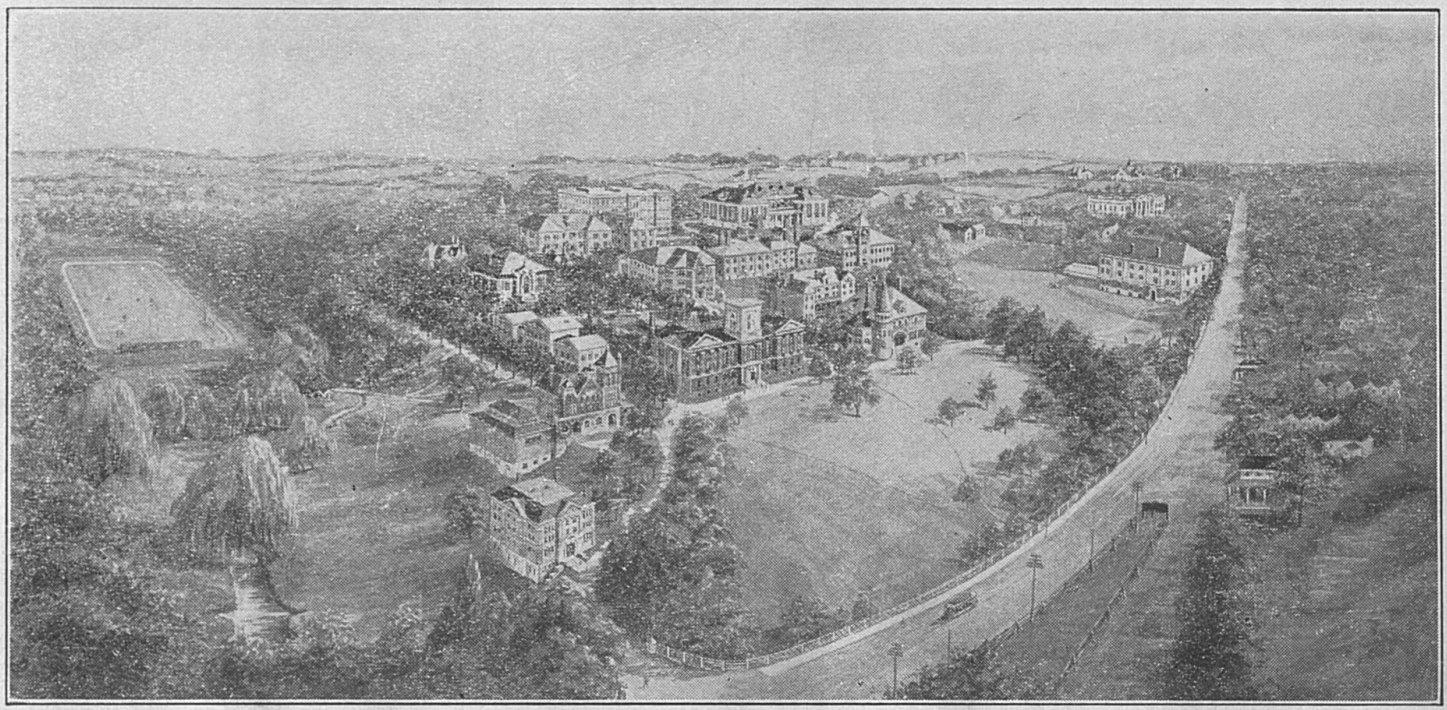


UNIVERSITY OF KENTUCKY

CATALOG

OF THE

UNIVERSITY OF KENTUCKY

1916—1917

PRESS OF
THE STATE JOURNAL CO.
FRANKFORT, KY.

242

CONTENTS.

University Calendar	8
Schedule of Entrance Examinations	10
Part I. Officers of Administration and Instruction	11
Board of Trustees	13
Administrative Officers	14
General Administrative Officers	15
Officers of Instruction	16
Other Officers	28
Standing Committees of the Faculty	34
Part II. General Information	35
History and Equipment	37
Admission and Classification	57
Admission to Freshman Class	57
Admission by Examination	58
Description of Entrance Units	58
Admission by Certificate	69
Accredited Schools	70
Admission by Advance Standing	78
Special Students	78
Graduate Students	78
Residence and Graduation	79
Scholarships and Prizes	88
Organizations and Student Activities	93
Part III. Colleges and Schools	103
Organization	105
College of Arts and Science	107
College of Agriculture	161
School of Agriculture	161
Experiment Station	192
Agricultural Extension	193
College of Civil Engineering	196
School of Civil Engineering	198
School of Rural Highway Engineering	207

College of Mechanical and Electrical Engineering 212
College of Mines and Metallurgy 233
School of Mining Engineering 247
School of Metallurgical Engineering 250
School of Extension. 252
College of Law 253
Graduate School 266
General University Departments 278
Department of Home Economics 278
Department of Physical Education 292
Department of Military Science 296
Summer School 303
Part IV. Degrees and Honors 1915-1916 317
Part V. Alumni Association 331
Part VI. Register of Students 341
Directory of Officers 379
Index 383

212
233
247
250
252
253
266
278
278
292
296
303
317
331
341
379
383

1917

JANUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

FERUARY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

MARCH

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

APRIL

S	M	T	W	T	S	F
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

MAY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JUNE

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

JULY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

AUGUST

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

SEPTEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

OCTOBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NOVEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

DECEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

1918

JANUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FERUARY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

MARCH

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

APRIL

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

JULY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

UNIVERSITY CALENDAR.

1917		
September 5, 6, 7, 8	Wed. Thurs. Fri. Sat.	Examinations for admission.
September 5, 6, 7, 8	Wed. Thurs. Fri. Sat.	Examinations to remove conditions.
September 10, 11	Monday, Tuesday	Registration days.
September 12	Wednesday	Instruction begins.
September 22	Saturday	Last day for change in course without payment of fee.
September 22	Saturday	Last day for registration without special permission.
October 5	Friday	Alumni reception to new students.
November 1	Thursday	Short course in agriculture begins.
November 29	Thursday	Thanksgiving Holidays begin.
December 3	Monday	Instruction resumed.
November 30	Friday	Annual Debate, Union and Patterson Literary Societies.
December 1	Saturday	Association of Kentucky Colleges.
December 11	Tuesday	Board of Trustees meet.
December 14	Friday	Inter-Society Debate.
December 21	Friday Noon	Christmas Recess begins.
1918		
January 2	Wed. 8:00 A. M.	Christmas Recess ends.
January 25—Feb. 1	Friday to Friday	Mid-year examinations.
February 4	Monday	Registration for students matriculated first semester.
February 5	Tuesday	Registration for new students only.

February 6	Wednesday	Instruction resumed.
February 22	Friday	Washington's Birthday holiday.
March 1	Friday	Short course in agriculture ends.
March 11-16	Monday to Saturday	Examinations to remove conditions.
March 26	Tuesday	Patterson Literary Society Contest.
April 12	Friday	Last day for receiving essays for Henry Clews prize.
May 1	Wednesday	Last day for receiving theses for higher degree.
May 24-31	Friday to Friday	Final examinations.

Commencement Week.

June 2	Sunday	Baccalaureate Sermon.
June 4	Tuesday	Board of Trustees meets.
June 5	Wednesday	Class Day.
June 5	Wednesday	Alumni Banquet.
June 6	Thursday	Fiftieth Annual Commencement.

Summer School.

June	Monday	Summer School opens.
August	Wednesday	Summer School closes.

SCHEDULE OF ENTRANCE EXAMINATIONS.

WEDNESDAY, SEPTEMBER 5, 1917.

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 6, 1917.

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, Mediaeval, 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 7, 1917.

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 8, 1917.

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, and during the sixth week of the second semester.

Part I.

OFFICERS OF ADMINISTRATION AND INSTRUCTION.

BOARD OF TRUSTEES.

OFFICERS.

HON. A. OWSLEY STANLEY, Chairman; ENOCH GREHAN, Secretary.

EXECUTIVE COMMITTEE.

CHARLES B. NICHOLS, Chairman; RICHARD C. STOLL, G. G. BROCK, JOHN E. BROWN, CLAUDE B. TERRELL, FRANK MCKEE, P. PRESTON JOHNSTON.

EX-OFFICIO MEMBERS.

HON. A. OWSLEY STANLEY, Governor	Frankfort
HENRY S. BARKER, President, University of Kentucky	Lexington
VIRGIL O. GILBERT, Superintendent of Public Instruction	Frankfort
MATT S. COHEN, Commissioner of Agriculture	Frankfort

State Board of Agriculture.

V. J. HARRIS	Kevil	J. L. LETTERLE	Harrod's Creek
T. L. HORNSBY	Eminence	H. M. FROMAN	Ghent
J. R. RASH	Henderson	J. M. ELLISTON	Elliston

FRED R. BLACKBURN, Stanton.

APPOINTED BY THE GOVERNOR.

Names and Addresses.	*Term Expires.*
R. G. GORDON, Louisville	January, 1918
TIBBIS CARPENTER, Scottsville	January, 1918
WILLIAM H. COX, Maysville	January, 1918
DENNY P. SMITH, Cadiz	January, 1918
CLAUDE B. TERRELL, Bedford	January, 1918
JOHNSON N. CAMDEN, Versailles	January, 1920
RICHARD C. STOLL, Lexington	January, 1920
J. A. AMMONS, Lancaster	January, 1920
RICHARD N. WATHEN, Lebanon	January, 1920
DR. A. GATLIFF, Williamsburg	January, 1920
JAMES BREATHITT, Hopkinsville	January, 1922
FRANK MCKEE, Versailles	January, 1922
CHARLES B. NICHOLS, Lexington	January, 1922
JAMES K. PATTERSON, Lexington	January, 1922
JAMES W. TURNER, Paintsville	January, 1922

ELECTED BY THE ALUMNI.

GEORGE GREEN BROCK, London	December, 1918
J. IRVIN LYLE, New York	December, 1918
JOHN EDWIN BROWN, Shelbyville	December, 1920
PHILIP PRESTON JOHNSTON, JR., Lexington	December, 1920
DR. SAMUEL B. MARKS, Lexington	December, 1922
JAMES FRANK BATTAILE, Lexington	December, 1922

ADMINISTRATIVE OFFICERS.

HENRY STITES BARKER, LL. D., President.

DEANS OF COLLEGES.

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

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

WALTER ELLSWORTH ROWE, C. E., Dean of the College of Civil Engineering, and Professor of Civil Engineering.

ARTHUR MCQUISTON MILLER, A. M., Dean of the College of Arts and Science, and Professor of Geology.

WILLIAM THORNTON LAFFERTY, A. M., Dean of the College of Law, and Professor of Law, and Comptroller.

*JOSEPH HOEING KASTLE, PH. D., Director of Experiment Station, and Dean of the College of Agriculture.

GEORGE ROBERTS, M. S., Acting Dean of the College of Agriculture, Professor of Agronomy and Head of Department of Agronomy in the Experiment Station.

DEAN OF WOMEN.

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

DEAN OF MEN.

COLUMBUS RUDOLPH MELCHER, A. M., Dean of Men, and Professor of German.

*Deceased, September 24, 1916.

GENERAL ADMINISTRATIVE OFFICERS.

Office of the President.

HENRY STITES BARKER, LL. D., President.
LILA ADAMS JOYEUX, Private Secretary.

Office of the Business Agent.

DAVID HOWARD PEAK, A. M., Business Agent.
JAMES BASIL LYONS, Cashier.
MRS. MAYME H. LENAGHAN, Secretary.
AMOS PRESTON, Bookkeeper.

Office of the Registrar.

EZRA L. GILLIS, A. B., Registrar and Secretary.
LIZZIE LEE GRADDY, Assistant Registrar.
KATHERINE W. OWENS, Secretary.

Office of the Dean of Women.

ANNA JACKSON HAMILTON, M. A., Dean.

Office of the Dean of Men.

COLUMBUS RUDOLPH MELCHER, A. M., Dean.

The University Library.

MARGARET ISADORA KING, A. B., Librarian.

OFFICERS OF INSTRUCTION.

PROFESSORS.

HENRY STITES BARKER, LL. D. — Patterson Hall
President of the University.

*JOSEPH HOEING KASTLE, PH. D. — 238 East Maxwell
Director of the Experiment Station, Dean of the College of Agriculture.

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

HARRISON GARMAN, D. Sc. — 638 South Limestone
Professor of Entomology and Zoology, 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 Engineering 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
Dean of the College of Arts and Science, Professor of Geology.

MERRY LEWIS PENCE, M. S. — 364 Merino
Professor of Physics, Head of the Department.

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
Professor of Modern Languages, Head of the Department.

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

---

*Deceased, September 24, 1916.

WALTER ELLSWORTH ROWE, B. S., C. E. 347 Transylvania Park
Dean of the College of Civil Engineering, Professor of Civil Engineering.

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

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

MRS. ROBERT LEE STOUT Frankfort, Ky.
Physical Director of 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
Acting Dean of the College of Agriculture, Professor of Agronomy, Head of the Department of Agronomy, in the Experiment Station.

THEODORE TOLMAN JONES, A. M. 318 Aylesford Place
Professor of Latin, Head of the Department.

GLANVILLE TERRELL, A. B., A. M., PH. D. 609 South Limestone
Professor of Greek, Head of the Department.

JAMES THOMAS COTTON NOE, A. M. 725 Rose Street
Professor of Education, Head of the Department.

ALFRED MEREDITH PETER, D. Sc., F. A. A. 268 East Maxwell
Acting Director of the Experiment Station, Professor of Soil Technology, 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.

*Robert McDowell Allen, A. B., M. A. 423 West Third
Head of the Food and Drug Department in the Experiment Station.

James Oscar LaBach, M. S. 523 West Second
Chief Chemist, Acting Head of Food and Drug Department in the Experiment Station.

Job Darbin Turner, B. Ped., LL. B. 135 Washington Avenue
Head of the Department of Commercial Feeding Stuffs in the Experiment Station.

Edwin Stanton Good, M. S. Station Farm
Professor of Animal Husbandry, Head of the Department of Animal Husbandry (Beef, Cattle, Sheep and Swine) in the Experiment Station.

Linwood Arnold Brown, Pharm. D., Ph. C., F. A. A. 425 Trans. Park
Drug Chemist, Food and Drug Department in the Experiment Station.

Daniel Joseph Healy, M. D., C. M. 530 Sayre Avenue
Professor of Bacteriology, Bacteriologist, Department of Research in the Experiment Station.

McHenry Rhoads, A. M., Ph. M. Nicholasville Pike
Professor of Secondary Education.

Columbus Rudolph Melcher, A. M. 258 Market Street
Dean of Men, Professor of German.

James Edward Tuthill, Ph. D. 253 South Limestone
Professor of History and Political Economy, Head of the Department.

Charles Kerr 658 North Broadway
Professor of Law.

Lyman Chalkley, LL. B. 148 East Fifth
Professor of Law.

William Edwin Freeman, A. B., E. E., Waverley Apts., Hampton Court
Professor of Electrical Engineering, Head of the Department.

---

*On leave of absence.

JOHN JAMES TIGERT, M. A. (Oxon.) 119 Bassett Court
Professor of Philosophy, Head of the Department;
Acting Director of Athletics.

PAUL PRENTICE BOYD, M. A., PH. D. Waller Ave., Rodes Place
Professor of Mathematics, Head of the Department.

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

THOMSON RIPLEY BRYANT, B. S. IN AGR. 236 Clay Avenue
Assistant Director of Agricultural Extension,
Extension Specialist in Animal Husbandry.

DANIEL VOIERS TERRELL, C. E. 562 West Short
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.

CHARLES PRESTON WEAVER, A. M. 720 East High
Professor of English.

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 GREGAN, A. B. 702 East Main
Professor of Journalism, Head of the Department.

JOHN CARLYLE FAIRFAX — Commandant's House, Campus
Captain Infantry, D. O. L., Commandant and Professor of Military Science and Tactics.

ROBERT GRAHAM, D. V. M. — 239 South Limestone
Professor of Veterinary Science, Head of Department of Diseases of Live Stock in the Experiment Station.

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

ASSOCIATE PROFESSORS.

WILLIAM JOSEPH CARREL, B. S., C. E. — 371 Linden Walk
Associate Professor of Civil Engineering, Head of the Department of Bridge Engineering.

ANNA JACKSON HAMILTON, M. A. — Patterson Hall
Dean of Women, Associate Professor of English.

JAMES RICHARD BUSH, A. B. — 221 South Ashland Avenue
Associate Professor of Law.

GEORGE WILLIAM VAUGHN, LL. B. — 111 North Ashland Avenue
Associate Professor of Law.

CHARLES D. BOHANNON, A. B. — Corner Waller Avenue
Associate Professor of Agricultural Economics.

ELIJAH LATHAM REES, C. E., M. A. — 726 East Main
Associate Professor of Mathematics.

ALBERT HOLLEY GILBERT, M. S. — 609 South Limestone
Associate Professor of Botany.

MARY E. SWEENY, A. B., M. S., M. A. — Pine Grove, Ky.
Head of the Department of Home Economics.

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

CINCINNATUS DECATUR KILLEBREW, M. S. — 287 South Limestone
Associate Professor of Physics.

EDMUND J. KINNEY, B. S. IN AGR. 462 Woodland Ave.
Associate Professor of Agronomy, Assistant Agronomist in the Experiment Station.

GEORGE MARSHALL BAKER, M. A. 701 South Limestone
Associate Professor of Education.

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.

HOWELL DAVIS SPEARS, M. S. 703 Rose Street
Chemist, Department of Commercial Feeding Stuffs in the Experiment Station.

ERLE CLEVELAND VAUGHN, A. B. 304 South Limestone
Assistant, Department of Entomology and Botany in the Experiment Station.

WILLIAM DURRETT NICHOLS, M. S. A. 19 University Avenue
Associate Professor of Farm Management, Extension Specialist in Dairying.

WILLIAM RODES, M. S. 152 East High
Chemist, Fertilizer Department in the Experiment Station.

JOHN WILLIAM MCFARLAN, B. S. Franklin, Ky.
Chief Food Inspector, Food and Drug Department in the Experiment Station.

HOWARD HERMAN JEWETT, M. A. 424 Linden Walk
Research Assistant, Department of Entomology and Botany in the Experiment Station.

WALTER REDMON PINNELL, M. D. Scovell Place, Station
Associate Professor of Bacteriology, Bacteriologist, Food and Drug Department in the Experiment Station.

JAMES SPENCER MCHARGUE, B. S. 411 Transylvania Park
Assistant Chemist, Department of Chemistry in the Experiment Station.

GARRETT DAVIS BUCKNER, PH. D. 461 North Limestone
Chemist, Department of Research in the Experiment Station.

*JOHN HENRY CARMODY, B. S. IN AGR. 239 South Limestone
Assistant Professor of Horticulture, Department of Agricultural Extension.

WALTER S. ANDERSON, M. A. 149 Washington Avenue
Assistant Professor of Horse Husbandry, Department of Animal Husbandry (Dairy Cattle, Horses and Poultry) in the Experiment Station.

ROBERT LORING PONTIUS, V. S. 239 South Limestone
Associate Professor of Veterinary Science, Assistant in Hog Cholera Serum Production in the Experiment Station.

S. FOREST MUSSELMAN, V. S. Frankfort, Ky.
State Veterinarian.

PHILIP LEE BLUMENTHAL, PH. D. Phoenix Hotel
Chemist, Department of Chemistry in the Experiment Station.

ASSISTANT PROFESSORS.

LLOYD CADIE DANIELS, PH. D. 410 West Second
Assitant Professor of Chemistry.

HAROLD HARDESTY DOWNING, B. C. E., S. M. 158 N. Ashland
Assistant Professor of Mathematics.

JAMES AARON FARRA, B. S.
Assitant Professor of Agricultural Engineering.

RUBY MILDRED BUCKMAN, A. B., B. S. 267 South Limestone
Assistant Professor of Household Arts.

*Resigned February 1, 1917.

HOLLY RAY NISWONGER, M. A. 550 East Main
Assistant in Field Work and Nursery Inspection, Department of Entomology and Botany in the Experiment Station.

FRANK THEODORE MCFARLAND, B. S. IN AGR. 703 South Limestone
Assistant Professor of Botany.

ARZA LYTLE WILHOITE, M. E. 412 Rose Street
Assistant Professor of Heat Engineering.

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.

PERRY ROGAN CASSIDY, B. M. E. 169 Kentucky Avenue
Assitant Professor of Thermodynamics.

JOSEPH DICKER, 120 Graham Avenue
Superintendent of Shops, Head of Department of Practical Mechanics.

AVERY EARLY EWAN, B. S. IN AGR. Greenville, Ky.
Superintendent of Experiment Fields, Department of Agronomy in the Experiment Station.

PERRY ELMER KARRAKER, M. A. 327 South Upper
Assistant Professor of Soils, Assistant Agronomist in the Experiment Station.

*LEO RANSOM HIMMELBERGER, D. V. M. 217 Arlington Avenue
Assistant, Department of Animal Husbandry (Beef, Cattle, Sheep and Swine) in the Experiment Station.

WILLIAM E. BUTT, A. B., M. A. 412 Woodland Avenue
Assistant Professor of Economics.

*HARMON KLINE WRIGHT, D. V. M.
Extension Agent in Hog Cholera Serum Work, Department of Diseases of Live Stock in the Experiment Station.

*Resigned July, 1916.

RAYMOND HARVEY WILKINS, M. S. A. 239 South Limestone
Research Assistant in Poultry, Department of Animal Husbandry (Dairy Cattle, Horses and Poultry) in the Experiment Station.

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

GEORGE HAYMAKER VANSELL, A. B. 327 South Upper
Assistant Profesor of Entomology and Zoology.

ALBERT JACKSON CNEY, B. S. 114 Gazette Avenue
Assistant Professor of Horticulture, Assistant in Horticulture in the Experiment Station.

INSTRUCTORS AND ASSISTANTS.

JOHN BORN DICKER 122 Graham Avenue
Instructor in Wood Working.

SARAH MARSHALL CHORN, A. B., A. M. Nicholasville Pike
Instructor in German and French.

GORDON THURMAN 131 Virginia Avenue
Assistant in Engineering Laboratories.

JOHN WILLIAM NUTTER 149 Virginia Avenue
Instructor in Dairy Laboratory, Superintendent of Dairy Farm, Department of Animal Husbandry (Dairy Cattle, Horses and Poultry), in the Experiment Station.

