blood vessels in colors; sections of the eye showing the connection of the cornea and sclerotic coat at the origin of the ciliary muscle, one turn of the cochlea giving the organ of Corti in full; the membranous labyrinth; a cross section of the spinal cord; a scheme illustrating the system of neurones, central and peripheral, both motor and sensory.

The student is required to take notes from lectures, to copy and preserve them for study and reference. The note books are inspected at intervals, correct spelling and neatness in preparing them being insisted on.

Primarily For Undergraduates

1. **General Physiology.** Lectures, demonstrations, recitations. *Three hours a week. Thruout the year.* Professor PRYOR.

2. **Human Osteology.** Lectures, recitations, laboratory. *Two hours a week. Thruout the year.* Professor PRYOR.

3. **Advanced Physiology.** Lectures and laboratory. *Two hours a week. Thruout the year.* Professor PRYOR.

Courses Preparatory to the Study of Medicine. These courses leading to the degree of A. B. or B. S., with Anatomy and Physiology as the major study, are arranged to suit students who intend to enter upon a profession, and especially those who are to devote themselves to the study of medicine. The first two years are arranged to comply with the requirements of the American Medical Association and the Association of American Medical Colleges for entrance to all Class A plus medical schools except those requiring a degree for entrance. The four year course meets the requirements for entrance of all Medical Schools. A liberal education in the Arts and Sciences is of inestimable advantage to one intending to pursue the study of medicine. It is a difficult matter to teach modern medicine to one who has not had some of these preliminaries. A thoro training in chemistry and physics, a reading knowledge of German and French, a working knowledge of the microscope, and the process of embedding, sectioning and staining, a solid foundation in anatomy and physiology will not only give advanced standing in the medical school, but will lay a truly scientific foundation upon which a substantial superstructure may be erected.

Text books: Martin's *Human Body;* Stewart's *Manual; Syllabus of the Professor's Lectures;* Gray's *Anatomy.*

Reference books: Cunningham's *Anatomy;* Morris's *Anatomy;* Gerrish's *Anatomy;* Howell's *Physiology;* Shaefer's *Physiology; American Text-Book;* Loeb's *Physiology of the Brain.*

ANCIENT LANGUAGES AND LITERATURES

Latin

Professor Jones, Miss Pollitt.

5. Livy (Book I); Horace (Odes and Selected Satires). The work in Livy will include talks on the founding and development of the Roman state, the methods and aims of ancient writers of history as compared with those of today. In Horace careful attention will be given to contemporary history and to all mythological and geographical references. The student will receive daily practice in metrical reading. *Three hours a week. Thruout the year.* Professor JONES.

6. Tacitus, Terence, Pliny. Tacitus (Annals—Books I and II); Terence (Phormio); Pliny's Letters (selections). The first half year is given to reading the Annals. This being the story of an important period in ancient history, due attention will be given to the events themselves as well as to the style of Tacitus. Such subjects are discussed as the founding of the empire, the provincial system, etc. In the second half-year the student will get a general introduction to the

dramatic and epistolary literature of the Romans. Talks will be given on the Roman theatre, the influence of Greek literature upon that of Rome, the home and political life of Pliny. *Three hours a week. Thruout the year.* Professor JONES.

7. **Juvenal, Martial, Suetonius.** Juvenal (Selected Satires); Martial (selected Epigrams); Suetonius' Claudius and Nero. These writers will be read for the light they may throw on the political and social life in Rome at the close of the first century as well as for their literary value. Extensive supplementary reading will be required in books which deal with the public and private life of this period. Each member of the class will prepare two papers on assigned subjects. *Three hours a week. Thruout the year.* Professor JONES.

8. **Plautus (Captives and Trinummus); Selections from Preparatory Latin Authors.** In reading the plays of Plautus some attention will be given to the development of the drama at Rome, and also to the influence of Plautus on modern comedy. The last half of the year is given to reading selections from various authors (Cicero, Ovid, Sallust, Nepos) and to a hasty review of First Year Latin. The course will be determined largely by the requirements of the class. This is mainly for the benefit of students who expect to teach Latin in secondary schools. Talks will be given on methods of teaching Latin, the course of study, equipment, etc. *Three hours a week. Thruout the year.* Professor JONES.

9. **Cicero and Virgil.** Five orations of Cicero and five books of Virgil's Aeneid will be read. Exercises in prose composition. Other authors may be read instead of these, as for instance Sallust and Ovid, depending on the requirements of the class. *Three hours a week. Thruout the year.* Professor JONES.

10. **Elementary Latin.** The first half-year will be devoted to a thoro drill in the elements of Latin—declension, conjugation, simple rules of syntax. During the second half-year easy fables and selections from Caesar's Gallic War will be read. *Five hours a week. Thruout the year.* Professor JONES.

Courses 9 and 10 are for those students who are accredited to the freshman class but have never had Latin or have had an insufficient amount to admit them to Latin 5. University credit will be allowed for this work to students who offer 15 units of entrance.

11. **Latin Composition.** The course will begin with disconnected sentences and will include easy passages in connected discourse. It will aim to prepare students for the Rhodes Scholarship examination. Prerequisite, the equivalent of Latin 9. *One hour a week. Thruout the year.* Professor JONES.

Greek

1. Elementary Course. The beginner's book, drill in forms and the elementary principles of syntax. *Four hours a week. First semester.*

2. Anabasis. Two books of the Anabasis will be read with exercises in prose composition. *Four hours a week. Second semester.*

3. Anabasis. Four books of the Anabasis will be completed with exercises in prose composition. *Three hours a week. First semester.*

4. Homer. The Iliad, books 1-6. The Homeric Question, Life in the Homeric Age, Mycenaean Antiquities, recent discoveries in Crete, will receive due attention. Prose composition one hour. *Three hours a week. Second semester.*

5. Plato. The Apology and Crito, selections from the Phaedo, lectures on the relations of Plato to Socrates, Socrates as a moral teacher, and his methods of investigation. *Three hours a week, prose composition one hour. First semester.*

6. Herodotus. Books 6-7. This course will include a rapid survey of Greek history from the Ionic Revolt to the end of the Persian Wars. *Three hours a week, prose composition one hour. Second semester.*

Primarily For Graduates

For courses in Ancient Languages scheduled primarily for graduates, see the statement of the Graduate School.

ART AND DESIGN

Assistant Professor Beck, Miss Anderson.

1. Drawing and Painting. Drawing from objects, cast, still-life. Figure-action drawing. Perspective. Outdoor sketching. Mediums. Charcoal, water-color, crayon. *Two hours class; four hours studio a week. Thruout the year.*

2. Art Structure. A careful study of the three elements of art: line, tone, color. Simple exercises in space filling, bringing out the principles of balance, rhythm, repetition, subordination, etc. Planning of borders and surface patterns. Study of Indian symbols. Original symbolic designs. Application to stenciling, wood-block printing, basketry, etc. *Two hours class; four hours studio a week. Thruout the year.*

3. Drawing and Painting. Still-life studies. Costumed figure. Landscape sketching in charcoal, crayon, water-color. Brush work. *Two hours class; four hours studio. Thruout the year.*

4. **Art Structure.** Further exercises in design. Harmonies of line, tone, and color. Proportion, arrangement. Study of the craft work of the Southern Mountain people. Problems in clay modeling, leather tooling, embroidery, etc. *Two hours class; four hours studio. Thruout the year.*

5. **Drawing and Painting.** Pictorial Composition. Still-life. Study of draped model. Sketching of interiors. Monotypes. Mediums—brush and ink, charcoal, water-color, oil. *Two hours class; four hours studio a week. Thruout the year.*

6. **Art Structure.** Color theory—a study based upon the "Munsell System." Original motives carried out in line, tone and color. Problems in lettering, posters, commercial art. Costume design. House decoration. *Two hours class; four hours studio a week. Thruout the year.*

7. **Art Appreciation and History of Art.** Lectures, reading, discussion. This course will consider general art principles and their application to city-planning, landscape gardening, architecture, interior decoration, costume design as well as to pictorial art, sculpture, etc. *Lectures twice a week. Thruout the year.*

8. **Drawing and Painting.** Advanced work in pictorial composition and illustration. Outdoor sketching and still-life in all mediums. *Two hours class; four hours studio. Thruout the year.*

9. **Art Structure.** Advanced exercises and problems. Craft work in metal. Pottery. Jewelry. *Two hours class; four hours studio.*

10. **Theory and Practice of Teaching Art.** Structural (synthetic) method of art teaching, compared with academic (analytic) method. General principles of teaching as applied to art instruction. Teaching under criticism. *Two hours a week.*

BACTERIOLOGY

Professor ————, *Assistant Professor Gott.*

1. **General Bacteriology.** Classification, morphology, physiology, cultivation and isolation of bacteria. Principles of sterilization and pasteurization. Bacteria in milk, water, and soil. Lectures on the theory of immunity and a study of bacteria in relation to animal and plant diseases. Laboratory work consists of preparation of culture media; study of cultural characteristics of a selected number of bacteria; staining pure cultures and counting bacteria in milk, water, soil, etc. *Lectures two hours a week; laboratory four hours a week. Second semester.* Assistant Professor GOTT.

2. **Household Bacteriology.** For students in Home Economics. Study of bacteria in relation to fermentation, decay, putrefaction, can-

ning, etc., with corresponding laboratory work. *Lectures two hours a week; laboratory four hours a week. First semester.* Assistant Professor GOTT.

4. Advanced Bacteriology. Special subjects in agricultural bacteriology will be assigned for reading and laboratory work. Prerequisite, Course 1. *Laboratory four hours a week. First semester.* Assistant Professor GOTT.

5. Advanced Bacteriology. Special subjects will be assigned for reading and laboratory work. Prerequisite, Course 1. *Laboratory four hours a week. Second semester.* Assistant Professor GOTT.

BOTANY

Professor Shull, Assistant Professor McFarland.

The Department of Botany is located on the first floor of the Agricultural Building, where it occupies a large, well-lighted laboratory with desks and equipment for forty-five students, a smaller laboratory for advanced work, and a lecture room which has with other equipment a balopticon lantern equipped for slide, microscopic and opaque projection work.

A beginning is also being made in furnishing facilities for instruction in plant pathology. The facilities already available are the necessary sterilizing ovens, microscopes, a small collection of fungus specimens, literature on plant diseases, and a greenhouse adjoining the Agricultural Building.

1. General Morphology. The course comprises a general survey of the morphology and physiology of plants, and is designed to give the student a comprehensive view of the entire vegetable kingdom, and to afford a substantial basis for advanced and special studies. While accompanied with lectures and recitations, the laboratory method is the form of instruction principally used. Prerequisite, full university entrance credit for the four-year course. Laboratory assignments will be made in three sections. *Three hours a week. First semester.* Professor SHULL, Assistant Professor MCFARLAND.

1a. General Morphology. A continuation of Botany 1, including the morphology of the seed plants, and in addition some attention to the collection and identification of flowering plants. Frequent field trips and longer excursions will be made as conditions permit. At least one of these trips will be required of each student. *Three hours a week. Second semester.* Professor SHULL, Assistant Professor MCFARLAND.

3. Plant Histology. A course giving instruction in the technique involved in the preparation of plant tissues for detailed microscopic

study. Practice in the paraffin and other methods of imbedding is given and the preparation of fifty representative slides is required. The course is valuable as a preparation for the study of plant physiology and plant pathology. Prerequisite, Courses 1 and 1a. *Laboratory six hours a week. First semester.* Assistant Professor McFarland.

8. Plant Physiology. This course aims to give training and instruction in such phases of nutrition, growth, movement and the tropisms of plants as have a practical bearing upon agriculture, horticulture and general biology. Prerequisites, Courses 1 and 1a and Chemistry 1. *Lectures two hours a week; laboratory four hours a week. Second semester.* Assistant Professor McFarland.

9. Thesis. Students who are properly prepared may select special work in some field of advanced morphology, systematic botany or pathology to be carried on during the senior year and concluded with the presentation of a written thesis. *Thruout the year.* Professor Shull, Assistant Professor McFarland.

10. Dendrology. A study of the structures and characteristics of the native trees and shrubs, involving recognition and identification by means of summer and winter keys. The structures of the various trees will be taken up and by the use of keys the species determined. Prerequisites, Botany 1 and 1a. *Lecture one hour a week; laboratory one hour a week. First semester.* Assistant Professor McFarland.

11. Morphology of Algae. Involves a detailed morphological study of the most important families from the standpoint of evolution. A comparative study of the different genera in the various families will be made. Cinsiderable attention will be given to identification by use of the different keys. Prerequisites, Courses 1 and 1a. *Lectures one hour a week; laboratory four hours a week. First semester.* Assistant Professor McFarland.

12. Morphology of the Fungi. Parallel to Course 11, taking up the morphology of the various groups of fungi with especial emphasis upon those of economic importance. Prerequisites, Courses 1 and 1a. *Lectures one hour a week; laboratory four hours a week. Second semester.* Professor Shull.

13. Cytology. A study of the structure and processes of the cell with special reference to plant and animal breeding work. The course will involve the study of histological material illustrating mitosis, reduction divisions, etc. Some attention will be given to the preparation of material for study. Prerequisites, Courses 1 and 1a. Courses 3 and 8 would also be desirable. *Lectures one hour a week; laboratory two hours a week. First semester.* Professor Shull.

14. Systematic Botany. The purpose of this course is to acquaint the student with the latest views of classification of the entire plant kingdom. Theory as well as practice with the various keys will constitute a part of the course. It aims further to acquaint the student with the more common species of the local flora. Herbarium, field and assigned readings required. Prerequisites, Courses 1 and 1a. *Four hours a week. First semester; continued, if desired, during the second semester.* Assistant Professor McFARLAND.

CHEMISTRY

Professor Tuttle, Professor Maxson, Assistant Professor Daniels, Dr. Bedford,* Mr. Mitchell, Assistant Professor Kiplinger, Assistant Professor Bancroft, Mr. Hardman, Mr. Williams.*

Candidates for the degree of Bachelor of Science in Chemistry must have completed four years in chemistry, the subjects to be selected from the list given below. The Course in Industrial Chemistry is a prescribed course thruout and leads to the degree of Bachelor of Science in Industrial Chemistry.

The Department of Chemistry offers courses of study in *General Inorganic Chemistry, Qualitative Analysis, Quantitative Analysis, Organic Chemistry, Physical Chemistry, Industrial Chemistry, Agricultural Chemistry.*

General Inorganic Chemistry. The work in General Chemistry extends thruout the year and must be taken by all students who intend to continue work in the department. Instruction is given by lectures, recitations and laboratory work. In the laboratory the student becomes familiar with apparatus and the methods of work and gains an intimate knowledge of the chemistry of the non-metals and metals, which is a necessary preliminary to the study of qualitative analysis. During the second semester the student manufactures and purifies simple inorganic compounds.

Qualitative Analysis. This subject is studied in the laboratory during the first semester, the amount of time devoted to this work depending on the course of study pursued by the student. The student first becomes familiar with the reactions involved in the detection of the elements and then employs the knowledge so gained in the analysis of solids and of substancs in solution.

Quantitative Analysis. The preliminary work in Quantitative Analysis includes the gravimetic analysis of simple substances of known composition and such work in volumetric analysis as shall en-

* On leave of absence for duration of war.

able the student to become familiar with the use of "normal" solutions and acquire facility in the calculation of results. Subsequent work embraces the analysis of ores, iron and steel, alloys, coal and coke, water, silicates, flue gases, paint, fertilizers, and a variety of other commercial products. All work is accompanied by lecture and recitation exercises, where particular attention is given to the chemistry of the processes used.

Organic Chemistry. The more advanced work in the chemistry of the carbon compounds is preceded by a brief general survey of the whole subject. The laboratory course of study in the preparation and purification of typical organic compounds extends thruout the semester and is therefore arranged to accompany and supplement the classroom instruction.

Physical Chemistry. This subject is studied by means of lectures and recitations, followed by laboratory exercises designed to acquaint the student with the execution of physico-chemical measurements.

Industrial Chemistry. The chemistry of industrial and manufacturing processes is studied thruout the senior year, at a time when the student is best equipped for the purpose. As preliminary courses, advanced Quantitative Analysis, Organic and Inorganic Preparations are of the greatest value. To keep in touch with modern practices, current periodical literature is carefully studied and manufacturing establishments are visited.

Buildings and Equipment. The building formerly occupied by the Experiment Station is now devoted entirely to Chemistry and is supplemented by a new building costing $25,000. The equipment includes such apparatus and chemicals as to enable the student to carry on work advantageously. There is a very complete and modern outfit for the calorimetric examination of fuel and the analysis of flue gases, apparatus for the determination of molecular weights, platinum ware, apparatus of approved design for the analysis of water and an excellent equipment for the study of the compounds of carbon. A very important adjunct to the equipment is the department library of more than eight hundred volumes and the more important current journals devoted to chemistry. The more extensive library of the Agricultural Experiment Station is available at all times for consultation.

1. **General Inorganic Chemistry.** Chemistry of the non-metallic elements. Lectures, class-room exercises and laboratory work. *Five hours a week. First semester.* Professor MAXSON and others.

101. **General Inorganic Chemistry.** Chemistry of the non-metallic elements. For students who have had one year of high school chemis-

try. Lectures, recitations and laboratory work. Prerequisite, one year of high school chemistry. *Three hours a week. First semester.* Professor MAXSON and others.

2. General Inorganic Chemistry. Chemistry of the metals. Lectures, class-room exercises and laboratory work. Prerequisite, Chemistry 1. *Five hours a week. Second semester.* Professor MAXSON and others.

3. Inorganic Preparations. A practical laboratory course devoted to the preparation of inorganic compounds from the crude material. Prerequisites. Chemistry 1 and continuation of Chemistry 2. *Two hours a week. Second semester.* Professor MAXSON, Mr. HARDMAN.

4. Qualitative Analysis. Laboratory work accompanied by recitation periods. Prerequisite, Chemistry 2. *One recitation and three laboratory hours a week. First semester.* Professor MAXSON.

5. Advanced Inorganic Chemistry. A more advanced course in inorganic chemistry, primarily for students specializing in chemistry. *One hour a week. Thruout the year.* Professor MAXSON.

6. Organic Chemistry. An elementary course serving as an introduction to the study of the compounds of carbon. Prerequisite, Chemistry 2. *Two hours a week. Second semester.* Assistant Professor KIPLINGER.

7. Organic Chemistry. An elementary course for non-professional students. Prerequisite, Chemistry 2. *Three recitations and one laboratory hour a week. First semester.* Assistant Professor KIPLINGER.

8. Quantitative Analysis. A laboratory course accompanied by lectures and class-room exercises. Gravimetric and volumetric methods of analysis are studied in detail during the second semester. Prerequisite, Chemistry 4. *Five hours a week.* Professor TUTTLE.

9. Quantitative Analysis. A lecture and laboratory course devoted to the analysis of ores, alloys, etc. Prerequisite, Chemistry 8. *Five hours a week. First semester.* Professor TUTTLE.

10. Quantitative Analysis. A laboratory course accompanied by lectures and class-room exercises arranged for students in Mining and Metallurgy. *Five hours a week. Second semester.* Professor TUTTLE.

11. Agricultural Analysis. An introductory course in quantitative analysis arranged for the students in the course in agriculture. The elements of quantitative analysis are studied with special reference to the constituents of soil, fertilizers and agricultural products. Prerequisites, Chemistry 1 and 2. *Five hours a week. First semester.* Professor TUTTLE.

12. Advanced Agricultural Analysis. A laboratory course having for its object the complete analysis of fertilizers, feeds, soils and agri-

cultural products. Prerequisites, Chemistry 8 or 11. *Four hours a week. Second semester.* Professor TUTTLE.

13. **Organic Chemistry.** A more advanced course of class-room exercises on the aliphatic series accompanied by lectures on the more important research problems, such as Fischer's work on the carbohydrates. Prerequisite, Chemistry 6 or 7. *Three hours a week. First semester.* Assistant Professor KIPLINGER.

13a. **Cyclic Compounds.** The lecture work comprises such researches as the solution of the formula of camphor and of various terpenes. The student's attention is also directed to the classification of reactions of organic compounds. Prerequisite, Chemistry 13. *Two hours a week. Second semester.* Assistant Professor KIPLINGER.

14. **Advanced Quantitative Analysis.** The analysis of iron and steel, slags and rocks. *Five hours a week. First semester.* Professor TUTTLE.

15. **Physical Chemistry.** Lectures and recitations covering the gaseous, liquid and solid states of matter; phase rule; theory of solutions. *Two hours a week.* Laboratory studies in physico-chemical measurements. *One hour a week. First semester.* Assistant Professor KIPLINGER.

16. **Organic Preparations and Analysis.** A laboratory course in the preparation and analysis of typical organic compounds. Must be preceded by Chemistry 13. *Four hours a week. Second semester.* Professor TUTTLE, Assistant Professor KIPLINGER.

17. **Gas Analysis.** A laboratory course in the analysis of illuminating, natural and flue gases, using the methods and apparatus of Hempel, Orsat and others. Prerequisite, Chemistry 2. *One hour a week. Second semester.* Professor TUTTLE.

18. **Water Analysis.** In this course waters are examined to determine their suitableness for domestic and other purposes. *Two hours a week. First semester.* Professor TUTTLE.

19. **Industrial Chemistry.** In this course the chemistry of manufacturing processes is studied in detail, and when possible, manufacturing establishments in the vicinity are visited. *Two hours a week. Thruout the year.* Professor MAXSON.

21. **Physical Chemistry.** Continuation of Chemistry 15. Thermochemistry; chemical equilibria and kinetics; application of Law of Mass Action to electrolytes; electro-chemistry. Prerequisite, Chemistry 15. *Lectures and recitations two hours a week; laboratory one hour a week. Second semester.* Assistant Professor KIPLINGER.

22. **Journal Club.** A weekly exercise for seniors in the courses in chemistry devoted to a study of current periodical literature and conferences. *One hour a week. Thruout the year.* Professor MAXSON.

23. Advanced Inorganic Chemistry. Lectures, collateral reading and quizzes. A course designed for students who would broaden the scope of their training in inorganic chemistry. Elective. *Two hours a week. Second semester.* Professor MAXSON

24. Advanced Synthetic Inorganic Chemistry. A course planned to aid the student in gaining a more adequate knowledge of practical inorganic chemistry. Elective. *Five hours a week. Second semester.* Professor MAXSON.

25. Advanced Physical Chemistry. Laboratory work on selected topics accompanied by reports on related subjects. Elective. Prerequisite, Chemistry 21. *Five hours a week. Second semester.*

26. Advanced Organic Chemistry. Critical comparison of preparation methods and research problems accompanied by presentation of results in thesis form. Elective. Prerequisite, Chemistry 13a. *Five hours a week. Second semester.*

27. Selected Problems in Quantitative Analysis. Elective. Prerequisite, Chemistry 14. *Five hours a week. Second semester.* Professor TUTTLE.

Course in Industrial Chemistry

The Course in Industrial Chemistry, a prescribed course of studies leading to the degree of Bachelor of Science in Industrial Chemistry, aims to provide a solid foundation for continued work in chemistry. Electives are not encouraged before the senior year in the belief that the related courses of study can be more wisely selected by experienced educators than by the student.

During the last half of the senior year electives in chemistry must bring the total amount of work up to nineteen or twenty hours a week. Whenever practicable for the student, he is encouraged to pursue graduate work here or elsewhere before engaging in professional work, but there is a steady and increasing demand for the graduates as soon as they have finished their course of study at this University. Nearly every industry today makes use of the chemist, and experience has shown that the training secured in the course in Industrial chemistry will enable the graduate to engage at once in technical work with excellent prospects for success. In this course the student is expected to have three years' work in modern language as follows:

German 3 must be completed and, if possible, one or two years' work in French, so that a fair reading knowledge of both languages may be acquired.

OUTLINE OF COURSE LEADING TO THE DEGREE B. S. INDUSTRIAL CHEMISTRY

FRESHMAN YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
English 1	141	English Composition	3		3.
Mathematics 3	157	College Algebra	5		5.
German 1	148	Bierwirth's Elements of German	5		3.
Drawing 1	238	Mechanical Drawing		4	1.3
Chemistry 1	127	General Inorganic Chemistry	3	4	5.
Military Science	160	Drill		3	1.
Physical Education	167	Gymnasium or Field Athletics		2	.7
					19.

Second Semester

English 1	141	English Composition	3		3.
Mathematics 2	157	Trigonometry	5		5.
German 1	148	Bierwirth's Elements of German	5		3.
Chemistry 2	128	General Inorganic Chemistry	3	4	5.
Chemistry 3	128	Inorganic Preparations		4	2.
Military Science	160	Drill		3	1.
Physical Education	167	Gymnasium or Field Athletics		2	.7
					19.7

SOPHOMORE YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Drawing 1	238	Mechanical Drawing		4	1.3
Mathematics 4a	157	Analytical Geometry	5		5.
German 2	148	Selections from German Prose and Poetry	5		3.
Physics 1a	171	General Physics	3		3.
Chemistry 4	128	Qualitative Analysis	1	6	4.
Physics 5a	172	Physical Measurements		4	2.
Military Science	160	Drill		3	1.
Physical Education	167	Gymnasium or Field Athletics		2	.7
					23.0

* A credit represents one hour of recitation or two hours of laboratory a week for one semester.

Second Semester

German 2	148	Selections from German Prose and Poetry	5		3.
Chemistry 8	128	Quantitative Analysis	1	8	5.
Chemistry 6	128	Organic Chemistry (Elementary)	2		2.
Physics 2a	171	General Physics	3		3.
Mathematics 4b	157	Analytical Geometry	5		5.
Physics 6a	172	Physical Measurements		4	2.
Military Science	160	Drill		3	1.
Physical Education	167	Gymnasium or Field Athletics		2	.7
					21.7

JUNIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Chemistry 13	129	Organic Chemistry, Aliphatic Series	3		3.
Chemistry 9	128	Quantitative Analysis		10	5.
Chemistry 15	129	Theoretical Chemistry	2		2.
Political Science 1	151	American Government	3		3.
Political Economy 1	133	Economics	2		2.
German 3	149	Freshman German	3		3.
Chemistry 21	129	Physical Chemistry		2	1.
					19.

Second Semester

Chemistry 13a	129	Organic Chemistry, Cyclic Series	2		2.
Chemistry 17	129	Gas Analysis		2	1.
Chemistry 15	129	Theoretical Chemistry	2		2.
Political Science 1	151	American Government	3		3.
Political Economy 1	133	Economics	2		2.
German 3	149	Freshman German	3		3.
Chemistry 16	129	Organic Preparations & Analysis		8	4.
Geology 3	147	Determination of Common Minerals		4	2.
Chemistry 21	129	Physical Chemistry, Continued		2	1.
					20.

SENIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Elect. Eng. 1	244		5		5.
Chemistry 5	128	Advanced Inorganic Chemistry	1		1.
Chemistry 19	129	Industrial Chemistry	2		2.
Chemistry 22	129	Journal Club	1		1.
Philosophy 1	166	Logic, Deductive and Inductive	3		3.
Geology 7	148	Engin. Geology	2		2.
Chemistry 18	129	Water Analysis		4	2.
Chemistry 14	129	Advanced Quantitative Analysis		10	5.
					21.

Second Semester

Chemistry 5	128	Advanced Inorganic Chemistry	1		1.
Chemistry 19	129	Industrial Chemistry	2		2.
Metallurgy 16	273	Metallurgy	2		2.
Philosophy 1	166	Logic, Introduction to Philosophy	3		3.
Chemistry 22	129	Journal Club	1		1.
Chemistry	126	Elective		12	6.
Physics	171	Physics, Advanced		4	2.
					17.

ECONOMICS AND SOCIOLOGY

Professor Wiest, Professor ———.

1. **Principles of Economics.** An introduction to the science of economics, the production, distribution and consumption of wealth; the application of principles to some social and economic problems. *Three hours a week. Thruout the year.*

2. **Economic History of Modern Europe.** A survey of conditions preceding the modern period with a more intensive study of the subsequent development of agriculture, commerce, industry and finance; the effects of these several lines of development upon the national life, emphasizing the larger movements connected with them. *Three hours a week. First semester.*

3. **Economic History of the United States.** A brief sketch of economic life in the colonies, followed by a more detailed account of the national evolution in agriculture, manufactures, transportation, commerce and finance. *Three hours a week. Second semester.*

4. Public Finance. A study of public receipts; public expenditures; the principles of taxation with special reference to their application to the tax systems, federal and State. Attention will be given to the current problems in taxation. *Three hours a week. First semester.*

5. Money and Banking. Nature and functions of money; the importance of credit; relation of money and credit to prices; organization of a bank; bank statements; bank deposits and loans; complete study of our national banking system and comparison with those of other countries; foreign exchange. *Three hours a week. Second semester.*

6. Trusts and Combinations. The development of business organization; the financing of such enterprises; their relations to industrial control, the prices of commodities, and the distribution of wealth. *Three hours a week. First semester.*

7. Transportation. Growth of the railway net; pools and traffic associations; detailed study of the principles and practice of rate-making as exemplified by the decisions of the Commission and the courts; state and federal government regulation, with comparison of this in other countries; railroad capitalization and finance; economics of operation. *Three hours a week. Second semester.*

EDUCATION

Professor Noe, Professor Rhoads, Professor James, Professor Tigert, Associate Professor Baker, Miss Brown.

This department is a training school for teachers. Courses are offered in the Philosophy and the History of Education, in Educational Psychology and in Administration and Method. The high schools of Kentucky are demanding not only teachers who have specialized in one or more subjects but professionally trained teachers as well. Students doing work in the Department of Education are expected early in their course to select a group of related subjects to which they will devote the major part of their work in college.

By an act approved March 16, 1908, the General Assembly of the State of Kentucky established in the University a Department of Education with collegiate rank, leading to the usual degrees in pedagogy as maintained in other similar institutions, with the provision that the degrees of Bachelor of Arts in Education and Bachelor of Science in Education may be conferred, which, with the approval of the State Superintendent of Public Instruction, will entitle the holder

to teach in any of the common schools and high schools of the Commonwealth without further examination during life or good behavior.

Under the State law of 1908 all students in this department of the University are eligible for the *Elementary Teacher's Certificate* at the completion of one year's study. This certificate entitles the holder of it to teach in any public school in the state for a period of two years without further examination.

At the completion of two years' work in this department the student becomes eligible to receive the *Intermediate Certificate*, which entitles the holder to teach in any school of the state for a period of four years without further examination.

At the completion of three years' work in this department an *Advanced Certificate* may be issued, which will entitle the holder to teach in any school in the state for a period of three years. At the end of this period, with the approval of the State Superintendent, a *Life Certificate*, may be substituted for the advanced certificate, on the presentation to the college authorities of satisfactory evidence of the candidate's teaching ability and moral character.

The distinctive feature of the work offered by the Department of Education consists in the courses in educational psychology, history of education, administration and theory of teaching. Practice work, observation and criticism have been arranged for. Experimental psychology has become an important phase of the work in the Department of Education. We have increased very largely the amount of apparatus for this work during the year so that now the Department is well equipped for the study of educational psychology.

The Smith-Hughes Act which passed Congress February 17, 1917, gives Federal aid to the several states which meet certain requirements for vocational education in the secondary schools. A part of the money received from the Federal Government is to be used in paying the salaries of teachers and supervisors in the secondary schools. Another portion of it is to be used by higher institutions of learning for the preparation of those who wish to teach vocational work in the various secondary schools.

In order to prepare students for the teaching of Vocational Agriculture, courses are offered including a course in Agricultural Education and another in the practice of teaching the subject of Agriculture. (For detailed outlines of courses in Vocational Agriculture see work under Agricultural College.)

The Horace Mann Literary Society meets every Thursday night for one hour in the Education Building. This society is becoming more and more a distinctive force in the social and literary develop-

ment of students in the Department of Education. It is well attended at every meeting and the liveliest interest is manifest in all the work of the society.

The Department of Education conducts a bureau of appointments for teachers. Any person who has ever been a student at the University is entitled to free registration in this bureau, and no charge whatever will be made for securing positions. We endeavor to keep the complete record of all teachers who have attended the University at any time on file so that we may be able to supply calls with suitable candidates on short notice.

Courses Required of Education Majors. All education majors (candidates for the degrees of A. B. in Education and B. S. in Education) are required to take the following courses in Education: 3, 4, 5, 7, 8, 9, and 15. As it is the policy of this department to emphasize scholarship and thoro preparation in subject-matter, we do not encourage students to multiply courses in education, but to prepare themselves as thoroly as possible in the subjects which they expect to teach. Education 1 and 2 are intended for students who expect to drop out at the end of the freshman year to teach.

1. Elementary Psychology. An introductory course in the laws of mental phenomena and human behavior. Text-book and lectures. *Three hours a week. First semester.* Miss BROWN.

2. Methods and Aims of Teaching. A discussion of the teaching process, aims and methods of study, and the preparation of class-room work. Text-book and lectures. *Three hours a week. Second semester.* Miss BROWN.

3. Advanced Psychology. Lectures, text book and readings. Required of all education majors. *Three hours a week. Thruout the year.* Professor NOE.

3a. History of Psychology. A discussion of the theories and doctrines of psychologists from Aristotle to James. Offered second semester 1917-1918. Open to graduates only. *Three hours a week.* Professor NOE.

4. Principles of Education. A study of the principles and ideals of educational theory and practice. Text book and lectures. *Three hours a week. First semester.* Associate Professor BAKER.

5. Technique of Teaching. A discussion of methods with observation and practice teaching. The practice work open only to juniors and seniors. *Three hours a week. Second semester.* Associate Professor BAKER.

5a. Practice Teaching. Periods to be arranged. Open to juniors and seniors. *Thruout the year.* Professor NOE.

7. History of Education. An introductory course required of all Education majors. The ancient and medieval periods are rapidly covered, the emphasis being placed on the Renaissance and the Reformation. Text: Monroe "Textbook in the History of Education." Lectures and assigned readings. *Three hours a week. First semester.* Professor NOE.

7a. The Nineteenth Century Theorists. A critical examination of contempory educational theorists, with particular emphasis on James and Dewey. *Two hours a week. Thruout the year.* Associate Professor BAKER.

8. History of Education. A continuation of Course 7. Required of all Education majors. The Reformation period will be concluded, and the emphasis placed on the 18th and 19th century theorists, particularly Rosseau, Dewey and Montesorri. Text: Monroe, "Textbook in the History of Education." Lectures and assigned readings. *Three hours a week. Second semester.* Professor NOE.

9. Principles of Secondary Education. This course aims to develop the fundamental principles of secondary education, and to familiarize the student with the best current practices and methods of high school teaching. The State High School Supervisor gives by way of concrete illustration a six weeks' series of lectures on the High Schools of Kentucky. Required of all Education majors. Text: Colvin: "Introduction to High School Teaching." *Three hours a week. Second semester.* Professor RHOADS, Associate Professor BAKER.

10. Moral and Esthetic Education. The first half of the semester will be devoted to a study of the principles of moral education; the second half, to a study of the laws underlying the application of the beautiful. Readings, reports and lectures. *Three hours a week. Second semester.* Professor NOE.

12. American Ethnic Elements. A comparative study of the principal racial elements represented among the American people, their characteristics and their contributions. A critical study of the Immigration since 1885 will constitute the chief feature of the first semester, the major emphasis being on the Slavic, Latin and Semitic elements. The second semester will deal principally with the problems of assimilation and amalgamation, and the relation thereto of the public schools. Texts: 1st semester, Roberts' "The New Immigration"; 2nd semester, Humphrey's "Mankind: Racial Values and the Racial Prospects." Lectures and assigned readings. *Two hours a week. Thruout year.* Associate Professor BAKER.

13. State and County Administration. The tendencies toward centralization in State and county administration will be analyzed and evaluated. A study of the county unit will be made with particular reference to its operation in Kentucky. The second semester will be devoted to a comparative study of State and county financial accounting and reporting, in which Kentucky will be compared with Massachusetts, Minnesota, New Jersey and Illinois. This course is designed for county superintendents and candidates for that office. Open to juniors and seniors. Lectures and assigned readings. Text: Cubberley and Elliott. *Two hours a week. Thruout the year.* Associate Professor BAKER.

14. Principles of Social Education. A study of the development of the social mind with special reference to education. Text-book, reading and reports. *Three hours a week. First semester.* Professor NOE.

15. Administration and Supervision. A course in general principles required of all Education majors. Financial practices in cities and towns below twenty-five thousand will receive special emphasis. The principles of constructive supervision will be developed. A critical study will be made of the Junior High School movement with particular reference to the feasibility of the Junior High School for the small cities and towns. Text: Cubberley, "Public School Administration." *Three hours a week. Thruout the year.* Associate Professor BAKER.

15a. Comparative Education. A critical and comparative study of the French, English, German and American systems of education, from the double standpoint of the sources of the American system, and the possible values of these foreign systems to the latter. Special emphasis will be given to the original features of the American system. Open only to graduates. Lectures and assigned readings. *Two hours a week. Thruout the year.* Associate Professor BAKER.

16. Seminary. Problems of Educational Psychology. A study of recent experiments of Educational Psychology in current literature. Prerequisite, Principles of Education. *Two hours a week. Thruout the year.* Professor NOE.

18. Seminary in Educational Classics. A critical examination of one production each of the major educational theorists, including Plato, Aristotle, Rabelais, Montaigne, Francis Bacon, Milton, Locke, Rousseau, Pestalozzi, Herbart, Spencer, Dewey, James, and Montessori. *Two hours a week. Thruout the year.* Associate Professor BAKER.

20. Experimental Psychology. This is an elementary laboratory course in psychology and is designed to offer practical application of

theoretical psychology. It is arranged to parallel the course in *Elementary Psychology* (Course 1) and for those who have completed that course. *Two hours a week. Thruout the year.* Professor TIGERT.

21. **Mental Tests.** Practice given in administering tests of mental differences in individuals, including the Stanford revision of the Binet scale. This course will furnish the ability to diagnose more accurately the mental power and processes of children. *Two hours a week. Thruout the year.* Professor TIGERT.

22. **Educational Measurements.** A course in the theory and practice of measuring educational products and processes. The time is largely devoted to the giving and scoring of tests and scales in reading, spelling, writing, etc. *Two hours a week. Thruout the year.* Professor TIGERT.

23. **Experimental Education.** A laboratory course for advanced students in education who wish to make an experimental study of some educational problem which the student may select after consultation with the instructor. *Two hours a week. Thruout the year.* Professor TIGERT.

Preparation of Teachers in Agriculture and Other Vocational Subjects

The following courses are offered for students who are expecting to teach under the provisions of the Smith-Hughes Bill.

24. **Educational Psychology.** The laws of mental development, structure and function. Special attention to the laws of memory, habit and attention, and their application to education. Offered in 1918-19. *Three hours a week. First semester.* Professor JAMES.

25. **History of Education.** An introductory course designed for students in Vocational Education. Special emphasis will be placed on the modern period, i. e. since the Reformation. The chief objective point is the work of the nineteenth century theorists. Text: "History of Education," Graves. Lecture and assigned readings. *Three hours a week. First semester. Repeated second semester.* Professor JAMES.

26. **The Principles of Education.** The study of the aims, values and function of education. Offered in 1918-19. *Three hours a week. First semester. Repeated second semester.* Professor NOE.

27. **Agricultural Education.** Special method for vocational students in the art of teaching and specific practice in the teaching of

Agriculture under the supervision of the instructor in Agricultural Education. *Three hours a week.* Professor JAMES.

28. Agricultural Education. Aims of Agricultural Education in the secondary schools; history of secondary agriculture; nature of agriculture suitable and desirable for presentation in the secondary schools of Kentucky; organization material and methods of presenting work in class-rooms; laboratory and library equipment. *Three hours a week.* Professor JAMES.

Primarily For Graduates

For courses scheduled primarily for graduate students in Education, see statement of the Graduate School.

ENGLISH LANGUAGE AND LITERATURE

*Professor Dantzler, Professor Farquhar, *Professor Weaver, **Associate Professor Hamilton, Assistant Professor Mabie, † Miss Jewell, ‡Mr. Bradley, Mr. Burgevin, Mr. Price, Miss Hopkins, Mr. Slappey.*

The object of this department is threefold: (1) to train one in the use of English as a means of expression, and to extend the knowledge of those who find in literature the readiest means to acquire a liberal education; (2) to fit students for graduate work in English; (3) to prepare teachers for high school work in English.

The equipment of the department is the general library of the University in which are volumes on composition, public speaking and general literature It is especially well provided with encyclopedias and current magazines, including many foreign periodicals. The class in library training is now compiling a bibliography for the use of the English classes. The English Club meets regularly to discuss matters of interest to the members of the department.

Students who select English as a major study are expected to take courses 1, 2, 3, 9, 16, 17, 20, 24, and two other courses to be chosen by the student from among the electives for juniors and seniors. They should take History 2 in the sophomore year.

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* On leave of absence.
**On leave of absence, 1918-19.
† On leave of absence, 1917-18.
‡ On leave of absence for duration of war.

English Language and Rhetoric.

1. **English Composition.** The object of this course is to give training in the writing of correct and clear English. Accuracy of expression is desired rather than proficiency in style. A text book will be used, but the instruction will also be based upon the study of representative English masterpieces. English 1 is required of all freshmen, and is prerequisite to all other courses in English. *Three hours a week. Thruout the year.* All instructors.

1a. **English Composition.** This course is the same as English 1, but it begins at the second semester and extends thru the first semester of the following year. It is designed for those students who failed in the first semester of English 1 and for those who enter the University in January. Two sections. *Three hours a week. Thruout the year.* Associate Professor HAMILTON, Mr. PRICE.

2. **Advanced Composition.** This course is for students who have acquired some proficiency in expression, and who wish to do further work in the subject. The object is to cultivate facility and individuality of style, to become better acquainted with the art of composition. Required of sophomores whose major is English, but open to all students. Prerequisite, English 1 or 1a. *Two hours a week. Thruout the year.* Mr. PRICE.

2a. **Advanced Agricultural Composition.** This course is designed for sophomores in the College of Agriculture. Oral and written exercises. Agricultural literature will form the basis of the work. *Two hours a week. Thruout the year.* Mr. BURGEVIN, Mr. PRICE.

32. **Technical Composition.** This is an advanced course in technical composition designed for seniors in the College of Engineering. Scientific models will be studied. *Three hours a week. Thruout the year.* Professor FARQUHAR.

10. **Old English.** The object of this course is to introduce the student to the beginnings of English prose and poetry. During the first semester the elements of Old English grammar will be studied with reading of easy prose and poetry. During the second semester attention will be given to the literature and the social life of the period. Elective for juniors and seniors. *Three hours a week. Thruout the year.* Professor DANTZLER.

11. **History of the English Language.** In this course the development of the language from the Old English period to the present will be traced. The work will be linguistic and literary. The course is open to juniors and seniors, and is recommended to those who in-

tend to become teachers of English. *Three hours a week. Second semester.* Professor DANTZLER.

19. **Advanced Old English.** This course is designed for those who wish to continue the work of English 10. Selections from Cynewulf will be read. Lectures and papers on assigned topics. Elective for seniors. Prerequisite, English 10. Three hours a week. First semester. Professor DANTZLER.

English Literature

3. **History of English Literature.** This course is designed to give the student a general survey of English literature from the Old English period to the present. Extensive readings will be made from selected masterpieces, with weekly written themes by the student. This course is required of all sophomores in the Colleges of Arts and Science, and of Enginering, and is prerequisite to all the other courses in English literature. Prerequisite, English 1. *Three hours a week. Thruout the year.* Professor DANTZLER, Associate Professor HAMILTON, Mr. BURGEVIN, Mr. PRICE, Miss HOPKINS.

3a. **History of English Literature.** This course is the same as English 3, but it begins the second semester and extends thru the first semester of the following year. It is designed for those who failed in the first semester of English 3 and for those who entered the University in January. *Three hours a week. Thruout the year.* Associate Professor HAMILTON.

9. **Pro-Seminary.** This is a literary course, but it is designed also to train the student in the principles of form and method. The subjects for study and investigation vary from year to year. For 1918-19 the life and works of Milton and Browning will be studied. Required for seniors whose major study is English. Open to all seniors. *Two hours a week. Thruout the year.* Professor DANTZLER.

16. **English Romanticism.** This course traces the history of the English romantic movement from its beginning to its culmination in the poets of the early nineteenth century. Special attention is paid to the poetry of Wordsworth, Coleridge, Byron, Shelley, and Keats. While a text book may be used, the work consists of a critical study of the representative poets. Required of juniors whose major work is English. Open to all juniors and seniors. Prerequisites, English 1 and 3. *Three hours a week. First semester.* Professor DANTZLER.

17. **Victorian Poets.** This course is a continuation of English 16. Special attention will be given to the works of Tennyson, Brown-

ing and Swinburne. Considerable attention will be devoted to the writing of essays. Required of juniors whose major work is English. Open to all juniors and seniors. *Three hours a week. Second semester.* Professor DANTZLER.

20. Principles of Literary Criticism. The course attempts to show criticism as a growth and development in an historical survey but principally to give a corpus of opinion about literature. Required of seniors whose major study is English. Open to all seniors. *Three hours a week. Thruout the year.* Professor FARQUHAR.

24. Pre-Shakesperean and Shakespearean Drama. The first semester is devoted to a study of the Pre-Shaksperean Drama in an effort to find the native English element in Shakspere and prepare for an intensive study of Shakspere's works in the second semester. Required of juniors whose major work is English. Open to all juniors and seniors. *Three hours a week. Thruout the year.* Professor FARQUHAR.

15. The Literature of the Eighteenth Century. This course traces the literary developments that culminated in the eighteenth century with all main characteristics, social, intellectual, etc. Not offered 1917-18; to be offered 1918-19. Elective for juniors and seniors. *Three hours a week. Thruout the year.* Professor FARQUHAR.

15b. The English Novel. Introduction to the study of English fiction. Readings, with a view to illustrating the evolution of the novel as well as to develop an appreciation of the novel as a form of literature. Elective for juniors and seniors. *Three hours a week. First semester.* Professor DANTZLER.

15c. The Modern Drama. The development of the modern drama. Dramatic tendencies in English and continental drama. Representative readings. Elective for juniors and seniors. *Three hours a week. Second semester.* Associate Professor HAMILTON.

18. Victorian Essayists. After a general survey of the earlier Ruskin. The social, literary and religious movements are kept in mind. Weekly themes upon assigned topics. Not offered 1917-18; to be offered 1918-19. Elective for juniors and seniors. *Two hours a week. First semester.* Professor DANTZLER.

21. American Literature. The literature of America is studied in its relation to national life and thought. The leading authors will be studied in class, while the minor writers will constitute parallel reading. Elective for juniors and seniors. *Two hours a week. Second semester.* Professor FARQUHAR.

22. Literature of the Bible. A literary study of the Bible by books. It assists to an appreciation of literature generally because of the demand that literature identify itself with the highest thought and feeling. Open to all but freshmen. *Two hours a week. Thruout the year.* Professor FARQUHAR.

23. English and Scots Ballads. This course is designed to be a literary and social study. It is expected to encourage interest in the folklore of Kentucky. Not offered 1917-18; to be offered 1918-19. Open to all but freshmen. *Two hours a week. Second semester.* Professor DANTZLER.

29. Modern Literature in English. *German and Italian.* **Goethe** and his time. *Faust Part I* and selections from *Part II.* Dante and his time. *Vita Nuova.* Selections from the *Divina Commedia.* Elective for juniors and seniors. Two hours a week. Thruout the year. Associate Professor HAMILTON.

29a. Teachers' Course. This work is for those who intend to teach English in the high school. Methods in teaching, composition. Literature of the first two years in high school. Open to all but freshmen. *Two hours a week. Second semester.* Professor DANTZLER.

30. Greek Literature in Translation. This course is primarily for those who have not studied Greek, and is intended to give them an appreciation of those allusions to Greek life and thought which are so abundant in all modern literatures. Open to all but freshmen. Offered 1917-18. *Three hours a week. Second semester.* Professor TERRELL.

31. The Lyric. In this course the development of the lyric in a literary form is traced from the Old English period to the present. Not offered 1917-18; to be offered 1918-19. Open to all but freshmen. *Two hours a week. First semester.* Mr. BRADLEY.

33. Mythology in English Literature. This course will trace the classic myths in English literature from Spencer to Matthew Arnold. Its object is to acquaint the student with the mythological allusions and with the treatment of the principal myths in our literature. Not offered 1917-18; to be offered 1918-19. Open to all but freshmen. *Two hours a week. Second semester.* Mr. BRADLEY.

Public Speaking

7. Public Speaking. The work of this class consists of oral composition, declarations and dramatic readings. The student is taught the principles of expression, interpretation and elocution in general. Not offered 1917-18; to be offered 1918-19. *Two hours a week. Thruout the year.* Assistant Professor MABIE.

8. Forensics. Students in this class are taught both the theory and practice of debating. Frequent debates are held thruout the year. Required of all law students, but not open to freshmen. Not offered 1917-18; to be offered 1918-19. *Two hours a week. Thruout the year.* Assistant Professor MABIE.

8a. The Speech for Special Occasions. In this course students are taught how to make appropriate addresses on practically all occasions where speeches of a definite order are required. Stress is laid upon the ability to develop a theme to a logical conclusion and the student is required to make frequent addresses before the class. Not offered 1917-18; to be offered 1918-19. Prerequisite, English 7 or 8 *Two hours a week. Thruout the year.* Assistant Professor MABIE.

Library Training

The Department of English offers a course in Library Training, the object of which is threefold: 1. To acquaint the student with the general principles of library usage; 2. To qualify prospective teachers to take charge of high school libraries; 3. To prepare students for further work in library schools. English major students who contemplate library work as a profession are urged to consult with the head of the department at the beginning of the sophomore year.

26. Library Training. Fundamental principles as an aid to a broader knowledge of English. Lectures on theory thruout the course. Training by librarian in classification, use of reference books, card catalog, preparation of bibliographies, etc. Two hours laboratory after Christmas. Open to all but freshmen. *Two hours a week. Thruout the year.* Associate Professor HAMILTON.

26a. Advanced Library Training. First semester—Study of classification. Problems covering all divisions of Dewey decimal classification. Reports on articles in current library periodicals. Second semester—Accessioning, book numbers, elements of cataloging and shelf-listing. The reference library at the University, Experiment Station, and Lexington public library for laboratory work. Prerequisite, English 26. *Two hours a week. Thruout the year.* Associate Professor HAMILTON.

25. Library Methods for Teachers. The object of this course is to qualify prospective high school teachers to take charge of high school libraries, in connection with their teaching work, and also to prepare them to give instruction to high school students in the use of books and libraries. The subjects treated include cataloging, book selection, use of reference material, mending and care of books, loan

systems, equipment and administration of school libraries. Open to all students. Miss KING.

For Graduates

For courses scheduled primarily for graduate students, see statement of the Graduate School.

Public Lectures

During the winter of 1918-19, the Department of English will conduct a series of lectures on topics of general interest in literature and art. These lectures will be free and will be open to all students, and friends of the University. No university credit will be offered.

GEOLOGY

Professor Miller, Mr. Scott.

The department occupies one-half of the second floor of Science Hall. The geological laboratory contains the study collection which consists of representative specimens of fossils and minerals. The mineralogical laboratory is arranged in its furnishings with special reference to its use as a mineral-testing laboratory. The geological lecture room, furnished with folding lecture-room seats, lantern-stand, sliding blackboard, wall screen and means for quickly darkening the room, is admirably adapted to recitation and lecture uses. The collections in mineralogy and paleontology are arranged and classified with special reference to their use in class instruction. As additional equipment may be mentioned the department library of geological literature, consisting of reports, both state and normal, maps, charts, models, lantern-slides, photographic views, and a rock-slicing machine. The department is also fortunate as regards the geological location of the University. Situated in the very heart of the bluegrass region, near the base of the geological series of the State, it affords logically the best starting-point for the student of Kentucky geology who would gain a clear comprehension of how the rock foundations of his State have been laid.