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

JAMES RAY DUNCAN, B. M. E. 429 Maple Avenue
Assistant Professor in Electrical Enginering.

ELMER INGRAM 239 South Limestone
Chief Inspector, Department of Commercial Feeding Stuffs in the Experiment Station.

WILLIAM GRANVILLE TERRELL — 135 East Second
Food Inspector, Food and Drug Department in the Experiment Station.

ROGER W. JONES — 216 Bell Court, East
Inspector, Fertilizer and Feed Departments in the Experiment Station.

*WALLACE VANDERPOOL SMITH, B. S.
Assistant in Animal Husbandry (Beef Cattle, Sheep and Swine) in the Experiment Station.

EDWIN JOSEPH GOTT, B. S. IN AGR. — 819 South Limestone
Assistant in Hog Cholera Serum Production in the Experiment Station.

CLARA WARLAND WHITE — 158 East Maxwell
Instructor in Department of Home Economics.

**CHARLES FRANCIS STILES, B. S.
Assistant in Entomology and Zoology.

M. HUME BEDFORD, PH. D. — Paris, Ky.
Instructor in Physical Chemistry.

HARRY S. CANNON, A. B., A. M. — 123 East Maxwell
Instructor in German.

MARGARET MCLAUGHLIN, A. B. — 226 East Maxwell
Instructor in Journalism.

†MARQUIS JOSEPH SMITH, B. S.
Assistant in Animal Husbandry (Beef Cattle, Sheep and Swine) in the Experiment Station.

WILLIAM HERBERT SIMMONS, V. S. — Louisville, Ky.
Inspector, Food and Drug Department in the Experiment Station.

---

*Resigned April 1, 1916.
**On leave of absence.
†Resigned January 1, 1917.

ARTHUR LOUIS BRUECKNER, B. S. IN AGR. 81[illegible] South Limestone
Assistant in Hog Cholera Serum [illegible]stration in the Experiment Station.

PHILIP E. BACON 414 Rose Lane
Tester of Dairy Herds, Department of Animal Husbandry (Dairy Cattle, Horses and Poultry) in the Experiment Station.

ED HUSTON 149 Virginia Avenue
Assistant in Dairying in the Experiment Station.

JOSEPH WALKER REED 452 Rose Lane
Instructor in Examination of Mine Air.

STANLEY ATWOOD BOLES, M. A. 406 Woodland Ave.
Professor in Physical Education.

CARROLL SIDNEY ADAMS, B. S. 162 East High
Instructor in Horticulture, and Assistant, Department of Horticulture in the Experiment Station.

ROBERT CORNELIUS DABNEY, M. S.
Assistant Chemist, Food and Drug Department in the Experiment Station.

ROBERT BROOKS TAYLOR, B. S. R. F. D. 5
Assistant Chemist, Fertilizer Department in the Experiment Station.

OWEN SCOTT LEE, B. S. 350 Aylesford Place
Assistant Chemist, Fertilizer Department in the Experiment Station.

JOHN RICHARD MITCHELL, A. B. 327 South Upper
Instructor in Chemistry.

WILLIAM HALE STAEBNER, A. B. 137 East High
Instructor in Chemistry.

ALDEN HARRY WAITT 211 East Maxwell
Instructor in Chemistry.

MARY FRANCES JEWELL, A. B. 311 South Ashland Ave.
Instructor in English.

EUSTICE U. BRADLEY, A. B. 120 Warren Court
Instructor in English.

MABEL HARDY POLLITT, M. A. University Campus
Instructor in German, Latin and Greek.

MARSHALL NEW STATES, B. S. 453 East Maxwell
Instructor in Physics.

JOHN FREDERICK LOOMIS, A. B. Physics Building
Instructor in Physics.

VIRGINIA F. ANDERSON, B. S. IN BIOL. 147 Kentucky Avenue
Instructor in Freehand Drawing.

MINOTT BROOKE, B. M. E. 737 South Limestone
Instructor in Experimental Engineering.

BRICE COUCH WORLEY, B. S. 321 Grosvenor Avenue
Instructor in Assaying and Metallurgy.

FELLOWS AND SCHOLARS.

HARRY RAYMOND ALLEN, A. B. 216 Bell Court, East
Fellow in Mathematics.

CHARLES LEROY BOWERS, A. B. 450 Rose Lane
Fellow in English.

ESCO FIRMAN ELLZEY, B. S. 450 Rose Lane
Fellow in Chemistry.

HERBERT GRAHAM, A. B. 326 Grosvenor Avenue
Fellow in Journalism.

VERNON GUY GROVE, A. B. 802 South Limestone
Fellow in Mathematics.

JOHN R. MARSH, A. B. 210 Arlington Avenue
Fellow in English.

JOHN T. PRICE, A. M. — 326 Grosvenor Ave.
Fellow in English.

HOMER LLOYD REID, A. B. — Observatory
Fellow in Mathematics.

DUDLEY H. STARNS, A. B. — 802 South Limestone
Fellow in Education.

OTHER OFFICERS.

JOSEPH WILLIAM PRYOR, M. D. — 261 North Broadway
Surgeon of the Battalion.

EZRA L. GILLIS, A. B. — 287 South Limestone
Secretary of the Faculty.

ELIZABETH D. PICKETT — Patterson Hall
Matron of Patterson Hall.

MRS. SARAH R. WEST MARSHALL — 718 Rose Street
Inspector of Dormitories.

LUCY KELLAR HUTCHCRAFT, A. B. — 18 Mentelle Park
Clerk, Department of Diseases of Live Stock in the Experiment Station.

LILLIE FRANCES LISTON — 270 South Limestone
Chief Clerk, Food and Drug Department in the Experiment Station.

ANNA WALLIS, A. B. — 326 Aylesford Place
Clerk, Fertilizer Department in the Experiment Station.

OLEVA LOUISE GINOCHIO — 240 Lexington Avenue
Secretary to the Director of the Experiment Station.

MAY GRACE GINOCHIO — 267 Lexington Avenue
Clerk, Department of Animal Husbandry (Beef Cattle, Sheep, and Swine), in the Experiment Station.

FANNY CLARK ROGERS — 646 Central Avenue
Clerk, Department of Commercial Feding Stuffs in the Experiment Station.

ETHEL V. T. CASWALL — 179 East Maxwell
Clerk, Department of Chemistry in the Experiment Station.

EDITH LOVE — 220 Market
Secretary to the Professor of Chemistry.

MRS. NELL H. TURNER — 370 South Broadway
Secretary to the Dean of the College of Mechanical and Electrical Engineering.

CORNELIA CORA PAGE — 355 North Broadway
Librarian in the Experiment Station.

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

BELLA WITHERS — 628 West High
Secretary to the Department of Education.

NANCY B. BENTLEY — 388 South Broadway
Secretary to the Dean of the College of Mines and Metallurgy.

JESSIE FRAZIER CASWALL — 179 East Maxwell
Clerk, Department of Agronomy in the Experiment Station.

ETHEL JELLEY — 370 South Broadway
Stenographer, College of Mechanical and Electrical Engineering.

TERESA EUGENIA BUCHICANI, A. B. — 216 North Limestone
Secretary to the Dean of the College of Arts and Science.

LILA BEATRICE TERRY, A. B. — 152 Woodland Avenue
Clerk, Department of Entomology and Botany in the Experiment Station.

CARRIE BEAN — 574 West Short
Clerk, Supply Department.

MARIE ELIZABETH HEINL — 129 East High
Clerk, Department of Administration in the Experiment Station.

ELIZABETH HOPPER — Patterson Hall
Bookkeeper and Purchasing Agent for Patterson Hall.

JUANITA FRANCES KESHEIMER — 125 Barr
Clerk, Food and Drug Department in the Experiment Station.

KATE MCDANIEL — 428 Fayette Park
Clerk, Department of Horticulture in the Experiment Station.

RUBY STIVERS — 338 Harrison Avenue
Clerk, Department of Agricultural Extension.

GERMAINE CRUMBAUGH — 612 North Broadway
Secretary to the Dean of the College of Agriculture.

ISAAC C. WATKINS — 136 Virginia Avenue
Engineer in Experimental Laboratory.

THOMAS AUBREY — 521 Pennsylvania Avenue
Engineer and Assistant in Wood Shop.

UNIVERSITY Y. M. C. A.

JOHN E. JOHNSON, B. S., B. D., M. A. — 116 East Maxwell
General Secretary.

AGRICULTURAL EXTENSION DIVISION STAFF.

FRED MUTCHLER — Lexington, Ky.
Director.

T. R. BRYANT — Lexington, Ky.
Assistant Director.

GEOFFREY MORGAN — Richmond, Ky.
State Agent, Farm Demonstration Work.

M. O. HUGHES — Bowling Green, Ky.
District Agent.

T. H. COLLINS — Richmond, Ky.
District Agent.

F. E. MERRIMAN — Board of Trade, Louisville, Ky.
District Agent.

G. T. WYATT — Hopkinsville, Ky.
District Agent.

GEORGE ROBERTS — Lexington, Ky.
Specialist in Agronomy.

OTIS KERCHER — Lexington, Ky.
Boys' Pig Clubs.

N. R. ELLIOTT — Lexington, Ky.
Specialist in Horticulture.

A. S. CHAPIN — Lexington, Ky.
Poultry Clubs.

D. D. SLADE — Lexington, Ky.
Specialist in Poultry.

JOHN U. FIELD — Lexington, Ky.
Field Agent in Marketing.

O. S. CRISLER — Lexington, Ky.
Specialist in Live Stock Diseases.

B. G. Nelson — Hopkinsville, Ky.
Boys' Clubs.

W. D. Nicholls — Lexington, Ky.
Specialist in Dairying.

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

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

Margaret D. Jonas — 17 Eastover Court, Louisville, Ky.
District Agent Home Demonstration Work.

Aubyn Chinn — Lexington, Ky.
District Agent Home Demonstration Work.

Susan Kidd — Lexington, Ky.
Bookkeeper, Agricultural Extension Division.

Anna Berry Jones — Lexington, Ky.
Secretary to the Director of Extension.

Margaret C. Ryan — Lexington, Ky.
Clerk, Agricultural Extension Division.

Katherine Meng — Lexington, Ky.
Clerk, Agricultural Extension Division.

Lillian Lisle — Lexington, Ky.
Clerk, Agricultural Extension Division.

Lena Hottes — Lexington, Ky.
Clerk, Agricultural Extension Division.

Pauline Claren — Lexington, Ky.
Clerk, Agricultural Extension Division.

Elizabeth H. Galloway — Bowling Green, Ky.
Clerk, Agricultural Extension Division.

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

SETH N. WIGGINTON — Fredonia, Ky.
Dairy Organization Specialist, Agr. Extension Division.

ELIZABETH RICH — Hopkinsville, Ky.
Clerk, Agent Boys' Club, Agr. Extension Division.

JESSIE CASWALL — Lexington, Ky.
Clerk, Specialist in Agronomy and Soil Fertility, Agr. Extension Division.

STANDING COMMITTEES OF THE FACULTY.

ATHLETICS. Professors Gillis (*Chairman*), Curtis, Lafferty, Freeman, Terrell.

CALENDAR AND BULLETINS. Professors Dantzler (*Chairman*), Gillis, Weaver, Baker.

CHAPEL EXERCISES. Professors Melcher (*Chairman*), Davis, Mathews, Gilbert.

COMMENCEMENT EXERCISES. Professors Stout (*Chairman*), F. P. Anderson, Lafferty, Fairfax.

COMMITTEE OF DEANS. Professors F. P. Anderson (*Chairman*), Norwood, Rowe, Miller, Lafferty, Kastle, Mackenzie (*Secretary*).

DISCIPLINE. Professors Mathews (*Chairman*), Hooper, D. Terrell, Boyd, Freeman, Melcher, Fairfax.

ENTERTAINMENTS—NON-ATHLETICS. Professors Zembrod (*Chairman*), Hamilton, Sweeny.

ENTRANCE AND ACCREDITED RELATIONS. Professors Rhoads (*Chairman*), Noe, Jones, Fairfax.

EXAMINATIONS AND DAILY SCHEDULE. Professors Melcher (*Chairman*), Freeman, Boyd, Dantzler, Roberts.

GRADUATE SCHOOL. Professors Miller (*Chairman*), Lafferty, Anderson, Roberts, Norwood, Rowe.

LIBRARY. Professors G. Terrell (*Chairman*), Tuttle, Tuthill, Hamilton.

MILITARY. Capt. Fairfax (*Chairman*), Professors Freeman, Maxson, Killebrew.

MUSIC. Professors Hamilton (*Chairman*), Zembrod, Sweeny, Mutchler.

ORATORY AND DEBATE. Professors Noe (*Chairman*), Chalkley, Farquhar, Weaver.

STUDENT ORGANIZATIONS. Professors Pryor (*Chairman*), Jones, Carrel, Hamilton.

STUDENT PUBLICATIONS. Professors Grehan (*Chairman*), Farquhar, Hamilton.

STUDENT WELFARE. Professors Tigert (*Chairman*), Webb, Rees, Nollau, Barr.

Y. M. C. A. Professors Melcher (*Chairman*), Roberts, Bryant, Maxson, Tigert.

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 per 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 will, from time to time, be opened as the means placed at the disposal of the trustees allow, will, it is hoped, in the not distant future, do 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 agricultural 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 in 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 annualy 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 twenty-eight annual reports, two hundred and five bulletins and twelve 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 throughout 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, through 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 fifty-two 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.

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 experimentation 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 in size, 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 feet in size, constructed of pressed brick and Bedford stone and is designed to be a wing of the larger structure which it is expected 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 Departments 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 departments 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 passage way 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., and 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. In the assignment of rooms preference is given to holders of county appointments.

President's Home—The President's home is a commodious two-story brick structure to the east of the Library building.

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

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 in 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 floor 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.

Farm Buildings—The farm buildings include three dwelling houses, a modern and thoroughly 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, and 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 33,080, divided as follows:

General Library (working collection)	12,304
General Library (government documents)	3,750
Law Library	5,000
Agricultutral College Library	1,426
Engineering Libraries	1,550
Chemical Library	450
Arts and Science	2,100
Kentucky Agricultural Experiment Station Library	6,500
	33,080

Two hundred and fifty-three periodicals are regularly received by the library.

The Experiment Station Library, consisting of 6,500 volumes, is an independent but closely allied organization, and affords material for the research student in agriculture, chemistry, and allied subjects. This library has depository catalogs of the publications of the U. S. Department of Agriculture and the Experiment Stations of the United States. Two hundred and twenty-five periodicals are currently received.

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 other kinds of 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 washed 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 hundred 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 washed 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, miscroscopes 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 miscroscopical 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 a 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 as 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 of Physical Chemistry, Metallurgical and Chemical Engineeering, Bulletin de la Societe chimique (Paris). Inorganic chemistry is represented by such works as Meissan, 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, moulding 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 block, asphalt, coal tar products, and all kinds of road oils and dust preventives. This laboratory is in operation throughout 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 seond 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, miscroscopes 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 and is 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 Zooloogy 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 chiefiy 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, and 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 miscroscopes, 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 analyses 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 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 throughout, 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 Home Economics Department occupy the third floor of the Educational 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 coking 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, miscroscopes, 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 Horticulture Department of the Experiment Station. It is of semi-iron construction of most approved design 28 x 85 feet in size, 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 propagation, 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 con-

sists of typewriters, desks, individual writing tables, typewriter tables, exchange tables, city editor's table and chairs. For assignment and corrected work a system of reporters' books is sued, 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 Mechanical and Electrical 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 gases 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 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 rachet 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 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 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.

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 compressed 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 floors 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 compressed 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 through 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 Auxoux 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. Miscroscopic slides are exhibited showing the process of karyokinesis.

Museums.

Geology—The Department of Geology is supplied with collections in mineralogy and palentology, arranged and classified with especial reference to their use in class instruction. There is 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 a herbarium which is a reference collection which is 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.

Drawing 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 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 also available for examination.

Mechanical and Electrical Engineering—Three well-lighted and convenient drawing 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 equiment 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 straightaway 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. Students who offer thirteen units 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	Geology	½	to 1
Algebra	1½	to 2	Zoology	½	to 1
Plane Geometry	1		Psychology or Pedagogy		½
History	1	to 3½	Political Economy		½
Foreign Languages		2	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		
Physics		1	more, holding first class		
Physical Geography	½	to 1	certificate		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	History	1
Algebra	1½	Language (other than English)	2
Plane Geometry	1	Science	1

The 5½ elective units offered must be chosen from the list on the preceding page.*

It is strongly recommended that a student desiring to enter the Colleges of Engineering offer for entrance one unit in Physics and one-half a 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 5-8, 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 5. 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 per week may be allowed four units for entrance in English.

*No more than two units will be allowed for vocational subjects.

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 thoroughly mastered; and practice in composition, oral as well as written, should extend throughout 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 fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at

least two selections are to be made, except as otherwise provided under Group 1.

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*, *Iliad* and *Aeneid* 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). Bunyan: *Piglrim'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 Novels: *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). Thackery: 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*, and *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,* and *The Passing of Arthur.* The selections from Wadsworth, 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—Essays—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 usuage.

The examination will be divided into two parts, one of which will be on grammar and composition, and 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 through 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 per 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.

1. *Recommendations*—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 follow:

1. *Algebra—One and one half units.* 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 applications.

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 measurement of prisms, pyramids, cylinders, and cones; the sphere and the spherical triangle; the solution of numerous original exercises, including loci problems; application to the mensuration of surfaces 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 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 from 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 from 150 to 200 pages of literature in the form of easy stories and plays; (b) accompanying 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 passages; (c) continued drill in the rudiments of the grammar, directed to the ends of enabling the pupil, first to use his knowledge with facility, in the formation of sentences, and secondly, to state nis 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 that 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 of nouns, the inflection of adjectives, participles, 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, designed 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 pro-

nouns, 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 duodecimo 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. *Mediaeval and Modern History—One unit.*
3. *English History—One unit.*
4. *American History and Government—One unit.*

Physics. One unit may be offered. 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 may be offered in this subject. 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 may be offered in this subject. 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 may be offered. 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 operations 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 may be offered. 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 tnan can be done with a simple magnifier. Accurate drawings and concise note-books should be prepared by the student.

Zoology. One-half to one unit may be offered. 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 of one type animal under each sub-kingdom.

Geology. One-half to one unit may be offered. 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 may be offered. 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, flowers. He should be able to copy, by enlarging or reducing its dimensions, the picture of any ordinary object.

Bookkeeping. One-half unit may be offered. 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. 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 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 college entrance units 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 per 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 must be sufficient to properly teach the subjects offered.
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 units 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 must be sufficient to properly teach the subjects offered.

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.

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 Supervisor is indispensable.

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 its course of study which will lower in any way the character of the work done without notification of the State Supervisor of High Schools. 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	E. A. Signer
Catlettsburg	High School	J. O. Faulkner
Central City	High School	T. Sanford Williams
Carrollton	High School	W. F. O'Donnell
Carlisle	High School	R. D. Squires
Corydon	High School	E. L. West
Covington	High School	H. C. Cox
Cynthiana	High School	R. I. Cord
Dawson Springs	High School	J. C. Jenkins
Dayton	High School	L. N. Taylor

LOCATION.	NAME OF SCHOOL.	SUPT. OR PRIN.
Earlington	Atkinson Memorial	C. E. Dudley
Elizabethtown	High School	R. Y. Maxey
Elkton	High School	E. B. Weathers
Eminence	High School	F. A. Scott
Falmouth	High School	G. H. Wells
Flemingsburg	High School	H. G. DeLong
Fort Thomas	Highlands High School	C. R. Rounds
Frankfort	High School	H. C. McKee
Franklin	High School	J. W. Price
Fulton	High School	J. C. Cheek
Georgetown	High School	J. C. Waller
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	College (High School)	H. E. Brown
Henderson	High School	Arkley Wright
Hickman	High School	J. M. Calvin
Hodgenville	High School	R. H. Shipp
Hopkinsville	High School	G. C. Koffman
La Center	County 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. Sterrett
Lexington	High School	M. A. Cassidy
Louisa	High School	E. M. Kennison
Louisville	Girls' High School	H. B. Moore
Louisville	Boys' High School	C. E. Reed
Ludlow	High School	W. D. Reynolds
Madisonville	High School	R. H. Gatton
Marion	High School	V. L. Christian
Mayfield	High School	M. M. Faughender
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

LOCATION.	NAME OF SCHOOL.	SUPT. OR PRIN.
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	J. H. Bentley
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	H. W. Dutter
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	W. C. Wilson
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	Elmer Tarter
Athens	County High School	Miss Virginia Barker
Bardstown	High School	J. S. Irvine
Barlow	High School	J. B. Ward
Beaver Dam	West Ky. Seminary	Claude Shultz
Bedford	Trimble County High	P. B. Akin
Benton	High School	O. L. Mulliken
Barbourville	High School	H. M. Oldfield
Bethlehem	County High School	B. F. Hill
Bloomfield	Graded High School	George W. Peck
Bradfordsville	Graded High School	J. D. Falls
Brandenburg	County High School	Mrs. Ella D. Gregory
Brodhead	High School	J. L. Pilkenton
Brookville	High School	C. E. Smith

LOCATION.	NAME OF SCHOOL.	SUPT. OR PRIN.
Buffalo	High School	L. L. Hudson
Burlington	County High School	J. A. Caywood
Burgin	High School	Miss Lucile D. Sharp
Burkesville	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	T. B. Vincent
Campbellsville	County High School	J. P. Boling
Clay	High School	H. C. Wilson
Clinton	County High School	H. W. Puckett
Clinton (Fulghun R. R.)	County High School	A. M. Wilson
Cloverport	High School	G. R. McCoy
Columbia	High School	J. R. Abner
Danville	High School	J. A. Carnagey
Dixon	High School	Oliver Hoover
Dry Ridge	County High School	J. O. Cannon
Edmonton	County High School	A. B. Thompson
Erlanger	High School	P. L. Hamlett
Fordsville	High School	O. L. Shultz
Ghent	High School	E. Y. Allen
Glendale	High School	J. A. Howard
Greendale	County High School	Miss Maude Miller
Grayson	High School	J. W. Lusby
Guthrie	High School	O. R. Willett
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
Hustonville	High School	S. S. Robinson
Independence	Graded High School	C. V. Lucy
Junction City	High School	E. L. Grubbs
Leitchfield	High School	P. B. Boyd
Lewisburg	County High School	P. G. Smith
Lexington-Picadome	County High School	Miss M. McCubbing
Little Rock	Graded High School	Byron M. Roberts

LOCATION.	NAME OF SCHOOL.	SUPT. OR PRIN.
Livermore	High School	W. L. Matthews
London	Graded High School	M. H. McNutt
Lowes	County High School	Herbert Rebarker
Mayslick	County High School	E. L. Dix
McHenry	Central Park	F. G. Burd
Middleburg	High School	R. G. Huey
Minerva	County High School	J. A. Caldwell
Morgantown	High School	R. M. Shipp
Mt. Olivet	County High School	E. E. Allison
Mt. Sterling	County High School	M. J. Goodwin
Mt. Vernon	High School	D. H. Lyon
New Castle	High School	L. S. Rhoades
Olmstead	County High School	W. M. Caudill
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. A. Pond
Pembroke	High School	J. R. Claypool, Jr.
Perryville	County High School	Clarence Adams
Pikeville	County & City High	T. J. Kendrick
Providence	High School	A. L. Morgan
Sedalia	High School	J. S. Brown
Sebree	High School	Oscar Shemwell
Sharpsburg	Graded High School	C. P. Caywood
Smith's Grove	County High School	W. P. White
Stamping Ground	Graded High School	J. W. Lancaster
St. Helens	High School	Mrs. Sylvia W. Russell
Scottsville	Graded High School	J. A. Mitchell
Tompkinsville	High School	W. R. Meers
Uniontown	County High School	J. S. Singleton
Utica	County High School	Warren Payton
Vanceburg	County High School	Leland Cook
Vanceburg	Graded High School	T. C. Frye
Versailles	High School	R. G. Lowrey
Vine Grove	High School	S. G. Boyd
Walton	County High School	J. C. Gordon
Warsaw	High School	A. L. Ashcraft
Water Valley	County High School	L. E. Hurt

LOCATION.	NAME OF SCHOOL.	SUPT. OR PRIN.
West Liberty	High School	C. W. Croft
Whitesville	County High School	M. F. Hawkins
Williamstown	High School	Henry Newton
Wickliffe	High School	G. M. Moore

ACCREDITED PRIVATE SCHOOLS.

Class A.

Barbourville	Union College	E. T. Franklin
Berea	Academy	F. E. Matheny
Berea	Normal School	C. N. McAllister
Bowling Green	Ogden College	W. M. Pearce
Campbellsville	Russell Creek Academy	W. G. Welborn
Columbia	Lindsey-Wilson	R. R. Moss and P. G. Chandler
Corbin	St. Camillus Academy	Sister M. Hilda
Danville	Ky. College-Prep. Dept.	Miss Ruth Andrus
Elkton	Vanderbilt Training	Matheney-Batts
Frenchburg	High School	A. G. Weidler
Georgetown	Cardome Academy	Sister Mary Agatha
Jackson	Collegiate Institute	R. M. Lacy
Lexington	Hamilton College	E. W. McDiarmid
Lexington	Sayre College	J .M. Spencer
Lexington	University Training School	A. C. Kuykendahl
London	Sue Bennett Memorial	J. C. Lewis
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 Annie Anderson
Millersburg	Female College	Rev. C. C. Fisher
Millersburg	Military Institute	Col. C. M. Best
Midway	Ky. 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 of Prov.	Sister Ida Catherine
Paintsville	Sandy Valley Seminary	W. B. Ward
Pikesville	Pikeville Academy	Rev. J. F. Record

LOCATION.	NAME OF SCHOOL.	SUPT. OR PRIN.
Russellville	Bethel College-Prep.	H. G. Brownell
Shelbyville	Science Hill	Mrs. W. T. Poynter
St. Catherine	St. Catherine's Academy	Sister Francesca
St. Mary's	St. Mary's College	Rev. M. Jaglowicz
St. Vincent	Academy	Sister Estelle
Stanton	Stanton College	J. C. Hanley
Versailles	Margaret College	Rev. J. M. Maxon
Williamsburg	Cumberland College	E. E. Wood
Wilmore	Asbury College Academy	S. A. Arnold

Class B.

Barbourville	Baptist Institute	J. A. Lowry
Campbellsburg	High School	J. W. Pearcy
Clinton	Marvin Preparatory School	A. M. Norton
Franklin	Female College	U. Smylie
Hazel Green	Hazel Green Academy	J. T. McGarvey
Hindman	Settlement School	Miss Emma Parker
Louisville	Holy Rosary Academy	Sister Mary Rose
Nicholasville	Boys' School	T. B. Threlkeld
North Middletown	Classical & Business College	J. C. Christopherson
Richmond	Madison Institute	J. B. Cassidy
Salyersville	Magoffin Institute	J. G. Austin

RECAPITULATION.

Public Schools:		
Class A	77	
Class B	94	
		171
Private Schools:		
Class A	39	
Class B	11	
		50
Total		221

Growth of Accredited Schools.

As shown by reports of the High School Inspector made in January of the 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

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.

ADMISSION 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 Dean of the College in which he intends to pursue study, and should be accompanied by official certificates attesting the candidate's completion of an undergraduate course.

For further information, see statement of the Graduate School.

RESIDENCE AND GRADUATION.

University Session.

The session of the University begins on the 10th of September, 1917, and ends on the 6th of June, 1918. The first semester ends on the 1st of February, 1918; the second semester begins on the 4th of February and ends on the 6th of June, 1918.

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 1917-18 they will register for the first semester on September 10 and 11. 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 of $17.50. Students will be given free admission to all athletic contests and exercises given under the auspices of the University Athletic Association. Students not residing in the state may pay an additional fee of $5.00. Students entering the second semester will pay one-half the incidental fee.

Late registration fee. A registration fee of $1.00 will be charged for all students entering the University after the regular registration period.

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. Ten days after the beginning of the first semester, a fee of $2.00 will be charged for transfer from one college or school to another. After the same time, a fee of fifty cents will be required for any other alteration in the course of study, except in the case of the dropping of a subject upon the advice of the Dean. This charge will also be made five days after the opening of the second semester.

Classification fee. Each student must complete and file with the Registrar, three weeks before the end of each semester, his classification card for the following semester. A fee of $1.00 will be charged for failure to comply with this regulation.

Entrance examination fee. A fee of $5.00 will be charged for admission to entrance examinations after the regular examination period.

Entrance credit fee. All students who have not upon the record of the college credit in full for all entrance work, will be charged a fee of $5.00 a semester.

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

Diploma fee. A diploma fee of $5.00 is charged.

Credits.

A credit represents one hour of recitation or two hours of laboratory work a week for one semester.

Students will be graded in their work by letters as follows:

A. Excellent.
B. Good.
C. Pass.
D. Conditioned.
E. Failure.

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* may be removed by passing an examination, either regular or special. A condition not thus removed before the beginning of the next collegiate year becomes a failure. If a student does not pass the condition examination, the condition becomes a failure.

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

Examinations for Removal of Conditions.

Regular Examinations for the removal of conditions will be held the week preceding the opening of the first semester, and six weeks after the beginning of the second semester.

Special Examinations may be taken at other times agreed upon by the Registrar and the head of the department concerned. A fee of $1.00 is charged.

Dropping of Delinquent Students.

Any student, who, at any time, is found delinquent in one-third of his work (estimating the same on the number of credit hours he is carrying), shall be placed upon probation for so much time as may be necessary for him to remove his delinquencies.

Any student, who, at the end of either semester, shall be found delinquent in one-half of his work (estimated upon the same basis as the foregoing), shall be automatically dropped from the rolls of the University. Such "dropped" students may not be reinstated except upon permission of the special faculty of the college in which he is a matriculate. In making such application the student shall appear in person before such faculty.

Any student placed upon probation shall be ineligible during that period to represent the institution in any form of public contest or exercise, such as membership of any athletic team, glee club, or dramatic association would involve, nor may he serve during that time as a member of the editorial or managing staff of any college publication.

A student placed on probation, who shall fail to give such evidence of improved scholarship as to warrant the belief that he will, by

the close of the semester, not have accumulated more conditions or failures than he already has, shall be dropped from the rolls of the University, subject to reinstatement as in the former instance.

Rule Relating to Deficiences 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.

Irregular Class Attendance.

When a student becomes irregular in any class or classes, the Registrar may suspend him from all classes until he has made satisfactory explanation to his Dean. A student who is absent from a class for one week without just cause will be suspended.

Rules Governing Athletic Teams.

No student shall be eligible to membership on a varsity team unless, (1) he is carrying satisfactorily ten hours' work or two-thirds of all work scheduled, if carrying more than 15 hours work; (2) he has been in regular attendance for fifteen days before the first game; (3) he has a satisfactory attendance record in his classes. The manager of each varsity team must furnish to the deans and to the chairman of the athletic committee the names of his team as soon as they are selected by the coach, and all teams engaging in any athletic contest away from the campus during the college year must obtain written permission from the President and the athletic committee. No athletic team is allowed to be absent from the University more than one week (excluding Sunday).

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 allowed to reside in sorority houses. Juniors and seniors must obtain permission from the Dean of Women for such residence.

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 1.50
Board in private families per week	3.00 to 3.50
Board and lodging in private families per week	3.50 to 4.50

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 $3.75 per 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 secur-

ing 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 and 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. The occupants of the rooms are required to keep them in order. The janitors attend to the halls and the removal of the rubbish. 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, the young women's university home, is under the immediate direction and management of a Board of Control, consisting of three ladies who are appointed by the Board of Trustees. The Dean of Women has direction of all matters relating to the conduct of the young ladies. The Hall contains sixty-eight commodious and well furnished rooms, affording accommodation for one hundred and twenty-four persons, for whom excellent board and lodging was furnished last year at $3.75 a week, the occupants furnishing their own napkins, towels, and bedding, except mattresses and pillows, and paying for their own laundry. The Department of Domestic Science will co-operate in arranging the dietary.

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 and ministers of the various churches of Lexington address the students at these gatherings and 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 relationship. 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 very 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, and by others having special permission. The whole collection is placed upon shelves accessible to all readers.

The general library is open every week-day (legal holidays excepted), from 8 a. m. to 9:30 p. m. On Sundays it is open from 2 to 5 p. m. During the Christmas vacation it is open from 9 to 12 a. m. daily. The Experiment Station library is open from 8 a. m. to 5 p. m. daily, except Saturday.

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.

Arts and Science and Agriculture—In order to be considered a member of the senior class of any year, eligible to graduate in June of that year, a student must at the beginning of the college year in September have completed at least 102 credits.

Engineering—No student will be allowed to pursue any senior subject in any of the engineering colleges, or be considered a candidate for graduation in any of these colleges who shall have any conditions (due either to failure or due to not having taken the work) in any subject scheduled before the senior year.

Law—No student will be considered a senior in the College of Law eligible to graduate in June, who has more than 30 credits of the course to complete.

Commencement Honors.

1. To be eligible for commencement honors, a student must have been in attendance at this University three full years.

2. No student shall be eligible for commencement honors if he shall have incurred a condition, nor unless he shall have maintained a minimum standing of 50 per cent A's, 40 per cent B's, 10 per cent C's.

3. In choosing students for commencement honors the faculties of the respective colleges will take into consideration the character and personality of each candidate.

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 (M. E.)
Doctor of Philosophy (Ph. D.)

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

SCHOLARSHIPS AND PRIZES.

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 colleges 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.

Barker Prize for the Union Society.

President Barker offers annually a cash prize of $25 to the Union Society upon conditions to be imposed by the society.

Barker Prize for the Patterson Society.

President Barker offers annually a cash prize of $25 to the Patterson Society upon conditions to be imposed by the society.

Barker Prize for the Philosophian Society.

President Barker offers annually a cash prize of $25 to the Philosophian Society upon conditions to be imposed by the society.

Barker Prize for the Horace Mann Society.

President Barker offers annually a cash prize of $25 to the Horace Mann Society upon conditions to be imposed by the society.

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 sucessful 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 indi-

cated 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.

Calalghan & 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.

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 argicultural 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 judging 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 in the list of 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 83.

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 meetings 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 1917 and 1918, Miss Lelah Gault, 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 Engineeering 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 the College of 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 throughout the four years of the undergraduate course. Meetings are held at times to suit the schedules. During the first three years topics of en-

gineering and literary interest are discussed at the meetings. Lectures by 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 throughout his freshman, sophomore, and junior years that will rank him among the first one-fourth of his class who are matriculated in the Colleges 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 through 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.

Athletics.

Under this head are included football, baseball, basketball, tennis and track athletics. Participation in these forms of athletics by students is voluntary, although, 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 athletics 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 through 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 also 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, although 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 advanced 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 membershp 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 throughout 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 Experiment Station Bulletin Publications report the research work in the College of Agriculture.

The University 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 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 material and publish articles of interest and value to high school teachers.

Part III.
COLLEGES AND SCHOOLS.

ORGANIZATION.

College of Arts and Science.

Department of Anatomy and Physiology.
Department of Chemistry.
Department of Education.
Department of English.
Department of Geology.
Department of Greek.
Department of History and Economics.
Department of Journalism.
Department of Latin.
Department of Mathematics and Astronomy.
Department of Modern Languages.
Department of Philosophy.
Department of Physics.

College of Agriculture.

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 Extension.
Department of Feed Control.
Department of Fertilizer Control.
Department of Food and Drug Control.
Department of Horticulture.
Department of Research.

School of Agriculture.

Department of Agronomy.
Department of Animal Husbandry.
Department of Bacteriology.

Department of Botany.
Department of Entomology and Zoology.
Department of Horticulture.
Department of Veterinary Science.
School of Extension.

College of Civil Engineering.

School of Civil Engineering.
School of Rural and Highway Engineering.

College of Mechanical and Electrical Engineering.

Department of Drawing.
Department of Electrical Engineering.
Department of Heat Engineering.
Department of Mechanics of Engineering.
Department of Practical Mechanics.

College of Mines and Metallurgy.

School of Mining Engineering.
School of Metallurgical Engineering.
School of Extension.

College of Law.

Summer School.

Summer School.

Additional General Departments.

Department of Home Economics.
Department of Physical Education.
Department of Military Science.

COLLEGE OF ARTS AND SCIENCE.

A. M. MILLER, DEAN.

GENERAL STATEMENT.

Organization.

The College of Arts and Science embraces 14 Departments: Anatomy and Physiology, English, Geology, Greek, History and Political Science, Latin, Mathematics and Astronomy, Modern Languages, Philosophy, Physics, Chemistry (offering in addition to the general course in Chemistry a course in Industrial Chemistry), Education (offering professional courses to those preparing to teach), and Journalism (affording preparation for a journalistic career.)

Entrance Requirements.

To enter any of the courses offered in the College of Arts and Science, the applicant must be able to include in his fifteen units of entrance credits nine and one-half units prescribed as follows:

English three units, algebra one and one-half units, plane geometry one unit, foreign language two units, history one unit, science one unit.

The College offers undergraduate courses leading to the degrees of A. B. and B. S.

To enter a course leading to the A. B. degree, the applicant must offer in addition to the nine and one-half units prescribed above two more units in foreign language, so chosen as to include in the four units of foreign language at least three in Latin.

To enter a course leading to the B. S. degree, major study mathematics, physics, chemistry or geology, the applicant must offer in addition to the nine and one-half units prescribed above, solid geometry one-half unit, making a total for such students of ten prescribed units.

REQUIREMENTS FOR GRADUATION.

Definition of a Credit.

The term "credit," as used in this college, is defined for students entering as candidates for graduation in 1919, as the satisfactory completion of a study, involving lectures or recitations for one hour a week for one semester, or laboratory work for two hours a week for the same period.

Credits Required.

To receive an undergraduate degree prior to 1919, in addition to fulfilling the requirements for entrance to a course leading to the degree, the matriculate in the College of Arts and Science must be able to offer 128 credits, exclusive of those required in military science, physical education and home economics. Beginning with the class of 1919 students must offer for graduation 120 credits, exclusive of those required in military science, physical education and home economics.

Men are required to offer six credits in military science and four in physical education; and women four credits in home economics and four in physical education. These are additional to the 120 credits mentioned above.

Military science and physical education are classed as laboratory work.

Persons excused from military science or physical education for disability or any other cause, unless when they entered they brought credits in the subjects from some other institution, must offer an equivalent number of credits in some other subject or subjects.

Credits Permitted in Each Year.

Beginning with the freshman class of 1915-16 a student must take, in addition to the military science and physical education, a sufficient amount of work to secure at least 14 credits each semester; and except by special permission of the faculty of the College of Arts and Science, he will not be allowed to carry in any semester more than 16 hours, exclusive of military science and physical education.

Permission to carry more than 16 hours must be obtained from the committee on extra studies, if the student is to receive extra credit for such work. After such permission is granted all work must be of A or B grade in order to entitle the student to count any excess as credit.

Rules Regarding Classification.

In order to be considered a member of the senior class of any year prior to 1918-19 and eligible to graduate in June of that year, a student must at the beginning of the college year in September have completed at least 102 credits. Beginning with the class of 1919, in order to be considered a member of the senior class of any year, and

eligible to graduate in June of that year, a student must at the beginning of the college year in September have completed at least 90 credits (exclusive of military science and physical education.)

The classification of every student, though it may be arranged by the professor under whom he has his major subject, must have the approval of the Dean; *and no change whatsoever may be made in this classification without the express permission of the Dean.*

Rules for Removal of Conditions.

The regular times for examinations to remove conditions are the week preceding registration in September, and the sixth week after the beginning of the second semester. The Registrar will, after consultation with the heads of departments, determine the hours for these examinations and announce them on the bulletin boards. The student must first apply in writing to the Registrar for permission to take the examination. He will then take this permit to the head of the department, who will arrange for the examination and report the result to the Registrar upon the card issued to the student. In exceptional cases, examinations may be given at times other than those mentioned above, at the discretion of the Registrar and the head of the department concerned. For an examination held at a time other than the regular times, a fee of $1.00 will be charged.

A condition not removed by an examination before the beginning of the next collegiate year following that in which it was obtained becomes a failure, and to obtain credit it must be taken over again satisfactorily in class.

Majors of A. B. Students.

All candidates for the A. B. degree must by the beginning of the sophomore year select a major from the following subjects: Anatomy and Physiology, Education, English, History and Political Economy, Journalism, Latin and Greek, Mathematics and Astronomy, Modern Languages, Philosophy.

Subjects Required for the A. B. Degree.

The following subjects are required of all candidates for the A. B. degree. All other subjects are elective, under the advice and direction of the student's major professor who assists him in outlining his subjects.

Freshman Year.

	Credits 1st Semester.	Credits 2nd Seamster
English 1	3	3
*History 1, or 2, or 3	2	2
Math. 2 and 3, or Chem. 1, or physics 1 and 2	5	5 or 6
Latin 5	4	4
**Greek, or a Modern Language	3	3
Physical Education	1	1
Mil. Science (men), or Home Economics (women)	1.5 or 2	1.5 or 2
Total	19.5 to 20	19.5 to 21

Sophomore Year.

	Credits 1st Semester.	Credits 2nd Semester.
English 3	3	3
†A biological science	3 or 4	
Physical Education	1	1
Military Science (men)	1.5	1.5
Total	Men 8.5 or 9.5 Women 7 or 8	Men. 5.5 Women 4

Junior and Senior Years.

	Credits 1st Semester.	Credits 2nd Semester.
Logic, or History of Philosophy	3	3
‡Geology 1, or Astronomy 1	4	
Total	7	3

*History may be taken in either freshman or sophomore year at the option of the student.

†This may be taken either semester, or if Zoology, 1.5 credits each semester.

‡Geology 1 is repeated the second semester.

**Prerequisite, two years of the modern language elected; otherwise the student must pursue the study of the same language for a longer period.

Majors for B. S. Students.

All candidates for this degree must by the beginning of their sophomore year select a major from one of the following subjects: Anatomy and Physiology, Chemistry, Education, Geology, Mathematics and Astronomy, Physics.

Subjects Required for the B. S. Degree.

Freshman Year.	Credits 1st Semester.	Credits 2nd Semester.
English 1	3	3
Mathematics 2 and 3	5	5
Chemistry 1	5	6
**A Modern Language	3	3
Physical Education	1	1
Military Science (men), or Home Economics (women)	1.5 or 2	1.5 or 2
Total	18.5 or 19	19.5 or 20

Sophomore Year.	Credits 1st Semester.	Credits 2nd Semester.
Physics 1a, 2a, 5a, and 6a	5	5
German 4	3	3
Physiology 1	3	3
Zoology 12, or Botany 1	4	4
Physical Education	1	1
Military Science (men)	1.5	1.5
Total	Men 17.5; women 16	Men 17.5; women 16

Junior and Senior Years.	Credits 1st Semester.	Credits 2nd Semester.
Logic, or History of Philosophy	3	3
*Geology 1, or Astronomy 1	4	
History 1, or 2, or 3	2	2
Total	9	5

*Geology 1 is repeated the second semester.
**Prerequisite, two years of the language elected; otherwise the student must pursue the study of the same language for the full college course.

Course in Industrial Chemistry.

This is a prescribed course thruout, as set forth in the announcement made by the Department of Chemistry, and leads to the degree B. S.

The Arts—Law Course.

A student in the Arts course may, when entitled to senior classification, be allowed to take a part of his senior work in the College of Law and count this work towards his A. B. degree. Such students will thus be enabled to complete the law course in two more years instead of the usual three years. For information concerning the law degree, see statement of the College of Law.

ANATOMY AND PHYSIOLOGY.

Professor Pryor.

The Department of Anatomy and Physiology occupies one-half of the second floor of the Natural Science Building. 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 Stereoptican 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 laboratory is provided with a Bausch and Lomb incubator, microscopes, 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 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 to 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.*

Books of Reference: Cunningham's *Anatomy;* Morris's *Anatomy;* Gerrish's *Anatomy;* Howell's *Physiology;* Schaefer's *Physiology; American Text-book;* Loeb's *Physiology of the Brain.*

ASTRONOMY.

Courses in astronomy are described under the Department of Mathematics and Astronomy.

CHEMISTRY.

Professor Tuttle, Professor Maxson, Assistant Professor Daniels, Dr. Bedford, Mr. Mitchell, Mr. Staebner, Mr. Waitt.

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 be-

comes 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 substances 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 enable 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 seven 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.