In recent years geology has come to be recognized as a profession. Its relation to mining, and especially to oil exploration, is such that the services of a geologist are now considered indispensable by companies engaged in developing our natural mineral resources.

Major geology students in the past have had no difficulty in securing on graduation attractive positions with the State and Federal geological surveys; and more recently very lucrative positions indeed with oil companies.

1. **Elementary Geology.** A general course in the fundamental principles involved in dynamical structural and physiographic geology and an outline presentation of historical geology. Text book, lectures and field excursions. At least two all day trips must be taken by each student. Preferably this course should be preceded by Geology 4. Not open to freshmen. *Three hours a week. Thruout the year.* Professor MILLER.

1a. **Elementary Geology.** A first course in geology for Agricultural students. Special emphasis is placed on processes connected with soil formation, rocks in their relation to soils, geological sources of fertilizers, an outline of historical geology with special stress laid on Kentucky stratigraphy. *Lectures three hours a week. Second semester.* Professor MILLER.

2. **Paleontology.** This course should accompany or follow the beginning work in zoology. Lectures on the nature and zoological position of different fossil groups of animals are given, and the student is expected to verify descriptions of fossils by an examination of the specimens themselves, and to so learn their peculiarities that he can identify many species and genera at sight. Special attention is paid to fossils which are important in Kentucky stratigraphy. The collections of the department are well suited for this purpose. The instruction is almost entirely by lecture and laboratory work. *Three hours a week. First semester.* Professor MILLER.

3. **Mineralogy.** The object of the study is to render the student familiar with the composition and physical characters of those common minerals likely to be met with both in the course of every-day observation and text-book work. *Four hours laboratory a week.* Professor MILLER.

4. **Physiography.** A study of the physical features of the earth and an interpretation of them in the light of causes now in operation. Text book, laboratory work and field excursions. Major geology students should take this course in the freshman year. Open also to other students in this year. *Three hours a week. Thruout the year.* Professor MILLER.

5. **Advanced Geology.** The same topics are treated as in 1, but more thoroly, as it is fitting such should be treated after the student has had courses 2 and 3 as well as work in other departments which

better fit him for an understanding of the deeper problems of geology. Two excursions in the fall and two in the spring required. For major geology students. Text book and lectures. *Two hours a week. Thruout the year.* Professor MILLER.

6. Economic Geology. A study of the mode of occurrence and theories of origin of commercial mineral and rock deposits and the practical aspects of rock structures. For major geology students and those pursuing courses in mining and industrial chemistry. This course should be preceded by Geology 1. Text book and lectures. *Three hours a week. Second semester.* Professor MILLER.

7. Engineering Geology. A study of rocks and rock minerals and structures especially as related to engineering problems. Outline of historical geology; soil formation; drainage, surface and underground; wave action and shore currents in relation to improvement of harbors and mouths of rivers; glacial deposits; building stone; geological materials for road making and for lime, cement and plaster; coal; petroleum; ore deposits. For civil enginering students. Text book and lectures. *Three hours a week. First semester.* Professor MILLER.

8. Oil Geology. A course designed to prepare students to qualify as prospectors for oil and gas. For mining, civil engineering and major geology students. *Three hours a week. First half of second semester.* Professor MILLER.

GERMAN LANGUAGE AND LITERATURE

Professor Melcher, Mr. Cannon, Miss Pollitt.

A knowledge of the grammar and the ability to read and translate easy German at sight and also simple English into German is required of students who take German 3, i. e. freshman work. At least two years are required in this preparation.

Students who qualify for the freshman class but who are deficient in German, may take work in classes designated below as 1 and 2.

1. Elementary German. First semester: grammar followed by easy reading to acquire vocabulary and illustrate grammatical principles. Second semester: rapid reading of about 200 pages of easy texts and composition based on texts read. *Three hours a week. Thruout the year.* Mr. CANNON, Miss POLLITT.

2. Prose Reading. First semester: intermediate German with grammar drill and composition based on text. Second semester: selections from prose and poetry committed; conversations and compositions based on texts read. *Three hours a week. Thruout the year.* Miss POLLITT.

3. Composition and Reading. First semester; materials for sight translation and conversation followed by rapid reading of some of the most characteristic works of modern writers. Second semester: studies in Schiller and the more modern stage, or equivalent work. Collateral reading will be required of students taking this course. Prerequisites, German 1 and 2. *Three hours a week. Thruout the year.* Professor MELCHER, Mr. CANNON.

3a. History of German Literature. A course in the history of German literature will be offered, consisting of lectures and recitations, to give the student a general historic background for subsequent special work in literature. Prerequisites, German 1 and 2. Required of major German students. *Two hours a week. First semester.* Professor MELCHER or Mr. CANNON.

3b. German Grammar, Geography and Institutions. Detailed study of German grammar, accompanied by lectures on the geography and institutions of Germany and modern methods of presentation. This course is intended for prospective high school teachers and is open to students by permission of the department. Prerequisites, German 1, 2 and 3. *Two hours a week. Second semester.* Professor MELCHER or Mr. CANNON.

4. Advanced Reading and Composition. First semester. Rapid reading of various tests as *Die Jungfrau* with some attention to metre and technic of the drama, *Psyche, Die Ahnfrau, etc.* Second semester. Reading continued; essays on subject matter of texts; free reproduction. Collateral reading required of students taking course. Prerequisites, German 1, 2 and 3. *Three hours a week. Thruout the year.* Professor MELCHER, Mr. CANNON.

4a. Scientific German. A course in scientific literature is offered, consisting of the reading of a varied selection of essays and lectures by German specialists on topics of interest to all scientific students. The purpose of the work is to enable the student to carry on investigation in German scientific literature of subjects pertaining to his profession without a burdensome use of the lexicon. Prerequisites, German 1, 2 and 3. *Two hours a week. First semester.* Professor MELCHER or Mr. CANNON.

4b. German Newspaper Seminar. The purpose of this course is to familiarize the students with a store of modern words and idioms, acquired by rapid reading of German newspapers and magazines. Prerequisites, German 1, 2 and 3. *Two hours a week. Second semester.* Professor MELCHER, Mr. CANNON.

5. The Drama. Junior course. First semester: composition and conversation. Second semester: Goethe's and Schiller's Ballads. Two

dramas from Grillparzer or their equivalent. *Three hours a week. Thruout the hour.* Professor MELCHER.

6. Novel and Drama. Senior course. First semester: novel, drama and composition. Second semester: work of first semester continued. *First semester, three hours a week; second semester, two hours a week.* Professor MELCHER.

HISTORY AND POLITICAL SCIENCE

Professor Tuthill, Assistant Professor Butt, President McVey.

Freshmen in the Department of History and Political Science will register first in one of the introductory courses, either 1 or 2. In the senior year a creditable thesis on some phase of Kentucky history will be expected; when approved these productions are bound and preserved for future reference.

The department is provided with an office and two recitation rooms in the Administration Building. The Library contains valuable files of a few magazines. The City Library of about 40,000 volumes is open to our students free of charge. Prizes, both local and national, are offered annually on a competitive basis in History and Government.

Recent bulletins on the teaching of history in the high school and on the condition of the county infirmaries will be sent free to applicants. Inquiries are invited on questions of historical interest and present problems.

Friends and alumni are invited to collect and send for deposit in the library all plantation accounts, pioneer diaries, old letters and manuscripts of all sorts, useful in preserving the memory of persons who have built up the substantial interests of Kentucky.

History

1. Introduction to History and the Social Sciences. A course which includes note-taking, map-drawing and collateral reading, and the preparation of written reports. Ancient History is treated the first semester to about 200 B. C. The second semester's work includes Roman History to the coming of the Barbarians, and then presents the fields of history, government, and other social sciences in outline, so that the student may choose more intelligently his major and minor electives. *Three hours a week, first semester. Two hours a week, second semester.* Professor TUTHILL. Omitted in 1918-19, but offered in alternate years.

2. History of England Since 1500. An introduction to the progress of the English people at home and abroad during the modern

period. Recommended to students of law and literature. *Three hours a week. First semester.* Professor TUTHILL, Assistant Professor BUTT.

4. **Modern Europe.** A general survey of modern history, with separate volume on the past century. Recommended to students of Europeon literature and language. *Three hours a week. Thruout the year.* Professor TUTHILL.

5. **History of the United States.** Beginning with the colonies about 1750, omitting most of the military campaigns, but emphasizing the fundamental progress of the nation. Topics will be assigned chiefly in the history of the South. *Three hours a week. Thruout the year.* Professor TUTHILL.

6. **Recent American Movements.** This course, covering the period 1876-1914, treats of the labor, trust, populistic and progressive movements, the tariff controversies, political parties, prohibition, and initiative and referendum. *Two hours a week. Second semester.* Assistant Professor BUTT.

8. **Teaching of History.** Open to graduates and undergraduates. *One hour a week. Second semester.* Professor TUTHILL.

20. **The Twentieth Century.** Designed to explain contemporary world movements which have culminated in the Great War. Open to seniors and to others who have had good training in modern history. *Two hours a week. Second semester.* Professor TUTHILL.

24. **Thesis Writing.** All seniors will select as early as possible a subject in Kentucky history which will be pursued intensively thruout the year. They will meet from time to time during the Fall for instruction in investigation, and regularly during the Spring for comparison of data and synthetic presentation of material which has been tested. *Two hours a week.* Professor TUTHILL.

Political Science

10. **International Law.** Lectures, text, and case-books on questions of international law in war and peace. Open to juniors and seniors. *Two hours a week. Second semester.* President MCVEY.

1. **American Government.** A study of the rights, duties and responsibilities of citizens, with attention to current questions. *Three hours a week, in two or more sections. Thruout the year.* Assistant Professor BUTT.

2. **Municipal Government.** Two objects are sought in this course: 1. an examination of recent tendencies in city government; 2. an introduction to each of the larger problems of control. Recommended to seniors in Arts and Law, and to those who complete Political Science 1, or its equivalent. *Two hours a week. Second semester.* Assistant Professor BUTT.

5. Comparative Government. A comparative study of the parties, governments, and administrative systems of England, France, Germany, Switzerland, Canada, and Australia. *Two hours a week. Second semester.* Assistant Professor BUTT.

7. Public Utilities. A comparison of public and private ownership of railways and municipal utilities; physical valuation and reasonable rates; legislation and administrative control. *Two hours a week. First semester.* Assistant Professor BUTT.

JOURNALISM

Professor Grehan, Miss McLaughlin, Mr. Price.

The Department of Journalism is located in the Administration Building. The space assigned to this department includes two class rooms and an office.

The class rooms are provided with desks, tables, chairs, telephone, typewriters, reportorial and editorial equipment used in modern daily newspaper offices. The department is supplied with an individual library containing the latest works on the subject of journalism, leading daily and weekly newspapers, periodicals, and other publications of Kentucky and cities of the South and East. In connection with this department students have organized a Press Association and the department a press bulletin thru which it serves Kentucky papers with news pertaining to the University and allied activities. The course of instruction covers a period of four years and leads to the degree of Bachelor of Arts in Journalism. Its purpose is to train young men and women in the practical work of journalism. Students when admitted are classified according to their previous scholastic attainments. Every student is required to become a member of such literary society of the University as he may elect. Applicants for admission to first year classes must be at least 17 years old. Students who are graduates of accredited schools are admitted without examination to the freshman course, but special students must be twenty years old and must undergo such examination as may be deemed necessary for admission by the Committee on Entrance. No student will be admitted after October 15 of the first semester, or February 15 of the second semester.

Prizes will be awarded for practical work in the second semesters of the second, third and fourth years. These contests will be open to students only of these three classes in journalism.

Second Year—Five dollars in gold for best news story, minimum 1,000 words, on a subject to be assigned. *Third Year*—Five dollars in gold for best description, minimum 3,000 words, of Experiment Station

or Agricultural College and story of work accomplished by it that year. *Fourth Year*—Five dollars in gold for best account of a convention gathering of state importance, no limit as to words. Five dollars for best dramatic criticism on a performance at a local theatre, the performance to be indicated by the head of the department, and review to be written the night of the play and before morning papers are issued. Five dollars for best current news story of spontaneous origin, or editorial on current topic.

1. **First Year Journalism.** General survey and introductory lectures. This work includes elements of newspaper writing, short news stories, "rewrites" from selected newspapers, and work on university publications to the aggregate extent of not fewer than 10,000 words. Instruction in typewriting is given. *Recitation two hours a week, laboratory two hours a week by appointment. Thruout the year.* Miss McLAUGHLIN.

2. **Second Year Journalism.** History of journalism, advertising, spelling, etymology and definitions of words in current use, punctuation, stenography. First semester: Spelling, stenography, etymology of words in current use, practice writing on general assignments. Second semester: Spelling, synonyms, stenography continued, practice writing on assigned subjects, survey of short story and theory and practice of advertising. *Three hours a week. Thruout the year.* Mr. PRICE

3. **Third Year Journalism.** Verbal criticism, derivation, definition and shading of meanings of current terms used in news and editorial writing, copy-reading, proof-reading, headlining, city assignments for reporters and lectures on general make-up of daily and weekly newspapers. This course is subject to modification or elaboration according to the capabilities and accomplishments of students as the work progresses. It is designed to give special attention to such phases of newspaper work as comparison and criticism of copy written by various "reporters" and "editors," who are class members, spelling, sentencing, newspaper style, proof-reading, and "make up." Students in this course are required to edit not fewer than 60,000 words during the second semester. Classes in verbal criticism will be opened the second semester for students not majoring in journalism, who have had liberal training in fundamental English and Latin. *Three hours a week. Thruout the year.* Professor GREHAN.

4. **Fourth Year Journalism.** Editorial and feature writing, dramatic criticism, book reviewing, interviewing, study of law affecting libel, and copyright, organization, talks on style, lectures on stage folk and theory of dramatic criticism. *Five hours a week. Thruout the year.* Professor GREHAN.

OUTLINE OF COURSE LEADING TO THE DEGREE A. B. IN JOURNALISM

FRESHMAN YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 1	141	English Composition	3		3.
Mathematics 3	157	College Algebra	5		5.
Latin 5	120	Livy (Book I)	3		3.
German 1	148	Elementary German	5		3.
Journalism 1	153	First Year Journalism	2	2	2.5
Military Science (men)	160	Drill		3	1.
Physical Education	167	Gymnasium or Field Athletics		2	.7
					18.2

Second Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 1	141	English Composition	3		3.
Mathematics 2	157	Plane Trigonometry	5		5.
Latin 5	120	Horace (Odes and selected Satires)	3		3.
German 1	148	Elementary German	5		3.
Journalism 1	153	First Year Journalism	2	2	2.5
Military Science (men)	160	Drill		3	1.
Physical Education	167	Gymnasium or Field Athletics		2	.7
					18.2

SOPHOMORE YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 3	142	History of English Literature	3		3.
English 22	144	Literature of the Bible	2		2.
German 3	149	Composition and Reading	3		3.
Physiology 1		General Physiology	3		3.
History 1		Introduction to History and Social Sciences	3		3.
Political Economy		Public Finance	2		2.
Journalism 2	153	History of Journalism	3		3.
Military Science	160	Drill		3	1.
Physical Education	167	Gymnasium or Field Athletics		2	.7
					20.7

Second Semester

English 3	142	History of English Literature	3		3.
English 22	144	Literature of the Bible	2		2.
German 3	149	Composition and Reading	3		3.
Physiology 1	119	General Physiology	3		3.
History 1	150	Introduction to History and Social Sciences	3		3.
Political Econ. 2	151	Public Finance	2		2.
Journalism 2	153	Spelling and Punctuation	3		3.
Military Science	160	Drill		3	1.
Physical Education	167	Gymnasium or Field Athletics		2	.7
					20.7

JUNIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 24	143	Pre-Shaksperean Drama	3		3.
French 1a	173	Elementary French	3		3.
Philosophy 1	166	Logic	3		3.
History 5 or	151	History of the United States	3		3.
Political Sci. 1	151	American Government	3		3.
Journalism 3	153	Verbal Criticism	3		3.
Electives		Electives	2		2.
					17.

Second Semester

English 24	143	Shakspere	3		3.
French 1	173	Elementary French	3		3.
Philosophy 1	166	Logic	3		3.
History 5 or	151	History of the United States	3		3.
Political Sci. 1	151	American Government	3		3.
Journalism 3	153	Proof-reading, Copy-reading Headlining	3		3.
Geology 1	147	Elementary Geology	3		3.
					18.

SENIOR YEAR

First Semester

Course	Page See	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 15b	143	The English Novel	3		3.
English 20	143	Literary Criticism	3		3.
Journalism 4	153	See Descriptive Matter	5		5.
French 2	173	Reading and Composition	3		3.
Electives		Electives	2		2.
					16.

Second Semester

English 15c	143	The Contempory Drama	3		3.
English 20	143	Literary Criticism	3		3.
Journalism 4	153	See Descriptive Matter	5		5.
French 2	173	Reading and Composition	3		3.
Electives		Electives	2		2.
					16.

MATHEMATICS AND ASTRONOMY

Professor Boyd, Professor Davis, Associate Professor Rees, Assistant Professor Downing, Dr. Smith, Mr. Allen, Mr. Grove, Mr. Reid.

Mathematics

Students planning to teach high school mathematics should consider Courses 1 to 5 inclusive, the minimum preparation for such work. Graduate students will find sufficient advanced work regularly given to occupy their time, as a major, for at least two years. The White Mathematics Club meets weekly for the study of some book of general interest and for the presentation of special topics. Juniors and seniors majoring in mathematics are expected to attend regularly. The department has a room in the basement of the library where the mathematics and astronomy reference books and magazines are kept.

3a. Elementary Algebra. This course is designed for those who enter the University with only one unit of high school mathematics, and is a prerequisite for college algebra, course 3. Quadratics and beyond. *Three hours a week. First semester.*

1. Solid Geometry. This is given primarily for engineering students who enter conditioned in it. It is a prerequisite for second

semester analytics. *Five hours a week*, 1917-18; *three hours a week*, 1918-19. *Second semester.* Mr. ALLEN.

2. Plane Trigonometry. A thoro course in plane trigonometry supplemented by enough algebra to fill out a semester's work. *Five hours a week. First semester. Repeated second semester.* All instructors.

3. College Algebra. Elementary algebra is first reviewed in a way to give greater clearness as to assumptions, the number concept and the fundamental idea, and to introduce graphs and determinants. Following this, topics are taken up that will, together with those included in Course 2, furnish the student with a fairly complete view of the subject. *Five hours a week. First semester. Repeated second semester.* All instructors.

4a. Analytic Geometry, First Half. A somewhat extended course in which particular emphasis is laid on the graphical representation of the various types of functions. The derivative is introduced as a tool for the study. The work is given by lectures, with mimeographed outlines. Prerequisites, Courses 2 and 3. *Five hours a week. First semester. Repeated second semester.* Professor BOYD, Professor DAVIS, Associate Professor REES, Assistant Professor DOWNING.

4b. Analytic Geometry, Second Half. A continuation of Course 4a extending thru solid analytics. Prerequisites, Courses 1, 2, 3, 4a. *Five hours a week. First semester. Repeated second semester.* Professor BOYD, Professor DAVIS, Associate Professor REES, Assistant Professor DOWNING.

5a. Differential Calculus. A course covering most of the subject as presented in the larger texts and including much drill work in the solution of problems. Engineering students take this in the second semester of the sophomore year. Prerequisites, Courses 2, 3 and 4a. *Five hours a week. First semester. Repeated second semester.* Professor DAVIS, Associate Professor REES, Assistant Professor DOWNING.

5b. Integral Calculus. Certain topics of the differential calculus are included in this course. Prerequisites, Courses 1, 2, 3, 4a, 4b, 5a. *Five hours a week. First semester. Repeated second semester.* Professor DAVIS, Associate Professor REES, Assistant Professor DOWNING.

6. Spherical Trigonometry; Method of Least Squares. This course is required of civil engineers and students majoring in mathematics. *Two hours a week. Second semester.* Assistant Professor DOWNING.

7. Graphical Analysis and Determinants. A study by graphical methods of the fundamental principles of analysis, and presentation of the elements of curve tracing. This is followed by a brief course in determinants. Given by lectures. Omitted in 1917-18; offered for 1918-19. *Three hours a week. First semester.* Associate Professor REES.

8. Vector Analysis. A thoro study of the algebra of vectors with numerous applications of line geometry and solid analytics. Also a brief introduction to the calculus of vectors with applications to differential geometry, mechanics and physics. Text to be supplemented by lectures. Omitted in 1917-18; to be given in 1918-19. *Three hours a week. Second semester* Associate Professor REES.

9. Theory of Equations. An introductory course given chiefly by lectures and based on some standard text. Given in 1917-18; to be omitted in 1918-19. *Three hours a week. First semester.* Associate Professor REES.

10. Advanced Analytics. This course is designed to present the extended theory connected with conic sections and to serve as an introduction to a later course in the general theory of algebraic curves. To be omitted in 1918-19. *Three hours a week. Second semester.* Associate Professor REES.

11. Differential Equations. A study of the theory of ordinary and partial differential equations, with applications to physics and mechanics. Text book work supplemented by lectures and reports. Given in 1917-18; to be omitted in 1918-19. *Three hours a week. Thruout the year.* Professor DAVIS.

12. Advanced Calculus. A second course in calculus affording a more critical view of the fundamental notions and theories, and including the study of elliptic integrals and functions defined by definite integrals. The work will be based on the texts of Byerly and Williamson. Omitted in 1917-18; to be given in 1918-19. *Three hours a week. Thruout the year.* Professor DAVIS.

13. Projective Geometry. This course provides a study of the content and methods of modern synthetic geometry, and is also designed to serve as an introduction to a later course in geometric transformations. Considerable drawing work is done. Omitted in 1917-18; to be given in 1918-19. *Two hours a week. Thruout the year.* Professor BOYD.

14. Teacher's Course. A course in the history and pedagogy of mathematics, designed for students majoring in education with mathematics as their minor. Omitted in 1916-17; to be given in 1918-19. *Three hours a week. Second semester.* Professor DAVIS.

Astronomy

1a. Descriptive Astronomy. A general view of the subject is given by text-book and lectures. Class-room work is supplemented by the identification of the principal constellations and by the use of the 8-inch refracting telescope in the observatory. *Three hours a week. First semester.* Assistant Professor DOWNING.

1b. Descriptive Astronomy. Continuation of 1a. *Three hours a week. Second semester.* Assistant Professor DOWNING.

2a. Practical Astronomy. A second course in which will be considered such problems as the computation of latitude, longitude, eclipse and occultations, and the preparation of star lists. Omitted in 1917-18; to be given in 1918-19. *Three hours a week. First semester.* Assistant Professor DOWNING.

2b. Practical Astronomy. Continuation of 2a. *Three hours a week. Second semester.* Assistant Professor DOWNING.

3a. Celestial Mechanics. A course dealing with central forces, potential and attraction of bodies, problem of two bodies. Mathematics 6 and 12 required. Given in 1917-18. *Three hours a week. First semester.* Assistant Professor DOWNING.

3b. Celestial Mechanics. Continuation of 3a. Problem of three bodies, pertubations, computation of orbits. *Three hours a week. Second semester.* Assistant Professor DOWNING.

For Graduates

For courses scheduled primarily for graduate students, see statement of the Graduate School.

MILITARY SCIENCE

Captain Royden.

Reserve Officers' Training Corps

The University of Kentucky has established and maintains an Infantry Unit of the Senior Division of the Reserve Officers' Training Corps in conformity with the provision of the National Defense Act of 1916. The purpose of the Reserve Officers Training Corps as defined in this act is "To qualify by systematic and standard methods of training students at civil educational institutions for reserve officers," primarily the lower grade of officers in reserve.

Requirements

Freshman and Sophomore. Every male student over fourteen years of age whose physical condition indicates that he is fit to perform military duty under the U. S. Army regulations, is required to drill three times each week thruout the *freshman* and *sophomore* years. The successful completion of two years of military work is *requisite to graduation* in every course in the University.

No student will be excused from drill as heretofore for reasons of age, athletics or self-support. In cases, certain classes of men may be excused; but in no case will athletics be taken as a substitute for drill.

Junior and Senior. A cadet who desires to qualify for the "Reserve Officers' Corps" may continue his military training during the *junior* and *senior* years. He will first submit application to the President of the University and to the Commandant. If his application be accepted, and he agree in writing to take military training for the remainder of his course, his military duties will be as follows:

a. Drill five hours a week during the junior and senior years.
b. Pursue the regular military course of instruction.
c. Attend at least two summer training camps.
d. Conform to certain physical requirements.

Equipment and Expenses Furnished by the Government

According to the provisions as promulgated in General Orders 49, War Department, Sept. 20, 1916, the U. S. Government will assume the following expense:

a. Give one free uniform to each member of the Reserve Officers' Training Corps units.

b. Give an additional uniform to all members attending summer training camps.

c. Pay to all *junior* and *senior* students who *volunteer* for the last two years of their college course to take the military training, the sum of 30 cents a day as commutation for rations.

d. Furnish modern arms and equipment.

e. Furnish non-commissioned officers of the Army as instructors and as assistants to the officer of the Army stationed at the University.

Insignia

A distinctive insignia will be issued to the cadets and worn by them; later an insignia for excellence in training and target prac-

tice will be issued by the Government to such corps as may be entitled to same.

Rule for Appointment of Reserve Officers—National Defense Act, Sec. 49

Reserve officers may be appointed by the President of the United States, alone, from any graduate of the R. O. T. C. in this University, who shall have taken the two camps and the advanced training, who is twenty-one years of age, and who shall agree under oath, in writing, to serve the United States in the capacity of a reserve officer during the period of ten years, unless discharged by proper authority. No one undergoing a post graduate course at any institution shall be eligible for appointment as a reserve officer while undergoing such course, but this shall not affect his eligibility for appointment as a reserve officer upon completion of said course.

Graduate Course

Any reserve officer can apply for a post graduate course lasting for six months with any organization of the Regular Army with the temporary grade of second lieutenant and the pay of $100.00 a month and the full allowances of that grade.

Methods of Obtaining a Commission as Reserve Officer

Methods of obtaining a commission as a reserve officer for college men may be learned by inquiring at the office of the Commandant.

From above sections it can be seen that there is no obligation upon the student to accept government service after completion of the prescribed course in any institution of learning.

Engineer Enlisted Reserve Corps

During the continuance of the present war, engineering students of this University within the draft age are expected to enlist in the Engineering Enlisted Reserve Corps in the United States Army, and continue their regular course of instruction until date of final graduation. This provision has been made by the War Department for the purpose of conserving in training the necessary number of engineers to meet the requirements of our Government during the continuance of the war.

Military Signaling

At the request of the War Department the University has established and will maintain, thruout the war, special courses of instruction to meet the needs of the Signal Corps of the Army. It is expected that such students as are within the draft age will be enlisted in the Signal Enlisted Reserve Corps, and their status protected until their training is finished, when they will report for military duty in the department for which they are specially trained.

Naval Enlisted Reserve Corps

The College of Mechanical and Electrical Enginering of the University has long been recognized by the Naval Department as a training school for engineers of the United States Navy. Under regulations recently adopted by the Secretary of the Navy, undergraduates in this department in training for that branch of the Government service are expected to enlist in the United States Naval Reserve, after arriving at the age of 18; and their status, as a member of the United States Navy, is protected until date of final graduation from the college when they are examined, rated and assigned to ships in accordance with their ability and the requirements of the Naval Service. Heretofore graduates of the college have attained the grade of Ensign soon after reporting for duty.

Other Courses

During the continuance of the present war, the University will establish other courses of Military and Naval Training to meet the requirements of the War and Navy Departments in the service of the United States.

Training Camps for Graduates

The War Department does not desire that former graduates of this college shall be called to military service prior to their selection under the draft. When the proper time arrives they are instructed to communicate with the Commandant at the University, who will supply them with the required information for admission to the Officers' Training Camps or special assignment in the military service to meet the needs of all individual cases.

Course of Training for an Infantry Unit of the Senior Division

The following is the course of study outlined in General Orders No. 49 for training of members of the Reserve Officers' Training Corps:

1. **Military Art.** *a. Practical*—Physical drill (Manual of Physical Training—Koehler); Infantry drill (U. S. Infantry Drill Regulations), to include the School of the Soldier, Squad and Company, close and extended order. Preliminary instruction sighting position and aiming drills, gallery practice, nomenclature and care of rifle and equipment. *b. Theoretical*—Theory of target practice, individual and collective (use of landscape targets made up by U. S. Military Disciplinary Barracks, Fort Leavenworth, Kans.); military organization (Tables of Organization); map reading; service of security; personal hygiene. *Three hours a week.*

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

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

4. **Military Art.** *a. Practical*—The same as course 2a; signaling; semaphore and flag; first-aid. Work with sand table by constructing to scale intrenchments, field works, obstacles, bridges, etc. Comparison of ground forms (constructed to scale) with terrain as represented on map; range practice. *b. Theoretical*—Lectures, military history (recent); service of information and security (illustrated by small tactical problems in patrolling, advance guards, rear guards, flank guards, trench and mine warfare, orders, messages and camping expediments); marches and camps (Field Service Regulations and Infantry Drill Regulations). *Three hours a week.*

5. **Military Art.** *a. Practical*—Duties consistent with rank as cadet officers or non-commissioned officers in connection with the practical work and exercises laid down for the unit or units. Military sketching.

b. Theoretical—Minor tactics; field orders (studies in minor tactics, United States School of the Line); map maneuvers. Company administration, general principles (papers and returns). Military history. *Five hours a week.*

6. Military Art. *a. Practical*—Same as course 5a. Military sketching. *b. Theoretical*—Minor tactics (continued); map maneuvers. Elements of international law. Property accountability; method of obtaining supplies and equipment (Army Regulations). *Five hours a week.*

7. Military Art. *a. Practical*—Duties consistent with rank as cadet officers or non-commissioned officers in connection with the practical work and exercises scheduled for the unit or units. Military sketching. *b. Theoretical*—Tactical problems, small forces, all arms combined; map maneuvers; court-martial proceedings (Manual for Courts-martial). International relations of America from discovery to present day; gradual growth of principles of international law embodied in American diplomacy, legislation, and treaties. Lectures: psychology of war and kindred subjects; general principles of strategy only, planned to show the intimate relationship between the statesman and the soldier (not to exceed 5 lectures). *Five hours a week.*

8. Military Art. *a. Practical*—Same as course 7a. *b. Theoretical*—Tactical problems continued; map maneuvers, rifle in war, lectures on military history and policy. *Five hours a week.*

It is presumed that each member of the Reserve Officers' Training Corps during his academic course has taken one course or equivalent credit in either French, German, or Spanish.

MUSIC

Professor Lampert, Mr. Cover.

1. Sight Singing. This course develops speed in reading notes and skill in their vocal production, and is very helpful for *all* forms of musical activities. *One hour a week. First semester.*

2. Sight Singing. Continuation of Course 1. *One hour a week. Second semester.*

3. Musical Appreciation. The object of this course is to provide material and methods for teaching history and appreciation of music in schools, and to enable all even tho unable to play an instrument to become acquainted with the art and really enjoy good music when they hear it. *One hour a week. First semester.*

4. Musical Appreciation. Continuation of Course 3. *One hour a week. Second semester.*

5. Harmony. The aim of this course is to give practice in chord combinations and writing of melodies. This work forms the basis for the study of musical theory in the public schools. *Two hours a week. First semester.*

6. Harmony. Continuation of Course 5. *Two hours a week. Second semester.*

7. Public School Music. This is the first part of a two years' course for those who wish to fit themselves for the supervision of music in the public schools. For detailed information see the Head of the department.

8. Public School Music. Continuation of Course 7. For information see the Head of the department.

9. General History of Music. This course is designed to cover the historical evolution of music and to develop an appreciation of its wide significance as an educative factor. *Two hours a week. First semester.*

10. General History of Music. Continuation of Course 9. *Two hours a week. Second semester.*

11. Band. The Band is open to all students possessing the necessary qualifications. The Band represents a very important musical activity at the University. *Three hours a week. First semester.*

12. Band. Continuation of Course 11. *Three hours a week. Second semester.*

13. Orchestra. Membership is open to the entire student body, including graduate students provided they possess sufficient knowledge of any orchestral instrument. Concerts are given after programs have been prepared in a satisfactory manner. *Two hours a week. First semester.*

14. Orchestra. Continuation of Course 13. *Two hours a week. Second semester.*

15. Choral Singing. Selections for male, female, and mixed voices will be studied for public performance. Open only to those eligible for membership in the men's or women's Glee Club. *Two hours a week. First semester.*

16. Choral Singing. Continuation of Course 15. *Two hours a week. Second semester.*

17. Community Music. This course emphasizes the social value of music, the relation of the supervisor to the musical activities of the community, organizing and conducting choral societies, orchestras, bands, productions of operettas, cantatas and oratorios. *First semester.*

18. Community Music. Continuation of Course 17. *Second semester.*

PHILOSOPHY

Professor Glanville Terrell.

1. Elementary Course. Open to freshmen. The purpose of this course is to serve as an introduction to Philosophy, to teach the student in broad outline the nature of the study and the problems involved. These problems will involve a study of human nature, the extent and force of human understanding, the nature of the ideas we employ, and the operations we perform in our reasonings. The relation of philosophy to morals and conduct, to evolution and the sciences in general will also receive attention. One of the aims of the course will be to lay the foundation of a more specialized study for those students who may develop a taste for the subject. *Three hours a week. Thruout the year.* Professor TERRELL.

2. History of Philosophy. Open to juniors and seniors, and sophmores who have had Philosophy 1. This course will include the history and a discussion of the chief philosophic systems and theories from the Ionian School 600 B. C. to the present time. The first semester will be devoted to Greek and medieval philosophy, the second to modern philisophy. *Three hours a week. Thruout the year.* Professor TERRELL.

3. Advanced Philosophy. This course is for students who wish to specialize in Philosophy, and presupposes course 1 or 2. The first semester will be given to the study of Plato and Aristotle, the second to Locke and Hume. *Three hours a week. Thruout the year.* Professor TERRELL.

4. Logic. Deductive and Inductive. Open to juniors and seniors and sophomores who have had Philosophy 1. In deductive logic the syllogism as a method of reasoning and its application to the detection of fallacies in argument will be chiefly studied. Inductive logic will be illustrated largely by its application to scientific investigation. *Three hours a week. First semester.* Professor TERRELL.

5. Ethics. Open to juniors, seniors and sophomores who have had Philosophy. A study and discussion of the good life; what is the good life; right and wrong, origin of morals, origin and nature of conscience, standards of value, practical rules of conduct and good citizenship. *Three hours a week. Second semester.* Professor TERRELL.

PHYSICAL EDUCATION

Professor Boles, Professor Gill, Mr. Park, Mrs. Stout, Miss Brown.

For Men

Aims

The work of the department will be conducted with the following aims in view: 1. To develop or improve organic vitality; 2. To acquire and maintain a correct posture; 3. To correct physical deformities wherever possible; 4. To establish co-ordination, grace of motion, reasonable muscular development and bodily skill; 5. To train the faculties of attention, judgment, precision, discrimination and courage; 6. To develop the "habit of exercise;" 7. To promulgate personal hygiene and domestic sanitation; 8. To provide incentive and proper control of systematic physical recreation to counteract the sedentary tendencies of college life; 9. To cultivate high ideals, true sportsmanship and efficiency in management of athletics in the state; 10. To provide preliminary training for physical educators, directors of recreation systems and coaches of athletics.

Equipment

The men's gymnasium is located in Alumni Hall, a three-story building with right and left wings. The structure is of presst brick and Bedford stone, 100x157 feet. The first floor contains the Armory with an unobstructed floor, used as a drill hall during bad weather, the offices of the Commandant and of the Physical Director for Men. The gymnasium, with a floor space 48x95 feet, contains all the apparatus and necessary equipment for carrying on the work of the department. There is an overhead canvas covered running-track of approximately twenty-four laps to the mile. The second floor contains the Y. M. C. A. rooms and the Trustees' room. The third floor contains the two literary society halls for men and the Alumni Hall. In the basement of the left wing are the baths, lockers, washstands, closets and swimming pool. The heating plant is located in the basement.

Requirements

Physical training is required of all students in the University for the first year, running thru five months of the year, two periods a week, short course, and special students.

Students will not be excused from the work in physical education, unless an equivalent subject is substituted, or upon presentation of satisfactory evidence of an equal amount of outdoor activities, or evidences of physical deformities prohibiting gymnastic exercises, or

completion of similar prescribed courses in other universities, or upon written recommendation of a physician subject to change at the discretion of the medical examiner.

The required work is designed to give the student a higher degree of vitality, more perfect physical development, greater mental efficiency and muscular co-ordination.

Credits to the extent of two units must be secured in physical education by the completion of the regular courses. The factors determining these credits are: regular attendance, effort, efficiency, the attainment of certain standards in athletics and gymnastics, and knowledge of the principles of hygiene.

Students must provide themselves with suitable clothing for indoor and outdoor activities. The regulation suit consists of white sleeveless shirt, running pants, supporter and rubber soled shoes.

The locker fee is one dollar a year for steel lockers and fifty cents for wooden lockers. A deposit fee of twenty-five cents is charged for those using towels. This is required for all freshmen and sophomores.

Medical and Physical Examination

Upon entrance, every student is subject to a clinical examination by the Medical Adviser, to ascertain his fitness to continue in the work of the University. The findings of the adviser are furnished the Department of Physical Education, and modifications in the form of exercises are made accordingly. Tests of the vision, hearing and color scheme, and a search for nasal, throat or teeth deviations form part of this examination. It is the idea of the department to outline, as far as possible, a course of exercise to suit the individual case, such exercises being prescribed according to the student's physical condition, and directed toward elevating his motor efficiency as shown by his muscular control, endurance, standing position and accuracy of movement. No student is allowed to participate in any form of competitive games or difficult exercise, unless he be physically capable of such activity as determined by his examination. All members of the university teams are subject to the supervision of the department and every precaution is taken to prevent over-training, exhaustion or permanent injury. Each member must present to the director a written permit from the Medical Adviser before reporting for practice with the teams.

All second year men of the Colleges of Agriculture, Engineering, and Arts and Science will be assigned to class periods by the committees of those colleges. All freshmen are assigned to periods in

the same manner as to other class periods. All assignments must be completed by October 1, 1918.

Courses in Educational Athletics and Physical Education

1. Athletics. This course is intended for all students who expect to interest themselves in the coaching of athletic teams. It covers all forms of sports, including foot ball, base ball, basket ball and track. The course is both theoretical and practical and is founded on the fundamentals of teaching, coaching, methods of training, diet, etc. This course is handled entirely thru lectures and practice. It is open to all students of the University who have met the entrance requirements. *Two hours a week. Thruout the year, each sport in season.* Mr. BOLES.

2. Physical Education. This course is intended to prepare students for giving instruction in gymnastics. Physical education, theoretical and practical, is emphasized. *Two hours a week. Thruout the year.* Mr. BOLES.

For Women

Aims

The aims of physical education are educational and hygienic: first, to stimulate the functioning of all bodily organs, and to correct defects of the body external; second, to develop the mental faculties of attention, discrimination, judgment, reaction time and self-control; third, to develop character by the creation of high ideals.

Gymnastics

Students are required to do two hours' work each week in the gymnasium. Tuesdays and Fridays are devoted to the work. On Tuesdays, Thursdays and Saturdays corrective or medical gymnastics and electric vibration treatments are given to special cases, depending upon the medical charts made of students upon entrance to the University. Physical education is compulsory for all young women during two years, and a part of the curriculum is graded as other studies. Pupils must have an examination of heart and lungs by the University physician, and an anthropometric examination by the professor in charge before entering the work.

No courses looking toward the theoretical side of gymnastics are offered. Excellent work in anatomy and physiology is given by Dr. Pryor, but these courses are not given in relation to special exercises. To learn the medical theory that underlies physical training the student must attend a school of gymnastics and take a two or three

years' course of study in relation to specific exercises. The physical director who teaches exercises without knowing the body is a menace to the community.

PHYSICS

Professor Webb, Professor Pence, Associate Professor Killebrew, Mr. States, Mr. Reid.

The Department of Physics occupies the southern half of the new three-story brick building, planned and constructed to meet the needs of this department and the College of Civil Enginering.

On the first floor are the main office, two large laboratories for advanced work in general physics and in heat, a small laboratory, an apparatus room, photographic rooms, and a study room for girls.

On the second floor are situated a large laboratory for elementary work, a reading room, the main apparatus room, and the principal lecture room. The lecture-table is supplied with water, gas, direct and alternating currents, vacuum and compresst air. A projection outfit has been installed for picture projection and to show refraction, diffraction, interference, polarization, spectra, etc. Stone shelves project externally from some of the windows of this room and other rooms in the building to receive instruments for experimentation with sunlight.

On the third floor are two rooms for lectures and recitations, an office, an optic room, an apparatus room, a store-room, and a photographic room.

In the basement, as yet partly unfinished, is situated a laboratory for electrical measurements, finished with concrete floors, and brick piers, giving stability for precision measurements. Also a photometric laboratory, a battery room and a work shop. At present the shop contains the experimental switchboard, a motor (7½ h. p.) generator (5 kw. 125 v.), a smaller motor-generator, tanks for vacuum and compresst air, a compression and exhaust pump driven by an electric motor. A two-wire circuit and a three-wire circuit (partly installed) will extend from the switchboard thru pipe conduits to every work room. The building has a private telephone system and a hoist for apparatus.

1. General Elementary Physics. For students who have had no previous training in physics. Elective for Arts students. Course covers the elementary theory of mechanics, sound and heat, particular attention being given to the solution of appropriate problems. Each student is required to perform and report on 25 laboratory exercises.

Lectures and recitations four hours, laboratory two hours a week. First semester. Associate Professor KILLEBREW, Mr. REID.

1a. General College Physics. For sophomores in Science. Prerequisites, one year of high school physics, Mathematics 2 and 3, Physics 3 or 4. Should be accompanied by Physics 5a. Course covers the general theory of mechanics, sound and heat, including the solution of many problems. *Lectures and recitations, three hours a week. First semester.* Associate Professor KILLEBREW, Mr. REID.

1b. General College Physics. For sophomore enginering students. Prerequisites, same as 1a. Should be accompanied by 5b. Lectures, recitations, and problems in mechanics, sound, and heat, especial attention being given to mathematical deductions. *Four hours a week. First semester.* Associate Professor KILLEBREW, Mr. STATES.

1c. Household Physics. For sophomores in Home Economics. No previous training in physics required. *Lectures and recitations, three hours a week. Second semester.* Professor PENCE.

2. General Elementary Physics. This is a continuation of Physics 1. Course covers the elementary theory of light, electricity, and magnetism with problems. Each student is required to perform and report on 25 additional laboratory exercises. *Lectures and recitations four hours, laboratory two hours a week. Second semester.* Associate Professor KILLEBREW, Mr. REID.

2a. General College Physics. This is a continuation of 1a. Should be accompanied by Physics 6a. Course covers the general theory of electricity and magnetism, and light. *Lectures and recitations three hours a week. Second semester.* Associate Professor KILLEBREW, Mr. REID.

2b. General College Physics. This is a continuation of 1b. Should be accompanied by Physics 6b. Lectures, recitations and problems in electricity and magnetism and light. *Fours hours a week. Second semester.* Associate Professor KILLEBREW, Mr. STATES.

3. Elementary Physical Measurement. For freshmen in Science and Civil Engineering. Laboratory work accompanied by recitation periods. Departmental notes, used as laboratory manual. *Four hours laboratory a week. First semester.* Professor PENCE, Mr. REID.

4. Elementary Physical Measurements. For freshmen in Mining and Mechanical Engineering. Laboratory work accompanied by recitation periods. Departmental notes used as laboratory manual. *Four hours laboratory a week. Second semester.* Professor PENCE, Mr. REID.

5a. Measurements in Mechanics and Heat. For sophomores in Science. Prerequisites, Physics 3 or 4 and credit in or the simultaneous study of Physics 1a. *Four hours laboratory a week. First semester.* Associate Professor KILLEBREW, Mr. STATES.

5b. Measurements in Mechanics and Heat. For sophomore engineering students. Prerequisites, Physics 3 or 4 and credit in or the simultaneous study of Physics 1b. Laboratory work, accompanied by recitation periods; special attention given to appropriate problems. *Laboratory four hours, recitation one hour a week. First semester.* Associate Professor KILLEBREW, Mr. STATES.

6a. Measurements in Electricity, Sound and Light. For sophomores in Science. Prerequisites, Physics 3 or 4, and credit in or the simultaneous study of Physics 2a. *Four hours laboratory a week. Second semester.* Associate Professor KILLEBREW, Mr. STATES.

6b. Measurements in Electricity, Sound and Light. For sophomore engineering students. Prerequisites, Physics 3 and 4, and credit in or the simultaneous study of Physics 2b. Laboratory work, accompanied by recitation periods, special attention being given to appropriate problems. *Laboratory four hours, recitation one hour a week. Second semester.* Associate Professor KILLEBREW, Mr. STATES.

For Graduates and Advanced Students

Courses in *Theory of Heat*, *Theory of Light*, *Electricity* and *Magnetism*, *Theoretical Mechanics*, *Physical Optics*, and *Measurements in Optics* will be offered on demand.

PSYCHOLOGY

Professor Tigert, Assistant Professor Cornell.

1. Elementary Psychology. A beginning course covering the fundamental facts and laws of normal human consciousness. Lectures, class demonstrations, experiments. Prerequisite, one year college work. *Three hours a week. One semester.*

2. Advanced Psychology. A thoro course covering the whole field of general psychology, all the phenomena and conditions of mental life. Lectures, laboratory. Prerequisite, Psychology 1. *Three hours a week. Thruout the year.*

3. Comparative Psychology. A study of the genesis and development of consciousness thru the various animal organisms up to and including man, or psychology from the evolutionary standpoint. Lectures,

laboratory. Prerequisite, Psychology 1. *Three hours a week. Thruout the year.*

4. **History of Psychology.** A complete history of psychological systems from Plato to the present. Lectures, readings in the sources, reports. Prerequisite, one year in college work. *Three hours a week. One semester.*

5. **Social Psychology.** A study of the social consciousness as displayed in various groups, etc. Treated both in a general way and from a genetic standpoint. Lectures, readings, reports. Prerequisite, one course in psychology or sociology. *Three hours a week. One semester.*

6. **Abnormal Psychology.** A course covering the phenomena of dreams, hypnotism, spiritualism, deception, etc. Prerequisite, Psychology 1. *Three hours a week. One semester.*

7. **Psychological Seminar.** A discussion of the main problem of psychology in their present day application. Open to graduate students in Psychology, Education, and Philosophy. *One hour a week. Thruout the year.*

ROMANCE LANGUAGES AND LITERATURES

Professor Zembrod, Miss Barrett, Miss Castro.

1a. **Elementary French.** *First half. Three hours a week. First semester. Repeated second semester.* Miss BARRETT.

1b. **Elementary French.** *Second half. Three hours a week. First semester. Repeated second semester.* Miss BARRETT.

2. **French Reading.** Grammar, composition, translation. *Three hours a week. Thruout the year.* Miss BARRETT.

3. **French Novel and Drama.** Advanced Composition. *Three hours a week. Thruout the year.* Professor ZEMBROD.

4. **History of French Literature of the Sevententh Century.** Moliere, Corneille, Racine. *Three hours a week. Thruout the year.* Professor ZEMBROD.

5a. **Elementary Spanish.** *First half. Three hours a week. First semester. Repeated second semester.* Professor ZEMBROD.

5b. **Elementary Spanish.** *Second half. Three hours a week. First semester. Repeated second semester.* Professor ZEMBROD.

6. **Advanced Spanish.** Composition, Novel and Drama. *Three hours a week. Thruout the year.* Professor ZEMBROD.

7. **Elementary Italian.** *Three hours a week. Thruout the year.* Professor ZEMBROD.

ZOOLOGY

Professor Funkhouser, Assistant Professor Vansell.

The work of the department is intended, first, to acquaint the students with the fundamentals of the subject, including a knowledge of animal structure, transformations and the life-histories; and second, to give a detailed knowledge of important predatory and parasitic species and of remedies for their injuries. While lecture, recitation and required reading are employed as they may seem desirable, the basis of all work is an actual study of animals, both in the laboratory and in the field.

The laboratories and lecture room of this department occupy the first floor of the Science Building and are provided with desks, microscopes, microtomes, paraffin baths, incubators, aquaria, lantern, collections, and other apparatus and materials for the proper handling of the subject.

Opportunities for field work are afforded by excursions, of which several are generally arranged under the charge of instructors of this and related departments.

The following courses of study are provided, some of them having relation to agriculture as a major, others to medicine, still others to the general science courses of the University.

1. **General Entomology.** This is required of students taking the four-year course in agriculture, and serves as an introduction to the subject for other students intending to do special work in entomology. Types representing all the important orders of insects are studied and comparisons made between them to bring out and fix the characters of the groups represented. Wherever practicable the types chosen are of economic importance. With each type are studied other insects of the same order, these being also insects of economic interest. Methods of treating injurious insects are presented by lectures and text. *Four hours a week. Thruout the year.* Professor FUNKHOUSER, Assistant Professor VANSELL.

3. **Medical Entomology.** Designed for students taking courses in medicine. A foundation is laid in insect morphology, including a knowledge of insect structure and of the characters of important groups. In the study of types, special attention is given to species such as mosquitoes, house-flies and fleas, known to be concerned in the spread of disease. *Four hours a week. Second semester.* Professor FUNKHOUSER, Assistant Professor VANSELL.

4. **Advanced Entomology.** This is intended for students who specialize in the subject, and for those engaged in theses work. It is

varied to suit the objects of students undertaking the work, and may be largely economic, ecological, anatomical, or systematic in its bearing. *Lectures two hours a week; laboratory six hours a week. Thruout the year.* Professor FUNKHOUSER, Assistant Professor VANSELL.

8. Systematic Entomology and Entomological Literature. Prerequisite, Course 4. *Lectures one hour a week; laboratory two hours a week. First semester.* Professor FUNKHOUSER, Assistant Professor VANSELL.

9. General Zoology. A general course in Zoology, including lectures, recitations and laboratory work. *Four hours a week. Thruout the year.* Professor FUNKHOUSER.

12. Advanced Zoology. The student studies the form and structure of typical representatives of each of the sub-kingdoms, and is aided by lectures on the systematic position, habits and development. At least one all-day field excursion is required. *Lectures two hours a week; laboratory four hours a week. Thruout the year.* Professor FUNKHOUSER, Assistant Professor VANSELL.

13. Osteology. The course is a study of the comparative osteology of vertebrates, but is restricted largely to the mammalia. Skeletons are prepared by each student, and where time permits may be mounted. *Lectures two hours a week; laboratory four hours a week. Second semester.* Professor FUNKHOUSER.

14. Embryology. This course consists of lectures on the general facts and principles of embryology, accompanied by practical work on the embryonic development of such vertebrates as the frog and the chick. *Lectures two hours a week; laboratory four hours a week. Second semester.* Professor FUNKHOUSER, Assistant Professor VANSELL.

15. Biology. The general principles. Prerequisites, Course 10 or 12. *Four hours a week. Thruout the year.* Professor FUNKHOUSER, Assistant Professor VANSELL.