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.

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.

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 DANIELS.

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 DANIELS.

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, Dr. BEDFORD.

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, Dr. BEDFORD.

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 agricultural products. Prerequisite, 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 DANIELS.

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 DANIELS.

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.* Dr. BEDFORD.

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 DANIELS.

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, Dr. BEDFORD.

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.

20. Electrochemistry. Lectures and recitations on the theory and practical application of electricity to chemical industrial processes. Prerequisite, Chemistry 15 and 21. *Three hours a week. First semester.* Dr. BEDFORD.

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.* Dr. BEDFORD.

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.* Dr. BEDFORD.

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.* Assistant Professor DANIELS.

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 per 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	126	English Composition	3		3.
Mathematics 3	148	College Algebra	5		5.
German 1	151	Bierwirth's Elements of German	5		3.
Drawing 1	223	Mechanical Drawing		4	2.
Chemistry 1	116	General Inorganic Chemistry	3	4	5.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
					20.5

Second Semester.

English 1	126	English Composition	3		3.
Mathematics 2	148	Trigonometry	5		5.
German 1	151	Bierwirth's Elements of German	5		3.
Chemistry 2	116	General Inorganic Chemistry	3	6	6.
Chemistry 3	116	Inorganic Preparations		4	2.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
					21.5

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Drawing 1	223	Mechanical Drawing		4	2.
Mathematics 4a	148	Analytical Geometry	5		5.
German 2	151	Selections from German Prose and Poetry	5		3.
Physics 1a	155	General Physics	3		3.
Chemistry 4	116	Qualitative Analysis	1	6	4.
Physics 5a	156	Physical Measurements		4	2.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
					21.5

*A credit represents one hour of recitation or two hours of laboratory a week for one semester.

Second Semester.

German 2	151	Selections from German Prose and Poetry	5		3.
Chemistry 8	116	Quantitative Analysis	1	8	5.
Chemistry 6	116	Organic Chemistry (Elementary)	2		2.
Physics 2a	156	General Physics	3		3.
Mathematics 4b	148	Analytical Geometry	5		5.
Physics 6a	157	Physical Measurements		4	2.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
					22.5

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Chemistry 13	117	Organic Chemistry, Aliphatic Series	3		3.
Chemistry 9	117	Quantitative Analysis		10	5.
Chemistry 15	117	Theoretical Chemistry	2		2.
Political Science 1	137	American Government	3		3.
Political Economy 1	137	Economics	2		2.
German 3	151	Freshman German	3		3.
Chemistry 21	118	Physical Chemistry		2	1.
					19.

Second Semester.

Chemistry 13a	117	Organic Chemistry, Cyclic Series	2		2.
Chemistry 17	118	Gas Analysis		2	1.
Chemistry 15	117	Theoretical Chemistry	2		2.
Political Science 1	137	American Government	3		3.
Political Economy 1	137	Economics	2		2.
German 3	151	Freshman German	3		3.
Chemistry 16	117	Organic Preparations & Analysis		8	4.
Geology 3	133	Determination of Common Minerals		4	2.
Chemistry 21	118	Physical Chemistry, Continued		2	1.
					20.

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Chemistry 5	116	Advanced Inorganic Chemistry	1		1.
Chemistry 19	118	Industrial Chemistry	2		2.
Chemistry 20	118	Electrochemistry	3		3.
Chemistry 22	118	Journal Club	1		1.
Philosophy 1	153	Logic, Deductive and Inductive	3		3.
Geology 1 or 7	133	Elem. Geol. or Engin. Geology	4 or 3		4. or 3.
Chemistry 18	118	Water Analysis		4	2.
Chemistry 14	117	Advanced Quantitative Analysis		10	5.
					21. or 20

Second Semester.

Chemistry 5	116	Advanced Inorganic Chemistry	1		1.
Chemistry 19	118	Industrial Chemistry	2		2.
Metallurgy 16		Metallurgy	2		2.
Philosophy 1	153	Logic, Introduction to Philosophy	3		3.
Chemistry 22	118	Journal Club	1		1.
Chemistry		Elective		12	6.
Physics		Physics, Advanced		4	2.
					19.

EDUCATION.

Professor Noe, Professor Rhoads, Associate Professor Baker, ***Mr. Starns.***

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 phychology, history of education 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 our Department is well equipped for the study of Educational Psychology.

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 development 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 has 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 com-

plete 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. Methods and Aims of Study. An introductory course in the learning process. Text book and lectures. *Three hours a week. First semester.* Mr. STARNS.

2. Elementary Educational Psychology. Nature and development of the mind during childhood and youth. Text book and lectures. *Three hours a week. Second semester.* Mr. STARNS.

3. Psychology. Lectures, text and reports. Required of all major education students. *Three hours a week. Thruout the year.* Professor NOE.

4. Principles of Education. A study of the background of educational thought and practice. Text books, lectures and reports. *Three hours a week. First semester.* Professor NOE.

5. Technique in Teaching. A discussion of method with observation and practice teaching. *Three hours a week. Second semester.* Professor NOE.

7. History of Education. Ancient and Medieval periods. Text book, lectures, assigned readings and discussions. *Two hours a week. First semester.* Associate Professor BAKER.

8. History of Education. The Modern Period. This course is a survey of the progress of educational theory and practice from the period of the Renaissance, Lectures, text book, assigned readings and reports. *Two hours a week. Second semester.* Associate Professor BAKER.

9. Principles of Secondary Education. In this course the Kentucky High School is made the basis of a study of principles of secondary education and methods of teaching in the high school. *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 appreciation of the beautiful. Readings, reports and lectures. *Three hours a week. Second semester.* Professor NOE.

12. **American Ethnic Elements.** A study of the principal racial elements in the United States, with a view to determining the characteristics and the contributions of each to American development. Special emphasis will be put on the German, French, Irish, Italian and Jewish elements. No text. Lectures, assigned readings and reports. *Two hours a week. Thruout the year.* Associate Professor BAKER.

13. **State and County Administration.** The tendencies toward centralization in state administration will be noted. A study of the county unit will be made with particular reference to its operation in Kentucky. State and county financial reporting will be studied by comparing Kentucky with Massachusetts, New Jersey and Illinois. Designed for county superintendents and candidates for that office. *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, readings and reports. *Three hours a week. First semester.* Professor NOE.

15. **Administration and Supervision.** General principles. The Junior High School movement will receive particular emphasis. Text: Cubberley's *Public School Administration. Three 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. Educational Classics.** Educational writings of Plato, Aristotle and others. *Two hours a week. Thruout the year.* Associate Professor BAKER.

20. **Laboratory in Psychology.** *Two hours a week. Thruout the year.*

21. **Laboratory.** Experiments in Educational Psychology. Tests. *Two hours a week. Thruout the year.*

ENGLISH LANGUAGE AND LITERATURE.

Professor Dantzler, Professor Farquhar, Professor Weaver, Associate Professor Hamilton, Miss Jewell, Mr. Bradley, Mr. Bowers, Mr. Marsh, Mr. Price.

The object of this department is three-fold: (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.

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. Fifteen sections. *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. BRADLEY, 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 individual-

ity 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.* Professor WEAVER.

32. Engineering English. This is an advanced course in technical composition designed for seniors in the College of Mechanical and Electrical 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 intend 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.

25. History of English Prosody. In this course a study is made of the forms and principles of English verse; frequent exercises. Elective for juniors and seniors. *Three hours a week. Second semester.* Professor WEAVER.

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 and is prerequisite to all the other courses in English literature. Prerequisite, English 1. *Three hours a week. Thruout the year.* Professor DANTZLER, Professor WEAVER, Associate Professor HAMILTON, Miss JEWELL, Mr. BRADLEY.

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.* Miss JEWELL.

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 1917-18 the life and works of Milton and Browning will be studied. Required of 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, Browning 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-Shaksperean and Shaksperean 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. 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 essayists, the class will study in detail Carlyle, Macaulay, Arnold and Ruskin. The social, literary and religious movements are kept in mind. Weekly themes upon assigned topics. 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 1916-17. Open to all but freshmen. *Two hours a week. Second semester.* Professor DANTZLER.

26. Library Training. Fundamental principles as an aid to a broader knowledge of English. Lectures on theory thruout the course. Two hours laboratory after Christmas. First semester—Training by librarian in classification, use of reference books, card catalog, preparation of bibliographies, etc. Second semester—Book selection and ordering, book binding, and mending, literature for children, school libraries, etc. 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.

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. *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. Not offered 1916-17. *Three hours a week. First 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. 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 principle myths in our literaure. 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, declamations and dramatic readings. The student is taught the principles of expression, interpretation and elocution in general. *Two hours a week. Thruout the year.* Professor WEAVER.

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. *Two hours a week. Thruout the year.* Professor WEAVER.

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. Prerequisite, English 7 or 8. *Two hours a week. Thruout the year.* Professor WEAVER.

FOR GRADUATES.

For courses scheduled primarily for graduate students, see statement of the Graduate School.

PUBLIC LECTURES.

During the winter of 1917-18, 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 in Lexington, No university credit will be offered.

FRENCH.

Courses in French are described under the Department of Modern Languages.

GEOLOGY.

Professor Miller.

The department occupies one-half of the second floor of the Natural Science Building. 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 blue grass 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.

The general order in the geological studies is as follows: 1. *Elementary Geology.* 1a. *Elementary Geology.* 2. *Paleontology.* 3. *Mineralogy.* 4. *Laboratory Physical Geography.* 5. *Advanced Geology.* 7. *Engineering Geology.* 8. *Oil Geology.*

1. Elementary Geology. Major geology students take this subject during the sophomore year. Others may take it as late as the senior year. Required of all students who are candidates for the degree of B. S., except those for whom 7 is prescribed. Candidates for the degree of A. B. take this course or astronomy. The attempt is made here to acquaint the student with the general facts and principles which are involved in dynamical, structural, physiographical and historical geology. Two excusions, occupying one day each, are required. *Four hours a week. First semester. Repeated second semester.* Professor MILLER.

1a. Elementary Geology. A 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, stratigraphy in its relation to soils and fertilizers, the geological formations of Kentucky. Instructions given mainly by lectures and field excursions. *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 or 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 collec-

tions 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 in geological pursuits. The course involves both laboratory and text-book work. *Four hours laboratory a week. Second semester.* Professor MILLER.

4. **Laboratory Physical Geography.** The student is given a series of exercises which involve the interpretation of physiographic structures as revealed in maps, photographs and models; the making of clay and sand models; the construction of weather maps; the practical use of the barometer, compass, clinometer and other instruments required by modern laboratory and field methods in physical geography. Two excursions required. *Three hours a week. First semester.* 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 or the deeper problems of geology. Two excursions in the fall and two in the spring required. *Two hours a week. Thruout the year.* 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. *Two hours a week. First semester.* Professor MILLER.

8. **Oil Geology.** A course designed to prepare students to qualify as prospectors for oil and gas. Text-book, lectures, and field work. *Two hours a week. Second semester.* Professor MILLER.

GERMAN.

Courses in German are described under the Department of Modern Languages.

GREEK.

Professor Terrell, Miss Pollitt.

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

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

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. Exercises in prose composition once a week. *Four hours a week. First semester.* Professor TERRELL.

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. Second semester.* Professor TERRELL.

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. First semester.* Professor TERRELL.

7. Demosthenes. The De Corona. Lectures on the Attic orators, and a review of Greek history from the accession of Philip to the battle of Chaeronea. Demosthenes' career as statesman and orator will receive careful study. *Three hours a week. Second semester.* Professor TERRELL.

8. Thucydides. Book 4. Lectures on the causes of the Peloponnesian War, Thucydides' style, his pre-eminence as a historian and the reading of selections in translation. *Three hours a week. First semester.* Professor TERRELL.

9. Tragedy. Sophocles, The Antigone; Aeschylus, the Promethens. Lectures on the origin and development of tragedy, Aristotle's Poetics, Scenic-Antiquities. *Three hours a week. Second semester.* Professor TERRELL.

10. Comedy. Aristophanes, The Clouds and The Birds. Lectures on Comedy, its place in Greek Life and Politics. *Three hours a week. First semester.* Professor TERRELL.

11. Tragedy. Euripides, The Medea and The Bacchae Euripides as a forerunner of modern thought will receive special attention. *Three hours a week. Second semester.* Professor TERRELL.

12. Plato. The Republic. This course will include a careful study of Plato as a man of letters and philosopher. *Three hours a week. First semester.* Professor TERRELL.

13. Thucydides. Books 6 and 7. Lectures on the later phases of the Peloponnesian War and on the causes of the downfall of the Athenian Empire. *Three hours a week. Second semester.* Professor TERRELL.

HISTORY AND POLITICAL ECONOMY.

Professor Tuthill, Assistant Professor Butt.

To the original subjects of this department have been added the newer subjects of government and sociology, so that students may secure an introduction to each of the social sciences. These historical and social studies are of great value to persons who intend to pursue professional careers in law, commerce, the various branches of the government service, statistics, and some phases of social reform.

Those students who select history as a major will register the first year in History 1. In both junior and senior years this department will prescribe one-third of their work, and will advise another third, thus leaving a portion to the free choice of the students. Moreover, a creditable thesis on some phase of Kentucky history will be required in the senior year; when accepted, these productions are bound and preserved in permanent form. A minimum of thirty hours will be expected of those who receive the A. B. in History.

The department is provided with an office and recitation rooms in the Education Building. The University library contains a good file of magazines in certain lines, and is constantly adding by purchase and gift to the reference works now available. The Lexington city library of 40,000 volumes is also open to our students free of charge.

Prizes are annually offered in history, economics, government, and related subjects.

The department is glad to serve the people of the state by answering inquiries relating to finance, statistics, and social problems. Recent bulletins on the teaching of history, and on the condition of the county infirmaries will be mailed free to applicants.

Friends and alumni are urged to collect and send for deposit in the library all account books of plantations, pioneer diaries and let-

ters, manuscripts, and written material of all sorts likely to be useful in preserving the memory of those who have built up the substantial interests of this commonwealth.

HISTORY.

1. Introduction to History and the Social Sciences. Practice in note-taking, map-drawing and collateral reading; careful habits of study, using Ancient History as the theme, to about 400 B. C., the first semester. In the second semester a treatment of Greco-Roman civilization will precede a general introduction to the methods and characteristics of each of the four fields of history, government, political economy and sociology. Required of all who major in this department. *Three hours a week, first semester; two hours a week, second semester.* Professor TUTHILL.

2. English History. An introduction to the serious study of the progress of the English people at home and abroad, passing lightly over the early centuries in order to stress the later ages. Recommended to students of English literature. Required of English major students in the sophomore year. *Two hours a week. Thruout the year.* Assistant Professor BUTT.

4. Modern Europe. A general survey of modern history, chiefly since 1750, with a separate volume on recent events. Recommended to students of European literature and languages. *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 stressing the fundamental progress of the nation. Where possible, topics in Kentucky's history will be assigned. *Three hours a week. Thruout the year.* Professor TUTHILL.

8. Teaching of History. Open to graduates and undergraduates. *One hour a week. Second semester.* Professor TUTHILL.

20. The Twentieth Century. A course designed to explain contemporary world movements, culminating in the Great War. Open to seniors and special students who are familiar with the broad lines of modern history. *One hour a week. Second semester.* Professor TUTHILL.

POLITICAL ECONOMY.

1. Introduction to Economics. Not open to freshmen. Sophomores should consult the department before registering for this course. A general view of production and exchange, with a description of the simpler processes of commerce. If necessary, the work of the first semester will be repeated for those entering at mid-year. In two or more sections. *Two hours a week. Thruout the year.* Assistant Professor BUTT.

2. Public Finance. A study of the basic principles of taxation; state and local taxes; the simpler economic principles involved in a protective tariff, public ownership, and the single tax. Not open to freshmen. May be taken either before or after Course 1. Text, collateral reading and lectures. *Two hours a week. First semester.* Assistant Professor BUTT.

3. Rural Economics. The evolution of industrial life; historical sketch of rural conditions in England and the United States; the factors of production; capital and its influence; speculation and markets; co-operation; court decisions on farmers' combinations; problems. *Two hours a week. First semester.* Assistant Professor BUTT.

9. Survey Course. To meet the needs of students in Home Economics a general view of the field of production and consumption, with exercises in statistics, is given the first semester. *Three hours a week. First semester.* Assistant Professor BUTT.

POLITICAL SCIENCE.

1. American Government. A study of the rights, duties and responsibilities of citizens, with attention to current questions. Prescribed for students in Chemistry, Civil and Mining Engineering, and History. *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: (a) an examination of recent tendencies in city government, and (b) 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.

SOCIOLOGY.

1. Urban Sociology. The care of the poor, dependent and defective classes in the city; expenditures and management of city and state institutions; relation of public to private institutions; hospitals; relief; excursions to typical institutions. *Two hours a week. First semester.* Professor TUTHILL.

2. Rural Sociology. A study of the distribution of the population; advantages and disadvantages of farm life; tenancy; vital statistics; types of rural communities; rural institutions for relief and welfare. *Two hours a week. Second semester.* Professor TUTHILL.

9. Survey Course. To meet the needs of students in Home Economics a general view of the field of applied sociology is presented in one semester. Text, required reading, and notes. *Three hours a week. Second semester.* Professor TUTHILL.

OUTLINE OF COURSE LEADING TO THE DEGREE A. B. IN HISTORY AND POLITICAL ECONOMY

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
History 1	136	Introduction to His. and Social Sciences	3		3.
English 1	126	English Composition	3		3.
Mathematics 3 or	148	College Algebra	5		5.
Physics 1 and 2 or	155	General Elementary Physics	4	2	5.
Chemistry 1	116	General Inorganic Chemistry	3	4	5.
German 3 or	151	Composition and Reading	3		3.
French 1	152	Elementary French	3		3.
Military Sci. or		Drill		3	1.5
Home Econ. 2		Survey Course	1	2	2.
Physical Education		Gym. or Field Athletics		2	1.
					16.5 or 17

*A credit represents one hour of recitation or two hours of laboratory a week for one semester.

Second Semester.

History 1	136	Introduction to His. and Social Sciences	3		3.
English 1	126	English Composition	3		3.
Mathematics 2 or	148	Trigonometry	5		5.
Physics 2 or	156	General Elementary Physics	4	2	5.
Chemistry 2	116	General Inorganic Chemistry	3	6	6.
German 3 or	151	Composition and Reading	3		3.
French 1	152	Elementary French	3		3.
Military Sci. or		Drill		3	1.5
Home Econ. 2		Survey Course	1	2	2.
Physical Educati.		Gym. or Field Athletics		2	1.
					16.5 to 18

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
History 2	136	English History	2		2.
English 3	127	History of Eng. Literature	3		3.
Latin 5	145	Livy, Horace	3		3.
Physiology 1 or	113	General Physiology	3		3.
Botany 1 or	172	General Morphology	2	4	4.
Zoology 9	176	General Zoology	1	1	1.5
Military Science		Drill		3	1.5
Electives		Electives	3	3	3.
Physical Education		Gym. or Field Athletics		2	1.
					16 to 18.5

Second Semester.

History 2	136	English History	2		2.
English 3	127	History of Eng. Literature	3		3.
Latin 5	145	Livy, Horace	3		3.
Zoology 9 and	176	General Zoology	1	1	1.5
Electives,		Electives	5		5.
Electives } or		Electives			7.
Military Science		Drill		3	1.5
Physical Education		Gym. or Field Athletics		2	1.
					16.5 to 18.5

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Philosophy 1 or	153	Logic	3		3.
Philosophy 2	153	History of Philosophy	3		3.
History 4	136	Modern Europe	3		3.
Political Economy 1	137	Introduction to Economics	2	2	2.
Sociology 1	138	Urban Sociology	2		2.
Electives		Electives	6		6.
					16.

Second Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Philosophy 1 or	153	Logic	3		3.
Philosophy 2	153	History of Philosophy	3		3.
History 4	136	Modern Europe	3		3.
Political Economy 1	137	Introduction to Economics	2		2.
Sociology 2	138	Rural Sociology	2		2.
Electives		Electives	6		6.
					16.

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
History 5 or	136	History of the United States	3		3.
Political Sci. 1	137	American Government	3		3.
Geology 1 or	132	Elmentary Geology	4		4.
Astronomy 1	150	General Astronomy	4		4.
Political Economy 2	137	Public Finance	2		2.
History Thesis		History Thesis	2		2.
Electives		Electives	5		5.
					16.

Second Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
History 5 or	136	History of the United States	3		3.
Political Sci. 1	137	American Government	3		3.
Political Science 2	137	Municipal Government	2		2.
History Thesis		History Thesis	2		2.
Electives		Electives	9		9.
					16.

ITALIAN.

Courses in Italian are described under the Department of Modern Languages.

JOURNALISM.

Professor Grehan, Miss McLaughlin, Mr. Graham.

The Department of Journalism is located in the Administration Building. The space assigned to this department includes two lecture rooms and an office.

The lecture room is provided with desks, tables, chairs, telephone, typewriters, reportorial and editorial equipment used in modern daily newspaper offices. It is supplied with an individual library containing the latest works on the subject of journalism, leading daily and weekly newspaper periodicals, and other publications of Kentucky and other cities of the South and East. In connection with this department students have organized a State Press Association, and thru it serve about forty papers thruout Kentucky 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 with ample fundamental collegiate instruction preparatory to the handling of practical phases of the profession.

Students when admitted are classified according to their previous scholastic accomplishments. Every student in journalism is required to become a member of such literary society of the University as he may elect unless excused by the instructor in charge.

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—$5 in gold for best news story, minimum 2,000

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

1. First Year Journalism. General survey and introductory lectures. The work includes elements of newspaper writing, short news stories, "rewrites" from selected newspapers, and work on the university publications to the 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, spelling, definitions of words and punctuation. First semester: History of Journalism, two hours a week; practice writing on general assignments, one hour a week. Second semester: Spelling and punctuation continued, two hours a week; practice writing on assigned subjects, and theory and practice of advertising, one hour a week. *Three hours a week. Thruout the year.* Mr. GRAHAM.

3. Third Year Journalism. Verbal criticism, derivation and definition 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 may be 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. *Recitation three hours a week.* 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	126	English Composition	3		3.
Mathematics 3	148	College Algebra	5		5.
Latin 5	145	Livy (Book 1)	3		3.
German 1	151	Elementary German	5		3.
Journalism 1	142	First Year Journalism	2	**	2.5
Military Sci or		Drill		3	1.5
Home Economics		Survey Course	1	2	2.
Physical Education		Physical Education or Field Athletics		2	1.
					19 or 19.5

Second Semester.

English 1	126	English Composition	3		3.
Mathematics 2	148	Plane Trigonometry	5		5.
Latin 5	145	Horace (Odes and Selected Satires)	3		3.
German 1	151	Elementary German	5		3.
Journalism 1	142	First Year Journalism	2	**	2.5
Military Sci. or		Drill		3	1.5
Home Economics		Survey Course	1	2	2.
Physical Education		Gym. or Field Athletics		2	1.
					19 or 19.5

*A credit represents one hour recitation or two hours laboratory a week for one semester.

**By Appointment.

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 3	127	History of English Literature	3		3.
English 22	129	Literature of the Bible	2		2.
German 3	151	Composition and Reading	3		3.
Physiology 1	113	General Physiology	3		3.
History 1	136	Introduction to His. and Social Sciences	3		3.
Political Economy 2	137	Public Finance	2		2.
Journalism 2	142	History of Journalism	3	**	3.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
					21.5

Second Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 3	127	History of English Literature	3		3.
English 22	129	Literature of the Bible	2		2.
German 3	151	Composition and Reading	3		3.
Physiology 1	113	General Physiology	3		3.
History 1	136	Introduction to His. and Social Sciences	3		3.
Political Economy 2	137	Public Finance	2		2.
Journalism 2	142	Spelling and Punctuation	3	**	3.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
					21.5

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 24	128	Pre-Shaksperean Drama	3		3.
French 1	152	Elementary French	3		3.
Philosophy 1	153	Logic	3		3.
History 5 or	136	History of the United States	3		3.
Political Sci. 1	137	American Government	3		3.
Journalism 3	142	Verbal Criticism	3	**	3.
Electives		Electives	2		2.
					20.

**By Appointment.

Second Semester.

English 24	128	Shakspere	3		3.
French 1	152	Elementary French	3		3.
Philosophy 1	153	Logic	3		3.
History 5 or	136	History of the United States	3		3.
Political Sci. 1	137	American Government	3		3.
Journalism 3	142	Proof-reading, copy-reading, headlining	3	**	3.
Geology 1	132	Elementary Geology	4		4.
					19.

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 15b	129	The English Novel	3		3.
English 20	128	Literary Criticism	3		3.
Journalism 4	142	See Descriptive Matter	5	**	5.
French 2	152	Reading and Composition	3		3.
Electives		Electives	2		2.
					16.

Second Semester.

English 15c	129	The Modern Drama	3		3.
English 20	128	Literary Criticism	3		3.
Journalism 4	142	See Descriptive Matter	5	**	5.
French 2	152	Reading and Composition	3		3.
Electives		Electives	2		2.
					16.

**By Appointment.

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, Miss POLLITT.

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. Phautus (Captives and Trinummus); Selections from Preparatory Latin Authors. In reading the plays of Prautus 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. *Five hours per week. Thruout the year.* Professor JONES.

10. **Elementary Latin.** The first half-year will be devoted to a thorough 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 per 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.

Primarily For Graduates.

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

MATHEMATICS AND ASTRONOMY.

Professor Boyd, Professor Davis, Associate Professor Rees, Assistant Professor Downing, Mr. Reid, Mr. Allen, Mr. Grove.

MATHEMATICS.

Students planning to teach high school mathematics should consider Courses 1 to 5 inclusive, the minimum preparation for such work. Major students in mathematics are expected to take Courses 1, 2, 3, 4, 5, 6, 7 and 8 (or 9 and 10), 11 (or 12), Astronomy 1, one year of college physics, two years of German, and one year of French. The aim is to give the best possible equipment, both for teaching and for graduate 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.

For Undergraduates.

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. HARNEY.

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 through 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 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, 5a. *Five hours a week. First semester. Repeated second semester.* Professor BOYD, Associate Professor REES.

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.

For Undergraduates and Graduates.

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 1916-17; offered for 1917-18. *Three hours a week. First semester.* Associate Professor REES.

8. Vector Analysis. A thorough 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. Given in 1916-17; to be omitted in 1917-18. *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. Omitted in 1916-17; to be given in 1917-18. *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. Omitted in 1916-17. *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 1916-17, first semester; to be given in 1917-18. *Three hours a week. Thruout the year.* Professor DAVIS, Assistant Professor DOWNING.

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. Given in 1916-17; to be omitted in 1917-18. *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. *Two hours a week. Thruout the year. Given in - .* 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. Given in 1916-17. *Three hours a week. Second semester.* Professor DAVIS.

For Graduates.

For courses scheduled primarily for graduate students, see statement of the Graduate School.

ASTRONOMY.

1. General 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. *Four hours a week. First semester.* Assistant Professor DOWNING.

2. Practical Astronomy. A second course in which will be considered such problems as the computation of latitude, longitude, eclipses and occultations, and the preparation of star lists. Given in 1916-17. *Three hours a week. Second semester.* Assistant Professor DOWNING.

MODERN LANGUAGES.

Professor Zembrod, Professor Melcher, Miss Chorn, Assistant Professor Cannon, Miss Pollitt, Miss Castro.

The Department of Modern Languages offers a four years' university course in the German language and literature, based on the usual preparatory course; a three years' course in the French language and literature; and a course of two years in Spanish.

GERMAN.

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. In these classes five recitations per week are required to equal three per week in the University in estimating credits.

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. The class is divided into three sections. *Five hours a week. Thruout the year.* Professor MELCHER, Assistant Professor 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. The class is divided into three sections. *Five hours a week. Thruout the year.* Miss CHORN, Miss CASTRO.

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. The class is divided into four sections. *Three hours a week. Thruout the year.* Professor MELCHER, Assistant Professor 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 Assistant Professor 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. Thruout the year.* Professor MELCHER or Assistant Professor 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, Der Fluch der Schoenheit, 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, Assistant Professor 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. Thruout the year.* Professor MELCHER or Assistant Professor 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 or Assistant Professor 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 year.* Professor ZEMBROD.

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 ZEMBROD.

FRENCH.

1. Elementary French. First and second semesters. *Fraser and Squair's Grammar;* Elementary French Reader; Verne's *Michel Strogoff.* The class is divided into four sections. *Three hours a week. Thruout the year.* Miss CHORN.

2. Reading and Composition. Fraser and Squair's Grammar. French prose of the 19th century. *Three hours a week. Thruout the year.* Professor ZEMBROD.

3. Advanced Reading and Composition. First semester: selections from XVIIth century—Moliere, Racine and Corneille. Second semester: continuation of work of first semester. *First semester, two hours a week; second semester, three hours a week.* Professor ZEMBROD.

SPANISH.

1. Elementary Course. Hills and Ford's Grammar: Elementary reader. Spanish tales. For juniors only. *Five hours a week. First semester.* Professor ZEMBROD.

2. Intermediate Course. Spanish novel and composition. *Two hours a week. Second semester.* Professor ZEMBROD.

PHILOSOPHY.

Work apportioned to the Departments of Education and Greek during the absence on leave of Professor Tigert for the year 1916-17.

The Department of Philosophy offers courses of study in the following subjects: logic, psychology, philosophy, ethics, and esthetics.

1. Logic. This course is primarily intended as a complete exposition of scientific methods, deductive and inductive. The course in deduction will be pursued during the first semester and a course in induction during the second semester. Considerable attention is given to the practical application of the theory of logic, and praxis is emphasized thruout the course. Required for all juniors in the College of Arts and Science. Two courses of college English are prerequisite for this work. *Three hours a week. Thruout the year.* Professor TIGERT.

2. History of Philosophy. This course is intended to give the student a comprehensive survey of philosophical thinking from the Ionian School to the present. Ancient philosophy and modern philosophy are especially emphasized, little time being given to the mediaeval period and scholasticism. The first semester is devoted to the ancient and mediaeval period and the second semester to the modern period. During the entire course an effort is made to bring students in contact with the sources, and written reports are required from time to time. The general aim is to lay the foundation for more advanced courses in philosophy. A course in ancient history is prerequisite. *Three hours a week. Thruout the year.* Professor TERRELL.

3a. Ethics. This is a study of the first principles of moral science and undertakes the exposition of the principles of right and wrong, endeavoring to make a practical application of these. Virtues and duties are defined and discussed. *Three hours a week. First semester.* Professor TIGERT.

3b. Esthetics. This course undertakes a thorough survey of the

philosophy of beauty including the esthetics of sensation, the emotions, the principles of the fine arts, sculpture, painting, etc. *Three hours a week. Second semester.* Professor TIGERT.

These courses are elective for seniors who have completed course 1, and for all students of A grade who are pursuing Course 1.

Advanced Courses.

4. Metaphysics and Epistemology. This work is designed for those who desire to do extensive work in philosophy, and it is essential that students shall have completed one or more of the elementary courses before undertaking it. The student is introduced to the central problems of philosophy. In the first semester the problems of metaphysics are taken up. The ontological doctrines of materialism, idealism and dualism are studied and criticised together with the chief cosmological theories. In the second semester the main problems concerning the nature and origin of knowledge are examined with the view of forming a clear and consistent theory of knowledge. Students will be required to read the sources in connection with lectures. *Three hours a week. Thruout the year.* Professor TIGERT.

5. Psychology. This course is intended for students who have completed the elementary course in psychology (Education 3). During the first semester the work is confined largely to experimentation. The experiments are based on the work done in the elementary course. In the second semester some of the chief problems of abnormal psychology are discussed, including such as the occult sciences, hypnotism, the psychology of deception, lunacy, etc. *Recitation one hour a week, laboratory four hours a week. Thruout the year.* Professor TIGERT.

PHYSICS.

Professor Pence, Professor Webb, Associate Professor Killebrew, Mr. States, Mr. Loomis, Mr. Clark.

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 compressed 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 compressed 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 through 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 peform, and report on, 25 laboratory exercises. *Lectures and recitations four hours, laboratory two hours a week. First semester.* Associate Professor KILLEBREW, Mr. LOOMIS.

1a. **General College Physics.** For sophomores in science, civil and mining engineering. 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. LOOMIS.

1b. **General College Physics.** For sophomore mechanical engineering 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 WEBB.

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. LOOMIS.

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. LOOMIS.

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. LOOMIS.

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. LOOMIS.

5a. **Measurements in Mechanics and Heat.** For sophomores in science, civil, and mining engineering. Prerequisites, Physics 3 or 4 and credit in or the simultaneous study of Physics 1a. *Four hours laboratory a week. First semester.* Professor WEBB, Mr. STATES, Mr. CLARK.

5b. **Measurements in Mechanics and Heat.** For sophomores mechanical engineers. 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.* Professor WEBB, Mr. STATES.

6a. Measurements in Electricity, Sound and Light. For sophomores in science, civil and mining engineering. Prerequisites, Physics 3 or 4, and credit in or the simultaneous study of Physics 2a. *Four hours laboratory a week. Second semester.* Professor WEBB, Mr. STATES, Mr. CLARK.

6b. Measurements in Electricity, Sound and Light. For sophomore mechanical engineers. 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.* Professor WEBB, Mr. STATES.

For Graduates and Advanced Students.

7. Theory of Heat. For students whose major is physics, elective for others. Prerequisites, Physics 1a or 1b. Lectures and recitations. *Three hours a week. First semester.* Professor WEBB.

8. Electricity and Magnetism. For students whose major is physics; elective for others. Prerequisites, 2a or 2b. Lectures and recitations. *Three hours a week. Second semester.* Associate Professor KILLEBREW.

9. Theory of Light. For students whose major is physics; elective for others. Prerequisite, Physics 2a or 2b. Lectures and recitations. *Three hours a week. Second semester.* Professor WEBB.

10. Theoretical Mechanics. For students whose major is physics; elective for others. Prerequisite, Physics 1a or 1b, and 5a or 5b and Mathematics 5. Lectures and recitations. *Three hours a week. First semester.* Associate Professor KILLEBREW.

14. Physical Optics. Prerequisites, Physics 9 and Mathematics 5 or equivalent. Lectures and recitations. *Three hours a week. Either semester.* Professor WEBB.

15. Measurements in Optics. Should accompany or follow Physics 14. *Laboratory four to six hours a week. Either semester.* Professor WEBB.

16. Kinetic Theory of Gases. Prerequisites, Physics 7 and Mathematics 5. Lectures and recitations. *Three hours a week. Either semester.* Professor WEBB.

17. **Mechanics of Wave Motion.** Prerequisites, Physics 10 and Mathematics 5. Lectures and recitations. *Three hours a week. Either semester.* Professor WEBB.

OUTLINE OF COURSE LEADING TO THE DEGREE B. S. IN PHYSICS

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Physics 1a	155	General College Physics	3		3.
English 1	126	English Composition	3		3.
Mathematics 2	148	Trigonometry	5		5.
Physics 4	156	Physical Measurements		4	2.
Chemistry 1	116	General Inorganic Chemistry	4	2	5.
Military Sci. or		Drill		3	1.5
Home Economics		Survey Course	1	2	2.
Physical Education		Gym. or Field Athletics		2	1.
					20.5 or 21

Second Semester.

Physics 2a	156	General College Physics	3		3.
English 1	126	English Composition	3		3.
Mathematics 3	148	College Algebra	5		5.
Chemistry 2	116	General Inorganic Chemistry	3	6	6.
Military Sci. or		Drill		3	1.5
Home Economics		Survey Course	1	2	2.
Physical Education		Gym. or Field Athletics		2	1.
					19.5 or 21

*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
Zoology 9	176	General Zoology	2	2	3.
Physiology 1	113	General Physiology	3		3.
Mathematics 4a	148	Analytical Geometry, first part	5		5.
German 3	151	Elementary German	3		3.
Physics 5b	156	Physical Measurements	1	4	3.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
					19.5

Second Semester.

Zoology 9	176	General Zoology	2	2	3.
Physiology 1	113	General Physiology	3		3.
Mathematics 4b	148	Analytical Geometry, 2nd part	5		5.
German 3	151	Elementary	3		3.
Physics 5a	156	Physical Measurements		4	2.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
					18.5

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
German 4	151	Advanced Reading	3		3.
Mathematics 5a	148	Differential Calculus	5		5.
Physics 10	157	Theory of Heat	3		3.
Chemistry 4	116	Qualitative Analysis		6	3.
					14.

Second Semester.

German 4	151	Advanced Reading	3		3.
Mathematics 5a	148	Integral Calculus	5		5.
Physics 8	157	Electricity and Magnetism	3		3.
Mathematics 6	149	Spherical Trigonometry; Least Squares	2		2.
Chemistry 8	116	Quantitative Analysis	1	8	5.
					18.

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Mathematics 11	149	Differential Equations	3		3.
Physics 9	157	Theory of Light	3		3.
Astronomy 1	150	General Astronomy	4		4.
Physics 15	157	Measurements in Optics		6	3.
Electives		Electives	3		3.
					16.

Second Semester.

Mathematics 11	149	Differential Equations	3		3.
Physics 10	157	Theoretical Mechanics	3		3.
Philosophy 2	153	History of Philosophy	3		3.
Problems		Assigned Problems	4		4.
Electives		Electives	3		3.
					16.

COLLEGE OF AGRICULTURE.

GEORGE ROBERTS, ACTING DEAN.

Organization.

The College of Agriculture includes three divisions:

1. The School of Agriculture (Resident teaching.)
2. The Experiment Station.
3. Agricultural Extension.

The School of Agriculture.

(For entrance requirements see pages 57 and 58; for advanced standing and for admission as special students see page 78. For description of buildings and equipment of the College of Agriculture see "History and Equipment," page 37.)

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. 90 credits are for prescribed subjects and 55 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 latoratory 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 drill and gymnasium) 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	169	Study of Breeds	2	2	3.
Botany 1	172	General Morphology	2	4	4.
Chemistry 1	116	General Inorganic Chemistry	3	4	5.
English 1	136	English Composition	3		3.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
					17.5

Second Semester.

Animal Husb. 4	169	Study of Breeds	2	2	3.
Botany 1A	172	Morphology and Classification of Seed Plants	2	4	4.
Chemistry		Chemistry of the Metals	3	6	6.
English 1	126	English Composition	3		3.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
					18.5

*The courses of the freshman year are required work.

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*Agronomy 8	167	Cereals	3	2	4.
*Chemistry 11	117	Agricultural Analysis	1	8	5.
*English 3	127	History of English Literature	2		2.
*Entomology 1	175	General Entomology	2	4	4.
*Veterinary Sci. 1	190	Anatomy and Physiology of Farm Animals	3		3.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
					20.5

Second Semester.

*English 3	127	History of English Literature	2		2.
*Geology 1A	132	Elements of Geology	3		3.
*Horticulture 1	185	Principles of Plant and Fruit Culture	2	2	3.
*Zoology 10	176	Economic Zoology	2	4	4.
*Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
Agronomy 10	167	Forage Crops	2	2	3.
Agronomy 17	167	Farm Mechanics	2	2	3.
Botany 8	173	Plant Physiology	2	4	4.
Horticulture 3	185	Vegetable Gardening	2	2	3.
Rural Eng'ring 1 & 2	211	Land Surveying and Roads (half Semester)		4	2.
Veterinary Sci. 1a	191	Diseases of Farm Animals	3		3.

*Required subjects.

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*Agr. Economics 1	188	Agricultural Economics	3		3.
*Agronomy 1	166	Soil Physics	2	4	4.
*Horticulture 2	185	General Pomology	2	2	3.
Agr. Education 1	189	Agricultural Education	3		3.
Agronomy 12	167	Special Crops	2		2.
Agronomy 14	167	Grain Judging and Market Grains		2-4	1-2.
Agronomy 18	167	Farm Machinery	2	2	3.
Animal Husb. 3	169	Advanced Stock Judging	By Ap.		
Bacteriology 2	171	Household Bacteriology	2	4	4.
Botany 3	172	Plant Histology		6	3.
Botany 4	173	Plant Pathology	2	4	4.
Botany 10	173	Dendrology	1	1	1.5
Entomology 4	175	Advanced Entomology	2	6	5.
Horticulture 5	186	Green House Cons. and Mgmt.	1	2	2.
Horticulture 11	187	Advanced Vegetable Gardening	2	2	3.
Zoology 12	176	Advanced Zoology	2	4	4.
Zoology 15	177	Biology	3		3.

Second Semester.

*Agronomy 3	166	Soil Fertility	3	4	5.
*Bacteriology 1	171	General Bacteriology	2	4	4.
Agr. Educ. 1a	189	Agricultural Education	3		3.
Agronomy 12	167	Special Crops	2		2.
Agronomy 19	167	Farm Motors	2	2	3.
Animal Husb. 7	170	Live Stock Feeding	3	2	4.
Animal Husb. 8	170	Dairying	3	4	5.
Animal Hub. 11	171	Poultry Husbandry	3	2	4.
Botany 5	173	Methods in Plant Pathology		6	3.
Entomology 4	175	Advanced Entomology	2	6	5.
Entomology 6	176	Apiculture	1	2	2.
Entomology 7	176	Insect Control	1	2	2.
Farm Management 1	183	General Farm Management	3		3.
Horticulture 6	186	Home Garden and Grounds (1st half)	2	2	1.5
Hortieulture 7	186	Landscape Gardening (2d half)	1	2	1.
Horticulture 9	187	Elements of Floriculture	1	2	2.
Horticulture 12	187	Vegetable Gardening Under Glass	1	2	2.
Zoology 12	176	Advanced Zoology	2	4	4.
Zoology 13	176	Osteology	2	4	4.
Zoology 14	177	Embryology	2	4	4.
Zoology 15	177	Biology	3		3.

*Required subjects.

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Agr. Economics 4	189	Seminar			
Agr. Educ. 3	190	Seminar	2		2.
Agronomy 2	166	Advanced Soil Physics	2		2.
Agronomy 13	167	Field Crop Improvement	By Ap.		
Agronomy 20	168	Farm Engineering	1		1.
Animal Husb. 5	169	Genetics	2	4	4.
Bacteriology 4	171	Advanced Bacteriology	3	2	4.
Botany 9	173	Thesis		4	2.
Botany 11	173	Morphology of the Algae			3.
Botany 13	174	Cytology	1	4	3.
Botany 14	174	Systematic Botany	1	2	2.
Entomology 8		Systematic Ent. and Ent. Lit.	1	2	4.
Farm Management 2	183	Advanced Farm Management	2	2	2.
Horticulture 4	186	Systematic and Commercial Pomology	1	4	3.
Horticulture 8	186	Thesis and Exp. Horticulture	By Ap.		
Horticulture 10	187	Commercial Floriculture	2	2-4	3-4.
Veterinary Science 2	191	Contagious Diseases of Farm Animals	2	2	3.

Second Semester.

Agr. Economics 2	188	Rural Social Problems	2		2.
Agr. Economics 3	188	Co-operation and Marketing	3		3.
Agr. Economics 4	187	Seminar	2		2.
Agr. Education 2	190	Rural Education	3		3.
Agr. Education 3	190	Seminar			2.
Agronomy 4	166	Adanced Soil Fertility	2		2.
Agronomy 15	167	Advanced Field Crops	1		1.
Agronomy 21	168	Farm Construction	2	4	4.
Animal Husb. 6	170	Animal Breeding	3	2	4.
Animal Husb. 9	170	Beef Production (1st half)	3	2	2.
Animal Husb. 10	171	Animal Nutrition (2d half)	3		1.5
Bacteriology 5	172	Advanced Bacteriology		4	2.
Botany 9	173	Thesis			3.
Botany 12	174	Morphology of the Fungi	1	4	3.
Botany 14	174	Systematic Botany	4		4.
Botany 15	174	Diseases of Fruits and Vegetables	2	2	3.
Farm Management 3	184	Dairy Farm Management	2		2.
Farm Management 4	184	Seminar			2.
Horticulture 8	186	Thesis and Exp. Horticulture	By Ap.		
Horticulture 12	187	Vegetable Gardening Under Glass	1	2	2.
Veterinary Science 2	191	Contagious Diseases of Farm Animals	2	2	3.

DEPARTMENTS OF INSTRUCTION.

AGRONOMY.

Professor Roberts (Soil Fertility), Associate Professor Kinney (Field Crops), Assistant Professor Karraker (Soil Physics), Instructor Gordon (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 readings 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.** A 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. GORDON.