COLLEGE OF AGRICULTURE

OFFICERS OF ADMINISTRATION AND INSTRUCTION

FRANK LEROND MCVEY, PH. D., LL. D.
President of the University

THOMAS P. COOPER, B. S. IN AGR.
Dean of the College of Agriculture,
Director of the Experiment Station

Professors

ANDERSON, WALTER S., M. A.
Professor of Genetics, Assistant Animal Husbandman in the Experiment Station

BROWN, LINWOOD ARNOLD, PHARM. D., PH. C., F. A. A.
Drug Chemist, Food and Drug Department in the Experiment Station

BRYANT, THOMSON RIPLEY, B. S. in AGR.
Assistant to the Dean, Assistant Director of Agricultural Extension

CURTIS, HENRY E., M. S.
Head of the Fertilizer Department in the Experiment Station

GARMAN, HARRISON, D. SC.
Professor of Entomology, Head of the Department of Entomology and Botany in the Experiment Station

GOOD, EDWIN STANTON, M. S.
Professor of Animal Husbandry, Head of the Department of Animal Husbandry in the Experiment Station

HEALY, DANIEL JOSEPH, M. D., C. M.
Professor of Bacteriology, Bacteriologist, Department of Chemistry in the Experiment Station

HOOPER, JOHN JULIAN, M. S. A.
Professor of Animal Husbandry, Head of the Department of Animal Husbandry in the Experiment Station

HUMPHREY, JOHN R.
Professor of Marketing, Head of the Department of Markets in the Experiment Station

LABACH, JAMES OSCAR, M. S.
Head of the Food and Drug Department in the Experiment Station

MATHEWS, CLARENCE WENTWORTH, B. S.
Professor of Horticulture, Head of the Department of Horticulture in the Experiment Station

MAXSON, RALPH NELSON, B. S., PH. D.
Professor of Inorganic Chemistry

MELCHER, COLUMBUS RUDOLPH, A. M.
Professor of German Languages and Literatures, Head of the Department

MUTCHLER, FRED, PH. D.
Director of Agricultural Extension

PETER, ALFRED MEREDITH, D. SC., F. A. A.
Professor of Soil Technology, Head of the Department of Chemistry in the Experiment Station

PONTIUS, ROBERT LORING, V. S.
Professor of Animal Pathology, Veterinarian in the Experiment Station

PRYOR, JOSEPH WILLIAM, M. D.
Professor of Anatomy and Physiology, Head of the Department

ROBERTS, GEORGE, M. S.
Professor of Agronomy, Head of the Department of Agronomy in the Experiment Station

*SWEENY, MARY E., A. B., M. S., M. A.
Associate Professor of Home Economics, Head of the Department

TURNER, JOE DARBIN, B. PED., LL. B.
Head of the Department of Commercial Feeding Stuffs in the Experiment Station

TERRELL, DANIEL VOIERS, C. E.
Acting Dean of the College of Civil Engineering, Professor of Highway Engineering

---

*On leave of absence.

TUTTLE, FRANKLIN ELLIOTT, M. A., PH. D.
Professor of Chemistry, Head of the Department

ZEMBROD, ALFRED CHARLES, M. A.
Professor of Romance Languages, Head of the Department

Associate Professors

AVERITT, SAXE DABNEY, M. S.
Chemist, Department of Chemistry in the Experiment Station

*BLUMENTHAL, PHILIP LEE, PH. D.
Chemist, Department of Chemistry in the Experiment Station

BUCKNER, GARRETT DAVIS, PH. D.
Chemist, Department of Chemistry in the Experiment Station

DIDLAKE, MARY LEGRANDE, M. S.
Assistant Entomologist and Botanist in the Experiment Station

*HAMILTON, ANNA JACKSON, M. A.
Dean of Women, Associate Professor of English

JEWETT, HOWARD HERMAN, M. A.
Research Assistant, Department of Entomology and Botany in the Experiment Station

KILLEBREW, CINCINNATUS DECATUR, M. S.
Associate Professor of Physics

KINNEY, EDMUND J., B. S. in AGR.
Associate Professor of Agronomy, Assistant Agronomist in the Experiment Station

MCFARLIN, JOHN WILLIAMS, B. S.
Chief Food Inspector, Food and Drug Department in the Experiment Station

MCHARGUE, JAMES SPENCER, M. S.
Chemist, Department of Chemistry in the Experiment Station

MUSSELMAN, S. FOREST, V. S.
State Veterinarian

NICHOLLS, WILLIAM DURRETT, M. S. A.
Associate Professor of Farm Management, Head of the Department of Farm Management in the Experiment Station

---

*On leave of absence, 1918-19.

PINNELL, WALTER REDMON, M. D.
Bacteriologist, Food and Drug Department in the Experiment Station

*RODES, WILLIAM, M. S.
Chemist, Fertilizer Department in the Experiment Station

SHEDD, OLIVER MARCH, M. S.
Chemist, Department of Chemistry in the Experiment Station

SPEARS, HOWELL DAVIS, M. S.
Chemist, Department of Commercial Feeding Stuffs in the Experiment Station

VAUGHN, ERLE CLEVELAND, A. B.
Assistant, Department of Entomology and Botany in the Experiment Station

Assistant Professors

†ADAMS, CARROLL SIDNEY, B. S.
Assistant Professor of Horticulture, Assistant in Horticulture in the Experiment Station

‡BUCKMAN, RUBY MILDRED, A. B., B. S.
Assistant Professor of Household Arts

BUTT, WILLIAM E., A. B., M. A.
Assistant Professor of History and Political Science

EWAN, AVERY EARLY, B. S. in AGR.
Superintendent of Experiment Fields, Department of Agronomy in the Experiment Station

KARRAKER, PERRY ELMER, M. A.
Assistant Professor of Soils, Assistant Agronomist in the Experiment Station

MCFARLAND, FRANK THEODORE, B. S. in AGR.
Assistant Professor of Botany

NISWONGER, HOLLY RAY, M. A.
Specialist in Horticultural Extension

OLNEY, ALBERT JACKSON, B. S.
Assistant Professor of Horticulture, Assistant in Horticulture in the Experiment Station

---

* On leave of absence.
†Resigned December, 1917.
‡ Resigned June, 1918.

ROE, MABEL L., PH. D.
Assistant Plant Pathologist in the Experiment Station

VANSELL, GEORGE HAYMAKER, A. B.
Assistant Professor of Entomology and Zoology

*YAXIS, T. GEORGE, M. S. A.
Assistant Professor of Animal Husbandry, Assistant Animal Husbandman in the Experiment Station

Instructors and Assistants

BACON, PHILIP E.
Tester of Dairy Herds, Department of Animal Husbandry in the Experiment Station

†BRUECKNER, ARTHUR LOUIS, B. S. in AGR.
Assistant in Hog Cholera Serum Administration in the Experiment Station

BURGEVIN, LESLIE, A. B., M. A.
Instructor in English

†CREGOR, N. MINTON, B. S. in AGR.
Inspector in Food and Drug Department in the Experiment Station

GOTT, EDWIN JOSEPH, B. S. in AGR.
Instructor in Bacteriology, Assistant Bacteriologist in the Experiment Station.

HARDMAN, ALFRED FOSTER, A. B.
Instructor in Chemistry

HATHAWAY, CARRIE LEE,
Seed Analyst, Department of Entomology, Botany in the Experiment Station

**HIBBERD, S. LEVIS, B. S. in AGR.
Instructor in the Department of Agronomy, Assistant in Agronomy in the Experiment Station

HUTSON, JOHN B., B. S. in AGR.
Instructor in the Department of Farm Management, Assistant in Farm Management in the Experiment Station

---

*Resigned June, 1918.
†On leave of absence.
**Resigned May, 1918.

ILER, W. D.,
Assistant in the Department of Chemistry in the Experiment Station

*INGRAM, ELMER
Inspector in the Feed Department in the Experiment Station

*JONES, ROGER W.,
Inspector in Fertilizer Department in the Experiment Station

*LEE, OWEN SCOTT, B. S.
Assistant Chemist, Fertilizer Department in the Experiment Station

MARTIN, J. HOLMES, B. S. in AGR.
Instructor in Poultry, Assistant in Poultry in the Department of Animal Husbandry in the Experiment Station

MITCHELL, JOHN RICHARD, A. B.
Instructor in Chemistry

NUTTER, JOHN WILLIAM,
Instructor in Dairy Laboratory, Superintendent of Dairy Farm, Department of Animal Husbandry in the Experiment Station

PERRY, HOMER, B. S. in AGR.
Seed Analyst, Department of Entomology and Botany in the Experiment Station

PERRY, MARGARET J.
Seed Analyst, Department of Entomology and Botany in the Experiment Station

PORTER, CHILTON SCOTT, A. B., PH. G.
Drug Inspector, Food and Drug Department in the Experiment Station

PRICE, JOHN T., A. B., A. M.
Instructor in English

PURNELL, LINDA, B. S.
Instructor in the Department of Home Economics

ROACH, G. M.
Inspector in the Food and Drug Department in the Experiment Station

---

* On leave of absence

SCOTT, CHARLES HODGE, A. B.
Instructor in Geology

SIMMONS, WILLIAM HERBERT, V. S.
Inspector, Food and Drug Department in the Experiment Station

STEWART, ALEX
Laboratory Assistant in Poultry in the Experiment Station

TERRELL, WILLIAM GRANVILLE
Food Inspector, Food and Drug Department in the Experiment Station

WHITE, CLARA WAYLAND
Instructor in the Department of Home Economics

EXPERIMENT STATION STAFF

COOPER, THOMAS, B. S. in AGR.
Director

ANDERSON, WALTER S., M. A.
Assistant in Horse Husbandry

AVERITT, SAXE DABNEY, M. S.
Chemist

BACON, PHILIP E.
Milk Tester

*BLUMENTHAL, PHILIP LEE, PH. D.
Chemist

BROWN, LINWOOD ARNOLD, PHARM. D., PH. C., F. A. A.
Drug Chemist

BRUECKNER, ARTHUR LOUIS, B. S. in AGR.
Assistant in Veterinary Science

BUCKNER, GARRETT DAVIS, PH. D.
Chemist

CREGOR, N. MINTON, B. S. IN AGR.
Inspector, Food and Drug Department

CURTIS, HENRY ERNEST, M. S.
Head of the Department of Fertilizer Control

DIDLAKE, MARY LEGRANDE, M. S.
Assistant Entomologist and Botanist

* On leave of absence

EWAN, AVERY EARLY, B. S. in AGR.
Superintendent Experiment Fields

GARMAN, HARRISON, D. SC.
Head of the Department of Entomology and Botany

GOOD, EDWIN STANTON, M. S.
Chairman, Animal Husbandry Group, Head of the Department of Animal Husbandry (Beef Cattle, Sheep and Swine)

GOTT, EDWIN JOSEPH, B. S. in AGR.
Assistant Bacteriologist

HATHAWAY, CARRIE LEE
Seed Analyst

HEALY, DANIEL JOSEPH, M. D., C. M.
Bacteriologist

HIBBERD, S. LEVIS, B. S. IN AGR.
Assistant in Agronomy

HOOPER, JOHN JULIAN, M. S. A.
Head of the Department of Animal Husbandry, (Dairy Cattle, Horses and Poultry)

HUMPHREY, JOHN R.
Head of the Department of Markets

HUTSON, JOHN B., B. S. IN AGR.
Assistant in Farm Management

ILER, WAYNE DICKERSON
Assistant Chemist

*INGRAM, ELMER
Inspector, Feeds and Fertilizers

JEWETT, HOWARD HERMAN, M. A.
Research Assistant Entomologist and Botanist

*JONES, ROGER W.
Inspector, Feeds and Fertilizers

KARRAKER, PERRY ELMER, M. A.
Assistant Agronomist

KINNEY, EDMUND J., B. S. in AGR.
Assistant Agronomist

---

*On leave of absence.

LaBach, James Oscar, M. S.
Head of the Food and Drug Department

*Lee, Owen Scott, B. S.
Assistant Chemist, Department of Fertilizer Control

Martin, James Holmes, B. S. in Agr.
Assistant in Poultry

Mathews, Clarence Wentworth, B. S.
Head of the Department of Horticulture

McFarlin, John William, B. S.
Chief Food Inspector, Food and Drug Department

McHargue, James Spencer, M. S.
Chemist

Nicholls, William Durrett, M. S. A.
Head of the Department of Farm Management

Nutter, John William
Dairyman

Olney, Albert Jackson, B. S.
Assistant Horticulturist

Perry, Homer, B. S. in Agr.
Seed Analyst

Perry, Margaret J.
Seed Analyst

Peter, Alfred Meredith, D. Sc., F. A. A.
Head of the Department of Chemistry

Pinnell, Walter Redmon, M. D.
Bacteriologist, Food and Drug Department

Pontius, Robert Loring, V. S.
Acting Head of the Department of Veterinary Science

Porter, Chilton Scott, A. B., Ph. G.
Drug Inspector, Food and Drug Department

Roach, George Malcolm
Inspector, Food and Drug Department

Roberts, George, M. S.
Head of the Department of Agronomy

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*On leave of absence.

*Rodes, William, M. S.
Chemist, Department of Fertilizer Control

Shedd, Oliver March, M. S.
Chemist

Simmons, William Herbert, V. S.
Inspector, Food and Drug Department

Spears, Howell Davis, M. S.
Chemist, Department of Feed Control

Terrell, Willis Granville
Food Inspector, Food and Drug Department

Turner, Job Darbin, B. Ped., LL. B.
Head of the Department of Feed Control

Vaughn, Erle, A. B.
Assistant Entomologist and Botanist

Yaxis, T. George, M. S. A.
Assistant in Animal Husbandry

AGRICULTURAL EXTENSION STAFF

Mutchler, Fred, Ph. D.	Lexington, Ky.
Director	
Bryant, Thompson Ripley, B. S. in Agr.	Lexington, Ky.
Assistant Director	
Morgan, Geoffrey	Richmond, Ky.
State Agent	
Hughes, Morgan O.	Bowling Green, Ky.
Assistant State Agent	
Collins, Thomas H.	Richmond, Ky.
District Agent	
Merriman, Francis E.	Louisville, Ky.
District Agent	
Wyatt, George T.	Hopkinsville, Ky.
District Agent	
Nelson, Bolling G.	Hopkinsville, Ky.
District Agent	
Roberts, George, M. S.	Lexington, Ky.
Specialist in Agronomy	

*On leave of absence.

KINNEY, EDMUND J., B. S. IN AGR. — Lexington, Ky.
Supecialist in Agronomy

GOOD, EDWIN STANTON, M. S. — Lexington, Ky.
Live Stock Specialist

KERCHER, OTIS, B. S. IN AGR. — Lexington, Ky.
State Leader Boys' Clubs

ELLIOTT, N. R., B. S. IN AGR. — Lexington, Ky.
Specialist in Horticulture

CHAPIN, ARTHUR S. — Lexington, Ky.
Poultry Clubs

SLADE, D. D. — Lexington, Ky.
Extension on Poultry Specialist

NICHOLLS, WILLIAM D., M. S. A. — Lexington, Ky.
Farm Management Specialist

HUTSON, JOHN B., B. S. IN AGR. — Lexington, Ky.
Assistant in Farm Management

CRIDER, J. E., JR. — Fredonia, Ky.
Specialist in Dairy Organization

HUMPHREY JOHN R. — Lexington, Ky.
Head of Department of Markets

HANKINS, ORVILLE G., B. S. IN AGR. — Lexington Ky.
Boys' Pig Clubs

FIELD, JOHN U. — Versailles, Ky.
Field Agent

WOLCOTT, HELEN B., M. D. — Lexington, Ky.
State Agent Home Demonstration Work

JONAS, MARGARET D. — Louisville, Ky.
District Agent Home Demonstration Work

DURHAM, MINNIE PARKER — Paducah, Ky.
District Agent Home Demonstration Work

LOGAN, LULIE, A. B. — Lexington, Ky.
District Agent Home Demonstration Work

BARTLETT, MRS. WALLACE M. — Lexington, Ky.
District Agent Home Demonstration Work

SCOVILLE, DOROTHEA, A. B. — Lexington, Ky.
District Agent Home Demonstration Work

GRAVES, MRS. ELOISE, B. S. Lexington, Ky.
District Agent Home Demonstration Work

KIDD, SUSAN C. Lexington, Ky.
Bookkeeper, Extension Division

JONES, ANNA BERRY Lexington, Ky.
Secretary to the Director of Extension

RYAN, MARGARET C. Lexington, Ky.
Secretary, Boys' Club Work, Extension Division

KLAREN, PAULINE Lexington, Ky.
Clerk, Agricultural Extension Division

CRUMBAUGH, LOUISE Lexington, Ky.
Clerk, Agricultural Extension Division

MEIER, KATHERINE Lexington, Ky.
Clerk, Agricultural Extension Division

DRYDEN, DAISY D. Lexington, Ky.
Clerk, Agricultural Extension Division

SNELL, MARY F. Lexington, Ky.
Clerk, Extension Division, Department of Markets

ADAMS, HAZEL I. Lexington, Ky.
Clerk, Extension Division

WILSON, HELEN Lexington, Ky.
Clerk, Extension Division

GALLOWAY, ELIZABETH H. Bowling Green, Ky.
Clerk, Agricultural Extension Division

ALDRIDGE, JESSIE Richmond, Ky.
Secretary to State Agent, Farm Demonstration Work, Extension Division

WIGGINGTON, SETH N. Fredonia, Ky.
Clerk, Agricultural Extension Division

CASWALL, JESSIE F. Lexington, Ky.
Clerk, Agricultural Extension Division

SOMMER, GERTRUDE Louisville, Ky.
Clerk, Agricultural Extension Division

ALLISON, MARIE Hopkinsville, Ky.
Clerk, Agricultural Extension Division

COUNTY AGRICULTURAL AGENTS—1918

NAME	OFFICIAL STATION	COUNTY
A. Flem Baker	Elkton	Todd
Guerney C. Baker	Louisa	Lawrence
Horace P. Bird	Elizabethtown	Hardin
Benjamin F. Boggs	Richmond	Madison
E. F. Boyd, Jr.	Maysville	Mason
W. W. Browder	Hartford	Ohio
William Brusse	Frankfort	Franklin
Elliott Buckner	Versailles	Woodford
Armeil Carman	Clinton	Hickman
Robert S. Clough	Benton	Marshall
O. Restes F. Floyd	Cynthiana	Harrison
P. Millard Frye	Booneville	Owsley
J. C. Gentry	Harrodsburg	Mercer
Angus N. Gordon	Henderson	Henderson
Morris M. Gordon	Fulton	Fulton
Ivan C. Graddy	Greenville	Muhlenberg
Wm. Jefferson Harris	Bardwell	Carlisle
Benjamin A. Hensley	Paintsville	Johnson
Charles L. Hill	Calhoun	McLean
Kibly V. Layton	Eddyville	Lyon
Samuel J. Lowry	La Grange	Oldham
Harry Logan McMurry	Hindman	Knott
Benjamin H. Mitchell	Mayfield	Graves
Wayland Rhoads	Independence	Kenton
John P. Ricketts	Owenton	Owen
Wm. H. Rogers	Lancaster	Garrard
Louis D. Sandlin	Manchester	Clay
Frank G. Sorrells	Madisonville	Hopkins
Robert F. Spence	Berea	Madison
Chas. L. Taylor	Bardstown	Nelson
John T. Taylor	Louisville	Jefferson
Fay O. Townes	Falmouth	Pendleton
William Tye	Barbourville	Knox
Kenna Lee Varney	Pikeville	Pike
James W. Whitehouse	Owensboro	Daviess
Wm. Clark Wilson	Ashland	Boyd
Rodney Whitlow	Russellville	Logan
John W. Worthington	Alexandria	Campbell

County Home Demonstration Agents

NAME	OFFICIAL STATION	COUNTY
Julia N. Amburgey	Whitley City	McCreary
Iris Boggess	Greenville	Muhlenberg
Lilian C. Brashear	Munfordsville	Hart
Roxie Campbell	Williamsburg	Whitley
Mrs. Della Davis	Elizabethtown	Hardin
Lotta C. Faris	Richmond	Madison
Mrs. Anna B. Goddard	Harrodsburg	Mercer
Mrs. Jennie C. Grubbs	Junction City	Boyle
Jacqueline Hall	Cynthiana	Harrison
Mrs. Frances Y. Kline	Smithland	Livingston
Mrs. Ozema L. Lyle	Paducah	McCracken
Fleety Lynn	Kuttawa	Lyon
Maude Maguiar	Franklin	Simpson
Mary E. Means	Hopkinsville	Christian
Marie Roberts	Louisa	Lawrence
Caroline Tracy	Hickman	Fulton
Rheda R. Waddlington	Ashland	Boyd
Mrs. Susan G. Weever	Henderson	Henderson

Urban Home Demonstration Agents

Wilhelmine Dietemeier	Cincinnati, O.
Hester Ann Lowry	Louisville, Ky.
Elsie Spech	Paducah, Ky.
Elizabeth S. Threlkeld	Lexington, Ky.

INTRODUCTORY STATEMENT

Organization

The College of Agriculture includes three divisions:

1. The College. (Resident teaching.)
2. The Experiment Station.
3. Extension Division.

The College

(For entrance requirements see pages 58 and 80; for advanced standing and for admission as special students see page 79. For description of buildings and equipment of the College of Agriculture see "History and Equipment," page 43.)

Requirements for Graduation

To receive the degree of Bachelor of Science in Agriculture, a student must offer 145 credits inclusive of 6 credits in military science and 4 credits in physical training. 93 credits are for prescribed subjects and 52 elective. One-half of the elective credits must be for subjects in the College of Agriculture.

A "credit hour" is defined as one hour of lecture or recitation a week for one semester. Two laboratory hours constitute one credit hour. Military science and physical training are classed as laboratory work. Persons excused from military science or physical training for physical disability, or any other cause, must offer an equivalent number of credits in other subjects.

The amount of work a student will be permitted to carry during the first three semesters is indicated by prescribed work in the outline of courses. For the remainder of the time a maximum of 19 credit hours will be allowed. However, if a student has maintained a standing of A or B during a semester, he may, upon permission of the Committee on Extra Studies, carry additional hours the following semester.

No student will be considered a candidate for graduation who does not present 97 credits (exclusive of military science and physical training) at the beginning of his senior year.

Prior to the senior year all candidates for the degree must satisfy the dean that they have had at least one year's work on the farm or work for two summer vacations of three months each.

No student will be allowed to carry fewer than 12 hours of work.

The maximum and minimum hours for special students are the same as for regular students.

No summer school work is offered in the College of Agriculture.

OUTLINE OF COURSE LEADING TO THE DEGREE B. S. IN AGRICULTURE

(Elective courses should be taken, when possible, in the year in which they are scheduled.)

FRESHMAN YEAR*

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Animal Husb. 4	197	Study of Breeds	2	2	3.0
Botany 1	124	General Morphology	2	4	4.0
Chemistry 1	127	General Inorganic Chemistry	3	4	5.0
English 1	141	English Composition	3		3.0
Military Science	160	Drill		3	1.5
Physical Education	167	Gymnasium or Field Athletics		2	1.0

Second Semester

Animal Husb. 4	197	Study of Breeds	2	2	3.0
Botany 1a	124	Morphology and Classification of Seed Plants	2	4	4.0
Chemistry	128	Chemistry of the Metals	3	6	6.0
English 1	141	English Composition	3		3.0
Military Science	160	Drill		3	1.5
Physical Education	167	Gymnasium or Field Athletics		2	1.0

*The courses of the freshman year are required work.

SOPHOMORE YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*Agronomy 8	194	Cereals	3	2	4.0
*Chemistry 11	128	Agricultural Analysis	1	8	5.0
*English 2a	141	Advanced Agricultural Composition	2	0	2.0
Zoology 9	175	General Zoology	2	4	4.0
*Veterinary Sci. 14	199	Anatomy and Physiology of Farm Animals	3		3.0
*Military Science	160	Drill		3	1.5
*Physical Educa.	167	Gymnasium or Field Athletics		2	1.0

*Required subjects.

Second Semester

*English 2a	141	Advanced Agricultural Composition	2		2.0
*Geology 1a	147	Elements of Geology	3		3.0
*Horticulture 1	202	Principles of Plant and Fruit Culture	2	2	3.0
*Zoology 9	175	General Zoology	2	4	4.0
*Military Science	160	Drill		3	1.5
*Physical Educa.	167	Gymnasium or Field Athletics		2	1.0
Agronomy 10	194	Forage Crops	2	2	3.0
Agronomy 17	195	Farm Mechanics	2	2	3.0
Horticulture 3	203	Vegetable Gardening	2	2	3.0
Rural Engin. 1 & 2		Land Surveying and Roads (half Semester)		4	2.0
*Veterinary Sci. 14a	199	Diseases of Farm Animals	3		3.0

JUNIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*Political Econ. 3		Rural Economics	3		3.0
*Agronomy 1	194	Soil Physics	2	4	4.0
*Horticulture 1a	202	General Pomology	2	2	3.0
Agronomy 12	194	Special Crops	2		2.0
Agronomy 14	195	Grain Judging and Market Grains		2-4	1-2
Agronomy 18	195	Farm Machinery	2	2	3.0
Animal Husb. 3	196	Advanced Stock Judging	By App		
Animal Husb. 13	198	Farm Butchering and Curing of Meats (2d half)	2	4	2.0
Horticulture 5	203	Green House Const. and Mgmt.	1	2	2.0
Horticulture 11	204	Advanced Vegetable Gardening	2	2	3.0

Second Semester

*Agronomy 3	194	Soil Fertility	3	4	5.0
*Bacteriology 1	123	General Bacteriology	2	4	4.0
Agronomy 12	194	Special Crops	2		2.0
Agronomy 19	195	Farm Motors	2	2	3.0
Animal Husb. 7	197	Live Stock Feeding	3	2	4.0
Animal Husb. 8	197	Dairying	3	4	5.0
Animal Husb. 11	198	Poultry Husbandry	3	2	4.0
Entomology 6	199	Apiculture	1	2	2.0
Entomology 7	199	Insect Control	1	2	2.0
Farm Man. 1	200	General Farm Management	3		3.0
Horticulture 6	203	Home Garden and Grounds	2	2	3.0
Horticulture 7	203	Landscape Gardening	1	2	2.0
Horticulture 9	204	Elements of Floriculture	1	2	2.0

*Required subjects.

SENIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Agronomy 2	194	Advanced Soil Physics	By app.		
Agronomy 20	195	Farm Engineering	2	4	4.
Agronomy 22	196	Agricultural Bacteriology	1	4	3.
Animal Husb. 5	197	Genetics	3	2	4.
Farm Man. 2	201	Advanced Farm Management	2	2	3.
Horticulture 4	203	Systematic and Commercial Pomology	1	4	3.
Horticulture 8	203	Thesis and Exp. Horticulture	By app.		
Horticulture 10	204	Commercial Floriculture	2	2-4	3-4
Marketing 1	204	Marketing	2		2.

Second Semester

Agronomy 4	194	Advanced Soil Fertility	2		2.
Agronomy 13	194	Field Crop Improvement	1		1.
Agronomy 15	195	Advanced Field Crops	1		1.
Agronomy 21	195	Farm Construction	2	4	4.
Animal Husb. 6	197	Animal Breeding	3	2	4.
Animal Husb. 9	198	Beef, Pork and Mutton Production	3	2	4.
Farm Man. 3	201	Dairy Farm Management	2		2.
Farm Man. 4	201	Seminar			2.
Horticulture 8	203	Thesis and Exp. Horticulture	By App.		
Marketing 2	204	Farm Market Organization	2		2.

DEPARTMENTS OF INSTRUCTION

Agronomy

Professor Roberts (Soil Fertility), Associate Professor Kinney (Field Crops), Assistant Professor Karraker (Soil Physics), Instructor Hibberd (Field Crops)

The courses in the Department of Agronomy are designed to acquaint the student with the fundamental principles of soil physics, soil fertility, and the production of field crops. The work offered fits the student for farming, for the teaching of the subjects of the courses, and serves as a foundation for research training.

In addition to the equipment already described, students have access to the work of the Experiment Station. Some seventy acres on the Experiment Station farm are used in the study of agronomic problems. There are eight experiment fields on various soil types of the state devoted primarily to the study of soil fertility and crop rotations.

1. Soil Physics. The origin, formation, classification, organic matter, structure, moisture, temperature and aeration of soils with special reference to soil management. Prerequisites, Chemistry 1 and 2 and Geology 1a. *Lectures two hours a week; laboratory four hours a week. First semester.* Assistant Professor KARRAKER.

2. Soil Physics. Advanced Course. Physical properties of special soils, such as the student may be interested in; mechanical analysis; moisture and temperature studies. Prerequisite, Agronomy 1. Students should preferably be studying or have had Chemistry 11. *Laboratory and assigned reading by appointment. First semester.* Assistant Professor KARRAKER.

3. Soil Fertility. Nature and sources of plant food; crop requirements; manures and fertilizers; crop rotations; the effect of different systems of farming upon the productiveness of soils. Prerequisites, Agronomy 1 and Chemistry 11. *Lectures three hours a week; laboratory four hours a week. Second semester.* Professor ROBERTS.

4. Soil Fertility. This course is designed for students who expect to teach or engage in experimental work. It includes a study of the essentials for successful field experimentation, the planning and actual laying out of model experiment fields, and a study of the results obtained by experiment station workers and other investigators. *Lectures two hours a week. Second semester.* Professor ROBERTS.

8. Cereals. The detailed study of the classification, botanical relations, distribution, composition, culture and improvement of the principal grain crops of the country. Laboratory work is designed to supplement lectures and recitations. Prerequisites, Botany 1 and 1a. *Lectures and recitations three hours a week; laboratory two hours a week. First semester.* Mr. HIBBERD.

10. Forage Crops. A study of grasses, clovers and other forage crops, their adaptation, management and improvement. Includes seed testing and a systematic study of the common forage plants. Laboratory elective for men interested in forage crop work. Prerequisites, Botany 1 and 1a. *Lectures two hours a week; laboratory two hours a week. Second semester.* Mr. HIBBERD.

12. Special Crops. The production of tobacco, hemp, cotton, broom corn, and other special crops. Elective for juniors and seniors. Tobacco first semester; other crops second semester. *Lectures two hours a week.* Associate Professor KINNEY.

13. Field Crop Improvement. Application of the principles of plant breeding to the improvement of field crops. Study of work of experiment stations and experimenters. Prerequisites, Agronomy 8

and 10 and Animal Husbandry 5. *One hour a week. Second semester.* Associate Professor KINNEY.

14. Grain Judging and Market Grains. Prerequisite, Agronomy 8. *Two to four hours laboratory a week. First semester.* Mr. HIBBERD.

15. Advanced Work in Field Crops. This course will consist of a study of the best and most recent publications on general field crops. Especial attention will be given to the latest Experiment Station bulletins. Prerequisites, Agronomy 8 and 10. *One hour a week. Second semester.* Mr. HIBBERD.

17. Farm Mechanics. An elementary course in mechanics arranged as an introduction to the study of farm machinery and farm motors, applying the fundamental principles of mechanics to the construction and use of farm equipment. Laboratory practice gives opportunity for actual application of problems to farm conditions. *Lectures two hours a week; laboratory two hours a week. Second semester.* Professor ————.

18. Farm Machinery. Various types of tillage, seeding, harvesting and storage machines are studied and compared in detail. Laboratory practice consists of examination of the mechanical construction and operation of these machines indoors or under field conditions. Prerequisite, Agronomy 17. *Lectures two hours a week; laboratory two hours a week. First semester.* Professor ————.

19. Farm Motors. Stationary and traction types of farm, gas and steam engines, water and electric motors, windmills and horse powers, with appliances for the utilization of their power are studied. Laboratory practice consists of the study and practical operation of such motors indoors and under actual farm conditions. Prerequisite, Agronomy 17. *Lectures two hours a week; laboratory two hours a week. Second semester.* Professor ————.

20. Farm Engineering. The measuring of land, locating of roads and buildings, terracing of hillside lands for cultivation, and the establishing of drainage, irrigation, water supply and sewage disposal systems, by simple methods and with inexpensive instruments, are provided for in this course. Laboratory practice will offer practical farm problems to be solved. *Lectures two hours a week; laboratory four hours a week. First semester.* Professor ————.

21. Farm Construction. The design, location and method of estimating cost of farm buildings as well as a detailed study of properties and use of building materials generally useful on the farm. *Lectures two hours a week; laboratory four hours a week. Second semester.* Professor ————.

22. Agricultural Bacteriology. For seniors in Agriculture. In this course the student will study bacteria in relation to plant and animal diseases. The student will further study bacteria in relation to soil; to the decay of organic matter; to ammonification and nitrogen fixation; cellulose decomposition and sulfofication in soils; to dairy products and food preservation. Opportunity will be afforded for special work in soil bacteriology and in the bacteriology of diseases of plants and animals. Prerequisite, Course 1. *Lectures one hour a week; laboratory four hours a week. First semester.* Professor HEALY.

Animal Industry

Professor Good, Professor Hooper, Assistant Professor Pontius, Assistant Professor Anderson, Instructor Martin, Mr. T. G. Yaxis.

The courses in Animal Industry are intended to acquaint the student with the fundamental principles underlying the breeding, feeding and management of domestic animals. The instruction is designed to prepare students to become live stock farmers, teachers or investigators in animal husbandry. The lectures of the various courses are supplemented with five hundred or more lantern slides, charts, diagrams, models and photographs. The equipment of the laboratories includes also an exhaustive list of samples of feeds and samples of various classes and grades of wool to be found on the market. This university is fortunately located for this work because of the fine stock farms that surround Lexington.

A dairy herd of thirty pure bred cows is maintained on the Kentucky Experiment Station farm, which is situated one-half mile from the Agricultural College. Also pure bred hogs, sheep, and poultry, and a large number of steers are kept on this farm, all of which are available for student instruction.

Advanced students are frequently employed to test dairy herds for the advanced registry maintained by the different dairy cattle breeders' associations.

The State Commissioner of Agriculture has provided a students' stock judging contest at the State Fair and has liberally endowed it. The American Saddle Horse Breeders' Association offers at the State Fair each year a handsome silver trophy for the students' saddle horse judging contest.

3. Advanced Stock Judging. Juniors and seniors. The purpose of this course is to prepare students to represent the university in the national stock judging contests. Two teams of students are selected each fall; one for the judging of horses, beef cattle, sheep and swine,

and another for the judging of dairy cattle. Students are offered the option of selecting either of these two lines of work. *Credit is given according to the amount of work done. First semester.* Professor HOOPER, Professor GOOD.

4. **Study of Breeds and Stock Judging.** Sophomore. In this course the characteristics of each breed of live stock are considered at length, and each breed is discussed with reference to its origin, history and development, introduction into America, and adaptability to Kentucky conditions. Trips are taken each Saturday to stock farms in the vicinity of Lexington, where representative animals are studied and judged. Horses, Jacks and Dairy Cattle, first semester. Beef Cattle, Sheep and Swine, second semester. *Lectures two hours a week; laboratory two hours a week.* Professor GOOD, Professor HOOPER, Mr. YAXIS.

5. **Genetics. Senior.** This course includes a study of the theories regarding the heredity of characters in plants and animals. Some of the subjects discussed are: Mendel's Law, the germ plasm theory, chromosome reduction, cell division, etc. *Lectures three hours a week; laboratory by appointment. First semester.* Assistant Professor ANDERSON.

6. **Animal Breeding.** Senior. This course embraces a study of the practical aspects of animal breeding, line breeding, cross breeding, pure breding, and improvement thru long selection for particular purposes as exemplified by results achieved by notable breeders of domestic live stock. Pedigrees are tabulated. Prerequisite, Course 5. *Lectures three hours a week; laboratory by appointmnt. Second semester.* Professor HOOPER, Assistant Professor ANDERSON.

7. **Live Stock Feeding.** Junior. A comprehensive study is made of the principles underlying animal nutrition. The various feedstuffs offered in the local and general markets of the country are considered and the students are given training in compounding rations for different kinds of animals. Valuable observations are made in this subject on the farms visited by the students, and the varied experiments in progress on the Experiment Station farm also afford facilities for illustrative purposes. *Lectures three hours a week; laboratory two hours a week by appointment. Second semester.* Professor HOOPER, Mr. YAXIS.

8. **Dairying.** Junior. During this course the students are made familiar with the Babcock butter fat test. They are required to take samples of milk from the different cows in the Experiment Station herd and to determine the amount of butter fat contained in the milk and the amount of these products that the cows will produce each year.

Instruction is given in the use of the lactometer in determining solids other than fat, and in the determination of acidity of milk. Instruction is also given in cooling and pasteurizing, cream ripening, the use of starters and the judging of milk and butter. Students also receive instruction in the churning of butter, the separation of cream, the operation of steam boilers, and in the equipment of dairies and creameries. The department has two well equipped dairy laboratories in the basement of the Agricultural Building where the practical instruction in this course is given. *Lectures three hours a week; laboratory four hours a week. Second semester.* Professor HOOPER.

9. Beef, Pork and Mutton Production. Senior. This course continues during the entire semester. Students pursuing this course will be taught the best method of feeding steers, hogs and sheep. Bulletins relating to feeding experiments that have been carried on at the various experiment stations as well as the results of concluded experiments and experiments in progress at this Experiment Station will be studied in connection with this course. Some attention will also be given to the marketing of these animals, and to this end trips will be taken to butcher shops and to packing plants and stock yards. The text book to be used in beef production will be Mumford's *Beef Production.* No text book will be used in connection with pork and mutton production. Prerequisite, Course 7. *Lectures three hours a week; laboratory two hours a week. Second semester.* Professor GOOD.

11. Poultry Husbandry. Junior. Extensive poultry yards have been established on the Experiment Station farm where eight hundred chickens and turkeys of several different varieties are being used in important experimental work. All this equipment is available for instructional work in this course. The students are instructed in the proper location for a poultry farm, and in judging different varieties of fowls. This course also includes a study of poultry house construction, the feeding, incubating, brooding and dressing of poultry and the marketing of poultry products. The Kentucky State Poultry Show is held at the University each January and the students are instructed further in the judgment of fowls during that exhibition. *Lectures three hours a week; laboratory two hours a week. Second semester.* MR. MARTIN.

13. Farm Butchering and Curing of Meats. Juniors and seniors. This course includes the butchering of beef cattle, sheep and hogs; a study of the carcasses of these animals and the cutting and curing of meat. *Lectures two hours a week; laboratory four hours a week. Second half of first semester.* Professor GOOD.

14. Veterinary Science—Anatomy and Physiology of Farm Animals.—The structure and functions of the animal economy in health are considered. In presenting the subject of anatomy, a study is made of the normal organs and their relation to the conformation of the horse; the adaptability of the various organs and systems of the animal body in perfect function; the physics and mechanics of locomotion; the recognition of unsoundness and specific diseases from clinical symptoms manifest; a discussion of the unsoundness of animals, including hereditary tendencies involved, and the common diseases affecting the various organs and systems of animals. Required of sophomores. *Lectures three hours a week. First semester.* Associate Professor PONTIUS.

14a. Veterinary Science—Contagious Diseases of Farm Animals. A study of the causes, symptoms, and methods of prevention of the common contagious diseases of farm animals. Special attention is given to such diseases as hog cholera, tuberculosis, contagious abortion, forage poisoning, parasitic diseases, sheep scab, ring worm, white diarrhea of chicks, foot-and-mouth disease, blackhead in turkeys, vesicular stomatitis, strangles and influenza in horses, blackleg in cattle. Practical methods of segregation of animals; disinfectants and disinfection; methods of dipping animals and dips; water supply; ventilation; importance of sanitary regulations in the control of infectious and parasitic diseases; review of state regulations affecting the shipment of animals; city ordinances involving regulations pertaining to meat and milk supply. A discussion of anti-serums, vaccines, bacterins, and antitoxins, as well as other biological products as related to the prevention, cure and diagnosis of animal diseases. Required of sophomores. *Lectures three hours a week. Second semester.* Associate Professor PONTIUS.

Agricultural Entomology

Professor Garman

6. Apiculture. This includes a careful study of the structure and life-history of the honey bee, and of its enemies and diseases, together with practice in handling bees in the apiary of the Department of Entomology and Botany of the Experiment Station. *Lectures one hour a week; laboratory two hours a week. Second semester.* Professor GARMAN.

7. Insect Control: Methods of Preventing Injuries. Inspection and Field Entomology. Prerequisite, Course 1 or 4. *Lectures one hour a week; laboratory two hours a week. Second semester.* Professor GARMAN.

Farm Management

Professor Nicholls, Mr. Hutson

Within recent years the study of farm management has come to be recognized as one of the most valuable lines of work given in our agricultural colleges. Farm management teaches the student how to apply to personal farming the principles and sciences of agriculture that he has learned during his college course, and enables him to see in their proper proportions the factors upon which successful farming depends. Farm management deals with the organization and management of a farm enterprise for the purpose of securing the greatest continuous profit.

The instruction in Farm Management is based on the belief that the best place to learn the business side of farming is on successful commercial farms, the student going over with the proprietors the methods of organization and management which have been responsible for the farm success. Frequent trips are made to successful farms for the purpose of studying their organization in detail. This brings out the personal element so essential in good farming and serves to reinforce and vitalize the truths of scientific agriculture as learned in the various lecture rooms and laboratories.

The class room instruction is largely based on facts of farm organization as brought out by farm management investigations carried on by the Kentucky Agricultural Experiment Station, in which detailed survey records of nearly six hundred farms in various sections of Kentucky have been secured. These furnish excellent illustrative and reference material for lecture and laboratory work. Liberal use is also made of farm survey data obtained by the U. S. Department of Agriculture and by the various state experiment stations.

1. General Farm Management. Elective for juniors and seniors and special students. Course consists of lectures, recitations and collateral reading of bulletins on various phases of farm organization. Students are made familiar with the principles involved in a choice of a proper type of farming; the comparative merits of intensive and extensive farming; the relation of live stock to farm management; the best size of farm; the relation of capital to farm profits; farm rental systems; the management of men and horse labor and machinery for greatest profits; the layout of fields and farm buildings; farm accounts including the annual inventory; the choice of a region for farming and important considerations in buying a farm; and other fundamental factors of farm organization. Several field trips will be

taken during the course. *Lectures three hours a week. Second semester.* Professor NICHOLLS, Mr. HUTSON.

2. Advanced Farm Management. Elective for seniors. Must be preceded by Course 1. The work in this course consists in the application by students of the general principles learned in Course 1 to particular farms; the working out of careful plans and specifications for profitable farming systems, maintaining the proper balance between crops and stock and for capital, labor and equipment. Students are taught how to take farm survey records and calculate labor incomes, and efficiency factors. They are also required to make out a detailed record of a year's business on their home farms, and to replan the home farm for greater efficiency. Laboratory work consists of visits to successful farms and making detailed analyses of their organization. *Lectures two hours a week; laboratory one hour a week. First semester.* Professor NICHOLLS, Mr. HUTSON.

3. Dairy Farm Management. Elective for seniors. Prerequisite Farm Management 1 and Animal Husbandry 8. This course is devoted to a minute study of the organization of farms on which dairying is the most important enterprise. Students will be required to make a careful analysis of the most representative of some 250 survey records of Kentucky dairy farms which have been secured by the Department of Farm Management. A study will also be made of systems of management which have been most efficient in a number of the most important dairy sections of the United States. *Lectures two hours a week. Second semester.* Professor NICHOLLS.

4. Seminar. Elective for seniors. Selected literature and special field studies of farm management problems, these to be used as the basis for original detailed plans for improving farming systems in particular cases. An intensive study of Kentucky farm survey records will be made in this course. *Two hours a week. Second semester.* Professor NICHOLLS.

Horticulture

Professor Mathews, Assistant Professor Olney, Assistant Professor

Recent additions to both the staff and the equipment of the department have made it possible to materially broaden the scope of instruction provided in horticulture, both as regards the variety and the amount of work offered in the various branches of the subject.

Being intimately connected with the work of the Experiment Station, the horticultural equipment and the experiment work in progress upon the Experiment Station grounds incidentally become of great

service in providing illustrative material and in affording practice in horticultural operations.

In recent years the acreage devoted to horticulture upon the Station grounds has been considerably increased. An orchard of eight acres of standard varieties of fruit was planted in 1913-14; additions have been made to the vineyard, and the small fruit and vegetable garden areas have been materially enlarged.

An Experiment Station greenhouse of approved design is available for purpose of propagating, plant breeding and forcing of garden crops, and is in constant use thruout the year for experiment work.

In addition to the experiment work undertaken on the local station grounds arrangements have been made for the conduct of fruit growing experiments in various other parts of the state, one experiment orchard of six acres having been planted for this purpose in Shelby county.

Graduate and other advanced students showing special aptitude for such work will be given the privilege of aiding in the conduct of these various undertakings for experiment and demonstration, as opportunities offer. Courses 1 and 1a constitute an introductory year of elementary horticulture which is at present required of all agricultural students, all other courses in the department being elective.

For a limited number of advanced students who are electing horticulture as their major study, provision may be made for the conduct of certain work during the summer vacation for which university credit toward graduation will be allowed.

Students considering the selection of horticulture as their major study should reach a decision, if possible, before the close of the sophomore year, and confer with the head of the department concerning the following year's work.

1. Elements of Horticulture. Sophomore. A review of the fundamental activities of plant life with special reference to the growth of orchard and garden crops, the plant as influenced by normal and abnormal temperatures; by its supply of water, light, food, etc.; and the effect of parasites, soil conditions, etc. A further study is made of such practical details as propagation, seed selection, transplanting, pruning, spraying, frost protection, etc. *Lectures two hours a week; laboratory two hours a week. Second semester.* Professor MATHEWS, Assistant Professor OLNEY.

1a. Elements of Horticulture (Pomology). Junior. A study of the origin, history, characteristics, adaptation to Kentucky conditions and management of orchard and garden fruits. Further consideration is given to harvesting, marketing, cold storage, etc. Judging and scor-

ing of apples, pears, nuts and other available fruits. Prerequisite, Horticulture 1. *Lectures two hours a week; laboratory two hours a week. First semester.* Professor MATHEWS, Assistant Professor OLNEY.

3. Elements of Vegetable Gardening. Sophomore or junior. A study of the principles of vegetable growing for home and market. Such operations as seed sowing, transplanting, constructing hot beds and cold frames, harvesting and marketing are fully considered. Each student is assigned a small plot for planting and subsequent management. *Lectures and recitation two hours a week; laboratory two hours a week. Second semester.* Assistant Professor ————.

4. Systematic and Commercial Pomology. Senior. A study of the origin, history and varieties of the vineyard and orchard fruits. Practice is given in describing and identifying varieties in fruit judging, the preparation of fruit exhibits, etc. Members of the teams sent to the annual intercollegiate fruit judging contests are selected from this class. *Lectures one hour a week; laboratory four hours a week. First semester.* Assistant Professor OLNEY.

5. Greenhouse Construction and Management. Junior or senior. A course designed to familiarize the student with the different types of greenhouses and the construction of each as adapted to various uses. The different systems of heating and piping are studied and compared and some time is given to designing and drawing of greenhouse plans. This course is a prerequisite for courses 10 and 12. *Lectures one hour a week; laboratory two hours a week. First semester.* Assistant Professor ————.

6. Home Garden and Grounds. Juniors and seniors. An elementary general course in Horticulture arranged particularly for non-agricultural students—men or women—who desire some acquaintance with the fundamental principles of the science and art underlying the right use of land and the various cultural operations involved in the care of fruit, flower and kitchen gardens, and in the general development of natural beauty upon the home grounds. *Lectures two hours a week; laboratory two hours a week. Second semester.* Professor MATHEWS and assistants.

7. Elements of Landscape Gardening. Junior or senior. A discussion of the arrangement, planting and care of trees, shrubs and other ornamental features of the adornment of home and other private and public grounds. Botany 10, Dendrology, should precede or accompany this course. *Lectures one hour a week; laboratory and field practice two hours a week. Second semester.* Professor MATHEWS.

8. Thesis and Experimental Horticulture. Senior. Advanced work arranged to meet the needs of individual students who are making

horticulture their major study. Based upon research and experiment work in the department. When possible, arrangements for such a course should be made before the close of the junior year. In special cases the work may be done in part during the summer vacation as determined by character and amount of work undertaken. *Thruout the year.* Professor MATHEWS and assistants.

9. Elements of Floriculture. Junior or senior. A course embracing the fundamental principles upon which floricultural operations are based. Laboratory practice is afforded in propagating, growing and training greenhouse plants. Visits are also made to the several local florists' establishments. Prerequisites, Course 1. *Lectures one hour a week; laboratory two hours a week. Second semester.* Assistant Professor ————.

10. Commercial Floriculture. Senior. A study of the cultural methods practiced by commercial florists in growing the principal flower crops. Laboratory practice is supplemented by work with the local florists. Prerequisites, Courses 5 and 9. *Lectures two hours a week; laboratory two or four hours a week. First semester.* Assistant Professor ————.

11. Advanced Vegetable Gardening. Senior. A course devoted to the study of special operations practiced by vegetable growers. Vegetable judging is touched upon and some time is given to the study of experimental and classificatory work. Prerequisite, Course 3. *Lectures two hours a week; laboratory two hours a week. First semester.* Assistant Professor ————.

Marketing

Professor Humphrey

1. Marketing. The work in this course is intended to give the student an insight into the general principles and conditions underlying the system of marketing farm products which have been developed in the United States and foreign countries. It will include lectures on the fundamental principles of market organizations, their history, growth and present development, together with studies of the types and functions of marketing agencies. Special stress will be laid upon the part played by co-operative organizations in the economical development of marketing. Prerequisite, Political Economy 3. *Two hours a week. First semester.* Professor HUMPHREY.

2. Farm Market Organization. This course is given as a further development of the course in marketing. It will deal with special problems of farm marketing and in particular with problems under-

lying the growth and maintenance of the more successful market organizations. Practice will be given the student in the application of commercial law to the transaction of business and in particular in the organization of model marketing associations. Lectures and class room practice will also be given in market business methods and accounting in their special application to farm products. Prerequisite, Marketing 1. *Two hours a week. Second semester.* Professor HUMPHREY.

Home Economics

Associate Professor Mary E. Sweeny, Assistant Professor Ruby Buckman, Miss Clara White, Miss Linda Purnell.

The Department of Home Economics has quarters in the Education Building. The offices of the professors are on the first and third floors. The laboratories for cooking and sewing, a demonstration dining-room, a dress-making laboratory, and a food and nutrition laboratory together with lecture rooms of the department, occupy the third floor of this building.

Classes in the Department of Home Economics are co-ordinated and correlated with those offered in the College of Agriculture, and special class work is offered for students in bacteriology, home gardening, botany and other subjects.

The Food Department of the Experiment Station opens its laboratories to the students in foods and nutrition under the direction of its chemists for a limited amount of study of the adulteration of food supplies. The laboratory work is supplemented by lectures on food sanitation and adulteration by the experts of this department and practical phases taken up by the field inspectors.

The course in home economics is designed to meet the needs of two classes of students: those who specialize in other lines of work, but who desire a knowledge of the fundamental principles underlying the sciences most directly concerned in the home, and those who wish to take a full course leading to the degree of Bachelor of Science in Home Economics.

Besides the subjects prescribed in the course which are closely allied to home economics, such as chemistry, physiology, botany, bacteriology and others, much time is given to modern languages, sociology and economics, giving the student a broad and liberal education as well at technical trainiing. In the junior and senior years certain subjects may be elected subject to the approval of the dean and the head of the department.

Students are advised to elect high school physics during the course in high school and two years of either French or German.

COURSE LEADING TO THE DEGREE B S IN HOME ECONOMICS

FRESHMAN YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*English 1	141	English Composition	3		3.0
*Chemistry 1	127	General Inorganic Chemistry	3	4	5.0
*Home Econ. 14	209	Machine Sewing and Pattern Drafting		6	3.0
*Physiology 1	119	Physiology	3		3.0
*Economics 1	133	Elementary Economics	2		2.0
*Physical Edu.	169	Physical Education		2	1.0

Second Semester

*English 1	141	English Composition	3		3.0
*Chemistry 2	127	General Inorganic Chemistry	3	6	6.0
*Physics	170	Physics	3		3.0
*Home Econ. 1	208	Selection and Preparation of Food	3	6	6.0
*Physical Edu.	169	Physical Education		2	1.0

SOPHOMORE YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*English 2a	141	Advanced Agricultural Composition	2		2.0
*Chemistry 7	128	Organic Chemistry	3	2	4.0
*Home Econ. 6	208	Dress Making	1	4	3.0
*Botany	124	Botany	2	4	4.0
*Modern Lang.	173	Modern Languages	3		3.0
*Sociology	133	Sociology	2		2.0
*Physical Edu.	169	Physical Education		2	1.0

Second Semester

*English 2a	141	Advanced Agricultural Composition	2		2.0
*Bacteriology 2	123	Bacteriology	2	4	4.0
*Modern Lang.	173	Modern Languages	3		3.0
*Home Econ. 2	208	Food and Nutrition	4	6	7.0
*Home Econ. 19	210	Millinery		4	2.0
*Physical Edu.	169	Physical Education		2	1.0

*Required subjects.

JUNIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*Education 3	136	Advanced Psychology	3		3.0
*Modern Lang.	173	Modern Languages	3		3.0
*Home Econ. 7	208	Home Sanitation	3	2	4.0
*Home Econ. 21	210	Textiles	3	4	5.0
*Drawing	122	Drawing		4	2.0

Second Semester

*Education 3	136	Advanced Psychology	3		3.0
*Modern Lang.	173	Modern Languages	3		3.0
*Home Econ. 18	209	Home Furnishings	2	2	3.0
*Home Econ. 20	210	Advanced Dress Making	1	4	3.0
Electives		Electives	3		3.0

SENIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*Home Econ. 8	209	Household Administration	4	2	5.0
Home Economics	205	Electives in Home Economics			3.0
Electives		Electives			10.0

Second Semester

*Home Econ. 4	208	Metabolism and Dietetics	3	6	6.0
Home Economics	205	Electives in Home Economics			3.0
Electives		Electives			9.0

Electives in Home Economics

Home Econ. 10	209	Problems in Institutional Mgt.	1	3	2.5
Home Econ. 11	209	Problems in Clothing	2	2	3.0
Home Econ. 12	209	Problems in Food	2	2	3.0
Home Econ. 13	209	Practice Teaching in Home Economics	3	3	4.5
Chemistry		Physiological Chemistry			

*Required subjects.

Electives

Mathematics	English 15, 15b, 15c,	Landscape Gardening
Animal Husbandry 5, 7	16, 17, 18, 23, 24	Political Science
Agronomy 7	Home Gardening	Chemistry 4, 10, 11
Geology 1	Horticulture	Zoology
History 1 and 2	Political Economy	Greek
Spanish	Latin	Journal Club
	Chemistry of Textiles and Dyeing	

1. Selection and Preparation of Food. Designed to give a knowledge of the principles underlying the selection and preparation of food. Chemical composition, changes induced by heat and cold, or fermentation. Marketing problems in connection with home buying, selection of cuts of meat, use in relation to food value. Wholesale as compared with retail, expeditions visiting mills, wholesale grocers, abattoirs. Sherman's "*Food Products.*" *Lecture one hour a week; recitations two hours a week; laboratory six hours a week. Second semester.* Associate Professor SWEENY and others.

2. Food and Nutrition. The physiological, chemical and bacteriological problems of food and nutrition. The chemical composition of food constituents, digestibility of different food materials and food combinations. Prerequisites H. E. 1, Chemistry 1 and 2, Physiology and Organic Chemistry, prerequisite or parallel. *Lectures four hours a week; laboratory six hours a week. Second semester.* Associate Professor SWEENY and others.

4. Metabolism and Dietetics. A consideration of metabolism and its process, with special reference to cell utilization of food, digestion and products of metabolism. Abnormal health conditions are studied, and the diet necessary for such cases. Prerequisites, H. E. 1 and 2 and its prerequisites, Bacteriology 2, Organic Chemistry. *Lectures three hours a week; laboratory six hours a week. Second semester.* Associate Professor SWEENY.

6. Dressmaking. Dress forms, made to measure. Designing, cutting, fitting and making of wool and silk dresses, hygiene of clothing, clothing budgets. Quality and economy in buying. Winterburn's "*Principles of Correct Dress.*" Prerequisites, H. E. 5 or equivalent. *Lectures and text one hour a week; laboratory four hours a week. First semester.* Assistant Professor BUCKMAN and others.

7. Home Sanitation. This subject is studied by means of lectures dealing with healthfulness of location, drainage and surround-

ings of a dwelling; heating, types and advantage of each; necessity of proper amount of sunlight; ventilation; smoke, dust and dirt; overcrowding; drinking water; disposal of household waste; care of food; preventable diseases; field work. Prerequisites, Bacteriology 2, Chemistry 1 and 2. *Lectures three hours a week; field work two hours a week. First semester.* Associate Professor SWEENY and others.

8. Household Administration. Course dealing with efficient management of the home, including budgeting of the income, proper distribution of time in daily routine duties, planning of meals in reference to other house work. Keeping of household accounts, use of labor-saving devices, home laundrying. Prerequisites, H. E. 1, 2 and 7, Bacteriology 2. *Lectures four hours a week; laboratory two hours a week. First semester.* Associate Professor SWEENY, Assistant Professor BUCKMAN.

10. Problems in Institutional Management. Study of organization and equipment, maintenance and budgeting of institutions. *Lectures one hour a week; laboratory three hours a week.*

11. Problems in Clothing. A course in which the literature pertaining to textiles and clothing is reviewed; special laboratory problems dealing with the designing and making of children's and other garments. *Lectures two hours a week; laboratory two hours a week.*

12. Problems in Food Preparation and Nutrition. An extensive study will be made of special problems of interest to students. Prerequisite, H. E. 4 and its prerequisites. *Lectures two hours a week; laboratory two hours a week.* Associate Professor SWEENY.

13. Teaching in Home Economics. A course of lectures and conferences dealing with the presentation of Home Economics subjects in secondary education. Practice teaching accompanies the class room work. *Lectures and recitations three hours a week; practice teaching three hours a week.* Associate Professor SWEENY and Assistant Professor BUCKMAN.

14. Machine Sewing and Pattern Drafting. Efficient sewing methods applied on wash materials. Drafting patterns and alteration of commercial patterns. Hand-sewing and undergarments prerequisite. *Laboratory six hours a week. First semester.* Assistant Professor BUCKMAN and others.

18. Home Furnishings. Planning and furnishing of small homes. Practical application of color and design in furnishing. Visits to stores. Prerequisite, Drawing and H. E. 7. *Lectures and text two hours a week; laboratory two hours a week. Second semester.* Assistant Professor BUCKMAN.

19. Millinery. Making of hats and trimmings; renovation of millinery. Practical and artistic principles of millinery applied. *Laboratory four hours a week. Second semester.* Assistant Professor BUCKMAN.

20. Advanced Dressmaking. A continuation of Course 5. Tailored and made over problems. Design in paper. Historic study of costumes. *Lectures one hour a week; laboratory four hours a week. Second semester.* Assistant Professor BUCKMAN.

21. Textiles and Textile Laboratory. Development of textile industry. Present manufacturing processes; adulterations and substitutions; physical microscopic and chemical identification of fibers. Dying, bleaching and stain removal. Names, characteristics, weaves, widths and prices of standard fabrics. *Lecture and text three hours a week; laboratory four hours a week. First semester.* Assistant Professor BUCKMAN and others.

TRAINING COURSES FOR TEACHERS OF VOCATIONAL AGRICULTURE AND HOME ECONOMICS

An act of Congress popularly known as the Smith-Hughes vocational education bill provides for the training of teachers for the teaching of agriculture and home economics in the secondary schools of the states accepting the provisions of the act. The University of Kentucky has been designated as the institution in Kentucky to train teachers for this work.

The State Board of Vocational Education grants a certificate thru the Department of Education of the University of Kentucky to students completing the prescribed courses in agriculture and satisfactorily meeting the requirements of this Board. A student should confer with members of the faculty relative to subjects that may be required to meet the demands of the Vocational Board.

Those who expect to teach vocational agriculture should take the required subjects of the regular course as laid down for a B. S. degree in Agriculture, together with the following subjects from the elective list of the above course, and completing the required courses in Education: Agronomy 20, 21; Animal Husbandry, 7, 8, 11; Agricultural Economics 2; Horticulture, 3.

Besides these the student should elect from ten to fifteen other subjects in Agriculture. These courses should be taken in the order indicated in the schedule which follows.

OUTLINE OF COURSE FOR THE TRAINING OF TEACHERS IN VOCATIONAL AGRICULTURE UNDER THE PROVISIONS OF THE SMITH-HUGHES ACT

FRESHMAN YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*English 1	141	English Composition	3		3.0
*Botany 1	124	General Morphology	2	4	4.0
*Chemistry 1	127	General Inorganic Chemistry	3	4	5.0
*Animal Husb. 4	197	Study of Breeds and Stock Judging	2	2	3.0
*Military Science	160	Military Drill		3	1.5
*Physical Edu.	167	Gymnasium or Field Athletics		2	1.0

Second Semester

*English 1	141	English Composition	3		3.0
*Botany 1a	124	Morphology and Classification of Seed Plants	2	4	4.0
*Chemistry 2	128	Chemistry of the Metals	3	6	6.0
*Animal Husb. 4	197	Study of Breeds and Stock Judging	2	2	3.0
*Military Science	160	Military Drill		3	1.5
*Physical Edu.	167	Gymnasium or Field Athletics		2	1.0

SOPHOMORE YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*English 2a	141	Advanced Agricultural Composition	2		2.0
*Chemistry 11	128	Agricultural Analysis	1	8	5.0
*Zoology 9	175	General Zoology	2	4	4.0
*Agronomy 8	194	Cereals	3	2	4.0
*Veterinary Sci. 14	199	Anatomy and Physiology of Farm Animals	3		3.0
*Military Science	160	Drill		3	1.5
*Physical Edu.	167	Gymnasium or Field Athletics		2	1.0

*Required work.

Second Semester

*English 2a	141	Advanced Agricultural Composition	2		2.0
*Geology 1a	147	Elements of Geology	3		3.0
*Horticulture 1	202	Principles of Fruit Growing	2	2	3.0
*Zoology 9	175	General Zoology	2	4	4.0
*Veterinary Sci. 14a	199	Diseases of Farm Animals	3		3.0
*Military Science	160	Drill		3	1.5
*Physical Edu.	167	Gymnasium or Field Athletics		2	1.0
*Horticulture 3	203	Vegetable Gardening	2	2	3.0

JUNIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*Political Econ. 3	133	Rural Economics	3		3.0
*Agronomy 1	194	Soil Physics	2	4	4.0
*Horticulture 1a	202	General Pomology	2	2	3.0
*Education 24	139	Educational Psychology	3		3.0
Electives					6.0

Second Semester

*Agronomy 3	194	Soil Fertility	3	2	5.0
*Bacteriology 1	123	General Bacteriology	2	4	4.0
*Education 25	139	History of Education	3		3.0
*Animal Husb. 7	197	Live Stock Feeding	3	2	4.0
*Animal Husb. 8	197	Dairying	3	4	5.0

SENIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*Agronomy 20	195	Farm Engineering	2	4	4.0
*Education 28	140	Agricultural Education	2	2	3.0
*Education 26	139	General Methods	3		3.0
*Animal Husb. 5	197	Genetics	3		3.0
Electives		Electives in Agriculture			6.0

*Required work.

Second Semester

*Agri. Economics 2		Rural Social Problems	3		3.0
*Agronomy 21	195	Farm Construction	2	4	4.0
*Education 27	139	Agricultural Education	1	4	3.0
*Animal Husb. 11	198	Poultry Husbandry	3	2	4.0
Electives		Electives in Agriculture			5.0

*Required work.

If 72 units of work are completed in another school a student may finish the course in two additional years.

It is suggested that work of collegiate grade in the following subjects should preferably be presented as advanced credits:

English Composition	6 credits
History of English Literature	3 credits
Botany	8 credits
General Chemistry	11 credits
Quantitative Analysis	5 credits
Zoology or Biology	4 credits
Elements of Geology	3 credits
Political Economy	3 credits
Psychology	3 credits
History of Education	3 credits
Principles of Education	3 credits
Other credits in Education	3 credits
Military drill and physical education, or in lieu thereof any subjects of collegiate grade	10 credits
Agriculture of collegiate grade	7 credits
Total	72 credits

This would leave 72 units of work in technical agricultural subjects and agricultural education to be taken in the University. The fact that some of the work to be taken in the University is found in the freshman and sophomore years in the foregoing schedule should be a matter of no concern to the student entering with advanced credits, since his actual standing is determined by the number of credits presented.

A regular student in the College of Agriculture who completes the course and takes 18 credits in professional work proposed in the foregoing outline, may be given a teacher's certificate by the University qualifying him to teach vocational agriculture under the provisions of the Smith-Hughes Act.

OUTLINE OF COURSE FOR THE TRAINING OF TEACHERS IN HOME ECONOMICS UNDER THE PROVISIONS OF THE SMITH-HUGHES ACT

FRESHMAN YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*English 1	141	English Composition	3		3.0
*Chemistry 1	127	General Inorganic Chemistry	3	4	5.0
*Modern Lang.	173	Modern Languages	3		3.0
*Physiology 1	119	General Physiology	3		3.0
*Home Econ. 3	216	Food Preparation and Home Cookery	2	4	4.0
*Physical Ed.	169	Physical Education		2	1.0

Second Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*English 1	141	English Composition	3		3.0
*Chemistry 2	128	Chemistry of Metals	3	6	6.0
*Modern Lang.	173	Modern Languages	3		3.0
*Home Econ. 5	216	Advanced Cookery and Marketing	3	4	5.0
*Physical Ed.	169	Physical Education		2	1.0

SOPHOMORE YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*English 3	142	History of English Literature	2		2.0
*Modern Lang.	173	Modern Languages	3		3.0
*Botany	124	Botany	2	4	4.0
*Economics	133	Government and Business Management	2		2.0
*Chemistry 7	128	Organic Chemistry	3	2	4.0
*Home Econ. 29	217	Elementary Clothing and Textiles	1	4	3.0
*Physical Ed.	169	Physical Education		2	1.0

*Required work.

Second Semester

*English 3	142	History of English Literature	2		2.0
*Modern Lang.	173	Modern Languages	3		3.0
*Bacteriology 1	123	Bacteriology	2	4	4.0
*Home Econ. 19	210	Millinery		4	2.0
*Home Econ. 32	218	Elementary Dress Making		4	2.0
*Physics	170	Physics	3		3.0
*Sociology	133	Sociology	2		2.0
*Physical Ed.	169	Physical Education		2	1.0

JUNIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*Education 4	136	Principles of Education	3		3.0
*Home Econ. 9	217	Human Nutrition	4	2	5.0
*Home Econ. 17	217	Advanced Dressmaking and Tailoring	1	6	4.0
*Home Econ. 7	208	Household Sanitation	3	2	4.0
		Electives	2		2.0

Second Semester

*Education 5	136	Technique in Teaching	3		3.0
*Home Econ. 18	209	Home Furnishings	2	2	3.0
*Home Econ. 30	217	Laboratory Study of Food and Digestion	3	6	6.0
*Home Econ. 22	217	Laboratory Study of Textiles	2	4	4.0
		Electives in Education			2.0

SENIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*Psychology	172	Elementary Psychology	3		3.0
*Home Econ. 13	209	Teaching of Home Economics	3		3.0
		Practice Teaching		3	1.5
*Home Econ. 8	209	Household Administration	4	2	5.0
		Electives			4.5

*Required subjects.

Second Semester

*Education 7	137	History of Education	3		3.0
*Home Econ. 13	209	Teaching of Home Economics	3		3.0
		Practice Teaching		3	1.5
*Home Econ. 31	218	Home Care of the Sick and Feeding of Children	2	4	4.0
		Electives			5.5

*Required subjects.

Description of Courses

3. Home Cookery and Table Service. A study of foods, principles governing their preparation, purposes in cooking, their chemical composition, the changes effected by heat, cold and fermentation. The planning of meals, cooking and serving emphasizing efficient expenditure of time, labor and money. Sherman's "*Food Products.*" *Lectures two hours a week; laboratory four hours a week. First semester.*

5. Advanced Cookery. Food groups, the changes brought about by varying degrees of heat; the effect of combining different amounts of ingredients, systematic summaries of the principles involved in cookery. The purchase of food supplies, selection of cuts of meat for family use, cost in relation to nutritive value, vegetables, fruit and dairy products, groceries, wholesale and retail. Sources of supply, influence of same upon cost, influence of season upon the price. The market and wholesale houses will be visited on field trips. Prerequisite, Home Economics 3. *Lectures three hours a week; laboratory four hours a week. Second semester.*

7. Household Sanitation. This subject is studied by means of lectures dealing with healthfulness of location, drainage and surroundings of a dwelling; heating, types and advantage of each; necessity for proper amount of sunlight; ventilation; smoke, dust and dirt; overcrowding; drinking water; disposal of household waste; care of food; preventable disease. Field work. Prerequisites, Bacteriology 2, Chemistry 1 and 2. *Lectures three hours a week; field work two hours a week.* First semester.

8. Household Administration. Course dealing with the efficient management of the home, including budgeting the income; proper distribution of time in daily routine duties; planning of meals in reference to other house work. Keeping of household accounts, use of labor-saving devices, home laundrying. Prerequisites, Home Economics 1, 2 and 7, Bacteriology 2. *Lectures four hours a week; laboratory in practice house two hours a week.* First semester.

9. **Human Nutrition.** Lecture and recitation upon fundamental metabolic processes taking place in digestion; normal absorption, assimilation and use of food; chemical and physical changes in digestion; feeding of individual families and groups under varying physiological, economical and social conditions. Prerequisites, general inorganic chemistry, organic chemistry and bacteriology. *Lectures four hours a week; laboratory two hours a week.* First semester.

13. **Teaching of Home Economics.** A course of lectures and conferences dealing with the presentation of home economics subjects in secondary education. Practice teaching accompanies the class room work. *Lectures and recitations three hours a week. Practice teaching three hours per week. Thruout the year.*

17. **Advanced Dressmaking and Tailoring.** Designing, cutting, fitting and making of wool and silk or other fancy dresses. Laboratory practice in selection of fabrics, names, characteristics, weaves, widths, prices and adulterations. Principles of correct dress, hygiene of clothing, removal of stains, dyeing and cleaning, color, design and economy in dress. Woolman & McGowan's *"Textiles." Lectures one hour a week; laboratory six hours a week.* First semester.

18. **House Furnishing.** Planning and furnishing of a small house at stipulated cost. Study of color combinations, effect of color and practical application in the home. Economical furnishing. Stenciling applied on household articles, basketry in raffia and reed. Visit to stores. Prerequisites, Drawing and Home Economics 7. *Lectures two hours a week; laboratory two hours a week.* Second semester.

19. **Millinery.** A study of the making and covering of hat frames and trimming for winter and summer hats; renovating and making over. Practical and artistic principles of millinery applied. *Laboratory four hours a week.* Second semester.

22. **Textile Laboratory.** A lecture and laboratory course, dealing with microscopic study of fibers, textile chemistry, adulteration, dyeing, laundry, etc. *Lectures two hours a week; laboratory four hours a week.* Second semester.

29. **Elementary Clothing and Textiles.** Machine and hand sewing, drafting of patterns, cutting and making of undergarments, shirt waists and wash dresses. Knitting and crocheting. Study of cost, durability and suitability of materials and trimmings, comparison between ready-made and home-made garments, and other related textile work. *Lecture one hour a week; laboratory four hours a week.* First semester

30. **Laboratory Study of Food and Digestion.** Applied science in regard to foods, their composition and changes induced by heat and

cold. A study of the salivary, gastric and intestinal digestion of food. Prerequisite, general chemistry, organic chemistry, human nutrition and bacteriology. *Lectures three hours a week; laboratory six hours a week.* Second semester.

31. Home Care of the Sick, Feeding and Care of Children. A series of lectures will deal with nature of contagious diseases, home care during illness, fundamental principles in home nursing. The feeding and care of children from infancy thru adolescence will form an important part of the course. The laboratory will apply principally to home nursing and infant feeding. *Lectures two hours a week; laboratory four hours a week.* Second semester.

32. Elementary Dress Making. A continuation of Home Economics 29. Use of commercial patterns; practical use of machine attachments; speed and efficiency; problems; making of garments suitable to time of year. *Laboratory four hours a week.* Second semester.

THE SHORT COURSE IN AGRICULTURE

The short course in Agriculture begins November 1 and ends March 1, and consists of two terms divided by the Christmas holidays. All the work in this course is of a practical nature, and is designed for people living on farms who may desire to attend some agricultural school during the slack season on the farm. No entrance examinations are required, and the course is open to any one who may desire to enter.

For detailed information concerning the short course, address the Dean of the College of Agriculture, Lexington, Ky.

FARMERS' WEEK

Farmers' Week is generally held during the last week in January. The week is occupied by the annual conventions of the various live stock breeders' associations of the state, the State Horticultural Society, the Kentucky Corn Growers' Association and the State Bee-keepers' Association. Each association has its own program which is furnished by the faculty of the College of Agriculture and by men from this and other states distinguished in their particular lines of work. A dairy show, a horticultural show and a farm products show are held during the week in which prizes are awarded. Judging demonstrations in live stock are conducted in connection with the live stock programs. A marketing conference is also held during the week.

THE AGRICULTURAL EXPERIMENT STATION

The Agricultural Experiment Station has for its object the investigation of agricultural problems of special interest to the Kentucky farmer and the discovery of new truths in those sciences related to agriculture.

As at present organized, the Experiment Station includes thirteen departments of work, namely: Administration; Agricultural Economics, including studies in marketing, rural credits, co-operation and the problems of rural social development; Agronomy, or the study of the soils and crops; Animal Husbandry, including (1) beef cattle, sheep and swine, and (2) horses, poultry, dairy cattle and dairying; Chemistry, including the analysis of soils, mineral waters, phosphates, limestones, etc.; Diseases of Live Stock, including the study and investigation of obscure diseases of live stock, the preparation and distribution of hog cholera serum, blackleg vaccine, etc.; Entomology and Botany, including the study and identification of destructive insects and fungus species and their eradication and control by spraying, etc., together with the study of the native plants of the State, acclimation of new varieties of plants, etc.; Feeds and Feeding Stuffs Inspection; Commercial Fertilizers Inspection; Food and Drug Inspection; Horticulture, including orcharding, cultivation under glass, and market and landscape gardening; Research.

Among the investigations recently carried out at the Kentucky Agricultural Experiment Station, and on the experiment farm, may be mentioned the following: studies on the cultivation of corn, wheat, oats, barley, sweet clover, soy beans; the soiling of crops as compared with pasturage; crop rotations suitable to several types of Kentucky soils; soil surveys; the sulfur content of typical Kentucky soils and the relation of sulfur to soil fertility; tobacco investigations; the life-history and habits of the corn-ear worm, and also of the locust borer; stem rot of clover and alfalfa; cross inoculation with nodule bacteria of leguminous plants; a botanical study of the woody plants of Kentucky and of some Kentucky weeds and poisonous plants; a study of a new parasite on the San Jose scale; studies in horticulture and orcharding, the construction of hotbeds and cold frames; poultry raising; egg-raising contest; feeding studies on young chicks; a study of the marketing conditions prevailing in Kentucky; a study of the marketing of burley tobacco in Central Kentucky; investigations in infectious abortion in cows and mares and the isolation of the micro-organism responsible for these diseases; infectious anthritis of colts, and the causative organisms of this disease; extensive stud-

ies in pig feeding; an experiment in hogging down soy beans and cowpeas; breeding investigations with sheep for lamb and wool production; extensive investigations in steer feeding in dry lots and on pasture; the value of various crops for silage; forage poisoning in live stock; malnutrition in hogs; blackhead in turkeys; a study of the inherited characteristics in horses and jacks, and the inheritance of coat colors in horses; the construction and equipment of dairy barns; experiments with a mechanical milker; hog cholera and its control; clover bloat in cattle; an investigation of slaughter houses and plans for a model municipal abattoir, etc. Bulletins on these subjects may be had on application to the Director.

The Experiment Station is also charged with the administration of the State laws governing the manufacture and sale of commercial fertilizers, feeds and feeding stuffs. These laws are administered in such a way as to protect the interests of the manufacturer and the consumer alike, and with the view of safeguarding the public against fraud in the sale and distribution of these various articles. The work incident to the enforcement of the nursery inspection law and of the seed inspection law also is carried out at the Experiment Station.

EXTENSION DIVISION.

In the College of Agriculture of the University of Kentucky an Agricultural Extension Division is maintained. This work is conducted co-operatively with the United States Department of Agriculture, with funds appropriated by the United States government under the Smith-Lever Act and the general agricultural appropriation, and all funds for extension work appropriated by the State of Kentucky, as well as funds derived from the University of Kentucky. In addition to these funds quite a large amount of money is appropriated by fiscal courts and boards of education in the State for this work. In the Federal Smith-Lever Act agricultural extension is defined as follows:

> "Shall consist of the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges, in the several communities, and imparting to such persons information on said subjects through field demonstrations, publications and otherwise."

In order to carry out the provisions of this act, the following lines of work are being carried on in the State:

Administration of Extension Funds, Farm Demonstration Work Thru County Agents, Home Demonstration and Girls' Club Work, Boys' Club Work, Movable Schools of Agriculture and Home Economics, Printing and Distribution of Publications, Organization of Boys' and Girls' Poultry Clubs, Boys' Pig Clubs, Extension Work in Poultry, Extension Work in Horticulture, Extension Work in Live Stock, Dairy Extension Work, Extension Work in Soils and Crops, Extension Work in Veterinary Science, Extension Work in Home Economics.

COLLEGES OF ENGINEERING

The Colleges of Engineering are prepared to give a comprehensive and thoro training in the sciences and arts fundamental to the various fields of the engineering profession.

OFFICERS OF ADMINISTRATION AND INSTRUCTION

FRANK LEROND MCVEY, PH. D., LL. D.
President of the University

FREDERICK PAUL ANDERSON, M. E.
Dean of the College of Mechanical and Electrical Engineering, Director of Experimental Engineering Laboratories, Professor of Mechanical Engineering

CHARLES JOSEPH NORWOOD, M. S.
Dean of the College of Mines and Metallurgy, Professor of Mines and Metallurgy

DANIEL VOIERS TERRELL, C. E.
Acting Dean of the College of Civil Engineering, Professor of Highway Engineering

Professors

BARR, THOMAS JAMES, B. M. E.
Professor of Mining Engineering

BOYD, PAUL PRENTICE, M. A., PH D.
Professor of Mathematics, Head of the Department

DANTZLER, LEHRE LIVINGSTON, M. A.
Professor of Philology, Head of the Department of English

DAVIS, JOSEPH MORTON, A. M.
Professor of Mathematics

FARQUHAR, EDWARD FRANKLIN, A. M.
Professor of Literature

FRANKEL, LEON KAUFMAN, M. E.
Professor of Applied Mechanics, Head of the Department of Mechanics of Engineering

FREEMAN, WILLIAM EDWIN, A. B., E. E.
Professor of Electrical Engineering, Head of the Department

MAXSON, RALPH NELSON, B. S., PH. D.
Professor of Inorganic Chemistry

MILLER, ARTHUR MCQUISTON, A. M.
Professor of Geology, Head of the Department

NOLLAU, LOUIS EDWARD, M. E.
Professor of Mechanical Drawing, Head of the Department of Drawing

PENCE, MERRY LEWIS, M. S.
Professor of Physics

ROYDEN, HERBERT NATHAN, Capt. (West Point)
Captain of Infantry, United States Army, Commandant and Professor of Military Science and Tactics

TUTHILL, JAMES EDWARD, PH. D.
Professor of History and Political Economy, Head of the Department

TUTTLE, FRANKLIN ELLIOTT, M. A., PH. D.
Professor of Chemistry, Head of the Department

*WEBB, WILLIAM SNYDER, M. S.
Professor of Physics

Associate Professors

*CARREL, WILLIAM JOSEPH, B. S., C. E.
Associate Professor of Civil Engineering

KILLEBREW, CINCINNATUS DECATUR, M. S.
Associate Professor of Physics

REES, ELIJAH LATHAM, C. E., M. A.
Associate Professor of Mathematics

Assistant Professors

BUTT, WILLIAM EDWARD, A. B., M. A.
Assistant Professor of Economics

CURTIS, JOHN JAMES, M. E.
Assistant Professor of Testing of Materials

**DICKER, JOSEPH,
Superintendent of Shops, Head of the Department of Practical Mechanics

DICKER, JOHN BORN
Superintendent of Shops, Head of the Department of Practical Mechanics

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* On leave of absence for duration of war.
** Deceased October 31, 1917.

DOWNING, HAROLD HARDESTY, B. C. E., M. S.
Assistant Professor of Mathematics

*DUNCAN, JAMES RAY, B. M. E.
Assistant Professor of Electrical Engineering

KIPLINGER, CLAUDE CLAYTON, A. B.
Assistant Professor of Organic Chemistry

WILHOITE, ARZA LYTLE, M. E.
Assistant Professor of Heat Engineering

Instructors

ALLEN, HARRY RAYMOND, A. B.
Fellow in Mathematics

ANDERSON, VIRGINIA FRANCES, B. S. in Biol.,
Instructor in Free Hand Drawing

AUBREY, THOMAS
Engineer and Assistant in Wood Shop

BURGEVIN, LESLIE, A. B.
Instructor in English

GROVE, VERNON GUY, A. B.
Fellow in Mathematics

HARDMAN, ALBERT FOSTER, A. B.
Instructor in Chemistry

HARP, CECIL CHENAULT, M. E.
Instructor in Experimental Engineering

MITCHELL, JOHN RICHARD, A. B.
Instructor in Chemistry

NEWMAN, WILLIAM ARNOLD, C. E.
Instructor in Civil Engineering

SLAPPEY, GEORGE, A. B.
Fellow in English

STATES, MARSHALL NEY, B. S.
Instructor in Physics

THURMAN, GORDON
Instructor in Machine and Forge Shop

WATKINS, ISAAC G.
Assistant in Engineering Laboratories

WILLIAMS, NORTON MOORE, B. S.
Instructor in Chemistry

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*On leave of absence for duration of war.

INTRODUCTORY STATEMENT

Organization

The Colleges of Engineering embrace the following Departments: Civil Engineering, Drawing, Electrical Engineering, Mechanical Engineering, Mechanics of Engineering, Mines and Metallurgy, Practical Mechanics.

Courses of Study and Degrees

The Colleges of Engineering offer instruction leading to the following baccalaureate degrees:

Bachelor of Science in Civil Engineering
Bachelor of Science in Mechanical Engineering
Bachelor of Science in Mining Engineering
Bachelor of Science in Metallurgical Engineering

The courses of study leading to these degrees are identical during the freshman and sophomore years. Familiarity with such fundamental subjects as Chemistry, Drawing, English, Mathematics, Physics and Practical Mechanics is essential to the successful study and practice of any branch of the engineering profession. Furthermore after two years of college work a student is better able to make a definite choice of the branch of engineering which he is best fitted to follow. During the junior and senior years the courses are planned to give the special training that is best suited to each branch of the profession.

The Colleges of Engineering offer graduate courses leading to the following advanced degrees:

C. E. (Civil Engineer)
E. E. (Electrical Engineer)
M. E. (Mechanical Engineer)
Met. E. (Metallurgical Engineer)
E. M. (Mining Engineer)

For further information regarding these degrees, see the announcement of the Graduate School, page 297.

OUTLINE OF THE FRESHMAN AND SOPHOMORE YEARS OF ALL COURSES LEADING TO ENGINEERING DEGREES

FRESHMAN YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Chemistry 1	127	General Inorganic Chemistry	3	4	5.0
Drawing 1	238	Mechanical Drawing		7	2.3
Drawing 2	238	Freehand Drawing		1	0.3
Drawing 3	238	Descriptive Geometry	3		3.0
English 1	141	English Composition	3		3.0
Mathematics 3	157	College Algebra	5		5.0
Practical Mech. 1	274	Wood Working		8	2.7
Military Science	160	Infantry Drill		3	1.0
Physical Education	167	Gymnasium or Field Athletics		2	0.7

Second Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Chemistry 2	128	General Inorganic Chemistry	3	4	5.0
Drawing 1	238	Mechanical Drawing		4	1.3
Drawing 2	238	Freehand Drawing		1	0.3
Drawing 3	238	Descriptive Geometry	2		2.0
English 1	141	English Composition	3		3.0
Mathematics 2	157	Trigonometry	5		5.0
Physics 4	171	Elementary Physical Measurements		4	2.0
Prac. Mech. 2 & 3	275	Pattern Making and Foundry Work		8	2.7
Military Science	160	Infantry Drill	3		1.0
Physical Education	167	Gymnasium or Field Athletics		2	0.7

* A credit represents one hour of recitation or two hours of laboratory a week for one semester.

SOPHOMORE YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 3	142	History of English Literature	3		3.0
Mathematics 4a	157	Analytical Geometry. First Part	5		5.0
Mech. of Engin. 5	256	Slide Rule Practice	1		1.0
Practical Mech. 4	275	Forge and Machine Shop Work		6	2.0
Physics 1b	171	General College Physics	4		4.0
Physics 5b	172	Measurements in Mechanics and Heat	1	4	3.0
Surveying 1	235	Land Surveying	2		2.0
Military Science	160	Infantry Drill		3	1.0
		First Half			
Drawing 4	238	Elementary Design		4	0.7
Surveying 2	236	Field Practice		4	1.0
		Second Half			
Drawing 4	238	Elementary Design		8	1.3

Second Semester

Drawing 4	238	Elementary Design		6	2.0
English 3	142	History of English Literature	3		3.0
Mathematics 4b	157	Analytical Geometry. First Part	5		5.0
Mathematics 5a	157	Differential Calculus	5		5.0
Physics 2b	171	General College Physics	4		4.0
Physics 6b	172	Measurements in Elec. Sound and Light	1	4	3.0
Practical Mech. 4	275	Forge and Machine Shop Work		6	2.0
Military Science	160	Infantry Drill		3	1.0

SUMMER WORK

It is very desirable that students of engineering should obtain practical experience while pursuing their college course. It is strongly urged that all engineering students obtain employment during their summer vacations with some concern engaged in engineering work.

CIVIL ENGINEERING

Professor Terrell, Associate Professor Carrel, Mr. Newman

GENERAL STATEMENT

Organization

The Department of Civil Engineering is organized for the purpose of giving young men a thoro course of instruction in those

branches most vital to the civil engineer. The course is planned to give the student a knowledge of the subjects which will enable him to develop rapidly into a skilful practitioner in any of the branches of the profession.

Civil engineering deals with the subjects of mechanical drawing, practical mechanics, surveying, railroad location, railroad construction, railroad maintenance, topographical surveying, hydraulics, hydraulic power development, irrigation, roads, paving, highway bridges, railroad bridges, buildings, water supply, dams, drainage, masonry construction, reinforced concrete, mill buildings, municipal engineering, contracts and specifications. In addition to the purely technical subjects included in the course, provision is made for the study of English, mathematics, physics, chemistry, geology, government and economics.

Brooks Civil Engineering Society

The Brooks Engineering Society, named in honor of a former Dean of the College, is a flourishing organization, and gives abundant opportunity for the discussion of general and special engineering topics.

EQUIPMENT

Buildings

The home of the Department of Civil Engineering is in the Civil Engineering and Physics Building, a large three-story brick structure, trimmed with cut stone, and having a floor space of about 40,000 square feet. The lecture rooms, offices, drafting rooms and laboratories are all located in this building.

Drawing Rooms

In this building there are three large well-lighted drafting rooms, provided with individual tables containing lockers for each student's outfit and cabinets for drawing boards. The walls of the drawing rooms are decorated with photographs of actual constructions. A large collection of standard drawings of bridges, buildings, stadiums, railroad construction, sewer construction, water works, power plants, and irrigation structures are available for examination.

Laboratories

Laboratories are available to the student for experimental work in the testing of building materials of all kinds, as well as a complete Road Laboratory for the purpose of testing materials used in the construction of permanent roads.

Libraries

The General University Library is available for the use of civil engineering students; but in addition to this general library, the Department of Civil Engineering has a library specially designed to meet the needs of civil engineering students. The leading technical journals are also placed in the department library reading rooms.

Apparatus

The field and office equipment belonging to the department consists of ten transits, six engineer's levels, two solar attachments, one needle compass, one plane table, one precise pantograph, two planimeters, one set of splines, eight hand levels, one sextant, one aneroid barometer, one set of railroad curves, level rods, cross-section rods, tapes, flags, and minor accessories.

COURSE OF STUDY AND DEGREES

The course of study prescribed for students in Civil Engineering is outlined below. This course leads to the degree of Bachelor of Science in Civil Engineering. For information regarding the advanced degree C. E. (Civil Engineer), see the announcement of the Graduate School, page 297.

OUTLINE OF COURSE LEADING TO THE DEGREE B. S. IN CIVIL ENGINEERING

FRESHMAN YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Chemistry 1	127	General Inorganic Chemistry	3	4	5.0
Drawing 1	238	Mechanical Drawing		7	2.3
Drawing 2	238	Freehand Drawing		1	0.3
Drawing 3	238	Descriptive Geometry	3		3.0
English 1	141	English Composition	3		3.0
Mathematics 3	157	College Algebra	5		5.0
Practical Mech. 1	274	Wood Working		8	2.7
Military Science	160	Infantry Drill		3	1.0
Physical Education	167	Gym. or Field Athletics		2	0.7

Second Semester

Chemistry 2	128	General Inorganic Chemistry	3	4	5.0
Drawing 1	238	Mechanical Drawing		4	1.3
Drawing 2	238	Freehand Drawing		1	0.3
Drawing 3	238	Descriptive Geometry	2		2.0
English 1	141	English Composition	3		3.0
Mathematics 2	157	Trigonometry	5		5.0
Physics 4	171	Elementary Physical Measurements		4	2.0
Prac. Mech. 2 & 3	275	Pattern Making and Foundry Work		8	2.7
Military Science	160	Infantry Drill	3		1.0
Physical Education	167	Gym. or Field Athletics		2	0.7

* A credit represents one hour of recitation or two hours of laboratory a week for one semester.

SOPHOMORE YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 3	142	History of English Literature	3		3.0
Mathematics 4a	157	Analytical Geometry. First Part	5		5.0
Mech. of Engin. 5	256	Slide Rule Practice	1		1.0
Practical Mech. 4	275	Forge and Machine Shop Work		6	2.0
Physics 1b	171	General College Physics	4		4.0
Physics 5b	172	Measurements in Mechanics and Heat	1	4	3.0
Surveying 1	235	Land Surveying	2		2.0
Military Science	160	Infantry Drill		3	1.0
		First Half			
Drawing 4	238	Elementary Design		4	0.7
Surveying 2	236	Field Practice		4	1.0
		Second Half			
Drawing 4	238	Elementary Design		8	1.3

Second Semester

Drawing 4	238	Elementary Design		6	2.0
English 3	142	History of English Literature	3		3.0
Mathematics 4b	157	Analytical Geometry. 2d Part	5		5.0
Mathematics 5a	157	Differential Calculus	5		5.0
Physics 2b	171	General College Physics	4		4.0
Physics 6b	172	Measurements in Elec. Sound and Light	1	4	3.0
Practical Mech. 4	275	Forge and Machine Shop Work		6	2.0
Military Science	160	Infantry Drill		3	1.0

JUNIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Bridge Engin. 3	233	Bridge Stresses	3		3.0
Bridge Engin. 4	233	Graphic Statics		4	1.3
Electrical Engin. 11	246	Electric Circuits and Apparatus	2		2.0
Electrical Engin. 12	246	Electrical Laboratory		2	1.0
Geology	147	General Geology	3		3.0
Highway Engin. 1	236	Highway Loc. Const. & Maint.	2		2.0
Mathematics 5b	157	Integral Calculus	5		5.0
Mech. of Engin. 1	256	Mechanics of Materials	5		5.0
Mech. of Engin. 2	256	Testing Materials		2	1.0
		First Half			
Surveying and Geodesy 3	236	Topographic Surveying		6	1.0
		Second Half			
Bridge Engin. 1	233	Roof Truss Design		6	1.0
Highway Engin. 4	237	Testing Road Material		2	0.5

Second Semester

Electrical Engin. 11	246	Electric Circuits and Apparatus	2		2.0
Electrical Engin. 12	246	Electrical Laboratory		2	1.0
Geology	147	General Geology	3		3.0
Mathematics 6	157	Spherical Trig. and Least Squares	2		2.0
Mech. of Engin 6	257	Analytical Mechanics	5		5.0
Metallurgy 1	272	Assaying		2	1.0
		First Half			
Bridge Engin. 5	233	Highway Bridge Design		6	1.0
Construction 1	234	Masonry Construction	3		1.5
Railway Engin. 1	235	Railroad Location	5		2.5
Railway Engin. 4	235	Railroad Drafting		4	0.7
		Second Half			
Metallurgy 15	273	Metallurgy of Iron and Steel	3		1.5
Railway Engin. 2	235	Railroad Location	5		2.5
Railway Engin. 5	235	Railroad Field Practice		10	1.7

SENIOR YEAR

A student to be eligible to any class scheduled for the senior year must report for class work on September 18, and must have received credit in all subjects scheduled for the three preceding years.

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Bridge Engin. 7	233	Railroad Bridge Design		8	2.7
Construction 3	234	Retaining Walls and Dams	2		2.0
Construction 2	234	Reinforced Concrete	3		3.0
Construction 4	234	Reinforced Concrete Design		2	0.6
Economics		Business Economics	2		2.0
English 32	141	Engineering English	3		3.0
Geology 7	148	Economic Geology	3		3.0
Hydraulics 1	233	Elements of Hydraulics	2		2.0
Mech. Engin. 1	252	Thermodynamics	4		4.0
Surveying and Geodesy 4	236	Geodesy	2		2.0
Surveying and Geodesy 5	236	Geodetic Surveying		2	0.6

Second Semester

Economics		Business Economics	2		2.0
English 32	141	Engineering English	3		3.0
		First Half			
Bridge Engin. 7	233	Railway Bridge Design		8	1.3
Contracts and Spec. 1-2	234	Engineering Contracts and Spec.	2		1.0
Geology 7	148	Engineering Geology	3		1.5
Highway Engin. 3	236	Streets and Pavements	5		2.5
Highway Engin. 5	237	Asphalt Testing Laboratory		4	2.0
Mun. Water Power and San. Engin. 1	234	Water Power	2		1.0
Mun. Water Power and San. Engin. 2	234	Water Supply	2		1.0
Mun. Water Power and San. Engin. 3	235	Sanitary Engineering	3		1.5
		Second Half			
Collateral Activ. 2	253	Senior Inspection Trip (1 week)		36	0.7
Collateral Activ. 3	254	Thesis		30	5.0
Collateral Activ. 4	254	Thesis Assembly	1		0.5

COURSES OF INSTRUCTION

Hydraulics

1. Hydraulics. This course consists of text book exercises together with the solution of numerous problems covering the principles of hydrostatics and hydrodynamic pressure, the flow of water thru orifices, nozzels, over weirs and thru pipes and open channels, also the loss from friction and other sources. Prerequisite, Mathematics 5. *Two hours a week. First semester.* Associate Professor CARREL.

2. Irrigation and Drainage. Grades, cross-section and capacity of canals, surveys, designs of structures, dams, conduits, levees, etc. Lectures, readings and collateral reports. *Two hours a week. First semester.* Associate Professor CARREL.

Bridge Engineering

1. Roof Truss Design. The design of a simple steel roof truss is taken up and design sheets and complete shop drawings are made and traced. *Drawing, ten hours a week. Second half of first semester.* Professor ————.

2. Roof Truss Design. Same as Course 1. *Drawing, ten hours a week. First half of second semester.* Professor ————.

3. Bridge Stresses. This course takes up the analytical method of finding stresses in roof and bridge trusses and consists of the following: Roof trusses under dead and wind loads, final stresses for bridge trusses, bridge bracing, members and floors. *Three hours a week, first semester; five hours a week, first half of second semester.* Professor ————.

4. Bridge Stresses. Graphic Method. Principles and methods, roof trusses, bridge trusses, locomotive wheel loads, trusses with broken cords, miscellaneous trusses. *Drawing, six hours a week. Second semester.* Professor ————.

5. Highway Bridge Design. Complete design and shop drawings for a highway bridge. *Drawing, eight hours a week. First half of second semester.* Professor ————.

6. Mill Buildings. The designs of mill buildings are taken up in this course, and also the study of railroad trestles, mine structures, grain elevators, towers, tanks, etc. *Five hours a week. Second semester.* Professor ————.

7. Railroad Bridge Design. Complete designs and details for a single track railway bridge. Recitations, lectures, and drafting room periods. *Drawing, thirteen hours a week, first semester; ten hours a week, first half of second semester.* Professor ————.

Construction

1. **Masonry Construction.** Properties of stone, brick, cement and concrete and their uses in engineering structures. Foundations, retaining walls, piers and abutments, dams and chimneys; the design of masonry structures, including arches, dams, etc. *Five hours a week. Second half of second semester.* Mr. NEWMAN.

2. **Reinforced Concrete.** Determination of forms and proportions. Lectures, recitations, computations of columns, beams and arches of reinforced concrete construction. Prerequisites, Mechanics of Engineering 1 and 6. *Three hours a week. First semester.* Professor TERRELL.

3. **Masonry Dams.** Theory and designs of retaining walls and masonry dams. Lectures, recitations and designs. Prerequisite, Hydraulics 5. *Three hours a week. First semester.* Professor TERRELL.

4. **Reinforced Concrete Design.** The design of columns, beams, buildings, retaining walls, dams and arches, special problems assigned to each student. Complete detail drawings with computation. *Two hours a week. First semester.* Professor TERRELL.

Contracts, Specifications and Thesis

1. **Contracts.** Offer and acceptance, consideration, contracts under seal, assignments, joint and several contracts, the statute of frauds, conditions, impossibility, illegality, discharge of contracts. *Two hours a week. First semester.* Professor TERRELL.

2. **Specifications.** A detailed study of various specifications. The student is required to write and discuss several specifications. *One hour a week. First half of second semester.* Professor TERRELL.

3. **Thesis.** The object of the thesis is to determine the student's ability to enter upon a course of independent investigation and thus to apply some of the fundamental principles of engineering previously studied.

Municipal, Water Power and Sanitary Engineering

1. **Water Power Enginering.** The work embraces a detailed study of rainfall, run-off, storage and the design and construction of water power works. Prerequisite, Hydraulics 5. *Three hours a week. First half of second semester.* Professor TERRELL.

2. **Water Supply and Water Works Supply.** Requisites of supply, source of supply, rainfall, surface water, rivers and lakes, ground water, gravity systems, pumping engines. Design, construction and maintenance. *Summer work.* Professor TERRELL.

3. Sanitary Engineering. Sewerage systems, separate and combined, hydraulics of sewers, determination of size and capacity, surveys for drainage systems, design of system in detail, specifications and estimates of cost, inspection of work, methods of disposal, irrigation, filtration, chemical precipitation, bacteriological methods, house drainage, garbage disposal. Prerequisite, Hydraulics 5. *Five hours a week. First half of second semester.* Professor TERRELL.

Railway Engineering

1. Railway Location. This course consists of the study of economic methods of railway location, together with the actual location of a line several miles in length, including reconnaissance, preliminary survey, topography, maps, projecting the location, making approximate estimates and final location. *Five hours a week. First half of second semester.* Mr. NEWMAN.

2. Railway Construction. The work in construction will consist of lectures, recitations and assigned readings in connection with office and field work, including cross-sectioning, calculation of quantities, haul, monthly and final estimates. A complete estimate of quantities and cost of line are made. *Five hours a week. Second half of second semester.* Mr. NEWMAN.

3. Railway Maintenance. Construction and maintenance of track and accessory structures, the improvement of gradient and alignment, the design and maintenance of yards and terminals. Lectures, recitations and assigned readings. *Two hours a week. First semester.* Mr. NEWMAN.

4. Railroad Drafting. A preliminary course to that of field location. In this course, a complete set of notes is turned over to the student and he is required to make the most economical paper location. *Four hours a week. First half of second semester.* Mr. NEWMAN.

5. Railway Field Practice. A course in practical field work consisting of all necessary instrument work from the reconnaissance survey to a completed railway. *Thirteen hours a week. Second half of second semester,* Mr. NEWMAN.

Surveying and Geodesy

1. Land Surveying. An elementary course in land surveying, methods and the use and care of surveying instruments, with recitations, lectures and field practice. The field work affords practice in the use of chain, tape, compass, transit and level. *Two hours a week. First semester.* Mr. NEWMAN.

2. Field Practice. Field practice in connection with Course 1 in land surveying. *Field work, four hours a week. First half of first semester.* Mr. NEWMAN.

3. Topographical Surveying. The use of the hand level, plane table, stadia and other instruments used in making topographical surveys are studied by means of recitations, lectures and field practice. A complete topographical survey is made, including field information, calculations and a complete map. *Field work and laboratory, thirteen hours a week. First half of first semester.* Mr. NEWMAN.

4. Geodesy. Precise methods of surveying. The most probable value of a line or angle, precise leveling, methods of making observations and the computation from field notes for time, latitude, longitude and azimuth adjustment of level net, errors in a survey and how to adjust them. *Two hours a week. First semester.* Professor TERRELL.

5. Geodetic Surveying. Methods of making geodetic surveys. Base line measurements, measurements of angles, horizontal and vertical; field methods for time, latitude, longitude and azimuth. Students are required to make and reduce observations illustrating the work of the course. Prerequisites, Trigonometry and Least Squares. *Two hours a week. First semester.* Associate Professor ————.

Rural and Highway Engineering

1. Highway Location, Construction and Maintenance. Principles and methods followed in locating a highway. Topographic condition, benefit of road and economics considered. Method of construction, materials to be used and how to use them for all classes and types of roads. A study of the best methods to be followed in maintaining and keeping highways and bridges in good repair. Lectures, assigned readings, reports and inspection of roads. *Two hours a week. First semester.* Professor TERRELL.

2. Highway Field and Office Practice. This course will consist of the actual location of a piece of road. Use of instruments, keeping of notes and doing all necessary field work for highways. The working up of a survey into Plan, Profile and Cross-section. Making detail estimate of cost of the entire project. These plans will be worked out to conform with the specifications of the United States Office of Public Roads. *Four hours a week. Second semester.* Professor TERRELL.

3. Streets and Pavements. A study of paving materials for cities and towns, traffic census, resistance to traction, determining the

most suitable material, and designing of streets. *Five hours a week. First half of second semester.* Professor TERRELL.

4. Road Material Laboratory. Testing of rock, gravel, sand, brick and culvert pipe. Given in connection with Course 1. *Two hours a week. First half of second semester.* Professor TERRELL.

5. Asphalt Laboratory. Testing of natural asphalts, oil asphalts, rock asphalt, coal tars, flux oil, road oil, dust layers and dust preventatives. Determining the origin of a given product and the method of manufacture. Determining if a given product will pass a given specification. *Four hours a week. First half of second semester.* Professor TERRELL.

6. Road Making. An elementary course in country highways designed for Agricultural students, touching on location, construction and maintenance. Intended to give the student a better realization of the importance of roads and also how to obtain them for a community. *Two hours a week. Second half of second semester.* Mr. NEWMAN.

MECHANICAL DRAWING

Professor Nollau, Assistant Professor Horine, Assistant Professor Curtis, Miss Anderson

The Department of Drawing is located partly in Mechanical Hall and partly in the Civil Engineering and Physics Building. The drawing rooms for sophomores and for freehand drawing, the blue print and photographic laboratories, one recitation room shared with the Department of Mechanical Engineering and the office of the head of the department are located in Mechanical Hall. The drawing room for freshmen and the office of the assistant professor are in the Civil Engineering and Physics Building. The Physics lecture room is used for lectures and recitations.

Photographic Laboratory

Commodious and convenient quarters are arranged for giving a good course in practical photography. The equipment consists of excellent cameras for all classes of subjects, and the facilities for making lantern slides, copies and enlargements are first class.

Blue Print Laboratory

The attic of the administration part of Mechanical Hall is devoted to the art of blue printing. Large frames for sun and artificial printing are included in the equipment.