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, Agronomy 7. *Lectures two hours a week; laboratory two hours a week. Second semester.* Mr. GORDON.

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. GORDON.

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. GORDON.

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.* Assistant Professor FARRA.

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. Pre-

requisite, Agronomy 17. *Lectures two hours a week; laboratory two hours a week. First semester.* Assistant Professor FARRA.

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 examination 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.* Assistant Professor FARRA.

20. Farm Engineering. The measurement 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.* Assistant Professor FARRA.

21. Farm Construction. The design, location and cost estimating of farm buildings as well as a detailed study of properties and use of building materials most generally useful on the farm. *Lectures two hours a week; laboratory four hours a week. Second semester.* Assistant Professor FARRA.

ANIMAL HUSBANDRY.

Horses, Dairy Cattle, Poultry.
Professor Hooper,
Associate Professor Nicholls,
Assistant Professor Anderson,
Assistant Professor Wilkins.

Beef Cattle, Sheep, Swine.
Professor Good,
Assistant Professor L. B. Mann,
Assistant Professor ————.

The courses in Animal Husbandry 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. Arrangements have been made which give to the college the use of the Elmendorf farm of 9,000 acres near the city of Lexington, where excellent pure bred stock of all classes is maintained. Among the facilities at Elmendorf is one of the largest and best equipped dairy plants in the world.

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, pure bred sheep, pure bred 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.

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 breeding, and improvement through 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 appointment. 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.

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 per 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, Associate Professor NICHOLS.

9. **Beef Production.** Senior. This course continues during the first half of the semester and is followed by Course 10. Students pursuing this course will be taught the best method of feeding steers and other beef cattle. 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. *Lectures three hours a week; laboratory two hours a week. First half of second semester.* Professor GOOD.

10. **Animal Nutrition.** Senior. This course includes a detailed study of the nutrition of the animal body in the light of the latest scientific research. The course is offered to students who are specializing in animal husbandry. Prerequisite, Course 7. *Lectures three hours a week. Second half of 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.* Professor HOOPER, Assistant Professor WILKINS.

BACTERIOLOGY.

Associate Professor Pinnell, Professor Healy, 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.* Associate Professor PINNELL.

2. **Household Bacteriology.** For students in Home Economics. Study of bacteria in relation to fermentation, decay, putrefaction, canning, etc., with corresponding laboratory work. *Lectures two hours a week; laboratory four hours a week. First semester.* Associate Professor PINNELL.

4. **Advanced Bacteriology.** Special subjects in agricultural bac-

teriology will be assigned for reading and laboratory work. Prerequisite, Course 1. *Laboratory four hours a week. First semester.* Associate Professor PINNELL.

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

BOTANY.

Associate Professor Gilbert, 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. *Lecture one hour; recitation one hour; laboratory four hours. First semester.* Associate Professor GILBERT, 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. *Lecture one hour; recitation one hour; laboratory four hours. Second semester.* Associate Professor GILBERT, 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.

4. **Plant Pathology.** A study of the pathological conditions of various plants of economic importance, from the standpoint of disease distribution, host, parasite and remedial measures. Prerequisites, Courses 1 and 1a. Course 3 is also strongly recommended. *Lecture and recitation two hours a week; laboratory four hours a week. First semester.* Associate Professor GILBERT.

5. **Methods in Plant Pathology.** The course involves the preparation of culture media, and the development of pure cultures of fungi; also the study of the life histories of various disease producing organisms, with some reference to their parasitism and the treatment of plant diseases. Prerequisites, Courses 1, 1a. Course 3 is also recommended to precede this work. *Laboratory six hours a week. Second semester.* Associate Professor GILBERT.

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.* Associate Professor GILBERT, 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. Considerable 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.* Associate Professor Gilbert.

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.* Associate Professor Gilbert.

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.

15. Diseases of Fruits and Vegetables. A course designed primarily to meet the needs of students specializing in horticulture, but elective for all students with suitable preparation. It will include a careful study of the diseases attacking orchard trees and fruits, also the diseases of small fruits and garden vegetables. Prerequisites, Courses 1, 1a and 4. *Lecture and recitation two hours a week; laboratory two hours a week. Second semester.* Associate Professor Gilbert.

ENTOMOLOGY AND ZOOLOGY.

*Professor Garman, Assistant Professor Vansell, Assistant Stiles.**

The work of the department in relation to the courses in agriculture is intended, first, to acquaint the students with the fundamentals

*On lease of absence.

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.

ENTOMOLOGY.

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. *Lectures two hours a week; laboratory four hours a week. First semester.* Professor GARMAN, 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. *Lectures two hours a week; laboratory four hours a week. Second semester.* Professor GARMAN, Assistant Professor VANSELL.

4. Advanced Entomology. (Elective.) This is intended for stud-

ents 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 GARMAN, Assistant Professor VANSELL.

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.* Assistant Professor VANSELL.

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.* Assistant Professor VANSELL.

8. **Systematic Entomology and Entomological Literature.** (Elective.) Prerequisite, Course 4. *Lectures one hour a week; laboratory two hours a week. First semester.* Professor GARMAN, Assistant Professor VANSELL.

ZOOLOGY.

9. **General Zoology.** (Arts and Science students.) A general course in Zoology, including lectures, recitations and laboratory work. *Lectures one hour a week; laboratory one hour a week. Thruout the year.* Professor GARMAN.

10. **Economic Zoology.** (Four-year Agriculture.) This is a somewhat general course covering the whole field, but with special emphasis laid on the economic side of the subject. It is taught by laboratory work, text and lectures. *Lectures two hours a week; laboratory four hours a week. Second semester.* Professor GARMAN, Assistant Professor VANSELL.

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 GARMAN, Assistant Professor VANSELL.

13. **Osteology.** The course is a study of the comparative oste-

ology 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 GARMAN.

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 GARMAN, Assistant Professor VANSELL.

15. **Biology.** The general principles. Prerequisites, Course 10 or 12. *Lectures three hours a week. Thruout the year.* Professor GARMAN, Assistant Professor VANSELL.

SPECIAL COURSES IN ENTOMOLOGY AND ZOOLOGY.

As a beginning in what it is hoped will prove useful additions to the opportunities of the University, two courses leading to the degree of Bachelor of Science are here presented. Other closely allied courses will be added later and provision be made for study leading to an advanced degree in the pure science of biology. As the field occupied by the Department of Entomology and Zoology is now included as a part of the domain of the College of Agriculture, the work is organized for the present as a department of the college. These courses are designed to meet a demand for training in biology, either as a general education or as a preparation for special work in a college or station.

The many points of contact between biology and the ordinary affairs of our lives, in the household, in business, and in various professions, render its study peculiarly suited to produce effective and useful men and women. Besides the usefulness of its facts, the subject provides a training of the mind in observation and reasoning, which is believed to be of the first rank.

The schedules now presented are tentative arrangements which will be modified as the courses are developed, at least for the junior and senior years, and possibly in minor features for the sophomore year. The outlines for the freshman year will probably remain unchanged, since they include branches of study necessary as a preparation for advanced biological work and study.

OUTLINE OF COURSE LEADING TO THE DEGREE B. S. IN ECONOMIC ENTOMOLOGY

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Botany 1	172	General Morphology	2	4	4.
Drawing		Drawing		4	2.
English 1	126	English Composition	3		3.
French 1	152	French Grammar	3		3.
Mathematics 2	148	Trigonometry	5		5.
Zoology 12	176	Advanced Zoology	2	4	4.
Military Sci. or		Drill		3	1.5
Homeconomics		Survey Course	1	2	2.
Physical Education		Gynmasium or Field Athletics		2	1.

Second Semester.

Botany 1a	172	Morphology and Class. of Seed Plants	2	2	4.
English 1	126	English Composition	3		3.
French 1	152	French Grammar	3		3.
Mathematics 3	148	Algebra	5		5.
Zoology 12	176	Advanced Zoology	2	4	4.
Military Sci. or		Drill		3	1.5
Home Economics		Survey Course	1	2	2.
Physical Education		Gymnasium or Field Athletics		2	1.

*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
Botany 4	173	Plant Pathology	1	4	3.
Chemistry 1	116	General Inorganic Chemistry	3	4	5.
Entomology 1	175	General Entomology	2	4	4.
German 1 or 3	151	Elementary Ger., or Comp. and Reading	3		3.
Physiology 1	113	General Physiology	3		3.
Military Science		Drill		3	1.
Physical Education		Gymnasium or Field Athletics		2	1.

Second Semester.

Botany 5	173	Methods in Plant Pathology		6	3.
Chemistry 2	116	Chemistry of the Metals	3	6	6.
Entomology 6	176	Apiculture	1	2	2.
German 1 or 3	151	Elementary Ger., or Comp. and Reading	3		3.
Physiology 1	113	General Physiology	3		3.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Bacteriology 1	175	General Bacteriology	1	2	2.
Entomology 4		Advanced Entomology	2	6	5.
German 2 or 4	151	Reading and Composition	3		3.
Physics 5	156	General Physics	3		3.
Horticulture 4	186	Systematic and Commercial Pomology	1	4	3.

Second Semester.

Entomology 4	175	Advanced Entomology	2	6	5.
Geology 1a		Elements of Geology	3		3.
German 2 or 4	151	Reading and Composition	3		3.
Horticulture 1	185	Principles of Plant and Fruit Culture	2	2	3.
Physics 5	156	General Physics	3		3.
Ent. and Zoology 14	177	Embryology	4	4	4.

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Zoology 15	177	Biology	3		3.
Entomology 8	176	Systematic Entomology	1	2	2.
History		Elective	2		2.
Political Economy 1	137	Economics	2		2.
Political Science 1	137	American Government	3		3.
Thesis		Thesis			4.

Second Semester.

Zoology 15	177	Biology	3		3.
Entomology 7	176	Insect Control and Field Work	1	2	2.
History		Elective	2		2.
Political Economy 1	137	Economics	2		2.
Political Science 1	137	American Government	3		3.
Thesis		Thesis			4.

OUTLINE OF COURSE LEADING TO THE DEGREE B. S. IN BIOLOGY

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Botany 1	172	General Morphology	2	4	4.
Drawing		Drawing		4	2.
English 1	126	English Composition	3		3.
French 1	152	French Grammar	3		3.
Mathematics 2a	148	Trigonometry	3		3.
Zoology 12	176	Advanced Zoology	2	4	4.
Military Sci. or		Drill		3	1.5
Home Economics		Survey Course	1	2	2.
Physical Education		Gymnasium or Field Athletics		2	1.

*A credit represents one hour of recitation or two hours of laboratory a week for one semester.

Second Semester.

Botany 1a	172	Morphology and Class. of Seed Plants	2	4	4.
English 1	126	English Composition	3		3.
French 1	152	French Grammar	3		3.
Mathematics 3	148	Algebra	5		5.
Zoology 12	176	Advanced Zoology	2	4	4.
Military Sci. or		Drill		3	1.5
Home Economics		Survey Course	1	2	2.
Physical Education		Gymnasium or Field Athletics		2	1.

SOPHOMORE YEAR

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Botany 4	173	Plant Pathology	1	4	3.
Chemistry 1	116	General Inorganic Chemistry	3	4	5.
German 1 or 3	151	Elementary Ger. or Comp. and Reading	3		3.
Physiology 1	113	General Physiology	3		3.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.

Second Semester.

Botany 5	173	Methods in Plant Pathology		6	3.
Chemistry 2	116	Chemistry of the Metals	3	6	6.
Entomology 6	176	Apiculture	1	2	2.
German 1 or 3	151	Elementary Ger., or Comp. and Reading	3		3.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Bacteriology 1	171	General Bacteriology	1	2	2.
Entomology 4	175	Advanced Entomology	2	6	5.
German 2 or 4	151	Reading and Composition	3		3.
Physics 5	156	General Physics	3		3.
Horticulture 4	186	Systematic and Commercial Pomology	1	4	3.

Second Semester.

Entomology 4	175	Advanced Entomology	2	6	5.
Geology 1a	132	Elements of Geology	3		3.
German 2 or 4	151	Reading and Composition	3		3.
Horticulture 1	185	Principles of Plant and Fruit Culture	2	2	3.
Physics 5	156	General Physics	3		3.
Ent. and Zool. 14	177	Embryology	2	4	4.

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Ent. and Zool. 15	177	Biology	3		3.
Foods		Microscopy of Foods (to be arranged)	1	4	3.
History	135	Elective			2 to 3
Political Economy 1	137	Economics	2		2.
Political Science 1	137	American Government	3		3.
Thesis		Thesis			4.

Second Semester.

Ent. and Zool. 15	177	Biology	3		3.
Textiles		Microscopy of Textiles	1	4	3.
History	135	Elective			2 to 3
Political Economy 1	137	Economics	2		2.
Political Science 1	137	American Government	3		3.
Thesis		Thesis			4.

FARM MANAGEMENT.

Professor Nicholls.

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.

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. A feature of the course is a competition in the formulation of properly balanced farming systems best adapted to Kentucky conditions. Laboratory work consists of visits to successful farms and making detailed analyses of their organiza-

tion. *Two lectures and one laboratory a week. First semester.* Professor NICHOLLS.

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. *Two lectures 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 Adams.

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.

During the year 1913-14 the acreage devoted to horticulture upon the Experiment Station grounds was greatly increased. An orchard of eight acres of standard varieties of fruit was planted, additions have been made to the vineyard, and the small fruit plantations 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 throughout 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 already 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 2 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. *Two lectures a week; laboratory two hours a week. Second semester.* Professor MATHEWS, Assistant Professor OLNEY, Assistant Professor ADAMS.

2. **Elements of Horticulture (Promology).** 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 scoring of apples, pears, nuts and other available fruits. Prerequisite, Horticulture 1. *Two lectures 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. *Two lectures or recitations a week; laboratory two hours a week. Second semester.* Assistant Professor ADAMS.

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 ADAMS.

6. Home Garden and Grounds. Juniors and seniors in the School of Home Economics. A brief course designed to give to young women some helpful acquaintance with the problems arising in the care of the kitchen, fruit and flower garden, window gardening and the improvement of ornamental grounds about the home. *Lectures two hours a week; laboratory two hours a week. First half second semester.* Professor MATHEWS.

7. Elements of Landscape Gardening. Junior or senior. A discussion of the arrangement, planting and care of trees, shrubs and other ornamental plants for the adornment of the home and other private and public grounds. Botany 10, dendrology, should precede or accompany this course. *Lecture one hour a week; laboratory and field practice two hours a week. Second half 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.

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. *One lecture a week; laboratory two hours a week. Second semester.* Assistant Professor ADAMS.

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. *Two lectures a week; laboratory two or four hours a week. First semester.* Assistant Professor ADAMS.

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 ADAMS.

12. **Vegetable Gardening Under Class.** Senior. A course designed to acquaint the students with methods involved in growing vegetables in hot beds, cold-frames and greenhouses. Special attention is given to the forcing of lettuce, tomatoes and cucumbers. Prerequisites, Courses 3 and 5. *Lectures one hour a week; laboratory two hours a week. Second semester.* Assistant Professor ADAMS.

RURAL SOCIAL SCIENCE.

Associate Professor Bohannon, Mr. Wesson.

AGRICULTURAL ECONOMICS AND SOCIOLOGY.

The work of these courses is based on the idea that the successful farmer or agricultural specialist in any line must possess not only a knowledge of the physical force underlying farming, but must also be thoroughly acquainted with the economic and social forces with which the farmer must contend. At no previous period in our state or national history has there been as much attention given to the matters

of rural credits, marketing, co-operation, and the problems of rural social development as at present. Especial attention is called to the course in co-operation and marketing for advanced students. There is a constant demand on the part of the United States Department of Agriculture for men trained in this field for its bureau of markets. In fact, no agricultural worker can today afford to be uninformed concerning these matters, and it is the aim of these courses to afford the student an opportunity to get in touch with the theory and practice of agricultural, economic and social institutions and organizations.

1. **Agricultural Economics.** Junior. Open also to other advanced students. This course will include a consideration of the general principles of agricultural economics, the factors of production, improvement of the business side of farming, farm bookkeeping, cost accounts, tenancy, conservation, rural credits, marketing, etc. This course will be found profitable to general farmers, agricultural specialists, and to general students who wish to understand some of the economic problems of our greatest industry. Text, lectures, assigned readings, reports and discussions. *Three hours a week. First semester.* Associate Professor BOHANNAN, Mr. WESSON.

2. **Rural Social Problems.** Juniors and seniors. This course is designed to put students in touch with the fundamental principles underlying the general social organization of rural life, and also to give them such knowledge of ways and means of community improvement as will enable them to render positive service to their respective communities. Among other matters will be considered the following: rural vital statistics; the shifting of the rural population; community hygiene and sanitation; good roads; the rural church; the rural school; community co-operation for community betterment. An essential feature of the course will be a study of the student's own community, with a view to recommending community action for the betterment of the general social, intellectual, moral, and economic conditions. Lectures, assigned readings, reports and discussions. *Two hours a week. Second semester.* Associate Professor BOHANNAN.

3. **Co-operation and Marketing.** Seniors and graduate students. Prerequisite, agricultural economics. The purpose of this course is to put the student in touch with the principles underlying co-operation and the science of marketing. A detailed study will be made of the rise and development of the various forms of agricultural co-operation

in Europe and America, including co-operative buying, co-operative stores, co-operative marketing, general farmers' organizations, and rural credits. An attempt will be made to ascertain the essentials of successful co-operative effort along each of the lines studied. Especial attention will be given to marketing and co-operation in Kentucky. Text, assigned readings, lectures, reports. *Three hours a week. Second semester.* Associate Professor BOHANNAN.

4. **Seminar. Special Problems of Rural Life. Research.** Seniors and graduates. This course is designed to meet the needs of those who desire to make a more intensive study of the problems of rural sociology, economics, and education than is possible in the more general courses listed above. Each member of the class will be expected to select, with the advice of the instructor, some one problem to which he will devote himself for the year. The class will meet once each week for a two hours' session to discuss the progress of these investigations. Among the subjects which will be available for 1917-1918 are: rural community surveys, social, economic and educational; co-operative enterprises in Kentucky; rural credits; markets; the relation of the rural school to its community; rural health and sanitation; recreational facilities of typical rural communities, etc. *Two hours a week. Thruout the year.* Associate Professor BOHANNAN.

AGRICULTURAL EDUCATION.

The recent passing by Congress of a bill to grant Federal aid for the teaching of agriculture will serve to materially increase the already strong demand for persons trained to teach agriculture in the schools. Salaries for teachers of agriculture in high schools are on the average considerably above the average salaries for teachers of other high school subjects. The courses here offered are designed to aid in fitting students for this new and important line of work.

1 and 1a. **Agricultural Education.** Juniors and seniors. Open to other students only by special arangements with the instructor. The work of the first semester will deal principally with a study of agricultural educational systems both in Europe and America. The second semester will be devoted to a study of the principles underlying the selection, organization, and presentation of agricultural subject matter in elementary and high schools. The work of the course will consist in lectures, assigned readings, reports, and discussions. In connection with the work of the second semester the student will be given

an opportunity to select and arrange, with the advice and criticism of the instructor and the other members of the class, tentative outlines for the presentation of the various topics of agricultural work in the schools. The work of each semester may be taken independently of the other although students will find it to their advantage to take the work as a regular two semester course. *Three hours a week. Thruout the year.* Associate Professor BOHANNON.

2. Administration and Supervision of Rural Education. A course intended for those who are fitting themselves to fill positions as rural school supervisors and for those who are actually in the service. In addition to other matters will be considered national and state control and support of rural education, consolidation, philosophy of the course of study, rural school hygiene, supervision and direction of teachers, and the technique of instruction. *Three hours a week. Second semester.* Associate Professor BOHANNAN.

3. Seminar. Research. Research students in Agricultural Education will register for the seminar on Special Problems of Rural Life listed above under Agricultural Economics. Associate Professor BOHANNAN.

VETERINARY SCIENCE.

Professor Graham, Associate Professor Pontius, Assistant Professor Brueckner.

The courses in veterinary science are designed to acquaint the student with the animal body in health and disease and thus better fit him for his future work in animal husbandry, i. e., to render first aid, to carry out such nursing directions or quarantine measures as the case may require, and to realize the value of the services of a qualified veterinarian in order to obtain efficiency in protecting and conserving animal wealth.

1. 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.

1a. **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. *Lectures three hours a week. Second semester.* Professor GRAHAM, Associate Professor PONTIUS.

2. **Review of Current Literature.** A discussion of current literature on animal diseases. *Lectures two hours a week. Thruout the year. Demonstrations by appointment.* Professor GRAHAM.

THE SHORT COURSE IN AGRICULTURE.

Beginning with the collegiate year 1917-18, only one short course in agriculture will be offered. This will begin November 1st and close March 1st, and will consist of two terms divided by the Christmas holidays. All the work in this course will be 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 will be required, and the course will be open to anyone 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 has heretofore been held during the first week in January, but the date will probably be changed to about February 1st. 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 arthritis of colts, and the causative organisms of this disease; extensive studies 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, food and drugs; and for a number of years these laws have been 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.

AGRICULTURAL EXTENSION.

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.

COUNTY AGRICULTURAL AGENTS—1917.

No.	Name	Official Station	County
1	Amburgey, M. D.	Whitley City	McCreary
2	Bentley, R. B.	Elkton	Todd
3	Bird, J. Robt.	Marion	Crittenden
4	Bird, Horace A.	Elizabethtown	Hardin
5	Boggs, B. F.	Richmond	Madison
6	Boyd, E. F. Jr.	Maysville	Mason
7	Browder, W. W.	Hartford	Ohio
8	Carman, Armeil	Clinton	Hickman
9	Clayton, W. H.	Flemingsburg	Fleming
10	Faulkner, E. H.	Williamsburg	Whitley
11	Felts, R. H.	Frankfort	Franklin
12	Floyd, O. F.	Cynthiana	Harrison
13	Gentry, J. C.	Harrodsburg	Mercer

No.	Name	Official Station	County
14	Hollingsworth, G. S. Jr.	Madisonville	Hopkins
15	Kelly, Farmer	Franklin	Simpson
16	Lowry, S. J.	Lagrange	Oldham
17	McKenzie, J. A.	Hopkinsville	Christian
18	McSwain, H. E.	Hindman	Knott
19	Mitchell, B. H.	Mayfield	Graves
20	Moore, Jas. H.	Greenville	Muhlenberg
21	Morgan, Samuel	London	Laurel
22	Palmore, E. C.	Tompkinsville	Monroe
23	Pickett, H. A.	Georgetown	Scott
24	Piggott, W. J. Jr.	Paducah	McCracken
25	Reynolds, W. R.	Tyner	Jackson
26	Rhoads, Wayland	Independence	Kenton
27	Richardson, G. C.	Catlettsburg	Boyd
28	Smith, Graham A.	Falmouth	Pendleton
29	Spence, Robt. F.	Berea	Madison
30	Sugg, Jno. A.	Morganfield	Union
31	Taylor, Jno. T.	Louisville, c/o Board of Trade,	Jefferson
32	Taylor, Chas. L.	Bardstown	Nelson
33	Tye, William	Barbourville	Knox
34	Varney, K. L.	Cadiz	Trigg
35	Varney, C. B.	Eddyville	Lyon
36	Wilson, W. C.	Somerset	Pulaski
37	Worthington, Jno. W.	Alexandria	Campbell
38	Whitlow, Rodney	Russellville	Logan
39	Young, A. C.	Louisa	Lawrence

COUNTY HOME DEMONSTRATION AGENTS.

Mrs. Allie S. Cope	Paducah	McCracken
Miss Pairlee Davis	Louisa	Lawrence
Mrs. Jalia R. Gentry	Mt. Vernon	Rockcastle
Mrs. Annie B. Goddard	Harrodsburg	Mercer
Mrs. Eloise N. Graves	Hopkinsville	Christian
Mrs. Jennie C. Grubbs	Junction City	Boyle
Miss Hester Ann Lowry	Nicholasville	Jessamine
Miss Maude Meguiar	Franklin	Simpson
Miss Rebecca Oglesby	Richmond	Madison
Miss Laura Spence	Peoples	Jackson
Mrs. George P. Hatton	Manchester	Clay

COLLEGE OF CIVIL ENGINEERING.

WALTER E. ROWE, DEAN.

GENERAL STATEMENT.

The College of Civil Engineering is composed of the School of Civil Engineering and the School of Rural and Highway Engineering.

The College of Civil Engineering is organized for the purpose of giving young men a thorough 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 skillful practitioner in any of the branches of the profession.

Civil engineering deals with the subjects of mechanical drawing, 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 the former Dean of the College, is a flourishing organization, and gives abundant opportunity for the discussion of general and special engineering topics.

The Transit.

For the past eleven years the students of the College of Civil Engineering have published "The Transit," a monthly magazine. This is published in the interests of the College of Civil Engineering and is doing a good work in keeping the undergraduates and the alumni in close touch with one another.

EQUIPMENT.

Buildings.

The home of the College of Civil Engineering is in the Civil Engineering Building, which is a large three-story brick, 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 the Civil Engineering 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, and 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, and also 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 College 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 College consists of thirteen transits, six engineer's levels, two solar attachments, one needle compass, one plane table, one precise pantograph, one planimeter, 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.

DEGREES.

The course of study in Civil Engineering leads to the degree of B. C. E. (Bachelor of Civil Engineering). For information regarding the advanced degree of C. E. (Civil Engineer) see the statement of the Graduate School.

SCHOOL OF CIVIL ENGINEERING.

OUTLINE OF COURSE LEADING TO THE DEGREE B. C. E.

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Mathematics 2	148	Trigonometry	5		5.
English 1	126	English Composition	3		3.
Drawing 1	204	Mechanical Drawing		10	5.
Physics 3	156	Physical Measurements		4	2.
Chemistry 1		General Inorganic Chemistry	3	4	5.
Modern Langauge		French, German or Spanish	3		3.
Military Science		Infantry Drill		3	1.5
					24.5

Second Semester.

Mathematics 3	148	University Algebra	5		5.
English 1	126	English Composition	3		3.
Surveying 1	205	Land Surveying	2		2.
Chemistry 2	116	General Inorganic Chemistry	3	6	5.
Descriptive Geo. 2	204	Descriptive Geometry	5		3.
Modern Language		French, German or Spanish	3		3.
Military Drill		Infantry Drill		3	1.5
Summer Work		Drafting			3.
					28.5

*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
Sur. and Geodesy 1	205	Advanced Surveying	3		3.
Physics 1a	155	Advanced Physics	3		3.
Mathematics 4a	148	Analytical Geometry, First half	5		5.
Physics 5a	156	Advanced Physics Laboratory		2	2.
Chemistry 4	116	Qualitative Analysis		8	4.
Sur. and Geodesy 3	206	Field Practice		9	4.5
English 3	127	History of English Literature	3		3.
Modern Language		French, German or Spanish	3		3.
Military Science		Infantry Drill		3	1.5
					29.

Second Semester.

English 3	127	History of English Literature	3		3.
Physics 2a	156	Advanced Physics	3		3.
Mathematics 5a	148	Differential Calculus	5		5.
Mathematics 4b	148	Analytical Geometry, 2nd half	5		5.
Physics 6a	157	Advanced Physics. Laboratory		4	2.
Bridge Eng. 2	202	Roof Truss Design. First half 2nd sem.		10	2.5
Chemistry 8	116	Quantitative Analysis	1	8	5.
Summer Work		Railroad Maintenance			
Military Drill		Infantry Drill		3	1.5
					27.

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Electrical Engin. 1	224	Elements of Electrical Eng.	5		5.
Applied Mechanics and Hydraulics 3	201	Advanced Strength of Materials	5		5.
Mathematics 5b	148	Integral Calculus	5		5.
Bridge Engin. 3	202	Bridge Stresses	3		3.
Geology 7	133	Economic Geology	2		2.
Sur. and Geology 4	206	Topography Surveying. 1st half		12	3.
Bacteriology 1	171	General Bacteriology	1	2	2.
Hydraulics 5	201	Hydraulics	2		2.
					27.

Second Semester.

Electrical Eng. 3	224	Alternating Currents	5		5.
Applied Mechanics and Hydraulics 4	201	Analytical Mechanics	5		5.
Railway Eng. 1	205	Railway Location. Half semester	5		2.5
Railway Eng. 2	205	Railway Construction. Half semester	5		2.5
Bridge Eng. 4 and 5	202	Highway Bridge Design	3	8	5.
Construction 1	202	Masonry Construction. Half semester	5		2.5
Railroad Eng.	205	Railway Field Practice. Half semester		13	3.
Mathematics 6	149	Spherical Trig. & Least Squares	2		2.
Bacteriology 3	171	Bacteriology	1	2	2.
Summer Work	206	Water Supply and Purifications			
					29.5

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Sur. and Geodesy	205	Geodesy	3		3.
Construction 3	203	Masonry Dams and Retaining Walls	5		5.
Construction 2	202	Reinforced Concrete	5		5.
Bridge Eng. 7	202	Railway Bridge Design	2	13	10.
Political Science 1	137	American Government	3		3.
Heat Engineering 1	226	Thermodynamics	5		5.
					31.

Second Semester.

Political Science 2	137	American Government	3		3.
Mun., Water Power and San. Eng. 1	204	Water Power Engineering. Half semester	5		2.5
Highway Eng. 1 & 2	203	Roads, Streets and Pavements. Half semester	5		2.5
Mun., Water Power and San. Eng. 3	204	Sanitary Engineering. Half semester	5		2.5
Contracts, Spec. and Thesis 1, 2, 3	203	Contracts, Specifications and Thesis			12.
Bridge Eng. 7	202	Railway Bridge Design. Half semester		13	3.
Highway Eng. 2a	203	Asphalt Laboratory. Half semester		4	1.
					26.5

DEPARTMENTS OF INSTRUCTION.

APPLIED MECHANICS AND HYDRAULICS.

1. Elementary Strength of Materials. Elastic and ultimate strength; general properties; moments for beams; cantilever and simple beams; columns and struts; the torsion of shafts; elastic deformation; resilience of materials; reinforced concrete. Prerequisite, trigonometry. *Five hours a week. First half of second semester.* Professor TERRELL.

2. Elementary Mechanics. Concurrent forces; parallel forces; center of gravity; resistance and work; simple machines; gravity and motion; inertia and rotation. Prerequisite, trigonometry. *Five hours a week. Second half of second semester.* Professor TERRELL.

3. Advanced Strength of Materials. A study of the principles and applications to engineering of the mechanics of solids, as related to the mutual actions, motions, pressure, strength, stiffness and resilience of the members of structures and machines. Prerequisite, Mathematics 5. *Five hours a week. First semester.* Professor FRANKEL.

4. Analytical Mechanics. Statics of a material point; statics of a rigid body; statics of flexible cords; rectilinear motion of a material point; moment of inertia; dynamics of a rigid body; work, energy, power and friction. Prerequisite, Mathematics 5. *Five hours a week. Second semester.* Professor FRANKEL.

5. 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 through orifices, nozzels, over weirs and through pipes and open channels, also the loss from friction and other sources. Prerequisite, Mathematics 5. *Two hours a week. First semester.* Professor ROWE.

6. 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.* Professor ROWE.

7. Material Laboratory. Testing of wood, iron, steel and cement. This course is given in connection with the work in advanced strength of materials. *Four hours a week. First semester.* Mr. CURTIS.

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 per week. Second half of first semester.* Professor ROWE.

2. Roof Truss Design. Same as Course 1. *Drawing, ten hours a week. First half of second semester.* Professor ROWE.

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 per week, first semester; five hours a week, first half of second semester.* Professor CARREL.

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 CARREL.

5. Highway Bridge Design. Complete design and shop drawings for a highway bridge. *Drawing eight hours a week. First half of second semester.* Professor ROWE.

6. Mill Building. 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 CARREL.

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 CARREL.

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.* Professor TERRELL.

2. Reinforced Concrete. Determination of forms and proportions. Lectures, recitations, computations, and drawings. Design of columns, beams, and a complete design of an arch of reinforced concrete construction, including its abutment and centering. Prerequisites,

Mechanics of Engineering 1 and 6. *Three hours a week. First semester.* Professor ROWE.

3. **Masonry Dams.** Theory and designs of retaining walls and masonry dams. Lectures, recitations and designs. Prerequisite, Hydraulics 5. *Five 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 ROWE.

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 ROWE.

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.

HIGHWAY ENGINEERING.

1. **Highway Engineering.** Location of country roads, earthwork, drainage and culverts, bridges, retaining walls, reconstruction and improvement of country roads, maintenance, staking out the work, specifications and contracts, implements and prices. *Two hours a week. First semester.* Professor TERRELL.

1a. **Road Material Laboratory.** Testing of rock, gravel, sand and other road building material. This course is given in connection with Highway Engineering 1 and 2.

2. **Streets and Pavements.** Pavements: materials employed in the construction of pavements, resistance to traction. Lectures, assigned readings, specifications, contracts and reports. *Five hours a week. First half of second semester.* Professor TERRELL.

2a. **Asphalt Laboratory.** Testing of asphalt, road oils, bituminous binders, dust preventatives, as pertaining to the interpretations of specifications. This course is given in connection with roads, streets and pavements. *Four hours a week. First half of second semester.* Professor TERRELL.

MECHANICAL DRAWING AND DESCRIPTIVE GEOMETRY.

1. Mechanical Drawing. Detail and dimension drawing, pen topography, free hand and mechanical lettering. *Drawing, ten hours a week. First semester.* Professor NOLLAU.

2. Descriptive Geometry. A study of the representation of lines, planes, surfaces and perspectives. Lectures, recitations, drawings and assigned problems. *Recitations, five hours a week; drawing, three hours a week. Second semester.* Professor NOLLAU.

3. Mapping. An elementary course as pertaining to civil engineering, including platting angles by chord, tangents and protractor, laying off curves, platting land surveys, topographical and stadia notes, making profiles, laying grade lines. *Ten hours a week. First half of second semester.* Professor TERRELL.

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.* Professor TERRELL.

MUNICIPAL, WATER POWER AND SANITARY ENGINEERING.

1. Water Power Engineering. 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 ROWE.

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 ROWE.

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 ROWE.

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 reconnaisance, preliminary survey, topography, maps, projecting the location, making approximate estimates and final location. *Five hours a week. First half of second semester.* Professor TERRELL.

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.* Professor TERRELL.

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. *Summer work.* Professor TERRELL.

4. **Economics of Railway Operation.** Organization, relation of management and operation departments to construction and maintenance departments, block signalling and interlocking, rapid transit, employment, education and discipline of force, accounts and accounting, reports, betterment. *Two hours a week. Second semester.* Professor ROWE.

5. **Summer Camp.** Each year, two weeks immediately following commencement, all civil engineering sophomores and freshmen will go into camp at some suitable location, for the purpose of engaging in railroad field practice, hydrographic surveying and geodetic field practice. *Eight hours a day. For two weeks.* Professor ROWE, Professor TERRELL.

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. Second semester.* Professor TERRELL.

2. **Field Practice.** Field practice in connection with Course 1 in land surveying. *Field work, ten hours a week. Second half of second semester.* Professor TERRELL.

3. Advanced Surveying. The course in advanced surveying includes hydrographic surveying, stadia methods, triangulations, photographic surveying and methods of mapping extended areas. *Three hours a week. First semester.* Professor CARREL.

4. 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.* Professor TERRELL.

5. Geodesy. Theoretical study of methods in 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, sophomore Trigonometry and Least Square. *Three hours a week. First semester.* Professor CARREL.

SUMMER WORK.

All civil engineering students are required to follow a prescribed course of study during the summer vacations. Reports of work pursued during the vacation period must be written in ink and presented to the College of Civil Engineering for approval not later than September 20th of each year.

Courses For Graduates.

Railway Location and Construction.	Bridge Design.
Yards and Terminals.	Reinforced Concrete.
Motive Power and Rolling Stock.	Water Power Development.
Railway Operation and Management.	Engineering Jurisprudence.

Metalic Arches.

School of Rural Highway Engineering.

Professor Rowe, Professor Terrell.

Aims.

The primary object of this course is to provide instruction for young men along useful lines of engineering usually neglected or little emphasized in our universities. The aim is to educate young men who, after receiving this special training at the University will take up some line of constructive engineering which will result in better roads, bridges, and farm structures for the country and better streets and sanitary conditions for the towns and cities of the Commonwealth.

County Appointments.

In order to encourage young men to study rural and highway engineering each county in the state grants two free scholarships in the College of Civil Engineering for the purpose of taking this course. These scholarships are awarded by the Fiscal Courts of the respective counties. Appointments to this course are made prior to the first day of September in each year and are good only for Rural and Highway Engineering. Students desiring to secure one of these appointments should make application to the County Judges of their respective counties, stating their educational qualifications and that they desire the appointment for the course in Rural and Highway Engineering.

Admission.

Applicants for admission to the Rural and Highway Engineering Course will be required to have a good knowledge of English, elementary algebra, elementary physics and plane geometry. Students taking this course will not be considered candidates for a degree.

OUTLINE OF COURSE IN RURAL AND HIGHWAY ENGINEERING

FIRST YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Drawing 1	210	Mechanical Drawing		12	6.
Mathematics 2	148	Trigonometry	5		5.
Physics 1	151	General Physics	3		3.
English 1	126	English Composition	3		3.
					17.

Second Semester.

Bridge Eng. 1	209	Bridge Stresses	3		3.
Mathematics 3	148	University Algebra	5		5.
Physics 1	151	General Physics	3		3.
Surveying 1	211	Land Surveying	2		2.
Drawing 1	210	Mechanical Drawing		12	6.
Mapping 1	204	Mapping		4	2.
Highway Eng. 1	210	Road Location and Construction	5		5.
					26.

*A credit represents one hour of recitation or two hours of laboratory a week for one semester.

SECOND YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Highway Eng. 2	210	Highway Maintenance	5		5.
Surveying 2	211	Advanced Surveying	3		3.
Bridge Eng. 2	209	Highway Bridge Design		8	4.
Highway Law 1	210	Comparative Study of Road Laws	2		2.
					14.

Second Semester.

Municipal Eng. 4	210	Streets and Pavements, half semester	5		2.5
Cement and Its Uses 3		Plain and Reinforced Concrete	3	4.	5.
Bridge Eng. 2	209	Highway Bridge Design		8.	4.
Law of Contracts and Specications	209 203	Contracts and Specifications, half semester	1		.5
Construction 1	202	Masonry Construction	5		5.
					21.5

DEPARTMENTS OF INSTRUCTION.

APPLIED MECHANICS.

1. **Elementary Strength of Materials.** Elastic and ultimate strength, general properties, moments for beams, cantilever and simple beams, columns and struts, the torsion of shafts, elastic deformation, resilience of materials, reinforced concrete. *Five hours a week. First half of first semester.* Professor TERRELL.

2. **Elementary Mechanics.** Concurrent forces, center of gravity, resistance and work, simple machines, gravity and motion, inertia and rotation. *Five hours a week. Second half of first semester.* Professor TERRELL.

BRIDGE ENGINEERING.

1. **Bridge Stresses.** The subject of bridge stresses will be taken up both from an analytical and graphical standpoint as outlined in the course offered to civil engineering students.

2. **Bridge Designs.** Complete designs of various types of steel highway bridges will be made, including weights and probable cost of structures. *Five hours a week. Thruout the year.* Professor ROWE.

3. **Reinforced Concrete.** The design of reinforced concrete culverts, slab bridges, and the design of a reinforced concrete highway bridge. *Five hours a week. First semester.* Professor ROWE.

CEMENT AND ITS USES.

1. **Study of Cement.** A study of the properties and uses of cement in making walks, curbs, building block, silos, fence posts and general farm buildings. Lectures and laboratory practice. *Five hours a week. First semester.*

2. **Cement Testing.** Testing various samples of cement for tension and compression. *One hour a week. Second semester.* Professor TERRELL.

3. **Reinforced Concrete.** Determination of forms and proportions. Lectures, recitations, computations and drawings. Design of columns, beams, and the complete design of a reinforced concrete arch including its abutments and centering. *Five hours a week. Second semester.*

COMPARATIVE STUDY OF ROAD LAWS AND RECENT ROAD LEGISLATION.

1. Road Laws. This course of study consists of a systematic study of the road laws of the various states. *Two hours a week. Second semester.*

DRAWING.

1. Mechanical Drawing. Geometrical drawing, geometrical problems, detail and dimensions drawing, pen topography, free hand and mechanical lettering. *Thirteen hours a week. Thruout the year.* Professor TERRELL.

2. Frame Structures. Design of dwellings and other framed structures, together with plans, specifications and estimates of probable costs. *Five hours a week. Second semester.*

HIGHWAY ENGINEERING.

1. Highway Location. Principles and methods followed in locating highways. Location of several miles of road. *Five hours a week. Second semester.* Professor TERRELL.

2. Highway Construction. Methods of construction, materials to be used, and how to use them. Determining the size and kind of culverts, bridges and other openings in roadways. *Five hours a week. Second semester.*

3. Highway Maintenance. A study of the best methods to be followed in maintaining and keeping highways and bridges in good repair. Lectures, assigned reading, and reports. Inspection of roads in the vicinity of the University. *Three hours a week. Second semester.* Professor TERRELL.

MUNICIPAL AND SANITARY ENGINEERING.

1. Water Supply and Water Works Design. See course in Civil Engineering. *Two hours a week. Second semester.* Professor ROWE.

2. Sanitary Engineering. See course in Civil Engineering. *Five hours a week. Second semester.* Professor ROWE.

3. Farm Sanitation. Designs for special problems; plumbing, water closets, baths, urinals, sewerage disposal, water supply. Recitations, assigned readings, lectures and designs. *Two hours a week. Second semester.*

4. Streets and Pavements. Pavements, the materials used in the construction of pavements, resistance to traction. Lectures, assigned readings and reports. *Five hours a week. Second half of second semester.*

SURVEYING.

1. Land Surveying. An elementary course in land surveying methods and the use of surveying instruments, with recitations, lectures, field work. The field work affords practice in the use of chain, tape, compass, transit, and level. *Two hours a week. Second semester.* Professor TERRELL.

2. Topographical Surveying. The use of hand level, the theory and use of the stadia and other instruments employed in making topographical surveys are studied. Surveys and maps are also made in connection with this course. *Thirteen hours a week. First semester.* Professor TERRELL.

THE SHORT WINTER COURSE IN HIGHWAY ENGINEERING.

This course begins the first week of February of each year and covers a period of two weeks. The primary object of this course is to give as much instruction as possible in so short a time to county engineers, and other county officials who desire to take advantage of the opportunity. No fee is charged for the course and no educational qualifications are required.

COLLEGE OF MECHANICAL AND ELECTRICAL ENGINEERING.

FREDERICK PAUL ANDERSON, DEAN AND DIRECTOR.

INTRODUCTORY STATEMENT.

This college is organized for the purpose of giving to young men a comprehensive training in dynamic engineering. All fields of human endeavor dealing with the development, use and transmission of power are well defined, component parts of dynamic engineering.

The aim of the curriculum in this college is to prepare graduates for doing creditable work in such branches of mechanical and electrical engineering as are represented by the following activities:

Machine tool building; steam engine and steam turbine design and construction; gas engine design and manufacture; telephone engineering; design, construction, testing and installation of all classes of electrical apparatus and machinery; converting structural steel into bridges and buildings; the physical testing of all classes of building materials; steel making in all of its branches; glass making, heating and ventilating; central power plant design; illuminating engineering, hydraulic engineering; locomotive building; car building; automobile manufacture; pumping machinery building; development of steam and electric traction lines; designing isolated lighting and power plants for public buildings; efficiency engineering; architectural engineering and the design and operation of all plants manufacturing any apparatus or supplies for man's use.

The capable dynamic engineer should possess that knowledge to enable him most effectively to adapt the achievements of science and art to the use of mankind. The technical school, with courses of study of high standard, gives that fundamental training which makes possible brilliant and useful careers in the profession of mechanical and electrical engineering.

Ever since the organiaztion of this department in June, 1891, there have been more available places for Kentucky men than there have been graduates and the demand for young men equipped for mechanical and electrical engineering work at the close of each college year is far in excess of the graduates.

It is difficult to conceive of a profession that offers in this age of industrial achievement such large opportunities for lives of usefulness and remuneration as dynamic engineering.