COURSES OF INSTRUCTION

Drawing

1. Mechanical Drawing. Comprising: (a) Freehand sketches, drawing from copies and models, using parts of machines in the laboratories as models. (b) Freehand lettering. (c) Exercises in tinting and shading. (d) Tracing. (e) Blue-printing. During the latter part of the second semester the time is devoted to descriptive geometry drawing. *Seven hours a week, first semester; four hours a week, second semester.* Professor NOLLAU, Assistant Professor HORINE.

2. Freehand Drawing. *One hour a week. Thruout the year.* Miss ANDERSON.

3. Descriptive Geometry. This work includes first the discussion of descriptive geometry as a branch of pure mathematics; later comes a consideration of the application of descriptive geometry principles as an aid to engineering drawing. The lectures and recitations are supplemented by work in the drawing room under Course 1. Prerequisite, Mathematics 1. *Three hours a week, first semester; two hours a week, second semester.* Professor NOLLAU, Assistant Professor HORINE, Assistant Professor CURTIS.

4. Elementary Design. (a) Drawing the parts of machines and complete machines to scale. (b) Design of machine details. Prerequisites, Drawing 1 and 2. *Four hours a week, first half, and eight hours a week second half of first semester; six hours a week, second semester.* Professor NOLLAU, Assistant Professor HORINE.

5. Theory and Practice of Photography. For seniors in Mechanical and Electrical Engineering. Lectures on the chemistry and optics of photography especially prepared with reference to the latest practice in photographic art. The student also has laboratory practice in photography which gives him a good practical working knowledge of picture taking and picture making with particular application to engineering subjects. *Recitations one hour a week; laboratory two hours a week. Second half of second semester.* Professor NOLLAU.

ELECTRICAL ENGINEERING

Professor Freeman, Associate Professor ———

The Department of Electrical Engineering is located in Mechanical Hall. There is a comfortable recitation room with seventy-three seats and a projectoscope, a large, well-lighted drawing room used jointly with the Department of Mechanics of Engineering, and an office for the head of the department and the associate professor, besides the laboratories.

ELECTRICAL LABORATORY

The equipment for carrying on experimental work in electrical engineering is as follows:

Direct Current Generators

One 10 kw. 125-volt, Crocker-Wheeler Company.
One 10 kw. 125-volt, General Electric Company.
One 3 kw. 125-volt, Northern Electric Company.
One 8.5 kw. 125-volt, Edison Type, General Electric Company.
One 2 kw. 125-volt, Fort Wayne Electric Company.

Alternating Current Generators

One 7.5 kw. 220-volt, 2 or 3 phase, 60 cycle, Jas. Clark, Jr. Electric Company.

One 33 kw. 1100-volt, single phase, 133-cycle, Fort Wayne Electric Company.

One 50 kw. 1100-volt, single phase, 133-cycle, Westinghouse Electric and Manufacturing Company.

One 2 kw. single, 2 or 3 phase, 110-volt, 60-cycle, Central Laboratory Supply Company.

Direct Current Motors

There are several small machines, some of them built in the shops which, with some of the generators mentioned above, give a good equipment for laboratory work.

Alternating Current Motors

One 2-horse power, single phase, 60-cycle, 110 volt, General Electric induction motor; two 5-horse power, 60-cycle, 220-volt, 2 and 3 phase induction motors, James Clark Junior Electric Company; one Emerson ½ horse power, 110-volt, 60-cycle single phase induction motor.

Converter

One Wagner 1½ kw. motor generator set for converting 110-volt, 60-cycle, single phase alternating current to 125-volt direct current.

Watt-Hour Meters

The laboratory is equipped with one of each of the following: General Electric Company induction type; Fort Wayne induction type; Sangomo mercury type; Duncan commutator type.

Portable Indicating Instruments

One induction type wattmeter; three dynamometer type wattmeters with a voltage multiplier and a current transformer; two Weston a. c. or d. c. voltmeters with multipliers; three Thompson voltmeters; one American d. c. voltmeter; one Queen d. c. voltmeter; one Weston d. c. voltmeter; three hot wire ammeters; two Weston millivoltmeters with 1 ampere, 5 ampere, 100 ampere and 500 ampere shunts; one Weston d. c. ammeter; three Thompson ammeters; one American d. c. ammeter; one Roller-Smith dynamometer type ammeter; one Leeds & Northup electrodynamometer, one Queen electrometer and one Westinghouse power factor meter with potential and current transformers.

Miscellaneous Equipment

One Leeds & Northrup potentiometer; two Weston standard cells; one Rowland electrodynamometer with shunt box; four galvanometers; one torsion dynamometer; one vacuum pump; two Wheatstone bridges; one standard condenser; four condensers made in the shops; two Universal Manufacturing Company flat rate controllers; Tesla coils; one set of Thordarson laboratory apparatus and a varied assortment of storage cells, primary cells, resistances, keys and switches.

Telephone Equipment

Two complete experimental outfits were furnished by the Western Electric Company. One contains all the equipment necessary to demonstrate both "A" and "B" board operation in connecting and disconnecting two subscribers; the other contains all the equipment for the ordinary connections between two subscribers connected into the same central office. In addition to these outfits several telephones were furnished in connection with a device for party line ringing.

Besides the equipment described above, the telephone laboratory is equipped with a small American Electric Telephone Company's operator's board equipped with both common battery and magneto apparatus and with a number of subscribers' instruments for use on each of these types of circuits. These subscribers' instruments are equipped with the proper choke coils and condensers for multi-frequency party line ringing.

There are also a four-party harmonic ringing equipment, donated by the Kellogg Switchboard and Supply Company; a two-line telephone train dispatching equipment furnished by the Western Electric Company; a two-line telephone train dispatching equipment furnished by the General Railway Signal Company and a four-line automatic telephone equipment supplied by the Automatic Electric Company.

Photometers

One Queen stationary photometer and one Sharp-Millar portable photometer.

Transformers

Two 15 kw. Fort Wayne 1100 to 110 or 55 volts.

One 600 watt Fort Wayne 1100 to 110 or 55 volts.

Two 5 kw. Duncan 110 to 55, 110 or 220 volts.

One 5 kw. Thordarson 110 to 5,000, 10,000, 15,000, 20,000, 30,000 or 40,000 volts.

COURSE OF STUDY AND DEGREES

The course of study outlined below leads to the degree of Bachelor of Science in Mechanical Engineering. For information regarding the advanced degree E. E. (Electrical Engineer), see the announcement of the Graduate School, page 297.

OUTLINE OF COURSE LEADING TO THE DEGREE B. S. IN MECHANICAL ENGINEERING.

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Chemistry 1	127	General Inorganic Chemistry	3	4	5.0
Drawing 1	238	Mechanical Drawing		7	2.3
Drawing 2	238	Freehand Drawing		1	0.3
Drawing 3	238	Descriptive Geometry	3		3.0
English 1	141	English Composition	3		3.0
Mathematics 3	157	College Algebra	5		5.0
Practical Mech. 1	274	Wood Working		8	2.7
Military Science	160	Infantry Drill		3	1.0
Physical Education	167	Gym. or Field Athletics		2	0.7

Second Semester

Chemistry 2	128	General Inorganic Chemistry	3	4	5.0
Drawing 1	238	Mechanical Drawing		4	1.3
Drawing 2	238	Freehand Drawing		1	0.3
Drawing 3	238	Descriptive Geometry	2		2.0
English 1	141	English Composition	3		3.0
Mathematics 2	157	Trigonometry	5		5.0
Physics 4	171	Elementary Physical Measurements		4	2.0
Prac. Mech. 2 & 3	275	Pattern Making and Foundry Work		8	2.7
Military Science	160	Infantry Drill	3		1.0
Physical Education	167	Gym. or Field Athletics		2	0.7

* A credit represents one hour of recitation or two hours of laboratory a week for one semester.

SOPHOMORE YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 3	142	History of English Literature	3		3.0
Mathematics 4a	157	Analytical Geometry. First Part	5		5.0
Mech. of Engin. 5	256	Slide Rule Practice	1		1.0
Practical Mech. 4	275	Forge and Machine Shop Work		6	2.0
Physics 1b	171	General College Physics	4		4.0
Physics 5b	172	Measurements in Mechanics and Heat	1	4	3.0
Surveying 1	235	Land Surveying	2		2.0
Military Science	160	Infantry Drill		3	1.0
		First Half			
Drawing 4	238	Elementary Design		4	0.7
Surveying 2	236	Field Practice		4	1.0
		Second Half			
Drawing 4	238	Elementary Design		8	1.3

Second Semester

Drawing 4	238	Elementary Design		6	2.0
English 3	142	History of English Literature	3		3.0
Mathematics 4b	157	Analytical Geometry. 2d Part	5		5.0
Mathematics 5a	157	Differential Calculus	5		5.0
Physics 2b	171	General College Physics	4		4.0
Physics 6b	172	Measurements in Elec. Sound and Light	1	4	3.0
Practical Mech. 4	275	Forge and Machine Shop Work		6	2.0
Military Science	160	Infantry Drill		3	1.0

JUNIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Electrical Engin. 1	244	Elements of Electrical Engin.	5		5.0
Mathematics 5b	157	Integral Calculus	5		5.0
Mech. of Engin. 1	256	Mechanics of Materials	5		5.0
Mech. of Engin. 2	256	Testing of Materials		2	1.0
Mech. of Engin. 3	256	Kinematics (12 weeks)	5		3.5
Mech. of Engin. 7	257	Machine Design (6 weeks)	5		1.5
Mech. of Engin. 4	256	Kinematic Drawing		12	4.0

Second Semester

Elec. Engin. 3	244	Alternating Currents	5		5.0
Mech. of Engin. 6	257	Analytical Mechanics	5		5.0
Mech. of Engin. 7	257	Machine Design		8	2.7
		First Half			
Bridge Engin. 2	233	Graphic Statics		6	1.0
Chemistry 17	129	Gas Analysis		2	0.5
Elec. Engin. 2	244	Direct Current Dynamos	2		1.0
Elec. Engin. 7	245	Dynamo Design		3	0.5
Elec. Engin. 9	246	Elec. Laboratory			
Mech. Engin. 8	252	Steam Laboratory	1	2	1.0
		Second Half			
Elec. Engin. 7	245	Dynamo Design		8	1.3
Elec. Engin. 10	246	Electrical Laboratory	1	2	1.0
Mech. Engin. 8	252	Steam Laboratory	1	2	1.0
Metallurgy 14	273	Metallurgy of Iron and Steel	2		1.0

SENIOR YEAR

A student to be eligible to any class scheduled for the senior year must report for class work on September 18, and must have received credit in all subjects scheduled for the three preceding years.

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Collateral Activ. 5	254	Magazine Digest } Alternate			
Collateral Activ. 6	254	A. S. M. E. and A. I. E. E. } Weeks	1		1.0
Elec. Engin. 4	245	Generation and Transmission of Power	4		4.0
Elec. Engin. 6	245	Switchboard Design		4	1.3
Elec. Engin. 11	246	Electrical Laboratory	1	2	2.0
English 32	141	Engineering English	3		3.0
Hydraulics 1	233	Hydraulics	2		2.0
Mech. Engin. 1	252	Thermodynamics	4		4.0
Mech. Engin. 2 & 3	252	Valve Gears and Steam Boilers	4		4.0
Mech. Engin. 6 & 7	252	Steam Engine and Turbine Design		6	2.0
Mech. Engin. 9	253	Steam and Gas Engine Laboratory	1	2	2.0

Second Semester

Collateral Activ. 5	254	Magazine Digest } Alternate			
Collateral Activ. 6	254	A. S. M. E. and A. I. E. E. } Weeks	1		1.0
English 32	141	Engineering English	3		3.0
		First Half			
Elec. Engin. 5	245	Application of Electricity	4		2.0
Elec. Engin. 9	246	Transformer Design		4	0.7
Elec. Engin. 11	246	Electrical Laboratory	1	2	1.0
Mech. Engin. 4	252	Steam Engineering of Power Plants	2		1.0
Mech. Engin. 5	252	Gas Engineering	4		2.0
Mech. Engin. 9	253	Steam and Gas Laboratory	1	2	1.0
Mech. Engin. 10	253	Industrial Engineering	2		1.0
Mech. of Engin. 8	257	Heating and Ventilating	2		1.0
Mech. of Engin. 9	257	Heating and Ventilating Design		6	1.0
		Second Half			
Collateral Activ. 2	253	Senior Inspection Trip (1 week)		36	0.7
Collateral Activ. 3	254	Thesis		28	4.7
Collateral Activ. 4	254	Thesis Assembly	1		0.5
Drawing 5	238	Theory and Practice of Photography	1	2	0.8

COURSES OF INSTRUCTION

Electrical Engineering

1. Elements of Electrical Engineering. For juniors in Mechanical, Electrical and Mining Engineering. This work covers a study of the fundamental laws of electrical engineering, direct current circuits and transmission lines, and the fundamental theory of direct current generators and motors and batteries. Prerequisite, Physics 2b. Mathematics 5a (Differential Calculus) must have been completed or be taken co-ordinately. *Five hours a week. First semester.* Professor FREEMAN.

2. Direct Current Dynamos. For juniors in Mechanical and Electrical Engineering. This course involves a more intensive study of direct current generators and motors than is covered in Course 1, especial attention being given to their design and construction. It is intended to parallel Course 7 (Dynamo Design). Prerequisite, Electrical Engineering 1. *Two hours a week. First half of second semester.* Professor FREEMAN.

3. Alternating Currents. For juniors in Mechanical, Electrical and Mining Engineering. This work involves a study of the fundamental laws of alternating current measuring instruments, genera-

tors, motors, transformers and converters. Prerequisites, Electrical Engineering 1. Mathematics 5b (Integral Calculus) must have been completed or be taken co-ordinately. *Five hours a week. Second semester.* Professors FREEMAN.

4. Generation and Transmission of Power. For seniors in Mechanical and Electrical Engineering. This involves a study of the design and operation of central stations and of the construction of transmission lines. Considerable time is devoted to a study of the theory and operation of the switching apparatus commonly used in modern central stations. Prerequisites, Electrical Engineering 1 and 3. *Four hours a week. First semester.* Professor FREEMAN.

5. Application of Electricity. For seniors in Mechanical and Electrical Engineering. A brief course in illumination, telephony, telegraphy and electric wiring. Prerequisites, Electrical Engineering 1 and 3. *Four hours a week. First half of second semester.* Professor FREEMAN.

6. Switchboard Design. For seniors in Mechanical and Electrical Engineering. Each student is given a problem in switchboard design which involves a study of parallel operation of generators and the arrangement of bus bars, control apparatus and feeder circuits. The work is for the most part done in the drawing room and is supplemented with lectures, whenever necessary, in order to give the student a clear idea of the methods of procedure which he should employ. Prerequisites, Electrical Engineering 1 and 3. *Four hours a week. First semester.* Associate Professor ————.

7. Dynamo Design. For juniors in Mechanical and Electrical Engineering. This work involves all the calculations necessary in the design of a direct current generator or motor, together with a complete set of detailed drawings. Each student is assigned an individual problem and follows the methods outlined in Course 2. Prerequisite, Electrical Engineering 1. Electrical Engineering 2 must have been completed or be taken co-ordinately. *Two hours a week, first half, and eight hours a week, second half of the second semester.* Professor FREEMAN, Associate Professor ————.

8. Transformer Design. For seniors in Mechanical and Electrical Engineering. A complete set of calculations and detailed drawings are made of a common type of transformer. Each student is assigned an individual problem. Prerequisite, Electrical Engineering 3. *Four hours a week. First half of second semester.* Associate Professor ————.

9. Electrical Laboratory. For juniors in Mechanical and Electrical Engineering. The electrical experiments given in this course are elementary in character and are designed to parallel as far as possible the work in Courses 1 and 3, the plan being to give the student practical illustrations of the theory covered in the class room. A comprehensive report of each experiment is required of each student within one week after the experiment is completed. Prerequisites, Physics 6b and Electrical Engineering 1. Electrical Engineering 3 must have been completed or must be taken co-ordinately. *One hour recitation and two hours laboratory alternate weeks first half, and every week second half of second semester.* Professor FREEMAN, Associate Professor ————.

10. Electrical Laboratory. For seniors in Mechanical and Electrical Engineering. The experiments given in this course are of a more advanced nature and deal with the more complex theory particularly of alternating current machines. A comprehensive report on each experiment is required of each student within a week after the experiment is performed. Prerequisite, Elctrical Engineering 9. *Recitations one hour a week; laboratory two hours a week. First semester and first half of second semester.* Associate Professor ————.

11. Electric Circuits and Apparatus. For juniors in Civil Engineering. This is a very practical course dealing with the fundamentals of electrical engineering and their application to the more common types of electrical apparatus. Prerequisite, Physics 2b. *Two hours a week. Thruout the year.* Professor FREEMAN.

12. Electrical Laboratory. For juniors in Civil Engneering. This course is to be taken in conjunction with Electrical Engineering 11, and is intended to familiarize the students with the practical use of the more common types of electrical apparatus. Prerequisite, Physics 6b. *Two hours a week. Thruout the year.* Associate Professor

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MECHANICAL ENGINEERING

Professor Anderson, Assistant Professor Wilhoite, Mr. Harp

The Department of Mechanical Engineering is located in Mechanical Hall. The recitation room is provided with a projectoscope and has seats for 77 persons. The drawing room, which will accommodate thirty students, has a modern indirect system of illumination. Offices are provided for all instructors.

STEAM AND GAS ENGINEERING LABORATORY

The equipment for carrying on experimental work in steam and gas engineering is as follows:

Boilers

One 50-horse power, Babcock and Wilcox, water-tube boiler; one 107-horse power, Babcock and Wilcox, water-tube boiler for steam pressure up to 200 pounds per square inch. This boiler is equipped with a Sturtevant, steam driven, induced draft fan in addition to natural draft.

Pumps

One 6″x4″x6″, Laidlaw-Dunn-Gordon, outside packed, duplex, boiler-feed pump; one 5¼″x3¼″x5″, Worthington, duplex, boiler-feed pump; one small, Davidson, simplex, boiler-feed pump; one small, Laidlaw-Dunn-Gordon, duplex, boiler-feed pump; one hand, hydraulic, test pump for pressures up to 10,000 pounds per square inch; one 4″x6″, Deane, triplex, power pump.

Steam Engines

One 10″x24″, Hamilton-Corliss engine; one 5″x12″, Corliss engine built in the engineering shops; one 7″ and 10″x14″, Houston, Stanwood and Gamble, horizontal, cross-compound, throttle governor engine; one small, Buffalo Forge, horizontal engine; one 12″ and 18″x10″, Buffalo Forge, horizontal, tandem compound engine; one 8″ and 13″x8″, Westinghouse, vertical, cross-compound, single acting engine; one 6″x7″, horizontal, throttle governor engine built in the engineering shops; one 7″x10″, Atlas, horizontal, automatic cut-off engine; one small, twin cylinder engine built in the engineering shops and equipped with Stephenson links.

Gas Engines

Two 5″x10″, Fairbanks-Morse, horizontal, single cylinder engines equipped for gas and oil.

Miscellaneous Stationary Equipment

One 8″x10″x10″x12″, Wheeler, surface condenser; one small, Doble, water turbine; one cochrane, open type, feed-water heater; one 10 horse-power, DeLavel steam turbine with individual condenser equipment; one Sturtevant, pressure blower; one automobile test plant equipped with absorption brake, Fairbanks beam scales for registering draw-bar pull, speed indicator and recording revolution counter; one

Lunkenheimer and one Metropolitan injector; one Sarco and one Simmance Abady, recording, CO_2 instrument; one Shulze, four-cylinder optical indicator for use on automobile engines running at 2,500 revolutions per minute or less; all necessary absorption brakes for testing engines and turbines; one Leeds and Northrup, resistance pyrometer with temperature range from 500 to 2,500 degrees Fahrenheit; one Kenerson, shaft dynamometer; one hydraulic ram.

Small Portable Equipment

One Parr coal calorimeter and one Sargent gas calorimeter; wet and dry gas meters, water meters; platform and spring scales; revolution counters; pressure and vacuum gauges, draft gauges and manometers; thermometers, micrometer calipers, and planimeters; throttling and separating steam calorimeters; one Hays, portable, flue gas analyzer; Thompson, Crosby, and Bachelder steam engine indicators; one Tabor steam or gas engine indicator; one Trill, continuous, steam engine indicator.

COURSE OF STUDY AND DEGREES

The course of study outlined below leads to the degree of Bachelor of Science in Mechanical Engineering. For information regarding the advanced degree of M. E. (Mechanical Engineer), see the announcement of the Graduate School, page 297.

OUTLINE OF COURSE LEADING TO THE DEGREE B. S. IN MECHANICAL ENGINEERING.

FRESHMAN YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Chemistry 1	127	General Inorganic Chemistry	3	4	5.0
Drawing 1	238	Mechanical Drawing		7	2.3
Drawing 2	238	Freehand Drawing		1	0.3
Drawing 3	238	Descriptive Geometry	3		3.0
English 1	141	English Composition	3		3.0
Mathematics 3	157	College Algebra	5		5.0
Practical Mech. 1	274	Wood Working		8	2.7
Military Science	160	Infantry Drill		3	1.0
Physical Education	167	Gymnasium or Field Athletics		2	0.7

Second Semester

Chemistry 2	128	General Inorganic Chemistry	3	4	5.0
Drawing 1	238	Mechanical Drawing		4	1.3
Drawing 2	238	Freehand Drawing		1	0.3
Drawing 3	238	Descriptive Geometry	2		2.0
English 1	141	English Composition	3		3.0
Mathematics 2	157	Trigonometry	5		5.0
Physics 4	171	Elementary Physical Measurements		4	2.0
Prac. Mech. 2 & 3	275	Pattern Making and Foundry Work		8	2.7
Military Science	160	Infantry Drill		3	1.0
Physical Education	167	Gymnasium or Field Athletics		2	0.7

* A credit represents one hour of recitation or two hours of laboratory a week for one semester.

SOPHOMORE YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 3	142	History of English Literature	3		3.0
Mathematics 4a	157	Analytical Geometry. First Part	5		5.0
Mech. of Engin. 5	256	Slide Rule Practice	1		1.0
Practical Mech. 4	275	Forge and Machine Shop Work		6	2.0
Physics 1b	171	General College Physics	4		4.0
Physics 5b	172	Measurements in Mechanics and Heat	1	4	3.0
Surveying 1	235	Land Surveying	2		2.0
Military Science	160	Infantry Drill		3	1.0
		First Half			
Drawing 4	238	Elementary Design		4	0.7
Surveying 2	236	Field Work		4	1.0
		Second Half			
Drawing 4	238	Elementary Design		8	1.3

Second Semester

Drawing 4	238	Elementary Design		6	2.0
English 3	142	History of English Literature	3		3.0
Mathematics 4b	157	Analytical Geometry. 2d Part	5		5.0
Mathematics 5a	157	Differential Calculus	5		5.0
Physics 2b	171	General College Physics	4		4.0
Physics 6b	172	Measurements in Elec. Sound and Light	1	4	3.0
Practical Mech. 4	275	Forge and Machine Shop Work		6	2.0
Military Science	160	Infantry Drill		3	1.0

JUNIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Electrical Engin. 1	244	Elements of Electrical Engin.	5		5.0
Mathematics 5b	157	Integral Calculus	5		5.0
Mech. of Engin. 1	256	Mechanics of Materials	5		5.0
Mech. of Engin. 2	256	Testing of Materials		2	1.0
Mech. of Engin. 3	256	Kinematics (12 weeks)	5		3.5
Mech. of Engin. 7	257	Machine Design (6 weeks)	5		1.5
Mech. of Engin. 4	256	Kinematic Drawing		12	4.0

Second Semester

Elec. Engin. 3	244	Alternating Currents	5		5.0
Mech. of Engin. 6	257	Analytical Mechanics	5		5.0
Mech. of Engin. 7	257	Machine Design		8	2.7
		First Half			
Bridge Engin. 2	233	Graphic Statics		6	1.0
Chemistry 17	129	Gas Analysis		2	0.5
Elec. Engin. 2	244	Direct Current Dynamos	2		1.0
Elec. Engin. 7	245	Dynamo Design		3	0.5
Elec. Engin. 9	246	Elec. Laboratory } Alternate			
Mech. Engin. 8	252	Steam Laboratory } Weeks	1	2	1.0
		Second Half			
Elec. Engin. 7	245	Dynamo Design		8	1.3
Elec. Engin. 10	246	Electrical Laboratory	1	2	1.0
Mech. Engin. 8	252	Steam Laboratory	1	2	1.0
Metallurgy 14	273	Metallurgy of Iron and Steel	2		1.0

SENIOR YEAR

A student to be eligible to any class scheduled for the senior year must report for class work on September 18 and must have received credit in all subjects scheduled for the three preceding years.

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Collateral Activ. 5	254	Magazine Digest } Alternate			
Collateral Activ. 6	254	A. S. M. E. and A. I. E. E. } Weeks	1		1.0
Elec. Engin. 4	245	Generation and Transmission of Power	4		4.0
Elec. Engin. 6	245	Switchboard Design		4	1.3
Elec. Engin. 11	246	Electrical Laboratory	1	2	2.0
English 32	141	Engineering English	3		3.0
Hydraulics 1	233	Hydraulics	2		2.0
Mech. Engin. 1	252	Thermodynamics	4		4.0
Mech. Engin. 2 & 3	252	Valve Gears and Steam Boilers	4		4.0
Mech. Engin. 6 & 7	252	Steam Engine and Turbine Design		6	2.0
Mech. Engin. 9	253	Steam and Gas Engine Laboratory	1	2	2.0

Second Semester

Collateral Activ. 5	254	Magazine Digest } Alternate			
Collateral Activ. 6	254	A. S. M. E. and A. I. E. E. } Weeks	1		1.0
English 32	141	Engineering English	3		3.0
		First Half			
Elec. Engin. 5	245	Applications of Electricity	4		2.0
Elec. Engin. 9	246	Transformer Design		4	0.7
Elec. Engin. 11	246	Electrical Laboratory	1	2	1.0
Mech. Engin. 4	252	Steam Engineering of Power Plants	2		1.0
Mech. Engin. 5	252	Gas Engineering	4		2.0
Mech. Engin. 9	253	Steam and Gas Laboratory	1	2	1.0
Mech. Engin. 10	253	Industrial Engineering	2		1.0
Mech. of Engin. 8	257	Heating and Ventilating	2		1.0
Mech. of Engin. 9	257	Heating and Ventilating Design		6	1.0
		Second Half			
Collateral Activ. 2	253	Senior Inspection Trip (1 week)		36	0.7
Collateral Activ. 3	254	Thesis		28	4.7
Collateral Activ. 4	254	Thesis Assembly	1		0.5
Drawing 5	238	Theory and Practice of Photography	1	2	0.8

COURSES OF INSTRUCTION

Mechanical Engineering

1. Thermodynamics. This work consists of a study of the laws of thermodynamics, thermal capacities, and the application of thermodynamics to the steam engine, steam turbine and locomotive. *Four hours a week. First semester.* Professor ANDERSON, Assistant Professor WILHOITE.

2. Valve Gears. The study of various forms of standard engine valves and methods of designing. *Four hours a week. First half of first semester.* Professor ANDERSON, Assistant Professor WILHOITE.

3. Steam Boilers. A study of the various commercial steam boilers, consumption of fuel, incrustations, determining of horse power of boilers, boiler tests, the design of boilers for efficiency and economy, and the methods of heat transmission. *Four hours a week. Second half of first semester.* Professor ANDERSON, Assistant Professor WILHOITE.

4. Steam Engineering of Power Plants. In this course the theory, design and operation of the steam appliances used in connection with the generation of power in steam central stations are studied together with the manner in which the apparatus is associated in a complete plant. *Two hours a week. First half of second semester.* Professor ANDERSON, Assistant Professor WILHOITE.

5. Gas Engineering. This comprises a study of the theory, design and operation of the various types of internal combustion engines. *Four hours a week. First half of second semester.* Professor ANDERSON, Assistant Professor WILHOITE.

6. Steam Engine Design. A study is made of valve details and construction, a complete design of a valve for an assumed engine being worked up. Simple, compound and triple compound engines are studied thru the construction of ideal indicator cards, the drawing of tangential effort diagrams and finally in the complete computation and preliminary layout of a given engine. *Six hours a week, thirteen weeks of first semester.* Professor ANDERSON, Assistant Professor WILHOITE.

7. Steam Turbine Design. This course consists in making all preliminary calculations and finally designing the blades and nozzles for a specified turbine of a combined impulse-reaction type. *Six hours a week. Four weeks of first semester; two weeks of second semester.* Professor ANDERSON, Assistant Professor WILHOITE.

8. Steam Laboratory. This laboratory course involves a study of the apparatus used by the steam engineer and the experiments are

intended to familiarize the student with the simple methods of measuring heat units and determining mechanical power. *Recitations one hour a week; laboratory two hours a week. Alternate weeks first half and every week second half of second semester.* Professor ANDERSON, Mr. HARP.

9. Steam and Gas Engine Laboratory. A series of experiments with steam and gas apparatus and machinery, for the purpose of training men in the refinements of steam and gas engineering. The experiments are as far as possible arranged so as to emphasize the theory and principles taught in the class room. *Recitations one hour a week; laboratory two hours a week. First semester and first half of second semester.* Professor ANDERSON, Mr. HARP.

10. Industrial Engineering. A series of lectures on the principles of modern efficiency methods. *Two hours a week. First half of second semester.* Professor ANDERSON, Assistant Professor WILHOITE.

Collateral Activities

1. Junior Inspection Trip. Five days in March or April are given up primarily to the study of important machine tool building and manufacturing plants in the vicinity of Cincinnati, Hamilton and Dayton, Ohio. A portion of the time is devoted to the analysis of power and electric lighting stations. The itinerary is carefully arranged to give to juniors an opportunity to see the best modern manufacturing practice, and as Cincinnati is the acknowledged center of the machine building world the student is given an unusual opportunity to study the very latest development in the machine designer's art at a comparatively small cost and little loss of time from his regular collegiate work. Professor FRANKEL, Assistant Professor CURTIS, Associate Professor ————.

2. Senior Inspection Trip. This trip includes visits to the most important mechanical and electrical engineering industries in Chicago and vicinity. One week in March or April is devoted to the itinerary, and the following places are carefully studied from an engineering standpoint: The Indiana Steel Company's plant, Gary, Ind.; the water intakes of the Chicago Water Works; the Fourteenth Street and Lake View pumping stations; the Municipal Dock; the Northwest generating station of the Commonwealth Edison Company; the packing plant of Armour & Company; the Hawthorne plant of the Western Electric Company; the power plant of the Blackstone Hotel; the main office of the Chicago Telephone Exchange; the tunnels of the Chicago Tunnel Co.; the Division Street plant of the Peoples Gas, Light and Coke

Company; Sears, Roebuck & Company; the Crane Company; and the McCormick Works of the International Harvester Company. This inspection trip is required for graduation. Professor ANDERSON, Professor FREEMAN.

3. Thesis. The Thesis work in Engineering may be directed along any of the following lines: (1) an engineering problem assigned to an individual or to a small group of two or more men; (2) the making of a complete set of plans and specifications for a modern central energy power plant, of a university engineering building or of a manufacturing plant by a large part or all the class; (3) a complete study and discussion of some problem in modern industrial efficiency methods by a group of men or by all of the class. The conditions existing in a large consulting engineering office are duplicated as far as possible, the idea being to give the men a clear insight into the operation of such an office as well as to thoroly acquaint them with the details of the problem assigned. Professor ANDERSON, Professor FRANKEL, Professor FREEMAN, Assistant Professor WILHOITE.

4. Thesis Assembly. The senior class is assembled for one hour each week for the purpose of discussing the work which each man is doing in connection with the preparation of his thesis. In this way each student is given the benefit of any interesting work that is being done individually by the other members of the class. Professor ANDERSON, Professor FRANKEL, Professor FREEMAN, Assistant Professor WILHOITE.

5. Magazine Digest. This time is devoted to a review of the current engineering and scientific journals. One-half of the time is given to mechanical engineering and one-half to electrical engineering articles. Each student is assigned one magazine or part of a magazine to review and discuss before the class at each meeting. *One hour alternate weeks. Thruout the year.* Assistant Professor WILHOITE.

6. A. S. M. E. and A. I. E. E. Each student in the senior class in the College of Mechanical and Electrical Engineering is enrolled as a student member of the American Society of Mechanical Engineers and the American Institute of Electrical Engineers. They receive the transactions of these two Societies, which are issued monthly. The material contained in these form the basis of papers and discussions which are prepared and presented by the students. Many lectures are given by prominent men under the auspices of these student branches. *One hour alternate weeks. Thruout the year.* Assistant Professor WILHOITE.

7. Class Societies. Each class in the College of Mechanical and Electrical Engineering is organized into a society which holds meetings at least once a month at times to suit the regular schedule. Assistant Professor WILHOITE.

MECHANICS OF ENGINEERING

Professor Frankel, Assistant Professor Curtis, Assistant Professor Wilhoite, Mr. Harp

The Department of Mechanics of Enginering is located in Mechanical Hall. The recitation room has 66 seats. A large, well-lighted drawing room is used jointly with the Department of Electrical Engineering. There is an office for the head of the department and the assistant professor.

Testing of Materials Laboratory

The facilities for the study of the physical characteristic of engineering materials are in part as follows:

Two hundred thousand pound Olsen, specially designed, automatic, autographic, motor-driven testing machine arranged for testing columns up to fifteen feet and transverse specimens up to twenty feet;

100,000 pound Riehle Testing Machine;

Automatic Cement Testing Machine, Fairbanks-Morse;

Standard Soapstone Moist Closet;

Copper Drying Oven;

Standard Steaming Apparatus;

Vicat Needle;

Set Gilmour's Needles;

Molds, Scales and Accessories;

Automatic and Autographic Attachment;

Olsen's Compression Micrometer;

Olsen's Cylindrical Concrete Extension and Compression Micrometer;

Duplex Micrometer Measuring Instrument;

Duplex Compression Micrometer;

Olsen's Improved Deflection Instrument;

Improved Deal Deformer;

Duplex Measuring Micrometer;

Improved Deal Extensometer;

Universal Expansion Heads;

Standard Rattler for the investigation of paving brick and materials of similar class.

COURSES OF INSTRUCTION

Mechanics of Engineering

1. Mechanics of Materials. For all juniors in Engineering. This course presents to the student the laws governing the behavior of the different materials used in construction under the action of forces. Beams, columns and shafts of different shapes and materials are analyzed with reference to their resistance and deformation when subjected to compressional, tensional and torsional strains. Problems including the design of truss members, floors, girders and reinforced concrete construction are given. Prerequisite, Physics 1b. Mathematics 5b (Integral Calculus) must have been completed or must be taken co-ordinately. *Five hours a week. First semester. Repeated second semester.* Professor FRANKEL.

2. Testing of Materials. For all juniors in Engineering. In the testing of materials laboratory experiments are conducted to verify the laws governing materials under stress and to establish the principles of the mechanics of materials. Experimental investigation of woods, irons, cements and bricks in their various forms are made with a view of impressing the students with the factors entering into the use of such materials in engineering construction. Mechanics of Engineering 1 must have been completed or be taken co-ordinately. *Two hours a week. First semester.* Professor FRANKEL, Assistant Professor CURTIS.

3. Kinematics. For juniors in Mechanical and Electrical Engineering. This course is intended to familiarize the student with the mutual dependence of the movements in the parts of a machine. Special attention is given to the analysis of mechanisms involving link-motions, gear teeth, cams, communication of motion by rolling and sliding contact and quick-return motions. Prerequisites, Mathematics 1, 2 and 3 and Drawing 3. *Five hours a week. Twelve weeks of the first semester.* Assistant Professor CURTIS.

4. Kinematic Design. For juniors in Mechanical and Electrical Engineering. This course is given in conjunction with Mechanics of Engineering 3. It consists of eight plates of design of spur, bevel and worm gearing, and other mechanisms which illustrate the general principles discussed in kinematic problems. Prerequisites, same as Course 3, and also Drawing 1, 2 and 4. *Twelve hours a week. First semester.* Professor FRANKEL, Assistant Professor CURTIS.

5. Slide Rule Practice. For all sophomores in Engineering. This course is intended to familiarize the student with the theory and use of the slide rule. Prerequisites, Mathematics 2 and 3. *One hour a week. First semester.* Mr. HARP.

6. Analytical Mechanics. For all juniors in Engineering. This subject is given with a view of encouraging original analysis, logical proofs and rational conclusions with respect to the treatment of the equilibrium and motion of bodies under the action of forces. The application of the fundamental principles of mechanics to engineering problems is treated in a way calculated to interest the students in the application of analytical mechanics in his engineering work. Prerequisite, Physics 1b. Mathematics 5b (Integral Calculus) must be completed or taken co-ordinately. *Five hours a week. Second semester.* Professor FRANKEL.

7. Machine Design. For juniors in Mechanical and Electrical Engineering. A complete design of some modern machine tool is required of each student taking this work. This includes a written digest of the analysis of similar machines on the market and complete shop drawings of the special machine assigned to the individual student according to given specifications. This work is supplemented by a course of lectures to emphasize particularly the best practices in machine building as represented by the design of our modern machines. The cutting speeds and feeds of high speed tools, the design of variable speed boxes, design of bearings, the analysis of the stresses set up in the parts of machines and the calculations of the sizes of parts are all discussed. Special machines that involve some of the more interesting problems of design are taken as a whole and analyzed in detail. Prerequisites, Mechanics of Engineering 1, 2, 3 and 4. *Five hours a week, six weeks of the first semester. Eight hours a week, second semester.* Professor FRANKEL, Assistant Professor CURTIS.

8. Heating and Ventilating. For seniors in Mechanical and Electrical Engineering. This is a study of the calculations necessary for the design of modern heating and ventilating installations. Details of the construction of the apparatus required and the best methods of erecting same are carefully considered. The relative merits of different systems under particular conditions are emphasized. *Two hours a week. First half of second semester.* Professor FRANKEL.

9. Heating and Ventilating Design. For seniors in Mechanical and Electrical Engineering. The class work in heating and ventilating is supplemented by work in the drawing room where for a given building, heating plants of three systems are designed and working drawings made showing the location and size of apparatus. A bill of material and the estimated cost are also included in the requirements. *Six hours a week. Six weeks of second semester.* Professor FRANKEL, Assistant Professor WILHOITE.

10. Farm Mechanics. For students in Agriculture. This course is designed to give a thorough understanding of the simple, fundamental principles of mechanics that enter into construction, operation and care of farm machinery. This course includes practical work in the laboratory illustrating the subject matter of the lectures. *Lectures two hours a week; laboratory two hours a week. Second semester.* Professor FRANKEL, Mr. WATKINS.

MINES AND METALLURGY

Professor Norwood, Professor Barr.

GENERAL STATEMENT

Organization

The Department of Mines and Metallurgy embraces the following courses:

Course in Mining Engineering
Two Years' Course in Mining
Course for Practical Miners
Course in Metallurgical Engineering
Extension Work

Advantage of Location

The University is exceptionally well situated with reference to the practical study of both coal and metal mining (including lead, zinc and iron), and for the study of metallurgical practice in certain lines, there being within the State numerous coal and metal mines, and several iron and steel metallurgical establishments (including iron furnaces, puddling furnaces, Bessemer plants, sheet, rod and wire nail mills etc.), at small cost. Practical work in concentrating lead ores may be studied at the Kissinger mine and at the Nicholasville barytes plant in near-by counties. Both places may be reached by a trolley line and a short drive. Elaborate lead and zinc concentrating plants may be studied in the western part of the state. Barytes and calcite ("whiting") grinding plants and a blanc fixe plant are in operation within a few miles of Lexington. Coal washing and coking may be studied at Ashland, where a Robinson washer is used, at Earlington, where a Campbell plant is in operation, and in the Middlesboro district, where jigs are used. At Catlettsburg a large Semet-Solvay by-product coking plant may be studied. The copper mines of Tennessee, the iron mines of Virginia, Alabama and Tennessee, and the gold mining regions of Alabama and Georgia, with

their accompanying metallurgical plants, may be reached within twenty-four hours or less of travel.

The great coal region of Eastern Kentucky is being rapidly developed in a very large way. As this proceeds Kentucky, now fifth, will within a few years become fourth among the coal producing states, only Pennsylvania, West Virginia and Illinois having precedence over it. By completion of the Lexington & Eastern Railway almost to Pound Gap, Lexington is brought into close touch with a large part of the field, and opportunity for the study of coal mining as conducted on the most progressive lines and for the formation of connections with mining companies is facilitated.

Meetings of the Kentucky Mining Institute, a state-wide organization, are held at the Department of Mines and Metallurgy. This brings the students into contact with mining men, metallurgists and others interested in the development of the State.

EQUIPMENT

The Buildings

The Department of Mines and Metallurgy occupies two brick buildings, standing in the form of a "T," separated by a passage 25 feet wide. The main building is 45 by 100 feet, two stories high, with a basement 11 feet high. The lower floor is devoted to the State Geological Museum and the offices of the State Department of Mines. On the upper floor are class rooms, drawing room, library and reading room and offices for instructors. The basement, which has floor concreted and walls cemented, is divided into large rooms, and is used for the larger exhibits of the Geological Museum and for the preservation of maps and records of the Department of Mines.

The second building (Mining Laboratory) is 40 feet by 80 feet and two stories high. It is devoted to laboratory work in ore dressing, mine air, metallurgy, metallography and assaying. It also contains examples of mining machinery and the clay-testing outfit of the State Geological Survey.

Apparatus and Laboratories

For lecture-room illustrations and demonstrations the equipment includes two excellent electric light stereopticons with a large number of special slides; many charts, photographs and blue-prints, illustrating mining methods, mining machinery and metallurgical operations; large Keuffel & Esser working models of verniers and slide

rules; a working model of a shaft hoist with safety catches; examples of mining tools; three handsome cases showing various sorts of "Du Pont" explosives; wire rope and electric wire boards; Koerting and Buffalo Forge Company mine-spraying devices; safety lamps of various types (including electric); apparatus for instruction in methods of detecting mine gases and testing safety lamps; apparatus for studying coal dust explosions; types of acetylene mine lamps; a very complete working model of a Cameron mine pump; types of mine telephones; a pneumatic mine signal; diamond core-drill bits; a small Sirocco mine fan, and instruments for measuring ventilation. A number of large photographs, framed, showing coal mining operations, have been presented to the College by Prof. R. D. Quickel, fuel agent for the Cincinnati Southern Railroad.

The Metallurgical Laboratory is provided with several gasoline assay furnaces; a plant of gas assay furnaces; two coke (or charcoal) assay furnaces; two laboratory electric furnaces; crushing, grinding and sampling apparatus; apparatus for "barrel" chlorination; an Abbe double Trojan ball mill; apparatus for studying the cyanide and amalgamation processes; furnaces for the study of smelting processes and of heat treatment of iron and steel; apparatus for the study of wet processes for the extraction of non-ferrous metals; of pyrometry; and of metallography.

It is intended that the mining laboratory shall not only serve the purpose of instruction, but that it shall prove helpful as a testing laboratory to those engaged in the coal, lead, zinc and spar districts of the State. The present equipment includes, among other things, a standard, full-sized Wilfley concentrating table; an Allis-Chalmers Company three-stamp mill; a Hallet hand jig; a Jarvis jig; a Vezin jig; a Munroe laboratory slime table; a Munroe laboratory classifier; apparatus for instruction in flotation processes of ore separation; a Dings electro-magnetic separator; a Blake-Morscher electro-static separator; various types of mine car wheels; a Wood rock-drill; a Hardscog hammer drill; a Nixon racket coal drill; a Harrison coal-cutting machine for use in demonstrating the use of compressed air in mining operations; several sets of steel mine timbers (Carnegie Steel Co.) including lining sufficient to illustrate an entry protected according to advanced methods; a Canton automatic mine door complete; a Campbell coal-washer; a complete model of the St. Bernard Mining Company's coal washery; and a complete ventilating fan and fan house. The fan has been so installed that various problems relating to mine ventilation may readily be studied.

Mine Rescue Apparatus and First Aid

The College owns a Fluess "Proto" apparatus. In addition, two sets of Draeger apparatus, provided for the State Mine Inspectors, have been placed in one of the basement rooms of the main building. The latter sets include four oxygen helmets and accessories complete, charging pumps, a mouth-breathing apparatus, electric lamps and charging devices, a water gauge and a pulmotor for administering oxygen in cases of suffocation and gas-poisoning. The room has been fitted up so that training may be given in mine rescue work. Instruction in the use of the apparatus is given to mining students and to visiting miners from time to time.

Instruction in methods of first aid to the injured is given by Dr. Pryor, Professor of Anatomy and Physiology.

COURSE OF STUDY AND DEGREES

The courses of study outlined below lead to the degrees of Bachelor of Science in Mining Engineering, and Bachelor of Science in Metallurgical Engineering as indicated in each case. For information regarding the advanced degrees E. M. (Mining Engineer) and Met. E. (Metallurgical Engineer) see the announcement of the Graduate School, page 298.

OUTLINE OF COURSE LEADING TO THE DEGREE B. S IN MINING ENGINEERING

FRESHMAN YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Chemistry 1	127	General Inorganic Chemistry	3	4	5.0
Drawing 1	238	Mechanical Drawing		7	2.3
Drawing 2	238	Freehand Drawing		1	0.3
Drawing 3	238	Descriptive Geometry	3		3.0
English 1	141	English Composition	3		3.0
Mathematics 3	157	College Algebra	5		5.0
Practical Mech. 1	274	Wood Working		8	2.7
Military Science	160	Infantry Drill		3	1.0
Physical Education	167	Gym. or Field Athletics		2	0.7

Second Semester

Chemistry 2	128	General Inorganic Chemistry	3	4	5.0
Drawing 1	238	Mechanical Drawing		4	1.3
Drawing 2	238	Freehand Drawing		1	0.3
Drawing 3	238	Descriptive Geometry	2		2.0
English 1	141	English Composition	3		3.0
Mathematics 2	157	Trigonometry	5		5.0
Physics 4	171	Elementary Physical Measurements		4	2.0
Prac. Mech. 2 & 3	275	Pattern Making and Foundry Work		8	2.7
Military Science	160	Infantry Drill	3		1.0
Physical Education	167	Gym. or Field Athletics		2	0.7

* A credit represents one hour of recitation or two hours of laboratory a week for one semester.

SOPHOMORE YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 3	142	History of English Literature	3		3.0
Mathematics 4a	157	Analytical Geometry. First Part	5		5.0
Mech. of Engin. 5	256	Slide Rule Practice	1		1.0
Practical Mech. 4	275	Forge and Machine Shop Work		6	2.0
Physics 1b	171	General College Physics	4		4.0
Physics 5b	172	Measurements in Mechanics and Heat	1	4	3.0
Surveying 1	235	Land Surveying	2		2.0
Military Science	160	Infantry Drill		3	1.0
		First Half			
Drawing 4	238	Elementary Design		4	0.7
Surveying 2	236	Field Work		4	1.0
		Second Half			
Drawing 4	238	Elementary Design		8	1.3

Second Semester

Drawing 4	238	Elementary Design		6	2.0
English 3	142	History of English Literature	3		3.0
Mathematics 4b	157	Analytical Geometry. Secound Part	5		5.0
Mathematics 5a	157	Differential Calculus	5		5.0
Physics 2b	171	General College Physics	4		4.0
Physics 6b	172	Measurements in Elec. Sound and Light	1	4	3.0
Practical Mech. 4	275	Forge and Machine Shop Work		6	2.0
Military Science	160	Infantry Drill		3	1.0

JUNIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Electrical Engin. 1	244	Elements of Electrical Engin.	5		5.0
Mathematics 5b	157	Integral Calculus	5		5.0
Mech. of Engin. 1	256	Mechanics of Materials	5		5.0
Mech. of Engin. 2	256	Testing of Materials		2	1.0
Metallurgy 3	272	Iron and Steel	3		3.0
Mine Surveying	270	Field Work and Maps		6	3.0
Mining 2, 2a	268	Excavating, Quarrying, Boring, etc.	5		5.0

Second Semester

Chemistry 10	128	Quantitative Analysis. First Half	1	8	2.5
Elec. Engin. 3	244	Alternating Currents	5		5.0
Geology 3	147	Mineralogy		4	2.0
Geology 7	148	Economic Geology	2		2.0
Mech. of Engin. 6	257	Analytical Mechanics	5		5.0
Metallurgy 1	272	Assaying. Last Half		10	2.5
Metallurgy 5	272	Copper, Lead, Zinc. First Half			
Metallurgy 6	273	Silver, Gold, etc.	5		2.5
Mining 3	268	Development; Methods. First Half	2		1.0
Mining 3	268	Development; Methods. Last Half	3		1.5
Ore Dressing 1	271	Concen. and Coal Washing. Last Half	5		1.5

SENIOR YEAR

A student to be eligible to any class scheduled for the senior year must report for class work on September 18 and must have received credit in all subjects scheduled for the three preceding years.

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Hydraulics 1		Hydraulics	2		2.0
Mining 4	269	Ore Deposits, Mining Geology, etc.	5		5.0
Mining 5	269	Ventilation, Principles, etc.	4		4.0
Mining 8	269	Engines, Boilers, Mining Machine, etc.	3		3.0
Mining 10	269	Mining Law, etc.	1		1.0
Plant Design		Graphics and Structural Draw.		6	3.0
Political Econ. 1	133	Introduction to Economics	2		2.0
Political Science 1	151	American Government	3		3.0
Ore Dressing 2	272	Applications. First Half	4	4	3.0
Ore Dressing 2	272	Applications. Second Half		8	2.0

Second Semester

First Aid		First Aid to Injured. First Half	3		1.5
Metallurgy 7	273	Elements of Metallography. First Half	3		1.5
Mine Structures		Design of Mine Structures. First Half		4	1.0
Mine Visitation	269	Mine Visitation			
Mining 6	269	Extraction, etc. First Half	5		2.5
Mining 7	269	Gases and Accidents. First Half	5		2.5
Mining 8	269	Mine Plant. First Half	5		2.5
Mining 9	269	Exam. and Val. of Mines. Second Half	5		2.5
Mining 11	269	Mine Air; Samp. and Exam. First Half		2	0.5
Political Econ. 1	133	Introduction to Economics. First Half	2		1.0
Political Science 1	151	American Government. First Half	3		1.5
Thesis		Thesis. Second Half			

OUTLINE OF COURSE LEADING TO THE DEGREE B. S IN METALLURGICAL ENGINEERING

FRESHMAN AND SOPHOMORE YEARS

The work in the freshman and sophomore years parallels that given in Mining for the same years.

JUNIOR YEAR

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Electrical Eng. 1	244	Elements of Electrical Engin.	5		5.0
Mathematics 5b	157	Integral Calculus	5		5.0
Mech. of Eng. 1	256	Strength of Materials	5		5.0
Mech. of Eng. 2	256	Testing of Materials		2	1.0
Mine Surveying 1	270	Field Work and Maps		8	4.0
Mining 2 and 2a	268	Excavating, Quarrying, Boring, etc.	5		5.0

Second Semester

Chemistry 10	128	Quantitative Analysis	1	2	5.0
Elec. Eng. 3	244	Alternating Currents	5		5.0
Geology 3	147	Mineralogy		4	2.0
Geology 7	148	Economic Geology	2		2.0
Metallurgy 4	272	Iron and Steel. Second Half	5		2.5
Metallurgy 5 and 6	272	Copper, Lead, Zinc, Silver, Gold, etc. First Half	5		2.5
Metallurgy 13	273	Metallurgical Calculations. First Half	3		1.5
Mining 3	268	Development; Methods. First Half	2		1.0
Mining 3	268	Development; Methods. Second Half	3		1.5
Ore Dressing 1	271	Principles and Applications. Second Half	5		2.5

*A credit represents one hour of recitation or two hours of laboratory a week for one semester.

SENIOR YEAR

A student to be eligible to any class scheduled for the senior year must report for class work on September 18, and must have received credit in all subjects scheduled for the three preceding years.

First Semester

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Hydraulics 1	233	Hydraulics	2		2.0
Metallurgy 1	273	Metallurgy of Copper Extended	3		3.0
Mining 4	269	Ore Deposits, Mining, Geology, etc.	5		5.0
Mining 8	269	Steam and Other Engines	2		2.0
Ore Dressing 2	272	Applications and Laboratory	2	6	5.0
Plant Design		Structural Drawing		6	3.0
Political Econ. 1	133	Introduction to Economics	2		2.0
Political Science 1	151	American Government	3		3.0

Second Semester

Magazine Review	271	Magazine Review. Second Half	1		0.5
Metallurgy 2	272	Assaying and Testing. First Half		8	2.0
Metallurgy 9 and 10	273	Lead, Silver, Gold. First Half	5		2.5
Metallurgy 11	273	Alloys, Metallography. Second Half	4	6	3.5
Metallurgy 12	273	Fuel Testing, etc. Second Half		4	1.0
Metallurgy 17	273	Electrometallurgy. First Half	3		1.5
Mining 6	269	Extraction, etc. First Half	5		2.5
Plant Design		Plant Design. First Half		4	1.0
Political Econ. 1	133	Introduction to Economics. First Half	2		1.0
Political Science 1	151	American Government. First Half	3		1.5
Thesis		Thesis. Second Half			

THE TWO YEARS' COURSE IN MINING

A two years' course for young men who far any reason may not be prepared to take the full engineer's course of four years, but who desire to obtain more than an elementary training in the methods of mining. It is intended especially for persons who desire to fit themselves for such positions as mine manager, mine superintendent, assistant engineer and mine inspector; also for those to whom a knowledge of mining will be of service professionally or in business dealings even tho they should not be directly connected with mining operations. Re-

quirements for entrance are less exacting than those for the full course, just as the range of instruction is less comprehensive. No degree is conferred but a certificate of proficiency is given. The course is quite flexible, to suit the preparedness of the student, and advanced work may be taken in lieu of such subjects in the specified list as the student may have completed satisfactorily elsewhere.

A special circular relating to the course will be sent upon application to the head of the Department of Mines and Metallurgy, University of Kentucky, Lexington, Ky. This course affords a great opportunity to many young men to acquire a technical training who might otherwise be prevented from attending college.

PRACTICAL MINERS' COURSE

A short course for practical miners, mine foremen, and mine managers who desire to improve their knowledge of the principles that underlie correct mining. This course, which covers eight weeks, is given in the spring. Details concerning the course are set forth in a special circular, which may be obtained upon application to the Dean of this College. Persons desiring to take the examinations for Mine Foreman and for Assistant Inspectors of Mines will find the course quite helpful.

EXTENSION WORK

The purpose of extension is in part to extend the instructional work of the Department of Mines and Metallurgy thru the formation and supervision of local classes in the mining fields for men and youths employed at the mines, and thru free lectures at mining centers and other appropriate places; also to disseminate information concerning the utilization of such of the mineral deposits of the state as require extended investigation in the laboratory for a full determination of their commercial applications.

For classes formed in the mining regions a program of studies is prepared by instructors in the Department, examinations are held by representatives of the Department and a certificate is awarded to such persons as satisfactorily complete the work laid out for them.

COURSES OF INSTRUCTION

The courses are laid out with the design of affording the student a thoro foundation for professional work and of so preparing him that he may readily and quickly assimilate that knowledge of the details of practice which may be gained only thru experience. In order

that he may have the benefit of a certain amount of practical experience before graduation, the student is expected to spend his junior (and if possible his sophomore) vacation at some mine or metallurgical establishment, or in some employment appropriate to his chosen line of work. The College has been successful in placing its undergraduates during vacation months and all graduates have obtained positions promptly after graduation.

Mining

The instruction in the special theme of mining (including both coal and metal) is laid out along a continuous line, each subject being introductory to that which follows, and is given by lectures supplemented by textbooks and assigned reading. A general outline of the subjects discussed under the special head of mining is as follows:

1. Elements of Mining. A series of lectures presenting a general view of mining operations for law students. *Second half of second semester.* Professor NORWOOD.

2. Excavating, Quarrying. Junior. (a) Excavation in soft ground and in rock. (b) Explosives and blasting; kinds and effects of explosives; theory and practice of blasting; placing, charging and firing holes under various conditions; substitutes for explosives. (c) Quarrying: plants and methods for various sorts of rock; underground quarries. *Courses 2 and 2a total five hours a week. First semester.* Professor BARR.

2a. Boring, Shaft-Sinking, Shaft-Boring. Junior. (a) Boring: methods with auger, with rods and with rope; rotary boring; casing; drive piping. (b) Shaft-sinking: general principles; methods in soft ground and in rock; hoisting, ventilating and draining during sinking; timbering, walling, tubbing and linings for special cases; sinking linings in watery ground and in quicksand. (c) Shaft-boring: general observations; various methods described and compared. *Courses 2 and 2a total five hours a week. First semester.* Professor BARR.

3. Development, Method of Working. Junior. (a) Exploration and development: choice of exploratory methods—shafts, adit, slope; location of openings with reference to development; laying out the workings and order of exploration; driving tunnels, drifts, gangways, slopes, levels, cross-cuts; upraises—vertical and inclined; winzes—methods of sinking and raising. (b) Methods of working and of supporting excavation: general rules as to choice of mode of working away, etc.; breaking ground (1) in coal mining, and (2) in metal mining; support of excavations (1) by pillars of mineral, (2) by timber-

ing (3) by caving and filling; methods of working applicable to deposits according to their origin, thickness, inclination and character. *Two hours a week, first half of second semester. Three hours a week, last half of second semester.* Professor BARR.

4. **Mining Geology: Ore Deposits, Prospecting and Metal Mining.** Senior. (a) Mining geology: origin of ores, classification of ore deposits; irregularities and disturbances of beds and veins. (b) Prospecting: Systematic methods; value of geology; tracing outcrops; construction of sections; application of descriptive geometry to the solution of mining geology problems. (c) Open cuts and stream workings: hydraulic mining; dredging. (d) Metal mining. *Five hours a week. First semester.* Professor NORWOOD and Assistant.

5. **Ventilation.** Senior. Theoretical considerations: Methods of ventilation; distribution of air supply. *Four hours a week. First semester.* Professor BARR.

6. **Extraction.** Senior. Extraction and removal of material: Mine and surface haulage roads; rope and other means of haulage; hoisting; drainage. *Five hours a week. First half of second semester.* Professor BARR.

7. **Gases and Accidents.** Senior. (a) Mine gases and illumination. (b) Accidents: causes; places; explosions; safeguards; rescue and relief. *Five hours a week. First half of second semester.* Professor NORWOOD.

8. **Mine Plant.** Senior. Machinery and appliances for mining, hoisting, draining, ventilating, hauling, screening, loading, storing, etc. *Three hours a week, first semester. Five hours a week, first half of second semester.* Professor BARR.

9. **Metal Mining Continued and Examination and Valuation of Mines, Etc.** Senior. Methods and precautions in examination and valuation: "salting," concealing exhausted workings, etc.; relation of capital invested to actual dividends; mine management; cost sheets. *Three hours a week. Last half of second semester.* Professor NORWOOD.

10. **Mining Laws, Mine Rules and Mining Camps.** Senior. *One hour a week. First semester.* Professor NORWOOD or Professor BARR.

11. **Mine Air. Sampling and Examination.** Senior. *Two hours a week. First half of second semester.* Professor ————.

12. **Mine Visitation.** Opportunity for visiting mines under the guidance of the head of the Department or of an Assistant Inspector of Mines, will be given at the close of the term.

Mine and Land Surveying

In mine and land surveying, the application of the art of surveying to the work of mining engineering is emphasized. Study of the subject begins in the freshman year, is continued thru the sophomore year, and is completed in the first semester of the junior year. Following the preliminary instruction and the solution of general problems, the practical applications are taken up, including running outcrop; determining the proper locations of mine opening and tipple; locating buildings, bodies of water and streams with relation to underground workings; bringing branch lines in from main track; carrying meridian into mine; plumbing shafts, surveying entries and rooms, grading mine entry for track, setting out curves, changing distances between room necks with variations of the entry, driving both ways, locating bore-holes for pipes, etc., solving drainage problems, surveying stopes with German dial string survey and with transit, construction of mine maps and sections, etc. Opportunity for practice in underground surveying is afforded at the coal mines and at the vein mines (lead, zinc and spar), within short distance from Lexington. The mine maps filed by the various mining companies with the State Department of Mines are at the service of the student for study and comparison. Instruction is also given in the elements of topographic surveying, including practice in the use of the plane table.

1. **Advanced Mine and Land Surveying.** Junior. Field work and maps. *Eight hours a week. First semester.* Professor BARR.

Mine Plant: Mining Machinery

The various elements of Mine Plant (Mining 7) are dealt with by grouping them, as well as may be, under three heads; namely, (1) motors, (2) machines and devices connected chiefly with underground operations, and (3) that part of the plant which is chiefly on the surface:

1. Motors: steam engines and boilers, and valve gears; gasoline engines and motors; electric engines and locomotives. Compressed air: air compression, compressors, receivers, transmission thru pipes, locomotives.

2. Underground Chiefly: drills (air, steam, electric, hand); coal cutters (air and electric). Drainage: siphons, boxes, cars, pumps, (steam, electric, gasoline, hydraulic, spear); permanent and sinking pumps; setting of pumps; rams, air lifts, compressed air pumps; pipes, pipe connections, laying pipe lines, supporting pipes in shafts.

Mine cars: wood and steel, coal and ore; design of a car, with specifications. Ventilation: fans of various types; detailed study of working model of a fan; construction of overcasts and regulators. Electrical installation: wiring the mine; dangers and safeguards; mining laws relating to electrical installation.

3. Surface Chiefly: Headframes and gears, tripods, whips, whims, windlasses, cages for slopes and shafts, safety devices, skips. Wire rope: types, selection, uncoiling, storing, capping, testing. Tipples: wood, steel, and cement structures, cross-overs, retarders, weigh-baskets, loading bins, track-scales, testing of scales, car loaders. Sizing and cleaning: bar grizzlies, punched screens, trommels, shaking screens, rotary grizzlies, gyratory screens, picking tables and belts, elevators. Transportation: conveyors, car hauls, aerial ropeways. Inclined planes: gravity and engine planes, and equipment for each.

Mining Law, Mine Rules, Mining Camps

Mining 10. The mining laws of Kentucky, together with those of some other states (both coal and metal) are studied; "mine rules" are discussed, a critical examination being made of rules now in operation at various mines; and a series of lectures is given on the founding and management of mining camps, including sanitation and sociological questions that are of especial moment to the life of a mining community. Senior year. *Two hours a week. First semester.* Professor BARR or Professor NORWOOD.

Magazine Review

In the senior year, second semester, six hours a week are devoted to "magazine review." Articles on previously listed subjects that have appeared in technical journals, society transactions and similar publications are reviewed, under the guidance of an instructor. In this way the student is brought into close touch with the literature of mining, mining geology, and metallurgy, and with current progress of the applications of theory to practical propositions, and the reading habit is formed.

Ore Dressing

1. Concentration and Washing. Junior year. *Three hours a week. Second half of second semester.* Professor NORWOOD, ————.

2. Applications. Senior year. *First semester. Recitations four hours and laboratory four hours a week, first half of semester; laboratory eight hours a week, second half of semester.* Professor NORWOOD, Assistant Professor ————.

Kentucky lead and zinc ores, complexes of fluorspar, calcspar, barytes, and iron ores are readily available for the laboratory. In addition to the usual wet methods of concentration, magnetic, electrostatic, and flotation processes of separation are studied. These courses also include coal washing.

Metallurgy

The study of metallurgy is begun by students in mining and in metallurgy in the junior year. The work is apportioned as follows:

1. Assaying. Junior. The fire-assay of gold and silver ores, and of lead and copper ore for base metals. For students in mining. *Laboratory, ten hours a week. Last half of second semester.* Assistant Professor ————.

2. Assaying and Laboratory Ore Tests. The fire-assay of gold and silver ores; galena and coinage for silver; bullion—base, Dore, silver and gold; copper-bearing material (ores, mattes, blister copper, etc.), for silver and gold; copper and lead slags; zinciferous ores and metallurgical products (e. g., residues from zinc distillation, and cyanide zinc precipitates) for silver and gold; copper, lead and tin ores for base metal. Also, the assay of mercury, as an exercise in distillation, and the electrolytic assay of copper and lead ores. The determination of the heating power of coal by reduction of litharge is also given, as a speedy, though not accurate, method useful in emergencies. Exercises in the determination of the suitability of certain wet extraction processes for a given ore include: (1) Tests of ores for cyaniding; (2) tests of gold ores for chlorinating; and regulation tests for chloridized-roasting of silver ores. For students in metallurgy. Senior year. *Laboratory, eight hours a week. First half of second semester.* Professor NORWOOD, Assistant Professor ————.

3. Metallurgy of Iron and Steel. Junior. For students in Mining. *Three hours a week. First semester.* Professor NORWOOD or Assistant.

4. Metallurgy of Iron and Steel. Junior. Metallurgy 3, extended. For students in Metallurgy. *Five hours a week. Last half of second semester.* Professor NORWOOD.

5. Metallurgy of Copper, Lead and Zinc. Junior. For students in Mining. *Courses 5 and 6 total five hours a week. First half of second semester.* Professor NORWOOD, Assistant Professor ————.

6. Metallurgy of Silver, Gold, and Minor Metals. Junior year. For students in Mining. *Courses 5 and 6 total five hours a week. First half of second semester.* Professor NORWOOD, Assistant Professor ————.

7. Elements of Metallography. Senior. An introduction to the subject for students in Mining. *Three hours a week. First half of second semester.* Professor NORWOOD.

8. Metallurgy of Copper, Specialized. For students in Metallurgy. *Three hours a week. First semester.* Professor NORWOOD, Assistant Professor ————.

9. Metallurgy of Lead. Specialized. For students in Metallurgy. *Courses 9 and 10 total five hours a week. First half of second semester.* Professor NORWOOD, Assistant Professor ————.

10. Metallurgy of Silver, Gold, Zinc and Minor Metals. For students in Metallurgy. *Courses 9 and 10 total five hours a week. First half of second semester.* Professor NORWOOD, Assistant Professor ————.

11. Metallurgy of Alloys. Metallography. Metallurgy 7 extended. Includes the preparation of samples of iron and steel, and descriptions of their structures, and studies of some of the alloys. For students in Metallurgy. *Lectures six hours a week for three weeks; laboratory eight hours a week for three weeks. Second semester.* Professor NORWOOD.

12. Fuel Testing. Pyrometry. For students in Metallurgy. *Laboratory six hours a week for six weeks. Second semester.* Assistant Professor ————.

13. Metallurgical Calculations. For students in Metallurgy. *Three hours a week. First half of second semester.* Professor NORWOOD or Assistant.

14. Metallurgy of Iron and Steel. Materials of machines. Includes some instruction in Metallography. For students in Mechanical and Electrical Engineering. *Two hours a week. Last half of second semester.* Professor NORWOOD.

15. Metallurgy of Iron and Steel. Preceded by a general review of metallurgical processes. For students in Civil Engineering. *Three hours a week. Last half of second semester.* Professor NORWOOD.

16. Metallurgy. A general account of Metallurgical processes. For students in industrial chemistry. *Two hours a week. Second semester.* Professor NORWOOD or Assistant.

17. Electro-Metallurgy. For students in metallurgy. *Three hours a week. First half of second semester.* Professor NORWOOD.

PRACTICAL MECHANICS

Assistant Professor J. B. Dicker, Mr. G. Thurman

The Department of Practical Mechanics is located in Mechanical Hall. The mechanical engineering recitation room is used for lectures and recitations.

The Shops

The shops or mechanical laboratories are furnished power by a Hamilton-Corliss engine; the steam for this is supplied from a Babcock and Wilcox boiler in one of the independent boiler houses.

The equipment in the various shops is briefly indicated as follows:

The wood shop contains thirty benches, each with a complete set of bench tools; and twenty-two lathes, each with a complete set of wood-turning tools. Besides these, there are a band saw, a jig saw, two circular saws, a trimmer, a mortising machine and a grindstone.

The foundry contains a 30-inch cupola furnace, having a capacity of a ton of metal per hour, a brass furnace, twelve complete sets of moulder's tools, twelve benches, besides the ladles, flasks, clamps, core oven, pattern rack and other equipment such as is used in practical foundry operation.

The forge shop is equipped with eighteen down-draft forges. With each forge there is a set of blacksmith tools. A power hammer is available for heavy work.

The machine shop contains nine lathes, two milling machines, one planer, two shapers, two drilling machines, one dry emery grinder, one electric drill grinder, one universal grinding machine, one sensitive drill, twelve vises for bench work in metal, an air compressor, two power hack saws, some pneumatic tools and a small punch and shear.

The tool room is equipped with an assortment of such tools and supplies as are used in the shops. In connection with the shops there is a washroom containing lockers for the accommodation of the students.

COURSES OF INSTRUCTION

Practical Mechanics

1. **Wood Working.** For all freshmen in Engineering. This work includes: (a) Recitations on the forms of wood-working tools and the cutting and peculiarities of timber. (b) Lectures on the operation

of the various forms of wood-working machinery. (c) Bench-work in wood, including exercises in the following operations: planing, sawing, rabbeting, plowing, notching, splicing, mortising, tenoning, dovetailing, framing, paneling and the general use of carpenters' tools. (d) Wood-turning, involving the various principles of lathe-work in wood. *Eight hours a week. First semester.* Assistant Professor DICKER.

2. **Pattern Making.** For all freshmen in Engineering. This is a continuation of the course in Wood-Working, and is intended to give the student experience in the construction of patterns for use in making iron and brass castings. The work in the shop is supplemented by frequent lectures and recitations on the theory of pattern making. *Courses 2 and 3 are co-ordinate. Eight hours a week. Second semester.* Assistant Professor DICKER.

3. **Foundry Work.** For all freshmen in Engineering This includes the various operations of molding, core-making and the melting and casting of iron, brass and other commercial alloys. The practical work in the foundry is supplemented by lectures and recitations on the proper construction and use of patterns, core making, cupola practice, making of alloys, the modern system of hand and machine molding and the processes involved in producing sound, suitable castings in a first-class foundry. *Courses 2 and 3 are co-ordinate. Eight hours a week. Second semester.* Mr. THURMAN.

4. **Forge Shop Work.** For all sophomores in Engineering. Exercises in iron and steel forging. Prerequisites, Practical Mechanics 1 and 2. *Courses 4 and 5 are co-ordinate. Six hours a week. Thruout the year.* Mr. THURMAN.

5. **Machine Shop Work.** For all sophomores in Engineering. (a) Exercises in vice work in metal. (b) General machine work, including screw cutting, drilling, planing and the milling of iron, brass and steel. Prerequisites, Practical Mechanics 1 and 2. *Courses 4 and 5 are co-ordinate. Six hours a week. Thruout the year.* Mr. THURMAN.

COURSES OF STUDY IN THE COLLEGE OF ARTS AND SCIENCE REQUIRED OF ENGINEERING STUDENTS

Chemistry

Professor Tuttle, Professor Maxson, Assistant Professor Kiplinger, Mr. Mitchell, Mr. Hardman

1. **General Inorganic Chemistry.** Chemistry of the non-metallic elements. Lectures, class-room exercises and laboratory work. *Five hours a week. First semester.* Professor MAXSON and others.

2. General Inorganic Chemistry. Chemistry of the metals. Lectures, class-room exercises and laboratory work. Prerequisite, Chemistry 1. *Six hours a week. Second semester.* Professor MAXSON and others.

17. Gas Analysis. A laboratory course in the analysis of illuminating, natural and flue gases, using the methods and apparatus of Hempel, Orsat and others. Prerequisite, Chemistry 2. *One hour a week. First half of second semester.* Professor TUTTLE.

English Language and Literature

Professor Dantzler, Professor Farquhar, Mr. Burgevin, Miss Hopkins, Mr. Slappey

1. English Composition. The object of this course is to give training in the writing of correct and clear English. Accuracy of expression is desired rather than proficiency in style. A text book will be used, but the instruction will also be based upon the study of representative English masterpieces. English 1 is required of all freshmen. *Three hours a week. Thruout the year.* All instructors.

1a. English Composition. This course is the same as English 1, but it begins at the second semester and extends thru the first semester of the following year. It is designed for those students who failed in the first semester of English 1 and for those who enter the University in January. In two sections. *Three hours a week. Thruout the year.* Mr. BURGEVIN.

3. History of English Literature. This course is designed to give the student a general survey of English literature from the Old English period to the present. Extensive readings will be made from selected masterpieces, with weekly written themes by the student. This course is required of all sophomores. Prerequisite, English 1. *Three hours a week. Thruout the year.* Professor DANTZLER, Mr. BURGEVIN, Miss HOPKINS.

3a. History of English Literature. This course is the same as English 3, but it begins the second semester and extends thru the first semester of the following year. It is designed for those who failed in the first semester of English 3 and for those who entered the University in January. *Three hours a week. Thruout the year.* Mr. BURGEVIN.

32. Engineering English. This is an advanced course in technical composition designed for seniors in the College of Engineering. Scientific models will be studied. *Three hours a week. Thruout the year.* Professor FARQUHAR.

Mathematics and Astronomy

Professor Boyd, Professor Davis, Associate Professor Rees, Assistant Professor Downing, Mr. Allen, Mr. Grove

1. Solid Geometry. This is given primarily for engineering students who enter conditioned in it. It is a prerequisite for second semester analytics. Students not needing the course for entrance will be allowed three-fifths the usual credit. *Five hours a week. First semester.* Mr. ALLEN.

2. Plane Trigonometry. A thoro course in plane trigonometry supplemented by enough algebra to fill out a semester's work. *Five hours a week. First semester. Repeated second semester.* All instructors.

3. College Algebra. Elementary algebra is first reviewed in a way to give greater clearness as to assumptions, the number concept and the functional idea, and to introduce graphs and determinants. Following this, topics are taken up that will, together with those included in Course 2, furnish the student with a fairly complete view of the subject. *Five hours a week. First semester. Repeated second semester.* All instructors.

4a. Analytic Geometry, First Half. A somewhat extended course in which particular emphasis is laid on the graphical representation of the various types of functions. The derivative is introduced as a tool for the study. The work is given by lectures, with mimeographed outlines. Prerequisites, Courses 2 and 3. *Five hours a week. First semester. Repeated second semester.* Professor BOYD, Professor DAVIS, Associate Professor REES, Assistant Professor DOWNING.

4b. Analytic Geometry, Second Half. A continuation of Course 4a extending thru solid analytics. Prerequisites, Courses 1, 2, 3 and 4a. *Five hours a week. First semester. Repeated second semester.* Professor BOYD, Professor DAVIS, Associate Professor REES, Assistant Professor DOWNING.

5a. Differential Calculus. A course covering most of the subject as presented in the larger texts and including much drill work in the solution of problems. Engineering students take this in the second semester of the sophomore year. Prerequisites, Courses 2, 3 and 4a. *Five hours a week. First semester. Repeated second semester.* Professor BOYD, Professor DAVIS, Associate Professor REES.

5b. Integral Calculus. Certain topics of the differential calculus are included in this course. Prerequisites, Courses 1, 2, 3, 4a, 4b and 5a. *Five hours a week. First semester. Repeated second semester.* Professor BOYD, Associate Professor REES.

Physics

Professor Pence, Associate Professor Killebrew, Mr. States

1. General Elementary Physics. For students who have had no previous training in physics. Course covers the elementary theory of mechanics, sound and heat, particular attention being given to the solution of appropriate problems. Each student is required to perform, and report on, 25 laboratory exercises. *Lectures and recitations four hours, laboratory two hours a week. First semester.* Associate Professor KILLEBREW, Mr. STATES.

1b. General College Physics. For sophomore engineering students. Prerequisites, one year of high school Physics, Mathematics 2 and 3 and Physics 4. Should be accompanied by 5b. Lectures, recitations, and problems in mechanics, sound and heat, especial attention being given to mathematical deductions. *Four hours a week. First semester.* Associate Professor KILLEBREW, Mr. STATES.

2b. General College Physics. This is a continuation of 1b. Should be accompanied by Physics 6b. Lectures, recitations and problems in electricity, magnetism and light. *Four hours a week. Second semester.* Associate Professor KILLEBREW, Mr. STATES.

4. Elementary Physical Measurements. For freshmen in engineering. Laboratory work accompanied by recitation periods. Departmental notes used as laboratory manual. *Four hours laboratory a week. Second semester.* Professor PENCE, Mr. STATES.

5b. Measurements in Mechanics and Heat. For sophomores in engineering. Prerequisites, Physics 4 and credit in or the simultaneous study of Physics 1b. Laboratory work, accompanied by recitation periods; special attention given to appropriate problems. *Laboratory four hours, recitation one hour a week. First semester.* Associate Professor KILLEBREW, Mr. STATES.

6b. Measurements in Electricity, Sound and Light. For sophomores in engineering. Prerequisites, Physics 4, and credit in or the simultaneous study of Physics 2b. Laboratory work, accompanied by recitation periods, special attention being given to appropriate problems. *Laboratory four hours, recitation one hour a week. Second semester.* Associate Professor KILLEBREW, Mr. STATES.

COLLEGE OF LAW

OFFICERS OF ADMINISTRATION AND INSTRUCTION

FRANK LEROND MCVEY, PH. D., LL. D.
President of the University

WILLIAM THORNTON LAFFERTY, A. B., A. M.
Dean of the College of Law, Professor of Law

ALLEN, J. EMBRY
Instructor in Law

ALLEN, JOHN R.
Lecturer on Law

CHALKLEY, LYMAN, LL. B.
Professor of Law

DURELLE, GEORGE, LL. B.
Lecturer on Federal Law and Procedure

*HUTCHCRAFT, REUBEN BRENT, A. B., LL. B.
Professor of Law

KERR, CHARLES
Lecturer on Law

NORWOOD, CHARLES J., M. S.
Lecturer on Mining Law

STOLL, RICHARD C., A. B., LL. B.
Lecturer on Law

SUMMERS, WALTER LEE, A. B., T. D.
Professor of Law

TIGERT, JOHN JAMES, A. M., B. A. (OXON.)
Instructor in Roman Civil Law

VAUGHN, GEORGE W., LL. B.
Instructor in Law

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*On leave for duration of war.

INTRODUCTORY STATEMENT

Organization

The College of Law of the University of Kentucky, was organized under the provisions of an act of the Legislature passed in 1908, and was opened for the admission of students in September of that year.

After the experience of the first year, the course of study was so amended as to meet the requirements of the Association of American Law Schools; application for admission to membership in that association was made, and the following year was granted. Other improvements are constantly being made in order to keep pace with the most approved law schools of the country.

Our country is experiencing remarkable growth and development. The requirements for a successful career in all lines of business and in all professions, necessitate the laying of a broader foundation before encountering these greatly changed conditions. The design of this College is to teach the student the fundamental principles of English and American law, and to so extend the course of study as to fit him for the bar in any state. The course offered is thoro and comprehensive, giving such training as will prepare him for usefulness as a citizen, and success as a practitioner. The instruction will not be limited to persons who may choose the law as a profession, but will be given also to special students who may elect to take a limited course in such subjects as will be found useful in the pursuit of some other business or occupation. A good knowledge of the law is now being generally recognized as necessary and fundamental in making up a well-rounded preparation for a business life. Besides this, the study of the law as now taught with its collateral work, is an important part of a liberal education.

Expenses

Each student will be charged an incidental fee of $20.00, and a student's activity fee of $4.50 each semester. No diploma fee will be charged. The books for the required work can be secured here at a reduced price and will cost about $25.00 a year. Good board and lodging can be had in private families at prices ranging from $4.00 to $6.00 a week, or rooms may be secured in private homes and meals obtained at the University dining hall at very reasonable rates.

Admission

Applicants for admission to the first year classes of the College of Law must be at least eighteen years of age. Each of such appli-

cants if required, must present evidence of good character. This may be in the form of a certificate of credit from the school last attended by the applicant, or by a letter signed by a reputable citizen. Students who carry their full work in other colleges of the University may during their senior year and by the consent of their Dean, have the privilege of attending free of charge any of the lectures and recitations of the College of Law.

Entrance Requirements

Any graduate of an accredited school will be admitted who presents three units of English, one unit of Algebra, one unit of Plane Geometry and ten other units selected from any subjects counted by an accredited school toward graduation. Four units in vocational subjects may be counted in this number.

Students not graduates of an accredited school must pass examinations on fifteen units distributed in the same way.

After the year 1918-19 no student will be admitted who has an entrance condition.

College Work

For the year 1918-19 all law students under twenty-one years of age to be classified as seniors must have completed at least thirty semester credits of work in this or some other recognized college or university, the equivalent of the first year in Arts and Science in this University. For the year 1919-20 this rule will apply to all law students. For the year 1920-21 all law students must have completed at least thirty semester credits of such work before being admitted to the College of Law and such students must have completed an additional thirty semester credits of such work before being classified as seniors. Beginning with the year 1921-22 and thereafter, law students must have completed at least sixty semester credits of such work before admission to the College of Law. No extra charge will be made for work done by law students in other colleges or departments of this University.

Advanced Standing

Applicants for admission to advanced standing in law must first satisfy the foregoing entrance requirements. By presentation of satisfactory certificates issued by an approved law school, which requires entrance credits equal to the above, or by examination. Such applicants may then obtain any advanced credits in law to which they are entitled. Under certain conditions advanced credit will be given to those who have engaged in the practice of law in this state. All

law credits offered for advanced standing must be submitted to the Dean for adjustment. In no event will credit be given for more than two years' work done outside of this College.

Special Students

Persons who are at least twenty years of age, whose preliminary preparation is not such as to entitle them to enter the regular courses as candidates for a degree, or persons who have read law for a considerable period before making application for admission, are allowed to become special students, with the privilege of pursuing the courses of study in any of the specified subjects, but without the privilege of being enrolled as candidates for a degree. All such students must satisfy the Law faculty that they are qualified to pursue the work with profit to themselves, and will be required to complete the subjects selected with the same thoroness as regular students.

Should a special student desire subsequently to become a candidate for a degree, he must make up the work required for admission and do the required college work before the beginning of the year in which he proposes to graduate.

DEGREES AND SPECIAL PRIVILEGES

The Degree of Bachelor of Laws (LL. B.)

The degree of Bachelor of Laws (LL. B.) will be conferred upon students who have satisfied the entrance requirements, completed the required work, have passed the final examination, and have reached the age of twenty-one years.

The Degree of Master of Laws (LL. M.)

Persons who can offer the required entrance credits and are regular graduates from an acceptable law school, may become candidates for the degree of Master of Laws (LL. M.). For details concerning this degree address the Dean of this College.

Certificates

A student who has been connected with the College for a period not entitling him to graduate, may on application to the Dean receive an official certificate of attendance and the degree of his attainments in the subjects taken.

Removal of Conditions

Students who fail to receive their degrees in due course, because of conditions in the law work, will be permitted to remove those conditions at any time not later than one year after the graduation of their regular class. Further time may, however, be granted by a vote of the Law facutly.

Combined Arts—Law Course

Seniors in the College of Arts and Science may elect as part of the requirements for graduation in that college, courses from the first year's work in the College of Law. By so doing they will be able to shorten from seven to six years the time required to earn the degrees in both courses.

Special Lecturer

Each of the persons designated in the Law faculty as a lecturer, will, before delivering his course, furnish the Dean with his manuscript, and copies of same will be made and furnished each student of the class to be addressed. Each page of the copies will have a wide blank margin so that the student may follow the lecturer and make his note. The subjects will thus be treated on practical lines, and the student's copy will be of practical value to him.

Privileges and Library

Students of the College of Law will be admitted to all the privileges of the literary societies, gymnasium and University library, upon equal terms with other students of the University. They may also attend any of the classes or lectures in other departments of the University without extra charge. A law library containing 10,000 volumes of carefully selected law books has been accumulated and placed in the library rooms of the College of Law, and is open daily for the free use of students. This library embraces the entire Natonal Reporter system, and the separate volumes of the reports of a majority of our best states from the beginning up to the publication of that system. The Supreme Court reports and all other Federal Court reports are complete. There is a complete set of all reported English cases from 1650 to the present time; Trinity system, Halsbury's Laws of England, CYC., L. R. A. Corpus Juris, encyclopedias, and many other valuable sets of law books, including a large collection of the best text books. All the best publications of law books being issued are obtainable for this library.

Henry Clay Law Society

The Henry Clay Law Society is an organization composed of the law students, which convenes once each week in a hall provided for its use. In this society the students by study and actual practice will learn the rules of parliamentary law and their use in deliberative assemblies. They will organize legislative assemblies and learn the procedure in the framing and passage of bills, both state and federal. Subjects of a public nature will be discussed so as to familiarize the students with the affairs of the country which will confront them in their experience as citizens and professional men.

Kentucky Law Journal

The Kentucky Law Journal is a publication issued monthly by the College of Law, and has for its chief purpose the dissemination of legal literature among law students and members of the bench and bar of the state. It contains contributions from leading law teachers and members of the bar both in and outside of the state. This Journal has been made the official organ of the Kentucky Bar Association.

PRIZES

The American Law Book Company Prize

The American Law Book Company of New York offers a prize to the student who takes the highest scholarship honors upon his graduation, a complete set of forty-three volumes of the Cyclopedia of Law and Procedure (CYC).

The Blackstone Institute Prize

The Blackstone Institute of Chicago offers a prize to the student who makes the best general average in the junior year, a set of fifteen volumes of Modern American Law.

Callaghan & Company Prize

Callaghan & Company, Law Book Publishers of Chicago, offer as a prize to the student who makes the second best general average in the junior year, a copy of the Cyclopedia Dictionary.

The W. H. Anderson Company Prize

The W. H. Anderson Law Publishing Company of Cincinnati, Ohio, offers as a prize to the student who makes the best general average in the first year, a set of Page on Contracts, three volumes.

METHOD OF INSTRUCTION

The method of instruction pursued includes the use of text-books, lectures, cases, and such other methods as the faculty may deem advisable. In the first year, instruction will be given by the use of text-books and illustrative case books, as this is believed to be the best method of training the beginning student in the study of law. In the second and third years, instruction will be given by the use of case books, but each subject will be introduced by the use of a short text or lecture course so as to give the student a general view of the subject before beginning the study of the cases.

Moot Court

The student enters more thoroly into the spirit of his law work and obtains a clearer understanding if he is given exercises from which he may draw conclusions by applying his knowledge of the principles of the law taught him in his class. Therefore students in the second year of their law course are required to do an amount of moot court work, which is based upon assumed seatements of facts given by the professor in charge. From the statement of facts, each member of the class is required to draw his own conclusion as to what principle is involved, and support his conclusion by the law he is able to gather from his investigation in the law library of text-books and court decisions. The reports are made by the students and debated before the class. This plan teaches the student how to analyze facts, how to find and apply the law, and how to present his case and debate it. Criminal procedure will be taught in this connection, including indictment and trial of actual cases.

Practice Court

The training given in a law scool is not complete unless the student acquires a knowledge of actual practice. This is secured by the introduction of the practice court, which is presided over by one of the professors, and this work is required of all students in their senior year. A room is especially equipped for this work, with all the furnishings usually found in a well regulated court-room. The court will be provided with a full corps of officers made up of the students, each of whom will alternate in official service until each member of the class has had sufficient practice to become familiar with the duties of each office.

Students will be required first to acquaint themselves with the various courts, their jurisdiction, original, concurrent and appellate. They will then be required to carry many default cases in common

law and in equity, from the filing of the original papers to the conclusion. Each student will be required to write out and explain all steps possible to be taken in each case, including the duties to be performed by the various officers of the court. In this connection they will be taught the actual use of the practice code of this and other states, as well as the application of the common law procedure.

Many cases will be prepared setting forth facts upon which issues will be joined. For the purposes of this work, court will be opened in regular order, and in the contests in making issues, the practice of handling pleadings, demurrers and motions of every kind will be experienced.

Contested equity cases will be made upon given statement of facts, students will be assigned as attorneys on each side of the cases, other students will act as special judges of the court. In each case, the attorneys will be required to look up the law thoroly, debate their cases before the special judges, and file briefs with same. The court will deliver written opinions. Students will alternate in this kind of service.

Actual controversies will be arranged and assigned for trial on issues of fact before regularly impaneled juries made up of students, when witnesses will be examined, depositions and other evidence heard, juries instructed upon the law of the cases, arguments made before the court and jury, and all other incidents of a contested trial will be had. Some of these cases will be prosecuted to the Court of Appeals.

Students will at intervals attend the courts of Fayette county which are in continuous session. Experience gathered there and in the practice court of the College will give a good knowledge of the practical part of the course of instruction.

Students who may desire to spend some part of their spare time in the office of a practicing attorney, in order to gain some acquaintance with the office work and the manner of handling business by the active practitioner, will have this opportunity offered them.

COURSES OF STUDY

SOPHOMORE YEAR

1. Study of the Common Law. Robinson's *Elementary Law* and reference books. *Three hours a week. First semester.* Professor CHALKLEY.

32. Domestic Relations. Schooler's *Domestic Relations*, Cooley's *Cases. Two hours a week. First semester.* Professor ————.

3. Torts. Bigelow's Text, Cases. *Two hours a week. First semester.* Professor HUTCHCRAFT.

35. Sales. Tiffany's Text, Cases. *Two hours a week. First semester.* Professor ————.

4. Contracts. Clark's Text, Throckmorton's *Cases on Contracts. Two hours a week. Thruout the year.* Mr. VAUGHN.

5. Real Property. Text to be announced, Lectures and Cases. *Two hours a week. Thruout the year.* Professor CHALKLEY.

36. Research, Brief Making and Debate. *One hour a week. Thruout the year.* Professor LAFFERTY.

6. Agency. Meecham's Text, Meecham's *Cases on Agency. Two hours a week. Second semester.* Professor ————.

7. Partnership. Meecham's Text, Gilmore's *Cases on Partnership. Two hours a week. Second semester.* Professor ————.

8. Criminal Law. Clark's Text, Mikell's *Cases on Criminal Law. Three hours a week. Second semester.* Professor LAFFERTY.

9. Bailment and Carriers. Elliott's Text, Cases. *Two hours a week. Second semester.* Professor HUTCHCRAFT.

JUNIOR YEAR

10. Common Law Pleading. Whitter's *Cases on Common Law Pleading. Two hours a week. First semester.* Professor CHALKLEY.

11. Evidence. Greenleaf's Text, Cases. *Three hours a week. First semester.* Professor HUTCHCRAFT.

12. Insurance. Vance's Text, Vance's *Cases on Insurance. Two hours a week. First semester.* Mr. ————.

13. Bills, Notes and Checks. Bigelow's *Bills and Notes*, Morris *Cases. Two hours a week. First semester.* Mr. ————.

37. Preparation of Legal Instruments. *One hour a week. First semester.* Professor LAFFERTY.

14. Corporations. Elliott's Text, Richard's *Cases on Corporations. Two hours a week. Thruout the year.* Professor HUTCHCRAFT.

15. Equity. Bispham's Text, Boke's *Cases on Equity. Two hours a week. Thruout the year.* Mr. J. EMBRY ALLEN.

16. Real Property. Case Book to be announced. *Two hours a week. Second semester.* Professor CHALKLEY.

17. Code Pleading. Sunderland's *Cases on Code Pleading. Two hours a week. Second semester.* Professor CHALKLEY.

38. Mining Law. Cortigan's *Cases on Mining Law. Two hours a week. Second semester.* Professor ————.

19. Personal Property. Warren's *Cases on Personal Property. Two hours a week. Second semester.* Professor CHALKLEY.

20. Moot Court. *Two hours a week. Second semester.* Professor LAFFERTY.

SENIOR YEAR

21. Damages. Beale's *Cases on Damages. Two hours a week. First semester.* Professor ————.

22. Wills and Administration. Cortigan's *Cases on Property.* (Wills, Descent, and Distribution). *Two hours a week. First semester.* Professor HUTCHCRAFT.

23. Conflict of Laws. Minor's Text, Lonenzen's *Cases on Conflict of Laws. Three hours a week. First semester.* Professor LAFFERTY.

24. Constitutional Law. Hall's *Cases on Constitutional Law. Two hours a week. First semester.* Professor CHALKLEY.

25. Practice Court. *Three hours a week. Thruout the year.* Professor LAFFERTY.

26. Roman Law. *One hour a week. Second semester.* Professor TIGERT.

27. Quasi Contracts. Thornton's *Cases on Quasi Contracts. Two hours a week. Second semester.* Professor CHALKLEY.

28. Trusts. Ames' *Cases on Trusts. Two hours a week. Second semester.* Professor HUTCHCRAFT.

39. Public Utilities. Wyman's *Cases on Public Utilities. Two hours a week. Second semester.* Professor HUTCHCRAFT.

40. Suretyship. Ames' *Cases on Suretyship. Two hours a week. Second semester.* Professor ————.

41. International Law. Elective. *Two hours a week. Second semester.* President MCVEY.

43. Jurisdiction and Procedure in the Federal Courts. Lecture Course. Judge DURELLE.

33. Bankruptcy and Procedure. Lecture Course. Judge KERR.

34. Corporation Organization and Operation. Special Lectures. Mr. STOLL.

43. Legal Ethics. Lecture Course. Mr. J R. ALLEN.

42. Mine Construction, Operation and Incidents. Lecture Course. Chief Mine Inspector NORWOOD.

THE GRADUATE SCHOOL

OFFICERS OF ADMINISTRATION

FRANK LEROND MCVEY, PH. D., LL. D.
President of the University

GLANVILLE TERRELL, A. M., PH. D.
Chairman of the Graduate School Committee,
Professor of Philosophy

INTRODUCTORY STATEMENT

The Purpose of the School

The purpose of the Graduate School is to prepare students for teaching, to develop the power of independent thinking, and to promote the spirit of research and scientific investigation. The student assumes a new attitude towards his studies, endeavors to form opinions on his own account, weighs and examines the opinions of others, however high the authority on which they may rest. Above all, he begins to specialize, and should endeavor to make himself not only expert, but an authority, in his own chosen department of knowledge.

Admission

All candidates for higher degrees should first communicate with Professor Glanville Terrell, Chairman of the Graduate School Committee. No applicant is admitted unless his previous education has been such as to prepare him for work of graduate character. In general, this means that the candidate must hold a first degree either from the University of Kentucky or from some other university or college whose work is accepted by this University. Admission to particular courses or departments will be granted only when in the judgment of the professors giving such courses the student's undergraduate work has prepared him to take them.

Students of mature age who do not hold a first degree, but who satisfy the Graduate School Committee and the officers of the departments in which they wish to work of their earnestness of purpose and special fitness, may be permitted to take work in the

Graduate School without reference to candidacy for a degree. In order to secure this permission, however, a candidate must have had such preliminary preparation for the work he wishes to take up as would justify his admission to the Graduate School as a candidate for a degree if he could meet the other requirements fully.

All courses which count towards a degree must be approved by the Graduate School Committee.

Before the assignment of work the student must present a receipt from the business agent showing that he has paid the fee of $15.00.

Requirements For Degrees

Candidates for the degree of Master of Arts or Master of Science in the College of Arts and Sciences or for the advanced degrees in the College of Agriculture are required to do at least one year's work in residence and to write a thesis. Three summer terms, with the approval of the Graduate School Committee, may fulfill the residence requirement. The degree of Master of Science is more highly technical than the degree of Master of Arts, and implies specialization in one of the sciences.

Every candidate for a graduate degree must carry at least twelve credit hours, of which the thesis will count as three. The thesis may be allowed to count for half of the required work, if in the judgment of the major professor, with the approval of the Graduate School Committee, the student's time can be more profitably spent in this manner. A candidate for a master's degree may, with the approval of the Graduate School Committee, do all his work in one subject, or he may select a major and one minor, or a major and two minors. The candidate must give at least one-half of his time to his major subject.

Thesis

1. Thesis subjects must have the approval, in advance, of the head of the department in which it is proposed to carry on major work.

2. A first draft of a thesis must be submitted for suggestion, correction, etc., and at the option of the one who has the work in charge other drafts may be required before it has assumed its final form.

3. Candidates who expect to receive their degrees at the December meeting of the Board of Trustees must submit the first draft

not later than October first, and the completed thesis not later than November fifteenth. Candidates for degrees at the June Commencement must submit the first draft not later than April fifteenth, and the completed thesis May fifteenth.

4. A folder containing detailed information concerning the final form of the thesis will be sent each candidate for advanced degrees.

5. Second degrees are conferred upon such graduates of the Colleges of Engineering of this University as have been engaged in acceptable professional work away from the University for at least three years after receiving the bachelor's degree, on the presentation of a thesis in compliance with the above rules or upon graduates of this University or of another institution of equal standing engaged in prearranged residence work for the bachelor's degree.

Graduate students will consider their major professor as their adviser who, together with the Chairman of the Graduate School Committee, should be consulted in regard to registration, any changes in courses, and all matters pertaining to their studies.

Fellowships

For the encouragement of research and scholarship the following scholarships and fellowships have been established in the various departments of the University of Kentucky.

Five University scholarships with a stipend of $200 each.

Two University fellowships with a stipend of $500 each.

Ten assistantships with a stipend of $400 each.

The scholars and fellows will be expected to devote their whole time to graduate work. The assistants will do no regular teaching, but will assist the heads of the departments in such work as they may require, as in laboratories, reading papers, etc. In general, they will be expected to spend two years in the University before receiving their first advanced degree.

These fellowships are open to those who already hold, or will receive at the close of the current academic year, a bachelor's degree, or its equivalent, from any college or university of good standing, provided the student has shown some special aptitude for the line of work he desires to pursue.

Application for a fellowship should be made to Professor Glanville Terrell, Chairman of the Graduate School Committee by April 1. The applicant should state his age, the degree held and the institution conferring it, with the date.

DEPARTMENTS OF INSTRUCTION

Chemistry

Professor Tuttle, Professor Maxson, Assistant Professor Daniels.

In the Department of Chemistry courses of study leading to the master's degree are provided in inorganic, organic, physical and analytical chemistry. Under the following heads a considerable choice of work is offered.

1g. Synthetic Inorganic Chemistry.
2g. Organic Chemistry.
3g. Physical Chemistry.
4g. Analytical Chemistry.

Education

Professor Noe, Associate Professor Baker

For courses in this department open to undergraduates and graduates, see, in the preceding portion of the catalogue, Courses 8, 12, 13, 14, 15.

16. Seminar in Educational Problems. Investigations of some problems in educational psychology and some practice in experimental education. The class will meet weekly for a two-hour session. *Time to be arranged.* Professor NOE.

17. Seminar in Administration and Supervision. The work will consist chiefly of individual studies and reports. The class will meet weekly for a two-hour session. Primarily for graduates. Thesis work by appointment. *Time to be arranged.* Associate Professor BAKER.

English Language and Literature

Professor Dantzler, Professor Farquhar

In the Department of English, courses of study leading to the master's degree are offered in English philology and English literature. The following courses are offered for the year 1918-19.

1g. **Literary Criticism.** Special problems in the development of English criticism.

2g. **English Philology.** General principles; reading of old English dialects.

3g. **The Comedy.** The development of the comedy as a literary type.

4g. Beowulf.

Geology

Professor Miller

Professor A. M. Miller will gladly answer inquiries from prospective graduate students in Geology. Work may be arranged after consultation.

History and Political Economy

Professor Tuthill

History

Graduate students seeking the master's degree must first complete the college courses numbered 1, 3, 4, or their equivalents. They should also present one college course in the history of the United States, or a course which treats of American Government, such as Political Science 1. In addition, one or more foreign languages will be expected, according to the character of the courses attempted. The Department will encourage students from other institutions of learning to defer application for the higher degrees until the end of the first term. The following courses are available:

10. Pro-Seminar in European History. This consists of the reading, translation and study of a selected chronicle. Open to graduates only. *Two hours a week for a half year.*

8. The Teaching of History. Designed to take up special problems and aids in class-room work of high school and college. Open to seniors of the Department of Education and graduates. *Two hours a week. Second semester.*

Political Economy

Political Economy may be taken as a minor only. The following courses are offered:

13. Pools and Trusts. A study of agricultural and commercial agreements and court decisions thereon. Open to undergraduates who have completed courses 1 and 2, and to graduates. *Two hours a week. First semester.*

14. Statistics. A study of averages, weighing, criticism, and practical exercises. *Two hours a week. Second semester.*

Political Science

3. Comparative Constitutional Law. A comparative study of the governments of the greater nations of America and Europe. Prerequisite, Political Science 1. *Two hours a week. Thruout the year.*

Mathematics and Astronomy

Professor Boyd, Professor Davis, Associate Professor Rees, Assistant Professor Downing

The following courses are available for graduate students. Some of the courses are open to undergraduates also, while others are for graduate students only. The courses are so planned that a graduate student may find plenty to occupy his time for at least two years.

Mathematics

7. Graphical Analysis and Determinants. A study by graphical methods of the fundamental principles of analysis and a presentation of the elements of curve tracing. This is followed by a brief course in determinants. Lectures. Omitted in 1917-18; to be given in 1918-19. *Three hours a week. First semester.* Associate Professor REES.

8. Vector Analysis. A thoro study of the algebra of vectors with numerous applications to line geometry and solid analytics. Also a brief introduction to the calculus of vectors with applications to differential geometry, mechanics and physics. Text to be supplemented by lectures. Omitted in 1917-18; to be given in 1918-19. *Three hours a week. Second semester.* Associate Professor REES.

9. Theory of Equations. An introductory course given chiefly by lectures and based on some standard text. Given in 1917-18; to be omitted in 1918-19. *Three hours a week. First semester.* Associate Professor REES.

10. Advanced Analytics. This course is designed to present the extended theory connected with conic sections and to serve as an introduction to a later course in the general theory of algebraic curves. To be omitted in 1918-19. *Three hours a week. Second semester.* Associate Professor REES.

11. Differential Equations. A study of the theory of ordinary and partial differential equations, with applications to physics and mechanics. Text-book work supplemented by lectures and reports. Given in 1917-18; to be omitted in 1918-19. *Three hours a week. Thruout the year.* Professor DAVIS.

12. Advanced Calculus. A second course in calculus, affording a more critical view of the fundamental notions theorems and including the study of elliptic integrals and functions defined by definite integrals. Work based on the texts of Byerly and Williamson. Omitted in 1917-18; to be given in 1918-19. *Three hours a week. Thruout the year.* Professor DAVIS.

13. Projective Geometry. This course provides a study of the content and the methods of modern synthetic geometry. It is also designed as an introduction to a later course in geometric transformations. Omitted in 1917-18; to be given in 1918-19. *Two hours a week. Thruout the year.* Professor BOYD.

14. Teachers' Course. Omitted in 1917-18. To be given in 1918-19. *Three hours a week. Second semester.* Professor DAVIS.

15. Geometric Transformations. Homogeneous coordinates are first developed from the standpoint of anharmonic ratios. After this the projective transformations in the binary, ternary and quaternary fields are studied in order. Given in 1917-18; to be omitted in 1918-19. *Three hours a week. Thruout the year.* Professor BOYD.

16. Theoretical Mechanics. The customary course in the theory and problems of kinematics, statics and kinetics, it being the purpose to emphasize the mathematical side of the subject perhaps more than the practical. Given in 1917-18; to be omitted in 1918-19. *Three hours a week. Second semester.* Professor REES.

17. Algebraic Curves. This course will be based on the works of Salmon and Wieleitner and will require a reading knowledge of French and German. Omitted in 1917-18; to be given in 1918-19. *Three hours a week. Thruout the year.* Professor BOYD.

18. White Mathematics Club. The Club meets once a week. A book is adopted for study each year, and the members of the Club take turns in leading the discussion of assigned parts. In addition, talks on special topics of interest are presented. Graduate students and major students attend regularly.

Astronomy

3a. Celestial Mechanics. A course dealing with central forces, potential and attraction of bodies, problem of two bodies. Mathematics 6 and 12 are prerequisites. Offered for 1917-18. *Three hours a week. First semester.* Assistant Professor DOWNING.

3b. Celestial Mechanics. Continuation of course 3a. Problem of three bodies, perturbations, computation of orbits. *Three hours a week. Second semester.* Assistant Professor DOWNING.

Ancient Languages

Professor Jones

11. Roman Satire. The history of the development of satire will be traced and the following authors will be read in whole or in part: Ennius, Lucilius, Horace, Petronius, Persius, Seneca, Juvenal.

Courses in Greek will be arranged by conference with the professor.

Modern Languages

Professor Zembrod

French

4. Romanticist Novel and Drama. The Romanticist Novel and Drama of the 19th Century will be studied. This will be offered to a class of not fewer than six students. Prerequisite courses, French 2 and 3. *Two hours a week. Thruout the year.*

German

7. 19th Century Novel and Drama. Prerequisite courses, German 5 and 6. *Two hours a week. Thruout the year.*

Philosophy

Professor Glanville Terrell

Professor Terrell will gladly confer with students desiring graduate work in Philosophy.

Physics

Professor Pence

Professor Pence will receive students wishing graduate work in physics, provided they have the necessary preliminary training.

Agriculture

Professor Roberts, Professor Mathews, Professor Garman, Professor Hooper, Professor Peter, Professor La Bach, Professor Good, Professor Healy

In the College of Agriculture and in the Experiment Station, excellent opportunities are afforded the student to do graduate work in the following subjects: Soil fertility, soil physics and farm crops, dairying and poultry husbandry, animal nutrition and the feeding of live-stock, the study of market classes of beef cattle, sheep and swine, agricultural chemistry, entomology, seed analysis and plant breeding, the cultivation, curing and grading of tobacco, food and drug technology, bacteriology and animal pathology, including studies in immunity, hog cholera, etc.

Deserving students who have graduated from the College of Agriculture are given every opportunity to pursue some special line of work in the Experiment Station, where they come in contact with investigators and men of high standing in the sciences pertaining to

agriculture. As a rule students who have taken such work at the Experiment Station have secured good positions elsewhere. There is now a constant demand for men trained in the several branches of Experiment Station work. The graduate student in Agriculture may select any of the above subjects as a major study leading to the degree of Master of Science in Agriculture. Two or more minor subjects will be assigned. At least one year's resident work at the University will be required of candidates for the degree of Master of Science in Agriculture.

Civil Engineering

Majors

a. Railway Location and Construction.
b. Yards and Terminals.
c. Motive Power and Rolling Stock.
d. Railway Operation and Management.
e. Metallic Arches.
f. Bridge Designs.
g. Reinforced Concrete.
h. Water Power Development.
i. Engineering Jurisprudence.
j. Sanitary Engineering.

Minors

Minors subjects may be selected from Mechanical, Electrical or Mining Engineering subjects, or from the various departments in the College of Arts and Science.

Mechanical and Electrical Engineering

Dean Anderson, Professor Frankel, Professor Freeman

The College of Mechanical and Electrical Engineering is prepared to offer graduate courses in the following subjects: steam engineering; electrical power engineering; gas engineering; illuminating engineering; heating and ventilating; telephone engineering; mechanics of engineering; wireless telephony and telegraphy engineering.

The advanced degree M. E. (Mechanical Engineer), or E. E. (Electrical Engineer), may be obtained by a resident student one year after taking the Bachelor's degree from the University of Kentucky, or any institution of equal requirements, provided he has done the work assigned him satisfactorily, passed his examination, and presented an acceptable thesis.

A non-resident student may obtain the degree M. E., or E. E., three years after graduation, if he has been engaged in practical engineering work during that time, passes an examination, and presents an acceptable thesis. At least one year's notice must be given to the Chairman of the Graduate School Committee that graduate work is being done, and the work must be approved by the major professor and by the Graduate School Committee.

Mining and Metallurgy

For the degree of Mining Engineering (E. M.), ore dressing, milling, coal mining, metal mining, mine plant, metallurgy, or electricity applied to mining, may be selected as major study; and minor studies may be assigned from civil engineering, geology, chemistry, physics, mathematics, political economy, English, Spanish or German.

For the degree of Metallurgical Engineer (Met. E.) metallurgical mill construction, ore dressing, milling, fuel testing and purchasing, heat treatment of steel (practical study), electrometallurgy, alloys, advanced metallurgy (including steel and other metals), or some other approved problem in metallurgy may be selected as a major study; and minor studies may be assigned from mining engineering, mechanical engineering, electrical engineering, civil engineering, physics, mathematics, pyrometry, clay burning, electrolytic refining, economics, English, Spanish or German.

THE SUMMER SESSION

OFFICERS OF ADMINISTRATION AND INSTRUCTION

FRANK LEROND MCVEY, PH. D., LL. D.
President of the University

JAMES THOMAS COTTON NOE, A. M.
Professor of Education, Director of the Summer School

BAKER, GEORGE MARSHALL, A. M.
Associate Professor Education

BOLES, STANLEY ATWOOD, A. M.
Director Physical Education and Athletics

BOYD, PAUL PRENTICE, PH. D.
Dean of the College of Arts and Science, Head of the Department of Mathematics

CORNELL, CLARE BROWN, PH. D.
Assistant Professor of Psychology

DAVIS, JAMES MORTON, A. M.
Professor of Mathematics

DANTZLER, LEHRE LIVINGSTON, A. M.
Professor of English, Head of the Department

DICKER, JOHN BORN,
Instructor in Woodwork

DYKEMA, PETER C., M. A.
University of Wisconsin, Lecturer and Conductor of Community Singing

FARQUHAR, EDWARD FRANKLIN, A. M.
Professor of English

FREEMAN, WILLIAM EDWIN, A. B., E. E.
Professor of Electrical Engineering

HORINE, JOHN SHERMAN, M. E.
Assistant Professor of Drawing

JAMES, MCNEAL C., B. S. in AGR., A. B.
Professor of Agricultural Education

JONES, THEODORE TOLMAN, A. M.
Professor of Ancient Languages, Head of the Department

KILLEBREW, CINCINNATUS DECATUR, M. S.
Associate Professor of Physics

KING, MARGARET, A. B.
Librarian of the University

MELCHER, COLUMBUS RUDOLPH, A. M.
Professor of German, Head of the Department

RHOADS, MCHENRY, M. A., PH. M.
State Supervisor of Secondary Education

ROYDEN, CAPT. H. N.
U. S. Army, Military Science

RUCKER, E. M., LL. B.
University of South Carolina, Lecturer on Domestic Relations

SIMRALL, ANNE, A. B., B. S.
Assistant in Home Economics

SWEENY, MARY E., M. A.
Associate Professor of Home Economics, Head of the Department

THURMAN, GORDON,
Assistant in Engineering Laboratory

TUTHILL, JAMES EDWARD, PH. D.
Professor of History, Head of the Department

TUTTLE, FRANKLIN ELLIOTT, PH. D.
Professor of Chemistry, Head of the Department

ZEMBROD, ALFRED CHARLES, A. M.
Professor of Romance Languages, Head of the Department

INTRODUCTORY STATEMENT

The Purposes of the School

The Summer School of the University of Kentucky will be in session June 17 to July 28, a period of six weeks. The work of the summer session is designed for teachers, students and persons seeking information and training. With the instruction are to be given a number of special features during the six weeks of the session. From the program of studies it will be possible to make up plans of work suitable for teachers and workers in many fields. The entire plant of the University is available for use, including laboratories, libraries and buildings.

Admission

No entrance examination is required for admission to any of the courses, but instructors must be consulted concerning prerequisite preparation in some courses.

Credit in the Summer Session

Students who have full entrance credits to the University will be given credit toward degrees for college work in the summer school.

Four semester credits will be given for one double course consisting of two hours a day for the session. Two semester credits will be given for a single course (one hour a day for the session.)

No student will be allowed to make more than six semester credits in the summer school.

SPECIAL FEATURES

First Week

Community Singing. Conducted by Professor Peter C. Dykema (M. L. Michigan, Professor of Music, University of Wisconsin.)

Monday, June 17—3:30 P. M. Community Singing.
Tuesday, June 18—3:30 P. M. Community Singing.
Tuesday, June 18—4:00 P. M. Lecture on Music.
Wednesday, June 19—3:30 P. M. Community Singing.
Wednesday, June 19—4:00 P. M. Lecture on Music.
Thursday, June 20—3:30 P. M. Community Singing.
Thursday, June 20—4:00 P. M. Lecture on Dramatic Instinct.
Friday, June 21—3:30 P. M. Community Singing.
Friday, June 21—4:00 P. M. Lecture on Dramatic Instinct.

Second Week

Lectures. Given by President Frank L. McVey, University of Kentucky.

Four lectures on the World War:

Monday, June 24 to Friday, June 28—4 P. M.

Third Week

Lectures. Given by E. Marion Rucker (A. B. LL. B., United States Assistant Attorney, Washington, D. C., 1893-1897. Member South Carolina General Assembly, 1899-1910. Chairman Ways and Means and Appropriation Committee of the South Carolina House of Representatives, 1908-1910. Professor of Law, University of South Carolina, 1910. Special Lecturer of Winthrop College, the South Carolina Normal College, the North Carolina State Normal College and the University of Georgia.)

Law of Domestic Relations

Monday, July 1—4:00 P. M. Marriage, Its Legal Aspects.

Tuesday, July 2—4:00 P. M. Husband and Wife, Their Relative Duties.

Wednesday, July 3—4:00 P. M. Parent and Child, Their Duties and Obligations.

Thursday, July 4—4:00 P. M. Minority as a Defense.

Friday, July 5—4:00 P. M. The Legal Status of Woman.

Fourth Week

Round Tables on Educational Subjects

Monday, July 8, to Friday, July 12—4:00 P. M.

Round tables on educational subjects will be held each day of this week for the purpose of a better understanding of the Kentucky secondary problems in education, with the hope that they may be made the easier of solution thru the experience and counsel of workers in the field. Professor McHenry Rhoads, State High School Inspector and Supervisor of Secondary Education, will be with us for the entire week and will conduct the Round Tables. Other members of the faculty will be present and will take part in the discussion.

Fifth Week

The Elsie Herndon Kearns Players in a series of Shakspere and Moliere. To be given on the University campus, July 15-16.

Monday evening—8:15 Romeo and Juliet.
Tuesday matinee—3:00 The Learned Ladies.
Tuesday evening—8:15 The Tempest.

This great dramatic company is headed by Elsie Herndon Kearns, who played several years with the Ben Greet Players and has an international reputation as a Shakesperean actress. George Somnes, who takes the leading male roles, is well known thruout this country for his fine interpretations of Shaksperean characters. The teachers and students of the summer school, as well as the citizens of Lexington and the surrounding Blue Grass country, will have the rare opportunity of seeing this fine company of Shaksperean actors. Admission will be reasonable.

DEPARTMENTS OF INSTRUCTION

Chemistry

Professor Tuttle

3. **Inorganic Preparations.** A practical laboratory course devoted to the preparation of inorganic compounds from the crude material. Prerequisite, one-half year's work in General Chemistry.

4. **Qualitative Analysis.** Laboratory work accompanied by recitation periods. Prerequisite, one year's work in General Chemistry.

8. **Quantitative Analysis.** A laboratory course accompanied by lectures and class-room exercises. Gravimetric and volumetric methods of analysis are studied in detail. Prerequisite, Chemistry 4.

9. **Quantitative Analysis.** A lecture and laboratory course devoted to the analysis of ores, alloys, etc. Prerequisite, Chemistry 8.

10. **Quantitative Analysis.** A laboratory course accompanied by lectures and class-room exercises arranged for students in Mining and Metallurgy. Prerequisite, one year's work in General Chemistry.

11. **Agricultural Analysis.** An introductory course in quantitative analysis arranged for the students in the course in agriculture. The elements of quantitative analysis are studied with special reference to the constituents of soil, fertilizers and agricultural products. Prerequisite, one year's work in General Chemistry.

12. **Advanced Agricultural Analysis.** A laboratory course having for its object the complete analysis of fertilizers, feeds, soils and agricultural products. Prerequisite, Chemistry 8 or 11.

14. **Advanced Quantitative Analysis.** The analysis of iron and steel, slags and rocks. Prerequisite, Chemistry 9.

30. A laboratory study devoted to work in poisonous gases, explosives or some other phase of chemistry closely allied to war activities.

Education

Professor Noe, Professor Tigert, Professor James, Associate Professor Baker

1s. **Principles of Education.** A brief course in the Psychological principles of education, including education as a factor of organic evolution; heredity and education; from fundamental to accessory in education; conditions of individual development; recapitulation; correlation between mind and body; work, fatigue, hygiene; the nature of the memory process; imitation in education; educational agencies; formal discipline. Double course.

2s. **Method in Education.** This course is a discussion of value, discipline and method. The chief high school subjects will receive attention. Illustrations of presentation will be given thru the actual teaching of several high school subjects during the session. Double course.

3s. **Problems in City School Administration.** Includes a study of city surveys, city superintendents' annual reports, finances, age-grade distribution, standard units of measurement, and principles of constructive supervision. Lectures, class discussions, reports and assigned readings. Double course.

4s. **History of Education. General Course.** Particular reference to the Seventeenth, Eighteenth and Nineteenth Century theorists, with emphasis on Milton, Locke, Rousseau and Montessori. Lectures, class discussions, reports and assigned readings. Lectures will be illustrated with lantern slides. Double course.

5s. **Experimental Psychology.** A laboratory course designed to follow and apply in a practical and complete manner the introductory course in psychological theory. The introductory course is prerequisite. Double course.

6s. **Mental Tests and Measurements.** A course in clinical psychology and standard tests of the common school subjects. Practice is given in administering intelligence tests. Special attention is

given to the Stanford revision of the Binet-Simon Scale, which is now being widely used in psychological clinics and scoring of tests and scales in reading, writing, arithmetic, grammar, composition, etc. This course will enable teachers to diagnose more accurately the mental power and processes of children. Double course.

7s. **Agricultural Education.** This course will deal with the organization and teaching of agricultural courses in the Kentucky high schools. It is designed for those who have had courses in the fundamentals of Agriculture in some Agricultural College. Double course.

8s. **Educational Psychology.** The laws of mental development, structure and function. Special attention to the laws of memory, habit, attention and their application to education. Double course.

English

Professor Dantzler, Professor Farquhar, Miss King

1s. **English Composition.** The object of this course is to give training in the writing of correct and clear English. Accuracy of expression is desired rather than proficiency of style. A text book will be used, but the instruction will also be based upon the study of representative English masterpieces. Students who take this course will be given credit for English 1 of the University curriculum. Double course.

2s. **The Teaching of English Composition.** This course is designed for teachers who wish to study the aims and methods of teaching composition in the high school. It includes practice in the writing and correction of themes. University credit will be given for this work. Single course.

4s. **General Survey of English Literature.** This course is intended to give the student a general survey of English literature. Selections from representative authors will be studied. Collateral reading and frequent summaries will be required. University credit will be given. Double course.

6s. **Shakspere.** In this course a study will be made of Shakspere's development as a dramatist. A number of plays will be studied in detail from the standpoint of dramatic structure and characterization. Attention will also be given to the method of treating Shakspere in the high school. Students are advised to bring a copy of Shakspere with them. The Oxford edition is recommended. Double course.

8s. **The Contemporary Drama.** In this course a study will be made of recent movements in the drama of England and Europe. University credit will be given. Double course.

9s. **Library Methods for Teachers.** This course aims to qualify high school teachers to take charge of high school libraries, and to prepare them to give instruction to high school students in the use of books and libraries. Single course.

History and Political Economy

Professor Tuthill

History 5b. History of the United States since 1850. The topics to be treated are: The compromise of 1850, the preliminary controversies leading up to the war between the sections, constructive legislation during the struggle, the westward movement, expansion, and the great war. Double course.

Political Economy 1a. Introduction to Economics, including production and exchange, with some attention to the effects of governmental interference with the laws of supply and demand, and the growth of socialism under the influence of the great war. Single course.

Sociology 1. Urban Sociology. The care of the poorer classes, defectives and delinquents; management and expenditures of city and State institutions; relation of private to public institutions; relief work in emergencies of recent years; excursions to typical institutons. Single course.

Home Economics

Associate Professor Sweeny and Others

1s. **Food and Fuel Conservation.** A course dealing with the need of creation of United States Food Administration, its plans and purposes; the world food situation; methods of meeting the need for conservation of food and fuel. Definite, practical principles will be presented for conserving. Lectures and laboratory, one hour a day. Single course.

2s. **Canning of Fruits and Vegetables.** Popular course in canning teaching practical methods for canning foods. Lectures and laboratory for half the session. Single course.

3s. **Practical Dietetics.** A group of lectures dealing with need of the body for foods, the value of ordinary articles in the diet, balanced meals, choice in war time of nourishing foods. Offered for half the session. Single course.

4s. **Made-Over Garments.** A course dealing with the renovation and making over of garments and millinery. Planned to meet the need for conservation of textiles. Laboratory eight hours a week for six weeks. Single course.

15s. **Red Cross Sewing and Knitting.** Fundamental hand-sewing, machine sewing and knitting. Applications made as far as possible on Red Cross garments. Equivalent to Elementary Clothing, H. E. 15. Laboratory, twelve hours a week for six weeks. Single course.

Latin

Professor Jones

1s. **First Year Latin.** A thoro drill in declension, conjugation and rules of syntax, special emphasis being put on the subjunctive, conditional sentences, and other difficult points of the work. The text used is Smith's *Latin Lessons*, and the class will complete the book. Single course.

2s. **Selections from Caesar and Nepos.** The selections from Caesar give the customs of the Britons, Germans and Gauls. The same characteristics that Caesar noted may be observed in the French and Germans of today. The text is Bishop and Jones, beginning at Part II. Single course.

3s. **Selections from Cicero and Sallust.** The historian's account of the conspiracy of Catiline will be compared with that of the orator. Also a few letters of Cicero will be read. The text is Johnston and Kingery's *Cicero*. Single course.

4s. **Vergil or Ovid,** depending on the requirements of the class. The first, second, fourth and sixth books of Vergil, or selections from the Metamorphoses of Ovid is the work to be covered in the course. Due attention will be given to scanning and mythology. Knapp's *Vergil*, Allen and Greenough's *Ovid* are the texts. Single course.

5s. **Selections from Livy or Horace,** as the class elects. The texts used are Chase and Stuart's Selections from Horace, Selections from Roman Historical Literature—Scoon, Milroe, Jones. Single course.

Manual Training and Mechanical Engineering

Courses for Teachers

Professor Freeman, Assistant Professor Horine, Mr. Dicker, Mr. Thurman

1. **Mechanical Drawing.** Comprises: (a) Free-hand sketches, drawing from copies and models, using parts of machines in the

laboratory as models. (b) Free-hand lettering. (c) Tracing. (d) Blue-printing. Double course.

2. **Free-hand Drawing.** Single course.

3. **Descriptive Geometry.** This work includes first the discussion of descriptive geometry as a branch of pure mathematics; later comes a consideration of the application of descriptive geometry principles as an aid to engineering drawing. The lectures and recitations are supplemented by work in the drawing room. Prerequisite, solid geometry. Double course.

4. **Bench Work in Wood.** This includes exercises in planing, sawing, rabbeting, plowing, notching, splicing, mortising, tenoning, dove-tailing, framing, paneling, and the general use of carpenter's tools. Double course.

5. **Wood Turning.** This work includes exercises which involve all the various principles of lathe-work in wood. Double course.

6. **Pattern Making.** This is a continuation of Courses 1 and 2, and is intended to give experience in the construction of patterns for use in making iron and brass castings. Double course.

7. **Forge Shop Work.** This course includes a large number of exercises intended to give experience in all the fundamental operations of steel and iron forging. Double course.

8. **Machine Shop Work.** This includes exercises in vise work in metal, such as clipping and filing, and general machine work, including screw cutting, drilling, planing and milling of iron, brass and steel. Double course.

Courses for College Students

9. **Alternating Currents.** This work involves a study of the fundamental laws of alternating currents and the principle and construction of alternating current measuring instruments, generators, motors, transformers and converters. Double course.

10. **Kinematics.** This course is intended to familiarize the student with the mutual dependence of the movements in the parts of a machine. Special attention is given to the analysis of mechanisms involving link-motions, gear teeth, cams, communication of motion by rolling and sliding contact and quick-return motions. Prerequisites, Mathematics 1, 2, and 3 and Drawing 3. Double course.

11. **Kinematic Design.** This course is given in conjunction with Mechanics of Engineering 3. It consists of eight plates of design of spur, bevel and worm gearing, and other mechanisms which illustrate the general principles discussed in kinemetic problems. Double course.

12. **Analytical Mechanics.** This subject is given with a view of encouraging original analysis, logical proofs and rational conclusions with respect to the treatment of the equilibrium and motion of bodies under the action of force. The application of the fundamental principles of mechanics to engineering problems is treated in a way calculated to interest the student in the application of analytical mechanics in his engineering work. Prerequisites, Physics 1b. Mathematics 5b (Integral Calculus) must be completed or taken co-ordinately. Double course.

Mathematics

Professor Boyd, Professor Davis

1s. **Beginning Algebra.** A course designed for those who have never studied the subject, and also for those who have conditions in it. Single course.

2s. **Advanced Algebra.** A second course which will be fitted to the needs of the class desiring it. Pedagogical questions will receive attention. Single course.

3s. **Plane Geometry.** This course will complete as much of the plane geometry as possible, and will be based on a new book illustrating the latest ideas in geometry. Single course.

4s. Solid Geometry. A thoro course open to public school teachers and to those desiring to increase their credits for college entrance and to high school students who have been conditioned in the subject. Single course.

5s. **College Mathematics.** Courses in college subjects will be given in accordance with the demands for them. Double course.

6s. **Teachers' Course.** A course for public school teachers. It will cover both the history and pedagogy of arithmetic, algebra and geometry. Single course.

Modern Languages.

Professor Zembrod, Professor Melcher

1s. **Elementary German.** Grammar with every reading to acquire vocabulary and illustrate grammatical principles. Composition based on reading. Course will cover essential grammar points. Single course.

2s. **Intermediate German.** Rapid reading of elementary German with grammar drill and composition based on text. Selected prose, poetry committed. Single course.

3s. **Composition and Reading.** *Materials for sight translations,* conversations and rapid reading of some characteristic work of a modern writer. Single course.

4s. **Advanced Reading and Composition.** Rapid review of grammar in connection with reading and composition based on text. Course especially intended as review for high school teachers. Double course.

5s. **Spanish I.** Elementary Grammar and Reader. Single course.

6s. **Advanced Spanish II.** Grammar and Composition. Prose reading. Double course.

7s. **French I.** Elementary Grammar. Single course.

8s. **French II.** Grammar and Composition. Prose reading. Double course.

Physics

Associate Professor Killebrew

1s. **General Elementary Physics.** Lectures with experimental demonstrations and quizzes on Mechanics and Heat. An introductory course designed for students who wish to become acquainted with the results, methods and spirit of the science, whether they intend to pursue the subject further, or wish an elementary knowledge of Physics only as a matter of general interest. The course also meets the needs of secondary school teachers who wish to review the subject with reference to methods of presentation. Each student is required to perform and report on twenty-five laboratory exercises. Lectures and recitation five hours, laboratory four hours a week.

2s. **General Elementary Physics.** This is a parallel course with 1s covering the subjects of Electricity and Magnetism, Light and Sound. 1s is not a prerequisite for 2s. Students may register in either or both of these courses. Single course.

Courses in Physics 1a, 2a, 1b, 5a, 6a, 5b, 6b (for description see University catalog) will be offered if as many as four students register in any one of them. Double courses.

Physical Education and Athletics

Professor Boles

1. **Baseball.** Theory and practice in batting; base running; proper methods of fielding each position; team work and coaching methods; study of the rules; physical condition; methods of indoor practice. Lectures and practical work.

2. **Basketball.** Instruction will be given in basketball with the idea of fitting men to coach. The course will cover passing, goal throwing, dribbling, team play, how to condition a team, and the different styles of play used by the leading coaches. Lectures and practical work.

3. **Football.** The theoretical work will take up the rules from the standpoint of coach, players and officials; the several styles of offense and defense with consideration of their special strength and weaknesses; generalship and strategy. The practical work will include: training, conditioning and player's equipment; punting, drop kicking, place kicking, kick off, and forward passing; tackling dummy and charging sled; special drills for linemen, ends and backs; following the ball, interference and team work; fundamental plays, freak plays, and signal systems. Lectures and practical work.

4. **School Room Gymnastics.** The possibilities of exercise for elementary grades and high school will be shown. Exercises suitable for schoolroom will be taught.

If possible the courses in baseball, basketball and football will have two hours at a time.

Military Art

Capt. H. N. Royden, U. S. Army

Courses offered in the Military Department will be arranged to meet the needs of two classes of students; first, of those having time to register in one or more of the military courses; and second, those desiring to devote their entire time to the military course.

1. First lessons in spoken French for men in military service.
2. Infantry drill. School of the soldier, school of the squad, and school of the company. Military callisthenics.
3. Military signaling. International Morse Code as used on radio systems of the United States army by hand flags and semaphore.
4. Radio telegraphy. A laboratory course in practical instruction in radio and buzzer telegraphy.
5. Manual for non-commissioned officers of infantry of the army of the United States.

Part IV
DEGREES AND HONORS
1916-17

Degrees

Conferred on Commencement Day, 1917

COLLEGE OF ARTS AND SCIENCE

Bachelor of Arts in English

Elizabeth Crow	R. R., Versailles
Jane Kennedy Dickey	Richwood
Rose Lenore Hampton	Corinth
Emmett Presley Hatter	Franklin
Nancy Webb Innes	Lexington
Mary Dedman Stagg	Lexington

Bachelor of Arts in Latin

Lillian Askew Gaines	Hopkinsville
Margaret Claire McCarthy	Lexington

Bachelor of Arts in History

Helen Pauline Burkholder	Louisville
Marion Uri Conditt	Marion
Frank Moore Crum	Inez
Arthur Sewall Kelly	Whitesville
Bart Nixon Peak	LaGrange
Roy Cunningham Scott	R. R., Lexington

Bachelor of Arts in Education

Marie Caroline Becker	Louisville
Carrie Frances Blair	West Liberty
Albert Byron Crawford	Rose Hill
Nelle Florence Crawford	Somerset
Benjamin Franklin Foster	Lexington
Mary Katherine Hamilton	Cynthiana
Kate Gray Hieatt	R. R., Lexington
Miriam Virginia Horine	R. R., Nicholasville
Mattie Brooks McMurtry	Nicholasville
George Herbert Schaber	R. R., Alexandria
Blanche Annette Wieman	Lexington

Bachelor of Arts in Mathematics

Clarence Wilbur Harney	Cynthiana

Bachelor of Arts in Anatomy and Physiology

Harry Davis Abell	Smithland
Stanley L. Engle	McKee

Bachelor of Arts in Sociology

Myra Katherine Gay	Winchester

Bachelor of Arts in Journalism

McClarty Harbison	Shelbyville
William Shinnick	Shelbyville

Bachelor of Science in Anatomy and Physiology

Reuben Pearlman	Richmond

Bachelor of Science in Education

Martine Catherine Ratican	Owensboro

Bachelor of Science in Physics

Clarence Clark	Owensboro

Bachelor of Science in Industrial Chemistry

Willard Frederick Cramer	R. R., Lexington
Elizabeth Thane Kastle	Lexington
Eugene Avery Taylor	Louisville

COLLEGE OF AGRICULTURE

Bachelor of Science in Agriculture

Carlyle Wilson Bennett	Narrows
Lawrence Allen Bradford	Flemingsburg
William Thomas Clark	Vanceburg
Homer Burke Combest	Liberty
Thomas Boston Gordon	Lexington
Ivan Clay Graddy	Utica
Richard M. Greene	Georgetown
George Martin Gumbert	Richmond
Rutherford B. Hays	R. R., Mayfield
Julian Adair Hodges	Greensburg
Clyde Murphy Hubble	Somerset
Ronald Hutchinson	London, England

John B. Hutson	Murray
Frank H Johnson, Jr.,	Louisville
Elmer Lee Lambert	Covington
Fowler Orem LaMaster	Campbellsburg
Thomas Chenault McCown	R. R., Richmond
James Edward McMurtry, Jr.	R. R., Bowling Green
Joseph Samuel McMurtry	Vine Grove
Charles Hartford Matherly	Springfield
Earl Mayhew	Barboursville
Gordon Bennett Nance	Kevil
Warner Wellman Owsley	Owensboro
George Vernon Page	Sedalia
Curtis Field Park, Jr.	R. R., Richmond
Vivian Richard Pfinstag	Newport
Floyd Wellman Potts	R. R., Owensboro
Robert Bryan Rankin	Steubenville
John Peter Ricketts	Mt. Sterling
William Henry Rochester	Marion
Charles R. Smith	Somerset
Frank Tandy Street, Jr.	Cadiz
Silas Johnson Stokes	Farmington
Elizabeth Homer Terry	Lexington
James Wright Wesson	Wingo
Carl Anton Wicklund	Central City
Clovis Ray Wilkey	Dixon

COLLEGE OF CIVIL ENGINEERING

Bachelor of Civil Engineering

William Mason Adams	Flemingsburg
Edwin Ratcliffe Burnley	Kevil
Manfred V. Burgin	R. R., Lexington
George Marvin Ferris	Knoxville, Tennessee
Rutherford Y. Fishback	Pine Grove
Hyman Fried	Flemingsburg
Kenneth C. Frye	Waddy
Clarence Russell Gaugh	Lexington
George Hammeken Hill, Jr.,	Bluefield, West Virginia
John H. Hogrefe	Walton
Elmer Woodson Hopkins	Henderson
John Thomas Rawlings	Newport
James Givens Roney	Providence
Burton F. Williams	Chattanooga, Tennessee

COLLEGE OF MECHANICAL AND ELECTRICAL ENGINEERING

Bachelor of Mechanical Engineering

George Doan Aaron	Berea
Leo Steele Borders	Buechel
Morrie Julian Crutcher	Louisville
Arthur Wayne Davies	Lexington
Ellis Ewen Drake	Lexington
Albert Lee Eimer	Newport
James Howard Evans	Lebanon
Henry Price Horine	Nicholasville
Chilton Frazier Lee	Shepherdsville
Luther Cleveland McClanahan	Metropolis, Illinois
Joseph Emmet McNamara	Germantown
Murray Matthews Montgomery	Madisonville, Tennessee
William Shultz Moore	Hartford
Morris Eades Pendleton	Lexington
Everett Sleet Penn	Georgetown
Than Givens Rice	Providence
Elmer Kranz Robertson	New Albany, Indiana
Charles Christoph Schrader	Philadelphia, Pennsylvania
Jasper Griff Scott	Nicholasville
Harmon Courtney Smiser	Cynthiana
David Sumner Springer	Corydon
John Newland Waters	Middletown

COLLEGE OF MINES AND METALLURGY

Bachelor of Mining Engineering

William Christopher Eyl	R. R., Lexington
Harold Kemble Hines	Bowling Green
James Jackson Hume	Falmouth
Elmer Burton Jones	Louisville
Cal John Schwirmer	Ft. Thomas
Otto George Shwant	Covington
Sim Louis Ware	Somerset

COLLEGE OF LAW

Bachelor of Laws

Roscoe Conklin Back	Jackson
Earle Cassady	Inez
Jerome Devize Chamberlain	Uniontown
James Henry Coleman	El Paso, Texas

Thomas Lindsay Creekmore	Lexington
Clifford T. Dotson	Olmstead
Kit Carson Elswick	Estep
Orie Lee Fowler	R. R., Cynthiana
Mark Selsor Godman	Lexington
Jesse Forrest Gregory	R. R., Owensboro
Lee Stephens Moore	Central City
Johnst Northcutt	Burlington
James William Norris	Somerset
Lena Madesin Phillips	Nicholasville
Amos Charles Preston	Inez

*COLLEGE OF HOME ECONOMICS

Bachelor of Science in Home Economics

Vie Tolen Cramer	Lexington
Jessie Hunt Florence	Cynthiana
Frances Dudley Geisel	Maysville
Linda Bertram Purnell	Middlesboro

Members of the Class of 1916 who received their Degrees in December, 1916

Rachel Bohrer	A. B. in Education
Owen Scott Lee	B. S. Industrial Chemistry
W. L. McKee	A. B. in History
O. L. Willett	A. B. in Education
Eugene McClure	B. S. in Agriculture

HONOR GRADUATES

To be eligible for "Commencement honors" a student must have been in attendance at this University three full years. No student shall be eligible who has incurred a condition, or who has not maintained the following minimum standard in scholarship.

50 per cent A's
40 per cent B's
10 per cent C's

The names of those students who have the required standard in scholarship are submitted by the Registrar to the faculties of their respective colleges. Each faculty considers carefully the character and personality of each candidate and reports to the Registrar its selections of honor graduates.

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*Organized as Department of Home Economics in College of Agriculture.

College of Arts and Science

CARRIE FRANCES BLAIR
HELEN PAULINE BURKHOLDER
ARTHUR SEWELL KELLEY

College of Civil Engineering

WILLIAM MASON ADAMS

College of Mechanical and Electrical Engineering

ARTHUR WAYNE DAVIES

College of Law

LENA MADESIN PHILLIPS

The Graduate School

Master of Arts

CHARLES LEROY BOWERS — Newport, Ky.
Browning's Theory of Evil.

ELIZABETH ELDRIDGE — Lexington, Ky.
Browning's Personal and Literary Associations with France.

OTTO J. JONES — Lexington, Ky.
The Junior High School.

DUDLEY H. STARNS — Lexington, Ky.
The Relation of the Motion Picture to the Work and Deportment of Pupils in the School.

Master of Science

ESCO FIRMAN ELIZEY — Lexington, Ky.
The Reaction of Aluminium Phenylate with Nitro Compounds and Their Reduction Products.

WILLIAM ALBERT JOHNS — Lexington, Ky.
Agricultural Education.

Civil Engineer

JAMES T. MADISON

Mechanical Engineer

ARTHUR RAY BENNETT — E. St. Louis, Ill.
A Description of the Furnaces in Use and the Basic Open Hearth Process of Making Steel as Practiced at the East St. Louis Plant of the American Steel Foundries.

HOWARD PAYNE INGLES — Youngstown, Ohio.
Design of Plant for the Manufacture of Six-Inch Shells.

VIRGIL DICK ROBERTS — Weatherford, Texas.
Design of Double Barrel Hay Press.

Electrical Engineer

ACHILLES CALLOWAY GOUGH — Pocatello, Idaho.
Design of Automobile Electric Equipment Applied to a Light Six, Piston Two and Thirteen-sixteenths Inches, Stroke Five Inches.

HONORARY DEGREES

Doctor of Laws

BENJAMIN IDE WHEELER — Berkeley, California

Doctor of Literature

JAMES LANE ALLEN — New York City

SCHOLARSHIPS, PRIZES AND HONORS

Tau Beta Pi Scholarship

Won by C. F. Johnson, Mayfield, Ky.

Bennett Prize

This prize was not awarded 1916-17.

Barker Trophy

Won by the Union Literary Society.

Barker Prize for the Horace Mann Society

Won by Vennie Duley, Smithfield, Ky.

Crum Declamation Prize

Won by William Shinnick, Shelbyville, Ky.

Patterson Oratorical Prize

Won by Fred O. Mayes, Rose Hill, Ky.

Union Declamatory Prize

Won by L. F. Bishoff, Louisville, Ky.

Union Oratorical Prize

Won by J. J. McBrayer, Lawrenceburg, Ky.

Barker Prize for Henry Clay Law Society

Won by W. J. Kalbreier, Buckner, Ky.

Barker Prize for Philosophian Literary Society

Won by Lois Ammerman, Poindexter, Ky.; Katherine Weakley, Louisville, Ky.

The American Law Book Company Prize

Won by Orie L. Fowler, Cynthiana, Ky.

Callaghan & Company Prize

Won by Thos. D. Grubbs, Mt. Sterling, Ky.

Lawyers Co-operative Publishing Company Prize

Won by Virgil Chapman, jr., Lexington, Ky.

W. H. Anderson Company Prize

Won by E. A. Dabney, Hopkinsville, Ky.

Representatives in the Georgetown-Kentucky Debate

A. L. Cole	Bowling Green, Ky.
T. L. Creekmore	Lexington, Ky.
J. J. McBrayer,	Lawrenceburg, Ky.

Representatives in the Kentucky-Cincinnati Law School Debate

Affirmative Team

John McKenzie	LaGrange, Ky.
Felix Renick	Winchester, Ky.
E. E. Rice	Booneville, Ky.

Negative Team

Ed Hardin	Sebree, Ky.
Edward L. Allen	Prestonsburg, Ky.
E. A. Dabney	Hopkinsville, Ky.

Representative in the Kentucky Intercollegiate Oratorical Association

Fred O. Mayes	Rose Hill, Ky.

Arbor Day, 1917

President's Address	William Shinnick
Class Orator	Orie Lee Fowler
Class Prophet	Marie Becker
Junior Class Representative	Virgil Chapman

Class Day, 1917

President's Address	William Shinnick
Roll Call	Carrie Blair
Class Poem	Murray Montgomery
Class History	Helen Burkholder
Class Grumbler	Morris Crutcher
Giftorian	Curtis F. Park, jr.

Part V
THE ALUMNI ASSOCIATION

THE ALUMNI ASSOCIATION

The Alumni Association is an organization composed of alumni and former students of the University. It has been organized for the purpose of extending the influence of the University and keeping alive the bonds of friendship and social fellowship among its members.

The Association has taken a keen interest in the growth and development of the University for many years, but not until recently has it taken an active interest in the affairs of the University. As evidence of this, it secured thru the 1914 legislature an act giving the alumni representation on the Board of Trustees of the University.

Membership of the organization is widely scattered and alumni clubs have been formed in many of the larger cities thruout the country. Plans are also being formulated with a view to establishing clubs in the various counties of the Commonwealth. Annual business meetings and class reunions are held during commencement week of each year at the University. Club meetings are held at the will of the various clubs.

ALUMNI REPRESENTATIVES ON BOARD OF TRUSTEES

Philip P. Johnston, jr., Lexington, Ky.
J. Irvin Lyle, New York City.

OFFICERS OF THE ASSOCIATION

C. R. Brock, President, Denver, Col.
T. R. Bryant, Vice-President, Lexington, Ky.
Samuel B. Marks, Secretary-Treasurer, Lexington, Ky.
M. McLaughlin, Acting Editor The Alumnus, Lexington, Ky.

Executive Committee

W. E. Freeman, Chairman, Lexington, Ky.
Frank Battaile, Lexington, Ky.
Louis E. Hillenmeyer, Lexington, Ky.
Miss Lucy K. Hutchcraft, Lexington, Ky.
Wallace Hoeing, Louisville, Ky.
Mrs. Charles J. Smith, Lexington, Ky.
Presidents of the Clubs.
President and Secretary, *ex-officio.*

Class Secretaries

1916 Elsie Heller, Maysville, and L. H. Nelson, Lexington.
1915 Clyde Taylor, Harrodsburg, Ky.
1914 R. C. Dabney, Lexington, Ky., and E. H. Nollau, Office of Experiment Stations, Washington, D. C.
1913 Mabel Pollett and Inis Gillis, Lexington, Ky.
1912 J. R. Duncan, University of Kentucky, Lexington, Ky.
1911 Olline Cruickshank, Georgetown, Ky.
1910 D. V. Terrell, University of Kentucky, Lexington, Ky.
1909 P. L. Blumenthal, Lexington, Ky.
1908 Frank Battaile, Lexington, Ky.
1907 L. E. Hillenmeyer, Lexington, Ky.
1906 Anna Wallis, 326 Aylesford Place, Lexington, Ky.
1905 Harry Edwards, R. F. D., Lexington, Ky.
1904 W. E. Freeman, University of Kentucky, Lexington, Ky.
1903 Marguerite McLaughlin, 226 E. Maxwell St., Lexington, Ky.
1902 T. J. Barr, University of Kentucky, Lexington, Ky.
1901 G. H. Hailey, Cleary-White Construction Co., Chicago, Ill.
1900 L. K. Frankel, University of Kentucky, Lexington, Ky.
1899 George Roberts, Experiment Station, Lexington, Ky.
1898 Chas. L. Straus, Lexington, Ky.
1897 Mary E. Clarke, Lexington, Ky.
1896 J. I. Lyle, 39 Cortlandt Street, New York City.
1895 Mary L. Didlake, Experiment Station, Lexington, Ky.
1894 Mrs. P. F. Kesheimer, Madison Place, Lexington, Ky.
1893 D. S. Roberts, West Point, Ky.
1892 and 1891 (To be selected.)
1890 Chas. R. Brock, Denver, Col.
1889 to 1869 A. M. Peter, Experiment Station, Lexington, Ky.

ALUMNI CLUBS

Birmingham, Alabama

J. Miles Sprague, '07, President, Ensley, Ala.
H. J. Wurtele, '04, Vice-President, Ensley, Ala.
A. B. Haswell, '13, Secretary-Treasurer, Ensley, Ala.

Chicago, Illinois

J. B. Sanders, '11, President, S. Stone Ave., La Grange, Ill.
G. K. McCorkle, '08, Vice-President, 1100 E. 5th Place, Chicago, Ill.
C. A. Johns, '09, Secretary-Treasurer, 5206 W. 23rd Place, Cicero, Ill.

Columbus, Ohio

A. E. Waller, '14, President, Department of Agronomy, O. S. U., Columbus, O.

Cincinnati, Ohio

Warner Sayers, President, 219 W. 4th Street, Cincinnati, Ohio.
J. J. Thompson, '03, Vice-President, 201 Pearl Street, Cincinnati, Ohio.
H. L. Nagel, '12, Secretary-Treasurer, Bellevue, Ky.
E. L. Becker, '11, Scribe, 405 Government Bldg., Cincinnati, Ohio.

Detroit, Michigan

J. E. Bolling, '15, Secretary, 212 Medbury Ave., Detroit, Mich.

Eastern Kentucky Club, Ashland

Lee Hunt, '13, President, Ashland, Ky.
Richard Garred, '12, Vice-President, Louisa, Ky.
Idie Lee Turner, '14, Secretary-Treasurer, Ashland, Ky.

Lexington Alumnae Club

Mrs. J. H. Kastle, '91, President, Lexington, Ky.
Mrs. Chas. J. Smith, '95, Vice-President, Lexington, Ky.
Miss Marguerite McLaughlin, '03, Secretary, Lexington, Ky.

Lexington, Kentucky

S. B. Marks, '99, President, Lexington, Ky.
Chas. L. Straus, '98, Vice-President, Lexington, Ky.
Marguerite McLaughlin, '03, Secretary, 226 East Maxwell Street, Lexington, Ky.
Mary L. Didlake, '95, Treasurer, 481 East Main Street, Lexington, Ky.

Louisville, Kentucky

S. L. Pottinger, '92, President, 627 East Broadway, Louisville, Ky.
Eugenia S. McCullough, '06, Secretary, 2304 Alta Avenue, Louisville, Ky.

Nashville, Tennessee

J. M. Foster, '11, President, 1909 Division Street, Nashville, Tenn.
Eugene Gilliland, '04, Vice-President, 845 Meridian Street, Nashville, Tenn.
John J. Tigert, '09, Secretary-Treasurer, 1905 West End Avenue, Nashville, Tenn.

New York City

L. L. Lewis, '07, President, 39 Cortland Street, New York.
A. Akin, '05, Vice-President, 193 North 16th Street, East Orange, N. J.
R. T. Taylor, '15, Secretary, 588 St. Marks Avenue, Brooklyn, N. Y.

Philadelphia, Pennsylvania

Frank Daugherty, '07, President, 2109 Chestnut Street, Philadelphia, Pa.
K. F. Anderson, '07, Vice-President, University of Pennsylvania, Philadelphia, Pa.

Tulsa, Oklahoma

R. L. Gordon, '91, President, Tulsa, Okla.
C. R. Gilmore, '04, Secretary-Treasurer, Tulsa, Okla.

Pittsburgh, Pennsylvania

H. S. Fry, '04, President, Box 247, Rochester, Pennsylvania.
D. C. Estill, '07, Secretary-Treasurer, 1312 Oliver Building, Pittsburgh, Pennsylvania.

Schenectady, New York

S. C. Ebbert, '11, President, 24 Glenwood Building, Schenectady, New York.
C. M. Roswell, '08, President, 724 Brandywine Avenue, Schenectady, New York.
L. C. Hardesty, '12, Secretary, 21 Royle St., Schenectady, New York.

South Africa

H. W. Taylor, '06, President, Rusenburg, Transvaal, S. Africa.
J. du P. Oosthuizen, '12, Secretary-Treasurer, Vredefort, O. F. S., South Africa.

St. Louis, Missouri

A. C. Ball, '11, President, 721 Chemical Building, St. Louis, Mo.

Washington, District of Columbia

P. M. Riefkin, '06, President, Department of Interior, Bureau of Mines, Washington, D. C.
W. G. Campbell, '02, Vice-Pres., Department of Agriculture, Bureau of Chemistry, Washington, D. C.
F. H. Tucker, '09, Secretary, Chemist, Bureau of Standards, Washington, D. C.

Part VI
REGISTER OF STUDENTS, ETC.

REGISTER OF STUDENTS

GRADUATE STUDENTS

Allen, Harry R. (A. B. Univ. of Tennessee, 1916) Lexington
Mathematics

Bolling, John Esten (B. M. E., 1914) Chicago, Ill.
Mechanical Engineering

Branham, Mrs. Ruth Bell (A. B. Georgetown College, 1896)
Washington, D. C.
Political Science

Brown, Eva Marguerite (B. S., 1915) Lexington
Education

Carpenter, William Thomas (B. M. E., 1898) Brooklyn, N. Y.
Mechanical Engineering

Cottrell, Robert Boyd (B. M. E., 1914) St. Louis, Ill.
Mechanical Engineering

Evans, Lynn Barkley (B. M. E., 1915) Detroit, Mich.
Mechanical Engineering

Glass, Rhoda V. (A. B., 1909) Lexington
English

Grady, William Henry (B. M. E., 1915) Louisville
Mechanical Engineering

Grove, Vernon G. (A. B. Olivet College, 1916) Lexington
Mathematics

Hardman, Albert F. (A. B. West Virginia Univ., 1917) Lexington
Chemistry

Haynes, Thomas Francis (B. M. E., 1915) Columbus, Ohio
Mechanical Engineering

Maguire, Mary Josephine (B. S., 1914) Lexington
Chemistry

Needy, John Alfred (B. M. E., 1911) Ada, Ohio
Mechanical Engineering

Owen, John Jacob (A. B. Transylvania College, 1917) Arlington
Chemistry

Scott, George Atwell (B. C. E., 1912) Wilmington, N. C.
Civil Engineering

Slappey, George (A. B. University of Georgia, 1917) Lexington
English

Williams, Norton Moore (B. S. Middlebury College, 1917) Lexington
Chemistry

UNDERGRADUATES

ABBREVIATIONS

Classes

1. Freshman
2. Sophomore
3. Junior
4. Senior

Sp. Special Student
Sh. Short Course

Courses

Agr., Agriculture
A. & S., Arts and Science
Civ., Civil Engineering
M. & E., Mechanical Engineering
Min., Mining Engineering
Law, Law
Sh. Mil. Sig., Short Course in Mil. Signaling
Sh. Agr., Short Course in Agriculture
R. & H. E., Rural and Highway Engineering
Sh. M. & E., Short Course in Mechanical Engineering

Adair, Hiram Tyre	Agr. 1	Paris
Adams, John Newell	M. & E. 1	Somerset
Adams, Leslie Willis	Civ. 1	Lexington
Adams, Mary Christian	Agr. 1	R. R. 1, Lexington
Adkins, William Koontz	M. & E. 4	Depoy
Alford, Nell	Agr. 1	Hartford, Ala.
Allen, Eloise Saunders	Agr. 4	Lexington
Allington, Ralph Bamford	A. & S. 2	Newport
Amburgy, Linville	Agr. 3	Prestonsburg
Ammerman, Harold Gassett	M. & E. 1	R. R. 1, Cynthiana
Ammerman, Lois	A. & S. 4	Poindexter
Amon, Will Rice	M. & E. 1	Lancaster
Anderson, Crawford Covington	M. & E. 1	R. R. 5, Mayfield
Anderson, Jr., Frederick Paul,	M. & E. 3	Lexington
Anderson, Julie N.	A. & S. 1	Cedar Falls, Iowa
Andres, Paul Maxmilian	M. & E. 4,	Louisville
Antrobus, Dewey	Agr. 1	Williamstown
Arnett, Elizabeth Cassell	A. & S. 1	Lexington
Arnold, Robert Samuel	M. & E. 3	Paint Lick
Asbell, James Irvin	M. & E. 1	Richmond
Asbury, Maud Norman	Agr. 2	R. R., Petersburg
Asher, Jr., Thos. Jefferson	Min. 1	Pineville
Atchison, Morgan Marion	Law 4	Owingsville
Augsburg, Fred King	A. & S. 1	Lexington
Auxier, Herschel Ainsworth	Agr. 1	Covington
Bailey, Joseph Harrison	M. & E. 2	Bagdad
Bailey, Myrtle Kendall	Agr. 1	Garden City, Kansas
Banahan, Thos. Barry	Sh. Mil. Sig.	Lexington

Barker, Clyde Russell	Law 4	Brooksville
Barlow, Victor Hugo	M. & E. 1	Barlow
Barnes, Jr., Columbus Reason	Sh. Agr.	Bardstown
Barnes, Jacob Pennebaker	Law 2	Bardstown
Bartee, Bruce Orlean	A. & S. 2	Louisville
Bassett, Jr., James Edward	Sp. Min.	Lexington
Bastin, Arthur Lee	Min. 1	Mater
Batsel, Cecil N.	Min. 3	Fulton
Bauer, Louis Henry	M. & E. 3	Louisville
Baugh, Walter S.	M. & E. 3	London
Baulch, Ernest Langley	M. & E. 2	Fulton
Baulch, Walter Monroe	Min. 1	Fulton
Beall, Mary E.	A. & S. 3	Mt. Sterling
Bell, Auryne Elliott	A & S. 1	Eminence
Bell, Frank Homer	A. & S. 3	Madisonville
Bell, Herrick Fritzlen	M. & E. 1	Nicholasville
Bell, Jane Stanbery	Agr. 2	Camp Nelson
Bell, Mary Archer	A. & S. 1	Bloomfield, W. Va.
Bell, Trice Morton	M. & E. 3	Madisonville
Belt, Newton Osborne	M. & E. 1	R. R., Wickliffe
Belt, Rupert A.	Agr. 2	Sheridan
Bennett, Herbert Hobson	Agr. 2	Mayfield
Bennett, Raswell Manning	M. & E. 2	Narrows
Berkele, Edna King	A. & S. 3	West Point, Miss.
Biehn, Mary	Agr. 3	Falmouth
Bird, Margaret Tilford	Agr. 1	Shelbyville
Bischof, Lawrence Francis	Civ. 2	Louisville
Black, James Gilbert	A. & S. 2	Harrodsburg
Blackburn, Roberta Dexter	A. & S. 1	Lexington
Blatz, Lucille C.	Agr. 2	Louisville
Bleidt, Everett Price	Agr. 4	Lexington
Boden, Ella C.	Agr. 1	Louisville
Boggess, William Wallace	M. & E. 2	Lawrenceburg
Bolser, Alma Louisa	A. & S. 2	Dayton
Boone, Hervey Parks	M. & E. 2	Lexington
Brackett, Bessie Burton	Agr. 2	Stanford
Bradley, George Clifton	Law 4	Lexington
Brand, Kathleen	Agr. 2	Mayfield
Brewer, Mary Leigh	A. & S. 1	Eminence
Brittain, John Alfred	M. & E. 4	Leadville, Colo.
Broderick, William Carton	Agr. 1	Falmouth
Brooks, Marion Thomas	Agr. 1	Bellevue
Brown, Clarence Carlisle	Agr. 4	Williamstown

Brown, Florence	A. & S. 1	Paducah
Brown, Lois Real	Agr. 3	Providence
Brown, Roy Mitchell	Sh. Mil. Sig.	Muir
Brown, William Coleman	Law 2	Owensboro
Browning, May Barnes	Sp. A. & S.	Lexington
Bryan, Holland Gaines	Law 2	Paducah
Buckner, Nancy Jane	Agr. 1	Shelbyville
Burbank, Julia Yeomans	Agr. 3	Buffalo, N. Y.
Burge, Lofton V.	A. & S. 3	Mayfield
Burton, Leland	Agr. 1	R. R. 3, Clinton
Byrd, Uva Seldon	Agr. 1	Murray
Byron, Carter G.	Law 2	Owingsville
Cambron, William Joe	Law 2	Morganfield
Cameron, Arthur Arden	A. & S. 1	Lexington
Campbell, Alexander Richard	Law 2	Vanceburg
Campbell, William Reynolds	M. & E 2	Lexington
Card, Elizabeth Lloyd	A. & S. 2	Pineville
Cardwell, Ruth Howard	A. & S. 3	Shelbyville
Carman, Herman	Agr. 2	Lexington
Carr, John Goodwin	Sh. Agr.	Somerset
Carr, Willie Viley	Agr. 1	R. R. 5, Lexington
Cash, John Franklin	M. & E 1	Stanford
Cassidy, Laura	Agr. 3	Lexington
Cassady, Ruth L.	A. & S. 2	Versailles
Castro, Idalina Oliveira	Sp. A. & S.	Braga, Portugal
Cavallo, Emile Barton	Civ. 4	Vicksburg, Miss.
Cequin, Lucille Celeste	Agr. 1	Fulton
Chambers, Jr., Jas. Monroe	Agr. 1	Fulton
Chandler, Alta Mae	A. & S. 1	Owingsville
Chapman, Virgil Munday	Law 4	Lexington
Chappell, Charles Riley	A. & S. 1	Paris
Choate, Davie Craik	M. & E. 2	Erlanger
Christian, Daniel William	Civ. 1	Central City
Christian, Katharine Broaddus	Agr. 2	R. R., Chilesburg
Clar, Jr., Robert	M. & E. 1	Louisville
Clarke, Horace Burt	Civ. 4	Maysville
Clark, John T.	Agr. 2	R. R. 6, Lexington
Clark, Julius Graves	Agr. 1	R. R. 9, Lexington
Clarke, William Taylor	A. & S. 1	St. Charles, Mo.
Clayton, Elizabeth Mae	A. & S. 1.	R. R. 7, Lexington
Clayton, Ruth Amanda	A. & S. 1.	R. R. 7, Lexington
Clem, Lena Rivers	A. & S. 4	Bedford
Clements, Ewel Francis	Sh. Agr.	Morganfield

Coldiron, Alice Ceres	A. & S. 1	Catlettsburg
Coleman, John Winston	M. & E. 2	R. R. 7, Lexington
Coleman, Sally Henri	Agr. 2	Paradise
Collins, Marie	A. & S. 3	N. Middletown
Collins, Orville William	Agr. 1	Henderson
Collins, Sarah Mildred	Agr. 3	N. Middletown
Comstock, Orville	A. & S. 1	Horse Cave
Conkwright, Bessie Taul	A. & S. 3	Winchester
Connell, John Thornton	A. & S. 3	Paris
Connell, Raymond Joseph	A. & S. 1	Paris
Coons, Margaret Ferguson	A. & S. 1	Lexington
Cooper, John William	M. & E. 4	Nicholasville
Cracroft, Lucy Jane	A. & S. 2	Georgetown
Crain, Nell Ruth	A. & S. 2	Brookport, Illinois
Crawford, Jane Walton	Agr. 3	Louisville
Cregor, Celia Bartlett	Agr. 4	Springfield
Creech, Grover Howard	Agr. 3	Pineville
Croft, Virginia Halbert	Agr. 2	Louisville
Cromwell, Lillie Victor	A. & S. 1	Cynthiana
Cropper, Carroll Lee	Agr. 2	R. R. 1, Burlington
Cross, Early Thomas	Civ. 1	Benton
Dabney, Edward Settle	Sp. Law	Hopkinsville
Davenport, Owen	Agr. 1	R. R. 2, Marion
Davied, Clementina	Agr. 1	Cynthiana
David, William Russell	M. & E. 3	Lexington
David, Harold Thomas	M. & E. 1	Winchester
Davidson, Jr., James Mercer	Min. 1	Lexington
Davidson, Nancy Elizabeth	A. & S. 2	Hartford
Davies, Paul Drummond	Agr. 3	Lexington
Davis, Garland Hale Barr	A. & S. 1	Lexington
Davis, John Henry	A. & S. 2	Lexington
Davis, Mary Elizabeth	A. & S. 2	Lexington
Davis, Pearl Virginia	Agr. 1	Lexington
Davis, Robert Elmore	Agr. 1	Covington
Davis, Robert Morris	M. & E. 4	Utica
Davis, Walter Ford	Law 2	Utica
Davis, William Bradley	M. & E. 1	Loveland
Dealtry, Reginald Ernest	Civ. 1	Louisville
Dean, Edith Cary	A. & S. 4	Owensboro
Dean, Lucille Minerva	A. & S. 2	Marcellus
Dearborn, Elbert Rorer	M. & E. 4	Cynthiana
Dearing, Raymond Bryan	M. & E. 1	R. R. 6, Lexington
DeBrovy, Sol Henry	M. & E. 1	Louisville

deMey, C. Frederic	M. & E. 3	Louisville
Dempsey, Frank Walton	Law 4	Burlington
Denker, Carl Henry	Law 3	Paducah
Denton, John Milton	M. & E. 1	Lexington
Denton, Mary Lou	A. & S. 1	Lexington
Devereux, Marianna	Law 2	Lexington
Diamond, Ruby Karl	Civ. 3	Louisville
Dickey, Isabelle Converse	A. & S. 1	Walton
Dietrich, Aime Lagsden	A. & S. 1	Lexington
Dishman, Joseph Anthony	Law 2	Henderson
Dorr, Jack Manning	Agr. 1	Lexington
Doss, Beard	Civ. 3	Shelbyville
Douglas, Clara Mae	Agr. 1	Lexington
Douglas, William Duncan	M. & E. 1	R. R. 2, Cynthiana
Downing, Charles Goff	Agr. 1	R. R. 4, Maysville
Downing, Clay	Agr. 1	R. R. 1, Lexington
Downing, George Dewey	Law 2	R. R. 1, Lexington
Downing, Margaret Morton	A. & S. 1	R. R. 4, Maysville
Drummy, John Ready	Min. 2	Lexington
Dulin, Thomas Williamson	Sh. Agr.	R. R. 9, Lexington
Duckwall, Ruth Montgomery	Agr. 3	Louisville
Dudley, David Russell	M. & E. 3	Earlington
Dudley, Hobson	Agr. 1	Ewing
Dummit, Eldon S.	Law 2	Monett, Mo.
Duncan, John Milo	Agr. 1	LaGrange
Duncan, Richard L.	Agr. 3	LaGrange
Dunn, Mamie Stormes	Agr. 1	Lancaster
Easley, Willie Kate	A. & S. 2	Stamping Ground
Eastwood, Frank	M. & E. 1	Slaughter
Edens, Lucy Ellen	A. & S. 1	Burkesville
Edmonds, Lois Eunice	Sp. A. & S.	Lexington
Edwards, Oscar P.	M. & E. 1	Louisville
Elam, Shelby Smith	A. & S. 4	White Oak
Elliott, Foster Floyd	Agr. 3	Eubank
Ellis, Dee Richard	M. & E. 4	Eminence
Ellis, Percy Victor	A. & S. 1	Ghent
Elsey, Edward Everett	M. & E. 2	R. R. 8, Lexington
Embry, Bert Elkin	M. & E. 1	Lexington
Endicott, William Earle	A. & S. 1	Winchester
Enlow, Harold	Sh. Agr.	Hodgenville
Estes, James Edgar	A. & S. 1	Shawhan
Evans, Elizibeth Irene	Agr. 1	Lebanon
Eyl, Anna Beatrice	Agr. 1	R. R. 3, Lexington

Eyl, Joseph Michael	M. & E. 3	R. R. 3, Lexington
Farmer, James	A. & S. 1	Lexington
Farmer, Roy Harold	Agr. 1	Harlan
Featherston, Elizabeth	A. & S. 3	Lexington
Feigel, Madeline Louise	Agr. 3	St. Matthews
Feiler, Mildred	Agr. 1	Louisville
Fenley, Richard Boggess	Agr. 4	Valley Station
Fenlon, Bernard James	Sp. M. & E.	Hessel, Mich.
Figg, Ola Logan	A. & S. 2	Shelbyville
Fincel, Neville	A. & S. 2	Frankfort
Fisher, Dale	Sp. Agr.	Bardwell
Fitzgerald, Lucille Agnes	Agr. 1	R. R. 6, Lexington
Flege, John Blaine	Agr. 4	Williamstown
Flege, Robert Frederic	A. & S. 4	Williamstown
Fleming, Ernest Berry	Min. 4	Elizaville
Fletcher, Ethel Constance	Sp. A. & S.	Jackson
Flocken, Jacob John	Min. 4	Louisville
Flora, Ernest Lee	Agr. 1	Pleasant Valley
Foley, Charles Spurgeon	Min. 1	Lexington
Ford, Margaret Evelyn	A. & S. 1	Shelbyville
Ford, Richard Foster	Sh. Agr.	Calhoun
Forester, Edgar Smith	Civ. 1	Harlan
Forman, Morris S.	Civ. 3	Louisville
Foster, Bryan Oates	Law 2	R. R. 2, Pembroke
Foster, Earl Ware	Sp. A. & S.	Covington
Frankel, Gilbert	M. & E. 3	Louisville
Frazier, Emery Lee	Law 4	Lawrenceburg
Fried, Mary Cecilia	Sp. Agr.	Lexington
Friedman, Eli Baerlo	A. & S. 3	Paris
Frost, Elizabeth Dee	Sp. A. & S.	Shelbyville, Tenn.
Gabbert, William Richard	Agr. 4	Louisville
Gallup, George Frederick	Law 2	Catlettsburg
Garner, William Howard	Civ. 1	Fanbush
Gault, Lelah Vaughn	Agr. 4	R. R. 4, Maysville
Gay, Augustus Benjamin	A. & S. 2	Lexington
Gayle, Joseph Lee	Agr. 3	Falmouth
Gentry, Effie Lee	Agr. 3	Prentiss
Gentry, James Noland	Agr. 1	R. R., Richmond
Georgieff, Constantine	Agr. 4	Lofia, Bulgaria
Gernert, Raymond Julius	Agr. 1	Louisville
Gill, Anderson Smith	Agr. 3	Columbia
Glass, Myrtle E.	A. & S. 1	Marion
Glenn, Raymond Anthony	Civ. 1	Frankfort

Glickman, Max	A. & S. 2	Pineville
Goldberg, Louis	A. & S. 3	Newport
Goosman, Karl William	M. & E. 4	Richmond
Gorman, Thomas Leo	Min. 1	Lexington
Graham, Frances Elizabeth	Agr. 1	Fulton
Graham, Mildred Hazen	A. & S. 3	Louisville
Graham, Virginia Taylor	A. & S. 3	Lexington
Graves, Mary Marshall	A. & S. 1	Lexington
Gray, Mildred Virginia	Sp. A. & S.	Winchester, Indiana
Greene, Herbert Horton	Law 3	Bruin
Green, Oliver C.	A. & S. 2	Bloomfield
Green, Todd Heron	Agr. 2	LaGrange
Gregg, Edgar Robert	M. & E. 1	Louisville
Gregg, Samuel Soper	M. & E. 1	R. R. 1, Nicholasville
Gregory, George Hicks	Agr. 1	Hardinsburg
Gregory, Georgia	A. & S. 1	Springfield
Gregory, Ruth Elizabeth	Agr. 2	Louisville
Grehan, Henry Enright	A. & S. 3	Lexington
Guthrie, Charles S.	Min. 1	Harlan
Guthrie, John Thompson	Civ. 2	Mt. Sterling
Guthrie, Rollie M.	M. & E. 1	New Hope
Hagan, James Andrew	Sp. A. & S.	Lexington
Hagan, Richard William	Law 2	Elizabethtown
Haggan, Henry Clay	Agr. 4	Covington
Halbert, Harlan Russell	Agr. 2	Vanceburg
Haley, Herbert Prater	Law 2	Grayson
Hall, Alexander D.	M. & E. 3	Lexington
Hall, Paul Bryan	A. & S. 1	Paintsville
Hamilton, Hugh Miller	Agr. 2	Nicholasville
Hamilton, Lewis Hanson	Agr. 1	Georgetown
Hammonds, Carsie	Agr. 3	Russell Springs
Hammond, John Lewis	Agr. 4	Vanceburg
Hampson, Margaret Joseph	Sp. A. & S.	Georgetown
Harbison, Sarah Caldwell	Agr. 3	Shelbyville
Harbold, Lucille Lee	A. & S. 2	Lexington
Hard, Samuel Lawrence	Agr. 1	Marion
Hardesty, Ada Louise	A. & S. 2	Fort Thomas
Hardesty, Robert W.	Agr. 1	Fort Thomas
Hardin, Edward Everett	Law 3	Sebree
Hargraves, Clarence Milton	M. & E. 2	Middlesboro
Harmon, Ella Maude	A. & S. 4	Perryville
Harper, John W.	Sp. Agr.	Hickman
Harrison, Clyde D.	Agr. 4	Lebanon

Hart, Virginia Frances	Agr. 2	Berry
Haswell, Robert Bruce	Agr. 2	Louisville
Haydon, Lillian	Agr. 3	R. R. 3, Lexington
Haynes, Robert Hoyle	Min. 1	Stephenport
Head, John Paul	Sp. A. & S.	Greenville
Heady, Helen Emeline	A. & S. 1	Ghent
Heavrin, Cecil H.	Law 3	Owensboro
Heber, John George	Civ. 2	Philadelphia, Pa.
Hedges, Jr., James M.	M. & E. 4	Lexington
Henry, Hall Massillon	M. & E. 4	Lakeland
Henry, Katie Boyd	A. & S. 1	Carlisle
Henry, Richard Earl	A. & S. 3	Morton's Gap
Herndon, Jake Whitley	Agr. 1	Berea
Heron, Mary O.	Agr. 1	Irvington
Hicks, S. Kerr	Law 3	Madisonville, Tenn.
Hieronymous, William Shelton	Agr. 4	St. Helens
Hindman, Virginia May	Sh. Agr.	Jackson
Hines, Bishop	M. & E. 1	Wickliffe
Hogard, Joseph S.	M. & E. 3	Elizabethtown
Holladay, Arthur Anderson	Sh. Agr.	Columbia
Holland, John William	Agr. 2	Whitesville
Hollowell, Carney Agnew	M. & E. 2	R. R. 3, Princeton
Holton, Emma Gladys	A. & S. 4	Forks of Elkhorn
Honaker, Ruth Mae	Agr. 1	Georgetown
Hounschell, Harry Lee	Agr. 3	Oneida
House, Thomas Bronston	A. & S. 1	Richmond
Howard, Dudley Charles	Civ. 1	Benton
Hudson, Sherley	Civ. 4	Louisville
Hughes, Bessie	A. & S. 4	Edenton
Hughes, Mrs. Marguerite	Sh. Agr.	Lexington
Hume, Eugenia Burnam	A. & S. 1	Louisville
Hunt, Russell Aubrey	Agr. 4	Utica
Hutchcraft, Winn V.	Agr. 3	Paris
Ilhardt, Blanche Beatrice	A. & S. 1	Nicholasville
Irvin, Oscar William	A. & S. 4	Greenville
Jackson, Dorothy J.	A. & S. 1	Versailles
Jackson, Frederick Marion	A. & S. 3	Versailles
Jackson, George Lewis	M. & E. 4	Franklin
Jameson, Laura Lee	Agr. 4	R. R. 6, Cynthiana
Jameson, Minnie Rees	A. & S. 1	R. R. 6, Cynthiana
Janes, Louise Elizabeth	A. & S. 3	Louisville
Jefferson, Margaret Guthrie	Agr. 2	Louisville
Jennings, Doris Orrine	Agr. 2	Murray

Johns, Francis Gerard	M. & E. 2	Lexington
Johnson, Charles Franklin	Civ. 3	Mayfield
Johnson, Esther	Agr. 2	Twin Falls, Idaho
Johnson, Florence Elizabeth	Agr. 1	Lancaster
Johnson, Lena	Agr. 2	R. R. 5, Henderson
Johnson, Vinson Lair	M. & E. 2	Richmond
Jones, Carrie Lee	A. & S. 3	Lexington
Jones, Joe B.	A. & S. 1	R. R. 5, Paris
Jones, Ora Lee	Sp. A. & S.	Monticello
Jones, Russell Lee	M. & E. 1	Morganfield
Juett, John Brooks	A. & S. 1	Eminence
Justice, Charles Wheeler	A. & S. 1	Fish Trap
Juthe, Stanley Norman	M. & E. 2	Newton Center, Mass.
Kaplan, Hyman Robert	A. & S. 1	Lexington
Karsner, Allie Cochran	A. & S. 1	Lexington
Kavanaugh, Aileen Gilbert	A. & S. 4	Lawrenceburg
Kearby, Jennings Bryan	Agr. 1	Crutchfield
Keeley, Irma Frances	Agr. 1	Owensboro
Keller, Margaret Anne	Agr. 1	Lexington
Kelley, Edward Everett	A. & S. 3	Whitesville
Kerswill, Lela May	A. & S. 4	Lexington
King, Effie	Sp. A. & S.	Lexington
Kirby, Augustus M.	Sh. Mil. Sig.	Butler
Knight, Neal William	Civ. 2	Louisville
Kohn, Alvin I.	M. & E. 3	Louisville
Kolbe, Henry J.	M. & E. 4	Warsaw, Russia
Kraft, Mary Elizabeth	A. & S. 1	Louisville
Lady, Lena	A. & S. 1	Eddyville
Lafferty, William T.	A. & S. 4	Lexington
Lambert, Samuel C.	Law 2	Lexington
Lancaster, Frank Stillman	Agr. 3	Lebanon
Land, John March	Civ. 3	Hanly
Land, Paul Wesley	M. & E. 1	Eminence
Lane, Mary D.	A. & S. 1	Maysville
Lane, William Newton	Sh. Agr.	Aberdeen, Ohio
Lasley, Marion Grinter	Agr. 2	Lewisburg
Latimer, Hattie Christine	A. & S. 1	LaGrange
Lavin, Albert Joseph	A. & S. 1	Paris
Leachman, Lucian Hardy	Sh. Agr.	Calhoun
Leman, Fannie	Agr. 1	Pineville
Lemon, Frieda	A. & S. 4	Providence
Leman, John Julian	M. & E. 3	Pineville
Leonhard, Elizabeth Marion	Agr. 1	Louisville

Letton, Jr., Forrest	Agr. 1	Paris
Liebschultz, Jacob	A. & S. 4	Louisville
Lillard, Eugene Allen	M. & E. 3	Versailles
Lilly, Austin Page	Agr. 3	Richmond
Lindsay, John William	Agr. 4	Covington
Lisanby, Charles Alvin	Law 2	Princeton
Loughridge, Elizabeth C.	Sh. Mil. Sig.	Lake Providence, La.
Loyd, Henry Brady	A. & S. 1	Fordsville
Lucas, Birdie Lewis	A. & S. 3	Lexington
Luker, Fred William	M. & E. 1	Jeffersontown
Lyons, Mary Elizabeth	A. & S. 1	Lexington
McAdams, Oliver Kennett	A. & S. 3	Lexington
McBrayer, Jasper Johnson	Law 4	Lawrenceburg
McCann, Mamie	Sp. A. & S.	Flemingsburg
McClain, Lee	A. & S. 3	Bardstown
McClellan, James Ellyson	M. & E. 3	Springfield
McClure, John Edwin	Agr. 4	Mt. Sterling
McClure, Margaret Elizabeth	A. & S. 2	Lexington
McConnell, Lillian Frances	A. & S. 3	Lexington
McConnell, Sara Winn	A. & S. 4	Arlington
McCormick, Charles Ellsworth	M. & E. 4	R. R. 2, Shepherdsville
McCracken, Roy	A. & S. 2	Cynthiana
McCulley, Jr., Edgar E.	Civ. 1	Uniontown
McDonald, Mary	Sp. Agr.	Lexington
McDougle, William Darnall	M. & E. 4	Lexington
McDowell, Martha McElroy	A. & S. 3	Danville
McGowan, Elizabeth	A. & S. 3	Bagdad
McGregor, Harold Bowers	A. & S. 4	Lexington
McGuire, Arlie Estus	Agr. 4	Salyersville
McInteer, Berthus Boston	Agr. 4	R. R. 4, Horse Cave
McIntosh, Nora	A. & S. 1	Yerkes
McKenney, Garnett Jennings	Agr. 2	Winchester
McKenzie, John William	Law 3	LaGrange
McMeekin, Robert Ward	A. & S. 1	Lexington
McMonigle, Ruth Mason	Agr. 2	Owensboro
McMurray, Elizabeth	A. & S. 1	Lawrenceburg
McRoberts, George A.	M. & E. 2	LaGrange
McWhorter, Marshall Jeter	M. & E. 1	Middleburg
Mabry, Charles Poindexter	Sp. Law	Bardwell
Maddox, John DaCosta	M. & E. 4	Lexington
Maddox, Mary Louise	Agr. 2	Lexington
Maddox, William Gordon	A. & S. 1	Grants Lick

Mahoney, Charles Hallam	M. & E. 1	R. R. 3, Lexington
Mansfield, Virgil Luther	Civ. 2	Glasgow
Marking, John Henry	M. & E. 2	Louisville
Marsh, Ben Gordon	Agr. 3	Maysville
Marshall, Elizabeth	A. & S. 2	Lexington
Marshall, William Francis	Civ. 3	Greendale
Martin, Barnie Lewis	M. & E. 1	Providence
Martin, Corinne Lucas	A. & S. 1	Midway
Martin, Edna Rodgers	A. & S. 4	Midway
Martin, Glenn Francis	Sp. Law	Louisville
Martin, Guy Emerson	Agr. 1	Princeton
Martin, Mrs. Sarah Duncan	Sh. Agr.	Lexington
Mason, Eliza Clay	Agr. 3	R. R. 1, Paris
Mattingly, Cleveland Orr	A. & S. 1	Versailles
Mathews, George Frederick	M. & E. 2	Lexington
Mathews, Ruth Elizabeth	A. & S. 4	Lexington
May, Emma Catherine	A. & S. 1	Owensboro
Mayer, Louise Carolyn	Agr. 2	Louisville
Mayes, Mary Ricketts	A. & S. 4	Mt. Sterling
Mayes, Verah	A. & S. 1	R. R. 4, Hickman
Meador, Oral Duane	Sh. Agr.	R. R. 4, Franklin
Meadows, Bealy Austin	M. & E. 2	Newport
Megibben, Katherine	A. & S. 1	Cynthiana
Meglone, Mary Lucretia	Agr. 1	Lexington
Melvin, James Cleveland	Agr. 4	Sedalia
Middleton, Dorothy	Agr. 2	Lexington
Milam, Jr., James William	A. & S. 2	R. R. 1, Guthrie
Miller, Bertha Klein	A. & S. 4	Lexington
Miller, Jean	Sp. Agr.	Lexington
Miller, Preston Ancel	M. & E. 1	Middleburg
Miller, Sam Carpenter	A. & S. 1	Glendale
Miller, Thomas Rudolph	M. & E. 1	Springfield
Milner, Virginia Helen	A. & S. 2	Union Star
Milton, Hugh Meglone	M. & E. 3	Lexington
Milward, Charles Skillman	M. & E. 1	Lexington
Milward, Harry L.	M. & E. 4	Lexington
Minihan, William Andrew	Law 3	Lexington
Misrack, Joseph Stanley	M. & E. 2	Newport
Mitchell, Robert	Agr. 1	Lexington
Molloy, Anne Shirley	A. & S. 2	Lexington
Molloy, Genevieve Morgan	A. & S. 1	Lexington
Moore, Frances Garnett	A. & S. 1	Cynthiana
Moore, Melvin W.	Sh. Agr.	Lewisburg

Moore, Neville	Law 2	Marion
Moore, Stanley Clay	Civ. 2	R. R. 1, Lexington
Moore, William Rodgers	Min. 1	Lexington
Moosnick, Bernard	A. & S. 3	Nicholasville
Morancy, Angela Agnes	Agr. 2	Versailles
Morgan, Charles Lee	Agr. 4	Sirocco
Morgan, Willard Davidson	A. & S. 1	R. R. 3, Hickory
Morris, Charlie Vernon	Agr. 1	Murray
Morris, Helen Elizabeth	A. & S. 4	Lexington
Morris, Jr., J. C.	Civ. 2	Lexington
Morton, Gertrude Estelle	A. & S. 3	Lexington
Morton, Samuel Helm	Law 4	Owensboro
Moss, Marie Kathryn	A. & S. 1	Henderson
Moss, Mrs. Maud Brooks	Sp. Agr.	Henderson
Moynahan, Edgar Purcell	Civ. 1	Nicholasville
Murphey, E. Elizabeth	A. & S. 1	Paducah
Murphree, Eger Vaughn	A. & S. 2	Louisville
Murrell, Mary Lavinia	A. & S. 3	Lebanon
Muth, Albert James	Min. 1	Lexington
Myre, Walter James	Civ. 1	R. R. 2, Benton
Nall, James Otho	Agr. 1	Clay
Nash, Annie Belle	A. & S. 3	R. R. 1, Lexington
NeVille, Minnie E.	A. & S. 4	Lexington
Nicholoff, Constantine	M. & E. 4	Orchania, Bulgaria
Nicholoff, Todor	Agr. 4	Koniaro, Bulgaria
Nickell, Samuel H.	Sp. A. & S.	Lexington
Nielander, Joseph Richard	A. & S. 1	Ft. Thomas
Noland, Zerelda	A. & S. 2	Richmond
Norment, Alexander Gavin	A. & S. 1	Henderson
Norris, James Wilbur	Agr. 1	Philpot
Northcutt, Archie Lloyd	Law 4	Burlington
Northcutt, Richard Clarence	Sp. Law	Burlington
Nunn, Dee Arnold	Civ. 1	Burnside
O'Brien, Anthony Wayne	A. & S. 1	Lexington
O'Brien, Harold Cornelius	Civ. 1	Louisville
Oden, Elizabeth Elmore	Sp. A. & S.	Lexington
Oglesby, Kathleen Wight	Agr. 1	Shelbyville
O'Hara, Robert Newton	Civ. 1	Williamstown
Oldham, Jr., Lee	A. & S. 2	Hopkinsville
Oliver, Tom Hedges	M. & E. 1	Lexington
Orr, Hugh Ben	M. & E. 1	Paris
Orth, Fred A.	M. & E. 1	Henderson
Otten, Howard H.	A. & S. 1	Bellevue

Owen, Robert W.	M. & E. 1	Louisville
Palmer, Ralph Buell	M. & E. 2	Lowell, Mass.
Pannell, Evelyn	Agr. 1	Greenville
Parham, Cleon Bradley	A. & S. 1	Guthrie
Paritz, Rebekah	Law 3	Lexington
Park, James	Law 3	Richmond
Park, R. Smith	M. & E. 2	Richmond
Parker, Edna Blanche	Agr. 2	Lexington
Parker, Jr., James Edward	Agr. 2	Lexington
Parks, Harold	M. & E. 4	Irvington
Parrish, Anna Laura	Agr. 2	Lexington
Parrish, Sarah Katherine	Agr. 3	Lexington
Parry, Bess Durrett	A. & S. 1	Maysville
Peak, Birdie Alvan	A. & S. 1	LaGrange
Peak, T. Ellis	M. & E. 4	LaGrange
Peel, Marguerite Merrie	A. & S. 2	Danville
Penick, Lois Temple	A. & S. 1	Lebanon
Pennell, Ray Edward	Sh. Mil. Sig.	Lexington
Perrin, Robert McDonald	M. & E. 1	Falmouth
Peters, Ralph Fred	A. & S. 2	Winchester
Petrey, Arthur Walton	A. & S. 3	Pineville
Phelps, Thomas	Agr. 1	R. R. 4, Richmond
Piggott, Eliza MacLean	A. & S. 3	Irvington
Pilcher, Elmer Ellsworth	Sp. Agr.	Lexington
Piper, Lewis Ollie	Civ. 2	R. R. 2, Lexington
Piper, Walter Clay	A. & S. 3	R. R. 2, Lexington
Planck, Charles Evans	A. & S. 3	Lexington
Poindexter, Floyd	Agr. 1	Cynthiana
Pollitt, Martha Hutchison	A. & S. 2	Vanceburg
Porter, Goebel	Agr. 2	Dixon
Porter, Mildred Thomas	A. & S. 1	Lexington
Potter, Elsie Gertrude	Agr. 2	Somerset
Powell, George Henry	M. & E. 1	Sebree
Powell, Lois	Agr. 4	R. R. 1, Red House
Powell, Louie Hughes	Sp. Agr.	Boligee, Ala.
Prewitt, Martha Rodes Estill	A. & S. 1	R. R. 4, Winchester
Prince, Helen Lorina	A. & S. 1	Owensboro
Pritchett, Virgil James	A. & S. 4	Clay
Proctor, Homer G.	M. & E. 3	Mt. Vernon
Propps, Thomas Bryan	M. & E. 2	Broken Bow, Okla.
Prothero, Floyd Swedden	M. & E. 1	Ludlow
Prout, William Augustus	M. & E. 1	Webster
Puckett, Nick Thomas	M. & E. 3	Hatton

Pullen, Edward Markey	A. & S. 2	Fulton, N. Y.
Pulliam, Lovell Yewell	M. & E. 1	Louisville
Pursifull, James M.	Sp. Min.	Whitesburg
Puryear, Edward Alexander	Law 3	Paducah
Pushin, Nettie	Agr. 1	Bowling Green
Putnam, Robert LeRoy	A. & S. 1	Ft. Thomas
Quarles, Henry Vance	Law 1	Maxon Mill
Rachal, Norma Winter	A. & S. 1	Union
Raible, Robert Jules	Agr. 1	Louisville
Ramsey, Charles Spurgeon	Law 3	Sebree
Rasco, Neida	Sp. A. & S.	Lexington
Ratcliffe, Fan Donnell	A. & S. 2	Sharpsburg
Rawlings, Charles Melvin	A. & S. 1	Ashland
Reddish, George Fultz	Agr. 3	Lexington
Reddish, Katherine Crawford	Agr. 2	Lexington
Reed, Martha Frances	A. & S. 2	Mt. Sterling
Reid, Homer Lloyd	Civ. 3	Lexington
Reis, Harry Edward	Sp. M. & E.	Mt. Sterling
Revill, Milton Kirtley	Law 2	Lexington
Reynolds, J. P. Goodson	Law 4	Lexington
Rhoads, Wilbur Preston	Agr. 3	Hartford
Rice, Edgar Everitt	Law 3	Booneville
Richards, Henry S.	Min. 2	Winchester
Richardson, Frazure Berry	A. & S. 1	Somerset
Richardson, Olney Energy	M. & E. 2	R. R. 2, Hartford
Riddle, James Craig	Agr. 1	Lexington
Riedel, Louis Augustus	A. & S. 1	Lexington
Riefkin, Herbert Spencer	Min. 1	Newport
Riggins, Alfred Patrick	M. & E. 2	Middleburg
Riley, Mary Gray	A. & S. 2	Lexington
Ritchie, Edd Lee	A. & S. 1	Wingo
Robards, Hickman Lockett	A. & S. 1	R. R. 1, Robards
Robertson, Herman Ervin	Sp. Civ.	Louisville
Robertson, Lora Lee	A. & S. 2	Paducah
Robinson, Lucy Erwina	A. & S. 4	Lexington
Robinson, Mallow Smith	Agr. 2	Harned
Ross, Carl	Sp. Law	Sacramento
Ross, George Talton	Law 2	R. R. 1, Richmond
Rowe, Walter Edward	Civ. 3	Bristol, Indiana
Rowlett, Jr., Jefferson Davis	Sh. Mil. Sig.	Murray
Royster, Jr., Sam B.	Law 2	Lexington
Russell, Buford B.	M. & E. 4	Elkton
Salmon, Willie Davis	Agr. 1	Cork

Scaggs, Hannah May	Agr. 1	Lovington, Illinois
Scaggs, Pearl Rose	A. & S. 2	Lovington, Illinois
Scott, Benjamin Harrison	Law 4	Louisville
Scrivner, Irvine Edward	Agr. 2	Lexington
See, Ila	A. & S. 3	Levee
Sellards, Henry Grady	Agr. 1	Prestonsburg
Sewell, Hobart McKinley	A. & S. 2	Bethlehem
Sexton, Margaret	A. & S. 3	Lexington
Shanklin, Arthur Price	A. & S. 1	Lexington
Shanklin, Virginia Pogue	Agr. 1	Nepton
Shaw, Fred Houston	M. & E. 1	Lexington
Sherwood, John Stewart	Law 4	Cynthiana
Sherwood, William Sigsbee	A. & S. 1	Bellevue
Shipp, Jr., John Van DeGraff	Agr. 3	Midway
Shouse, John Felix	M. & E. 3	Lexington
Shouse, Samuel Headley	Agr. 3	Lexington
Shullman, Henry Howard	Min. 1	Newport
Shultz, Emmett Otis	M. & E 1	Henderson
Siegel, Jacob Bert	Civ. 2	Newport
Skain, Helen Mary	A. & S. 1	Lexington
Skidmore, Merritt Turner	M. & E. 1	Harlan
Slade, Mary Adele	A. & S. 1	Ludlow
Sloan, Anne Elizabeth	A. & S. 4	Lexington
Smiser, Louise	Agr. 2	Cynthiana
Smith, Arthur Crowell	Civ. 3	Lexington
Smith, Drury Scott	M. & E. 1	Pembroke
Smith, Edna Withers	A. & S. 2	Corbin
Smith, Fred Willard	Sp. Min.	Harlan
Smith, Granvil William	M. & E. 1	Campbellsville
Smith, Harry Kirk	Civ. 1	Louisville
Smith, Mary Elizabeth	Agr. 1	Lexington
Smith, Mose	Civ. 3	Ruston, Louisiana
Smith, Roland Elston	M. & E. 2	R. R. 1, Bowling Green
Smith, William Henry	Civ. 1	Larue
Snodgrass, Grace Lee	Sp. A. & S.	Lexington
Snyder, Augustus Henry	A. & S. 1	Louisa
Snyder, Catherine Belt	Agr. 4	Louisville
Soward, William Carlyle	A. & S. 2	Maysville
Sparks, Estill Elliott	M. & E. 1	Sandy Hook
Spencer, Frances B.	A. & S. 4	Birmingham, Alabama
Sprague, Anna Bentley	Agr. 1	R. R. 5, Lexington
Sprague, Marion Brooke	A. & S. 3	R. R. 5, Lexington
Spurrier, Eliza Kaye	A. & S. 3	Louisville

Stagg, Annie Barkley	A. & S. 4	Lexington
Stalion, Carl	Sp. M. & E.	Lexington
Stedman, Harvey Worley	Agr. 3	Versailles
Steinhauser, Leo Ellis	Agr. 4	R. R. 2, DeMossville
Stephens, Albert Cornelius	Civ. 2	Burlington
Stevens, Henry Asbury	A. & S. 2	Zoe
Stephens, John Taylor	M. & E. 1	Kevil
Stephens, May Sweeney	A. & S. 4	Williamstown
Stevenson, Louise Singer	A. & S. 3	Lexington
Stewart, Brady M.	A. & S. 2	Kevil
Stewart, John Gilbert	Agr. 4	Crittenden
Stewart, Laura Adelaide	A. & S. 1	Hindman
Stewart, Odlen R.	A. & S. 1	Glencoe
Sthulbarg, Charles	M. & E. 1	Newport
Stiles, Robert Hugh	Agr. 1	Bardstown
Sullivan, Neal Grace	Law 2	Elkton
Sullivan, S. D. J.	Agr. 1	Bloomfield
Summerville, Mildred	A. & S. 1	Marion
Sumner, Wood	M. & E. 3	Greenville
Switzer, Wesley Lyon	Agr. 3	Georgetown
Taber, J. Branch	Agr. 4	Elizabethtown
Talbott, Mary Adams	Law 2	Paris
Tapp, Jesse W.	Agr. 2	R. R. 3, Corydon
Tapp, Otho	Sh. M. & E.	Shelbyville
Tapscott, Edward Terrill	Agr. 3	Owensboro
Taylor, Helen South	Agr. 1	Bowling Green
Taylor, James Henry	Agr. 3	Henderson
Taylor, Jennings B.	A. & S. 1	Paris
Taylor, John Griffie	Agr. 1	Greenville
Taylor, Louise LaBertha	A. & S. 1	Hardinsburg
Taylor, Susan Margaret	A. & S. 1	Lexington
Templin, Charles Landen	M. & E. 3	Paris
Terry, Georgia	Agr. 2	Fulton
Thomas, Henry Castleman	Agr. 1	LaGrange
Thomas, Mary Josephine	A. & S. 4	Frankfort
Thomas, Perry Elmo	A. & S. 3	Murray
Thompson, Ernest	M. & E. 1	Edmonton
Thomson, Henry Lawrence	Min. 2	Providence
Thompson, Jr., Henry Clay	M. & E. 2	Ft. Thomas
Thompson, Tabitha Taylor	Sp. Agr.	Keyser, W. Va.
Thompson, Will Wallace	Law 2	Mt. Vernon
Thompson, Willis Duncan	A. & S. 1	Falmouth
Thornton, Roberta Hamilton	A. & S. 1	Newport

Thornton, William Barry	M. & E. 1	R. R. 1, Lexington
Throckmorton, Virginia Frances	A. & S. 1	Lexington
Thurman, Edgar Neal	A. & S. 1	Somerset
Timmer, Carl Albert	M. & E. 3	Louisville
Told, Anna Kathryn	Agr. 2	Carrollton
Tolley, Raymond Calley	Law 2	Murray
Tomlinson, Robert Hugh	Law 2	Lancaster
Trapp, Francis J.	Civ. 1	Lexington
Triplett, Cardwell Douglas	A. & S. 3	Beech Grove
True, Catherine Elizabeth	A. & S. 1	Harrodsburg
Truitt, James Winstead	M. & E. 1	Sturgis
Tucker, Catherine Olivia	A. & S. 2	Lexington
Turner, Louise	Agr. 2	Lexington
Tuttle, Frank Waldo	A. & S. 2	Lexington
Tuttle, Margaret Helmsing	A. & S. 3	Lexington
Utterback, John Milton	Civ. 3	Clinton
Vanarsdall, George W.	Agr. 2	Burgin
Van Deren, Edward Yancey	Agr. 2	R. R. 5, Cynthiana
Van Meter, Mary	Agr. 2	Lexington
Vilcofsky, Morris	A. & S. 2	Newport
Voelcker, Alfred Henry	Civ. 1	Louisville
Voiers, Amelia Marie	A. & S. 1	Butler
Vowel, Joseph Truman	Sp. Civ.	McCarr
Wagers, William Ambrose	Agr. 2	R. R. 2, Richmond
Walker, Dorothy Caldwell	A. & S. 2	Pineville
Walker, Katherine Kenner	A. & S. 2	Lexington
Walker, Mary Elizabeth	Agr. 4	R. R. 3, Lexington
Walker, Orin Coomes	Law 3	Ekron
Walker, William Green	A. & S. 1	R. R. 3, Lexington
Wallace, Earle Neville	M. & E. 1	Wilton
Wallace, Jr., William Mason	M. & E. 2	Lexington
Walling, Harry Wood	M. & E. 1	Campbellsville
Wallingford, Gertrude	Agr. 1	Cynthiana
Wallingford, James Stuart	M. & E. 3	Paris
Ward, Urey Garman	Law 3	Inez
Warren, Lehr Arthur	M. & E. 1	Winchester
Warth, Henry K.	Agr. 2	Georgetown
Warth, Robert Douglas	A. & S. 2	Georgetown
Watkins, Alton	Agr. 1	Philpot
Watkins, Edward	Civ. 1	Ashland
Watlington, Philip Reed	Agr. 1	Hardinsburg
Weakley, Hannah Sarah	Agr. 2	Louisville
Weakley, Katherine Thomas	A. & S. 2	Louisville

Weatherholt, Forrest Dryden	M. & E. 1	Cloverport
Webb, Arnold Henry	A. & S. 4	Lexington
Weldon, Elmer	A. & S. 4	Sanders
Wells, Ben L.	M. & E. 1	Leitchfield
Wentzell, Irma Frances	A. & S. 2	Louisville
Wesson, Joe Alexander	Agr. 3	Wingo
Whaley, Harry Wilbur	Civ. 3	Covington
Wheeler, Hattie Ell	Agr. 2	Lexington
White, William Preston	M. & E. 1	R. R. 8, Paris
Whitford, William Roy	A. & S. 2	Earlington
Whittinghill, Sudie Floris	A. & S. 2	Glen Dean
Whitworth, Mary Helen	A. & S. 1	Hardinsburg
Wilhelm, James Elmer	A. & S. 1	Paducah
Wilkey, Clovis Ray	Sh. Mil. Sig.	Dixon
Wilkinson, Margaret R.	A. & S. 2	Lexington
Will, Susie Louise	A. & S. 2	Louisville
Williams, Edith	Agr. 1	Bowling Green
Wilson, Alberta	A. & S. 1	Somerset
Wilson, Ira Gaulbert	M. & E. 1	Louisville
Wilson, John Freeman	M. & E. 1	Lexington
Wilson, Robert Eugene	A. & S. 3	Sullivan
Wilson, Tilford Lanier	Agr. 4	Lexington
Wilson, William Rives	A. & S. 2	Sturgis
Winkler, Eugene Newton	M. & E. 1	Harlan
Wise, Leon	A. & S. 2	Eminence
Witt, Norman Douglas	M. & E. 1	Bowling Green
Wolff, Erma	Agr. 1	Louisville
Woll, Jean	A. & S. 1	Hawesville
Woll, Margaret	A. & S. 2	Hawesville
Wood, Alfred McCreary	Civ. 2	Wildie
Wood, John Douglas	M. & E. 2	Altamont, Tenn.
Wood, Marshall Baird	Law 3	R. R. 2, Maysville
Woodruff, John Grant	A. & S. 2	Cadiz
Woods, Estill Dale	A. & S. 4	R. R. 2, Wilmore
Woods, Silas	Sp. Civ.	Corydon
Woods, William Baldwin	A. & S. 1	Paris
Wright, Thelma Pearl	Agr. 1	Cynthiana
Wright, Walter L.	A. & S. 3	Campbellsburg
Wynn, Harold Aubrey	Min. 2	Providence
Yarbro, Anna Mae	A. & S. 2	Paducah
Yarbro, Marguerite Anna	A. & S. 1	Paducah
Young, Anna Kinnear	Agr. 2	Lexington
Young, Bernice Mildred	A. & S. 2	Pineville

Young, Clarence Caldwell	M. & E. 1	Nelson
Young, Lucy Aloysia	A. & S. 3	Lexington
Yourish, William	A. & S. 2	Newport
Zerfoss, George Ernest	M. & E. 2	Ashland
Zimmerman, Alex. Julius	A. & S. 4	Louisville
Zuckerman, Eli	M. & E. 1	Lexington

SUMMER SCHOOL STUDENTS, 1917

Akin, Paris B.	Bedford
Alfrey, Vivian May	Mt. Sterling
Ammerman, Augusta R.	Cynthiana
Baugh, Walter S.	London
Bell, Frank Homer	Madisonville
Bergmeyer, Gretchen Louise	Dayton
Berkele, Edna King	Lancaster
Brown, Mary Wood	Lexington
Burnaugh, Maurice	Lexington
Burnett, H. C.	Somerset
Byrd, Besse Myrtle	Lexington
Carr, Ophelia Smith	Lexington
Carter, Mary Jo	Lexington
Chambers, Jay Lea	Richmond
Cox, Jessie	Frankfort
Day, Sterling Allan	Flemingsburg
DeBoe, Era Pickens	Marion
Dodd, Jessie Cecilia	Lexington
Downing, Virginia Crutcher	Lexington
Duffy, Eleanor Pickett	Cynthiana
Easley, Florence	Stamping Ground
Ewen, Mabel Russell	Stanton
Featherston, Elizabeth	Lexington
Gentry, Peter Tribble	Lexington
George, Edyth Claire	Cove Dale
Hawkins, Jesse Noland	Lexington
Haynes, Zelma Holloway	R. R. 5, Lexington
Henry, Richard Earl	Morton's Gap
Herz, Charles	Lexington
Higgins, Sarah Jane	Greendale
Hill, Mamie Lee	Fulton
Hopkins, Walter Stowell	Lexington
Hughes, Bessie	Edenton
Johnson, Mary B.	Tallega
Johnstone, Mayme Anne	Lexington

Kefford, Frederick Kemp	Melbourne, Australia
King, Effie	Lexington
Lemon, Freida	Providence
Lewis, Florence Annette	London
Lipps, Beulah Grace	Lexington
Lisanby, C. R.	Dawson Springs
McBrayer, Rachel	Shelbyville
McClure, Bernice	Mt. Sterling
March, Rosette Moss	Lexington
Martin, Mary Franklin	Fulton
Meadors, Gilcin Finley	Clarksdale, Miss.
Mitchell, Jr., Robert	Lexington
Morton, Gertrude Estelle	Lexington
Myers, Pansy Marie	Covington
North, May	Hustonville
O'Neill, Louise Marion	Lexington
Orme, Howard	Mt. Olivet
Patterson, Corinne Lytle	Lakeland, Florida
Pierson, Oriana Pauline	Lexington
Piper, Anne Coleman	R. R. 2, Lexington
Powell, Lois	R. R. 1, Red House
Rhoads, Annie Laura	R. R. 8, Lexington
Robinson, Lucy Erwina	Lexington
Ross, Mary Emily	Paris
Sadtler, Charlotte	LaGrange
Scott, Frances S.	Lexington
Shannon, Donald	Lexington
Simrall, Ida Bright	Scott's Station
Smith, Myrtle Rose	LaGrange
Snyder, Catherine Belt	Louisville
Spurlock, Eugene	Kirksville
Stagg, Annie Barkley	Lexington
Stewart, Brady Marshall	Kevil
Sund, Aaron Walter	Lexington
Talbott, Mary Adams	Paris
Taylor, Susan Margaret	Lexington
Warner, Hattie C.	Nicholasville
Warren, Annie Davis	R. R. 6, Lexington
Webb, Arnold Henry	Lexington
Willis, Mary Charlotte	Shelbyville
Wilson, Robert Eugene	Sullivan
Wolverton, Masie	Lexington
Woodruff, Nata Lee	Eminence
Young, Joseph Bryant	Lexington

46
144
19
209

SUMMARY

General Administrative Officers	7
Officers of Instruction	93
Experiment Station Staff	52
Agricultural Extension Staff	28
Home Demonstration Agents (City and County)	22
County Agricultural Agents	38
Clerical and Stenographic Staff	51
	291
Less names counted twice	4
	287

1918

STUDENTS

Candidates for Degrees.	Arts and Science	Agriculture.	Civil Eng.	Mech. Eng.	Mining Eng.	Law.	Totals.
Graduates	10	0	1	7	0	0	18
Seniors	33	27	3	20	2	12	97
Juniors	44	35	12	24	1	16	132
Sophomores	60	51	11	29	4	26	181
Freshmen	112	83	19	64	12	1	291
	259	196	46	144	19	55	719
Not Candidates for Degrees							
Special Students	17	9	3	3	3	5	40
Short Course in Agriculture		13					13
Short Course Mech. Eng.				1			1
War Cookery		5					5
Eight Wks. Crs. in Min. Eng.					31		31
Military Signaling							7
Sp. Instruc. Sch. Dft. Men							
U. S. Army							396
Summer School							79
	17	27	3	4	34	5	572
Totals	276	223	49	148	53	60	1291
Less names counted twice							19
							1272

SUMMARY BY COUNTIES IN KENTUCKY

Adair County	2	Henderson County	13
Anderson County	6	Henry County	7
Ballard County	5	Hickman County	2
Barren County	1	Hopkins County	6
Bath County	4	Jefferson County	61
Bell County	10	Jessamine County	9
Boone County	8	Johnson County	1
Bourbon County	21	Kenton County	10
Boyd County	6	Knox County	1
Boyle County	3	Knott County	1
Bracken County	1	Larue County	1
Breathitt County	2	Laurel County	1
Breckinridge County	12	Lawrence County	1
Bullitt County	1	Lee County	2
Caldwell County	3	Lewis County	4
Calloway County	4	Lincoln County	1
Campbell County	20	Logan County	2
Carlisle County	3	Lyon County	1
Carroll County	4	Madison County	15
Carter County	1	Magoffin County	1
Casey County	3	Marion County	5
Christian County	4	Marshall County	3
Clark County	8	Martin County	1
Clay County	2	Mason County	10
Crittenden County	7	McCracken County	13
Cumberland County	1	McLean County	4
Daviess County	17	Meade County	2
Elliott County	2	Mercer County	4
Fayette County	161	Metcalfe County	2
Fleming County	4	Montgomery County	8
Floyd County	2	Morgan County	3
Franklin County	4	Muhlenberg County	9
Fulton County	10	Nelson County	7
Garrard County	8	Nicholas County	2
Grant County	7	Ohio County	7
Graves County	10	Oldham County	9
Grayson County	1	Owsley County	1
Hancock County	2	Pendleton County	7
Hardin County	5	Perry County	2
Harlan County	5	Pike County	2
Harrison County	19	Pulaski County	9
Hart County	3	Rockcastle County	3

Russell County	1	Union County	6
Scott County	8	Warren County	5
Shelby County	12	Washington County	4
Simpson County	2	Wayne County	1
Taylor County	2	Webster County	12
Todd County	4	Whitley County	2
Trigg County	1	Woodford County	13
Trimble County	2		
			742

SUMMARY BY OTHER STATES AND COUNTRIES

Alabama	3	New York	2
Bulgaria	3	Ohio	2
Colorado	1	Oklahoma	1
Illinois	3	Pennsylvania	1
Indiana	2	Portugal	1
Iowa	1	Russia	1
Kansas	1	Tennessee	4
Louisiana	2	Turkey	1
Massachusetts	2	West Virginia	1
Michigan	1		
Mississippi	1		34

DIRECTORY OF OFFICERS

Numbers in Parentheses are Telephone Numbers

ALLEN, HARRY RAYMOND, Fellow
216 Bell Court E. (3487X)
ALLEN, J. EMBRY, Asst. Prof.
365 Aylesford Place (472)
ANDERSON, FREDERICK PAUL, Dean
147 Kentucky Ave. (941)
ANDERSON, VIRGINIA F., Instructor
147 Kentucky Ave. (941)
ANDERSON, WALTER S., Asst. Prof.
Nicholasville Pike
AVERITT, SAXE DABNEY, Chemist
304 East Maxwell
BACON, PHILIP EDLOE, Supervisor of Adv. Registry Tests
414 Rose Lane (2647Y)
BAKER, GEORGE MARSHALL, Assoc. Prof.
701 S. Limestone (3627X)
BANCROFT, GEORGE RUSSELL, Asst. Professor
646 Headly Avenue
BARR, THOMAS JAMES, Professor
454 Rose Lane (2194X)
BOLES, STANLEY ATWOOD, Professor
404 Rose Lane (2292Y)
BOYD, PAUL PRENTICE, Dean
Waller Ave., Rhodes Place (5639)
BROWN, EVA MARGUERITE, Fellow
145 Woodland Ave. (615Y)
BROWN, LINWOOD ARNOLD, Chemist
211 Bell Court E. (3338X)
BUCHIGNANI, THERESA E., Secretary
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