Kentucky has provided for her sons unusual facilities for gaining an education in mechanical and electrical engineering. No other State in the Union makes such liberal concessions to her young men to gain an education as Kentucky. The expenses for any resident of the State are reduced to a minimum. Every young Kentuckian should recognize that the State has put at his command excellent facilities for obtaining an education in mechanical and electrical engineering. He should further appreciate the fact that the State is making provisions that would cost each student at least two hundred dollars a year for tuition should all the expenses of his training be received in a school not supported by State or federal aid.

EQUIPMENT.

Building.

Mechanical Hall is the home of the College of Mechanical and Electrical Engineering. It contains thirty thousand square feet of floor space and is well arranged for all recitation, lecture, drawing and laboratory work.

The Shops.

The shops or mechanical laboratories are furnished power by a Hamilton-Corliss engine and 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 blacksmith 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.

Drawing Rooms.

Three well lighted and convenient drawing rooms are provided, one for freshmen and sophomores, one for juniors and one for seniors.

Recitation Rooms.

The recitation rooms are as follows: Senior heat engineering, senior and junior electrical engineering, and senior and junior mechanics of engineering. These rooms are all provided with stereopticons and two have projectoscopes.

Library.

The department library and reading room contains a good selection of technical books and many of the current scientific and engineering journals, all available to students.

Senior Room.

A well lighted and heated room, furnished with a large work table is provided for the seniors, in which to prepare laboratory reports and other written work. This room is open in the evening as well as all day.

Club Room.

This is a handsomely furnished room in which the seniors are often assembled for special lectures and instruction. It is also used as a meeting place for the faculty of the college of mechanical and electrical engineering and of the Tau Beta Pi Society.

Photographic Laboratory.

Commodious and convenient quarters are arranged for giving to seniors 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.

Offices.

Offices are provided for all instructors.

STEAM AND GAS ENGINEERING LABORATORY.

The steam engineering laboratory is equipped with indicators, planimeters, gauges, dead weight gauge tester, pyrometers, calorimeters, reducing motion apparatus, scales, micrometers, tachometers, and other small apparatus. It contains a 40-horse power Houston, Stanwood and Gamble cross-compound throttling engine, a 10-horse power Corliss engine, a 25-horse power Buffalo Forge engine, a 35-horse power Westinghouse single-acting compound engine, a small slide-valve engine with a Stephenson valve gear, and a 10-horse power De Laval turbine. There are also two 4-horse power Fairbanks-Morse gasoline engines with gas attachments, and the necessary auxiliary apparatus for testing a 35-horse power Atlas automatic cutoff engine, and a 150-horse power Buffalo Forge tandem compound engine. A 200-horse power Wheeler condenser is so arranged that all engines in the main laboratory can be operated condensing. A testing plate has been arranged for holding down engines for commercial testing. There is an automobile testing plant in which the largest automobile built can be tested.

There are two separate boiler houses. One contains a 50-horse power Babcock and Wilcox boiler and a No. 3 Dean pump. The boiler is used for heating and to supply steam to the Hamilton-Corliss engine which furnishes power to the shops. The other boiler house is situated close to the steam laboratory, and a 100-horse power Babcock and Wilcox boiler has been installed. This boiler can furnish steam at 200 pounds pressure, and an elaborate equipment for boiler testing

has been installed, including induced draft apparatus, barrels and scales for weighing water, and devices for burning oil and gas as well as coal.

The engines are all equipped with friction brakes and apparatus for carrying on all sorts of tests of refinement in steam engineering.

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, 13-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 lifting magnet and one plunger magnet made in the shops; one Leeds & Northup 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 batteries, 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 and 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.

TESTING OF MATERIALS LABORATORY.

The facilities for the study of the physical chacteristic 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;
Moulds, 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 STUDY.

The practical work extends over a period of two years, and includes experience in the wood shop, machine shop, foundry and forge shop. During this period the class-room work and drawing are preparatory to the theoretical studies taken up during the third and fourth years. The course in Mechanical and Electrical Engineering, as given at the University of Kentucky, may be considered as being divided into six parts, as follows: Drawing, Electrical Engineering, Heat Engineering, Mechanics of Engineering, Practical Mechanics and Collateral Activities.

DEGREES.

The courses of study in Mechanical and Electrical Engineering lead to the degree of B. M. E. (Bachelor of Mechanical Engineering).

For the advanced degrees of M. E. and E. E. see the announcement of the Graduate School.

MECHANICAL AND ELECTRICAL ENGINEERING COURSE LEADING TO THE DEGREE B. M. E.

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Chemistry 1	116	General Inorganic Chemistry	3	4	5.0
Drawing 1	223	Mechanical Drawing		8	4.0
Drawing 2	223	Freehand Drawing		1	0.5
English 1	126	English Composition	3		3.0
Mathematics 3	148	College Algebra	5		5.0
Practical Mech. 1	230	Wood Working		10	5.0
Military Science		Infantry Drill		3	1.5

Second Semester.

Chemistry 2	116	General Inorganic Chemistry	3	4	5.0
Drawing 1	223	Mechanical Drawing		3	1.5
Drawing 2	223	Freehand Drawing		1	0.5
Drawing 3	223	Descriptive Geometry	5		5.0
English 1	126	English Composition	3		3.0
Mathematics 2	148	Trigonometry	5		5.0
Physics 4	156	Elementary Physical Measurements		4	2.0
Prac. Mech. 2 & 3	230	Pattern Making and Foundry Work		6	3.0
Military Science		Infantry Drill		3	1.5

*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
Drawing 4	224	Elementary Design		6	3.0
English 3	127	History of English Literature	3		3.0
Mathematics 4a	147	Analytical Geometry. First Part	5		5.0
Mech. of Engin. 5		Slide Rule Practice	1		1.0
Physics 1b	155	General College Physics	4		4.0
Physics 5b	156	Measurements in Mechanics and Heat	1	4	3.0
Military Science		Infantry Drill		3	1.5
		First Half.			
Practical Mech. 4	230	Forge and Machine Shop Work		6	1.5
Surveying 1	205	Land Sureying	2	2	1.5
		Second Half.			
Practical Mech. 4	230	Forge and Machine Shop Work		8	2.0
Surveying 1	205	Land Surveying	2		1.0

Second Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Drawing 4	224	Elementary Design		6	3.0
English 3	127	History of English Literature	3		3.0
Mathematics 4b	147	Analytical Geometry. 2nd Part	5		5.0
Mathematics 5a	147	Differential Calculus	5		5.0
Physics 2b	156	General College Physics	4		4.0
Physics 6b	157	Measurements in Elec. Sound and Light	1	4	3.0
Practical Mech. 4	230	Forge and Machine Shop Work		6	3.0
Military Science		Infantry Drill		3	1.5

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Electrical Engin. 1	224	Elements of Electrical Engin.	5		5.0
Mathematics 5b	148	Integral Calculus	5		5.0
Mech. of Engin. 1	228	Mechanics of Materials	5		5.0
Mech. of Engin. 2	228	Testing of Materials		2	1.0
Mech. of Engin. 3	228	Kinematics (12 weeks)	5		3.5
Mech. of Engin. 7	229	Machine Design (6 weeks)			1.5
Mech. of Engin. 4	228	Kinematic Drawing		12	6.0

Second Semester.

Mech. of Engin. 6	229	Analytical Mechanics	5		5.0
Mech. of Engin. 7	229	Machine Design		8	4.0
		First Half.			
Bridge Engin. 2		Graphic Statics		6	1.5
Chemistry 17	118	Gas Analysis		2	0.5
Elec. Engin. 2	229	Direct Current Dynamos	5		2.5
Elec. Engin. 6	225	Switchboard Design		5	1.25
Elec. Engin. 10	225	Elec. Laboratory } Alternate			
Heat Engin. 8	227	Steam Laboratory } weeks	1	2	1.0
		Second Half.			
Elec. Engin. 3	224	Alternating Currents	5		2.5
Elec. Engin. 7	225	Dynamo Design		8	2.0
Elec. Engin. 10	225	Electrical Laboratory	1	2	1.0
Heat Eng. 8	227	Steam Laboratory	1	2	1.0
Metallurgy 14		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 12 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
Applied Mechanics and Hydraulics	201	Hydraulics	2		2.0
Collateral Activ. 5	231	Magazine Digest } Alternate			
Collateral Activ. 6	231	A. S. M. E. and A. I. E. E. } weeks	1		1.0
Elec. Engin. 4	224	Generation and Transmission of Power	4		4.0
Elec. Engin. 8	225	Dynamo Design		4	2.0
Elec. Engin. 11	226	Electrical Laboratory	1	2	2.0
English 32	127	Engineering English	3		1.0
Heat Engin. 1	226	Thermodynamics	4		4.0
Heat Engin. 2 & 3	226	Valve Gears and Steam Boilers	4		4.0
Heat Engin. 6 & 7	227	Steam Engine & Turbine Design		6	3.0
Heat Engin. 9	227	Steam & Gas Engine Laboratory	1	2	2.0

Second Semester.

Collateral Activ. 5	231	Magazine Digest } Alternate			
Collateral Activ. 6	231	A. S. M. E. and A. } weeks	1		1.0
		I. E. E. }			
English 32	127	Engineering English	3		1.0
		First Half.			
Elec. Engin 5	225	Generation and Transmission of Power	4		2.0
Elec. Egin. 9	225	Transformer Design		4	1.0
Elec. Engin. 11	226	Electrical Laboratory	1	2	1.0
Heat Engin 4	226	Steam Engineering of Power Plants	2		1.5
Heat Engin. 5	227	Gas Engineering	4		2.5
Heat Engin. 9	227	Steam and Gas Laboratory	1	2	1.0
Heat Engin. 10	227	Industrial Engineering	2		1.0
Mech. of Egin. 8		Heating and Ventilating	2		1.0
Mech. of Engin. 9		Heating and Ventilating Design		6	1.5
		Second Half.			
Collateral Activ. 2	231	Senior Inspection Trip	1 week	36	1.0
Collateral Activ. 3	231	Thesis		28	7.0
Collateral Activ. 4	231	Thesis Assembly	1		0.5
Drawing 5	224	Theory and Practice of Photography	1	2	1.0

DEPARTMENTS OF INSTRUCTION
DRAWING.

Professor Nollau, Assistant Professor Horine, Assistant Professor Curtis, Miss Anderson.

1. Mechanical Drawing. Comprising: (a) Free-hand sketches, drawing from copies and models, using parts of machines in the laboratories as models. (b) Free-hand 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. *Eight hours a week, first semester; three hours a week, second semester.* Professor Nollau, Assistant Professor Horine.

2. Free-hand 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 during the latter part of the semester. Prerequisite, Mathematics 1. *Five 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. *Six hours a week. Thruout the year.* Professor NOLLAU, Assistant Professor HORINE.

5. **Theory and Practice of Photography.** 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. For seniors in Mechanical and Electrical Engineering. *Recitations one hour a week; laboratory two hours a week. Second half of second semester.* Professor NOLLAU.

ELECTRICAL ENGINEERING.

Professor Freeman, Assistant Professor Duncan.

1. **Elements of Electrical Engineering.** For juniors in all engineering colleges. This work covers a study of the fundamental laws of electrical engineering; the construction and principle of the simpler forms of measuring instruments, such as galvanometers, potentiometers, ammeters, voltmeters and wattmeters; direct curent 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.** This course involves a more intensive study of direct current generators and motors than is covered in Course 1. It is especially intended to prepare students for course 7 (Dynamo Design). Prerequisite, Electrical Engineering 1. *Five hours a week. First half of second semester.* Professor FREEMAN.

3. **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. *Five hours a week. Second half of second semester.* Professor FREEMAN.

4. **Generation and Transmission of Power.** 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. *Four hours a week. First semester.* Professor FREEMAN.

5. **Applications of Electricity.** A brief course in illumination, telephony, telegraphy and electric wiring. Prerequisite, Electrical Engineering 1 and 3. *Four hours a week. First half of second semester.* Professor FREEMAN.

6. **Switchboard Design.** 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. Prerequisite, Electrical Engineering 1. *Five hours a week. First half of second semester.* Professor FREEMAN.

7. **Dynamo Design.** This work involves all of the calculations necessary in the design of a direct current generator or motor. Each student is assigned an individual problem and follows the methods outlined in Course 2. Prerequisites, Electrical Engineering 1 and 2. *Eight hours a week. Second half of second semester.* Professor FREEMAN, Assistant Professor DUNCAN.

8. **Dynamo Design.** This is a continuation of Course 7. Each student makes a complete set of detailed drawings showing the construction of the particular machine which was assigned him at the beginning of Course 7. *Four hours a week. First semester.* Assistant Professor DUNCAN.

9. **Transformer Design.** A complete set of calculations and detailed drawings are made of a common type of transformer. Each student is assigned an individual problem. *Four hours a week. First half of second semester.* Assistant Professor DUNCAN.

10. **Electrical Laboratory. Junior.** The electrical experiments 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, Assistant Professor DUNCAN.

11. **Electrical Laboratory. Senior.** A series of experiments is provided which brings out the fundamental principles studied in the class room. The various features of the operation of generators, synchronous motors, transformers, induction motors, and the various forms of a. c. measuring apparatus are studied experimentally. A comprehensive report on each experiment is required of each student within a week after the experiment is performed. *Recitations one hour a week; laboratory two hours a week. First semester and first half of second semester.* Assistant Professor DUNCAN.

12. **Alternating Currents for Civil and Mining Engineers.** The first part of this course covers practically the same ground as Course 3. During the latter part of the semester some of the applications of electricity to the special problems of civil and mining engineering are studied. Professor FREEMAN.

HEAT ENGINEERING.

Dean Anderson, Assistant Professor Wilhoite, Instructor Brooke.

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 through 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, for 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. BROOKE.

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. BROOKE.

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.

MECHANICS OF ENGINEERING.

Professor Frankel, Assistant Professor Curtis, Assistant Professor Wilhoite, Instructor Brooke.

1. Mechanics of Materials. 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.* Professor FRANKEL.

2. Testing of Materials. 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. 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. 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. 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. BROOKE.

6. 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. *Five hours a week. Second semester.* Professor FRANKEL.

7. Machine Design. 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 in the course of these lectures. 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. This is a study of the calculations necessary for the design of a modern heating and ventilating installation. Details of the construction of the apparatus required and the best methods of erecting same are carefully considered. Furnace heating, steam heating and hot water heating are all included in the investigations and calculations are made for each system. The relative merits of each system under particular conditions are emphasized. *Two hours a week. First half of second semester.* Professor FRANKEL.

9. Heating and Ventilating Design. 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.

PRACTICAL MECHANICS.

Assistant Professor Joseph Dicker, Instructor J. B. Dicker.

1. Wood Working. 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. *Ten hours a week. First semester.* Mr. J. B. DICKER.

2. Pattern Making. 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 and together occupy six hours a week during the second semester.* Mr. J. B. DICKER.

3. Foundry Work. 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 and together occupy six hours a week during the second semester.* Assistant Professor JOS. DICKER.

4. Forge Shop Work. Exercises in iron and steel forging. Prerequisites, Practical Mechanics 1 and 2. *Courses 4 and 5 are co-ordinate and together occupy six hours a week during the first half and eight hours a week during the second half of the first semester and six hours a week during the second semester.* Assistant Professor JOS. DICKER.

5. Machine Shop Work. (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 and together oc-*

cupy six hours a week during the first half and eight hours a week during the second half of the first semester and six hours a week during the second semester. Assistant Professor JOS. DICKER.

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, Assistant Professor DUNCAN.

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 Mechanical and Electrical 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 or of a university engineering building by a large part or all of 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 thoroughly acquaint them with the details of the problem assigned. Professor ANDERSON, Professor FRANKEL, Professor FREEMAN, Assistant Professor WILHOITE, Assistant Professor DUNCAN.

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, Assistant Professor DUNCAN.

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 DUNCAN, Mr. BROOKE.

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 DUNCAN, Mr. BROOKE.

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 DUNCAN.

COLLEGE OF MINES AND METALLURGY.

CHARLES J. NORWOOD, DEAN.

GENERAL STATEMENT.

Organization.

The College of Mines and Metallurgy embraces the following schools:

School of Mining Engineering.
- Mining Engineering.
- Mining, Two Years Course.
- Practical Miner's Course.

School of Metallurgical Engineering.
- Metallurgical Engineering.
- Ore Dressing.

School of Extension.

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 College 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 College 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 num-

ber 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 rachet 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 com-

plete; 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 (given by Dr. Pryor, Professor of Anatomy and Physiology), was introduced during the season of 1912-13.

DEGREES.

The degree of Bachelor of Mining Engineering (B. E. M.) or of Bachelor of Metallurgical Engineering (B. Met. E.), as the case may be, is given upon completion of the regular appropriate course of four years.

For the decree of Mining Engineer (E. M.), ore dressing, milling, coal mining, metal mining, mint plant, metallurgy, or electricity applied to mining, may be selected as major study; and minor studies may be assigned from metallurgy, civil engineering, mechanical engineering, electrical engineering, geology, chemistry, physics, mathematics, political economy, law, sociology, English, Spanish, 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 major study; and minor studies may be assigned from mining engineering, mechanical engineering, electrical engineering, civil engineering,

chemistry, physics, mathematics, pyrometry, clay burning, electrolytic refining, economics, sociology, law, English, Spanish and German.

A non-resident student may obtain the advanced degree, three years after graduation, if he has engaged in practical engineering work during that time, and presents an acceptable thesis.

Candidates for advanced degrees should apply to the Chairman of the Graduate School Committee.

COURSES OF INSTRUCTION.

The courses are laid out with the design of affording the student a thoroughly good 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 through 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 of Mines and Metallurgy has been successful in placing its undergraduates during vacation months, and all graduates have obtained positions promptly after graduation.

Schedules showing in detail the order in which the subjects leading to degrees in the respective schools of the college are given, together with the amount of time devoted to each, may be found on succeeding pages.

Following are general notes descriptive of technical subjects included in the courses:

CHEMISTRY.

Chemistry is begun in the freshman year. The course in general inorganic chemistry consists of lectures and recitations three hours each week thruout the year, with laboratory exercises four hours per week in the first semester, and six hours per week in the first half of the second semester. Qualitative analysis of metals is given six hours per week during the second half of the second semester of the freshman year. Quantitative analysis is given three times each week during the first half of the second semester of the junior year. The work indicated is taken by students both in min-

ing and in metallurgy. The student in metallurgy takes additional quantitative analysis, including analysis of alloys, slags, refractory materials, flue and producer gases, rocks, iron and steel.

PHYSICS.

Instruction in physics (text, lectures and laboratory), including mechanics, sound, heat, magnetism and electricity, is taken up in the sophomore year, and is given thruout the year. The work indicated is taken by students both in mining and in metallurgy. The student in metallurgy may take advanced physical measurements in addition.

APPLIED ELECTRICITY.

Includes elements of electrical engineering, dynamo-electric machinery, electrical appliances, alternating current machines and power plants. Among the subjects covered are, the fundamental laws of electrical engineering; measuring instruments; condensers and the measurement of capacity; inductance and its measurement; direct current and transmission lines; direct current generators and motors; electric lighting and wiring, and telephones; electric mine haulage, hoisting and pumping machinery; alternating current generators and motors; care of electric motors; high voltage transmission lines; the equipment and operation of central stations for the generation of electric energy. Taken by students both in mining and in metallurgy.

MECHANICS AND HYDRAULICS.

Mechanics of materials of engineering, which deals with the laws governing the behavior of the different materials used in construction under the action of forces, is required of all students pursuing four-year courses in this college. The effect of strains upon beams, columns and shafts of different shapes and materials is studied. Problems including the design of truss members, floors, girders and re-enforced concrete construction are given. In addition to the classroom instruction, experimental work is carried on in the testing laboratory. Analytical mechanics is taking only by the students in mining. Hydraulics is required of all students pursuing the full course in mining and metallurgy. The instruction includes the solution of problems covering the principles of hydrostatics and hydrodynamic

pressure, the flow of water through orifices and nozzles, over wires and through pipes and open channels, and losses from friction and other sources.

DRAWING AND DESIGN.

A liberal amount of instruction in drawing and design is given. The course includes mechanical and free-hand drawing, embracing sketches from copies and models, lettering (mechanical and free-hand), tinting and shading, tracing and blue-printing; descriptive geometry and its application to engineering drawing; the design of machine details, the design of mine and metallurgical structures, and the construction of mine, land, and geological maps. Graphic statics is given in the junior year, and advanced work in structural design in the first semester of the senior year.

WOOD AND FORGE SHOPS AND FOUNDRY.

Instruction in wood-working (bench and lathe) is taken in the freshman year, and instruction in blacksmithing—exercises in iron and steel forging and in vise work—is taken in the sophomore year. Students in metallurgy take instruction in foundry practice, including molding and core-making, and the melting and casting of iron, brass, and other commercial alloys.

GEOLOGY, MINERALOGY, AND ORE DEPOSITS.

Taken by all students matriculated in the College of Mines and Metallurgy. For those taking mining engineering who may elect to specialize in mining geology (now followed by many mining engineers), a systematic course is laid out which, in addition to an adequate amount of instruction in geology, petrology, and mineralogy, includes the necessary thorough training in the technical features of mining and the study of ore deposits from the mining point of view; also, necessary instruction in the survey and estimation of mineral deposits generally, in scientific methods of prospecting (including field methods in the survey of underground structure), in the application of descriptive geometry to engineering problems involved in geological conditions affecting mineral deposits, in the examination and valuation of mines and mining properties and reporting thereon, in assaying, in ore dressing, in chemical analysis, in metallurgy, and in

drawing. Some instruction in the application of metallographic methods in the study of ores is also given. The work is carried through the junior and seniors years.

In addition to the excellent geological and mineralogical collections of the Department of Geology (College of Arts and Science), the State Geological Museum, exhibiting representatives of all the mineral products of Kentucky, together with collections from other states, which occupies one floor of the mining engineering building, is conveniently arranged for study by students of the college.

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 text-books and assigned reading. A general outline of the subjects discussed under the special head of mining is as follows:

1. Elements of Mining. Freshman. A general view of mining operations, preparatory for the advanced work. *Two hours a week. Thruout the year.* Mr. WORLEY.

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, Methods 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 timbering, (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. 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. 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.

5a. Ventilation. Senior. Theoretical considerations: Methods of ventilation; distribution of air supply. *Three hours a week. First semester.* Professor BARR.

6. 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.

7. 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.

8. 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.

9. Mining Laws, Mine Rules and Mining Camps. Senior. *Two hours a week. First semester.* Professor NORWOOD or Professor BARR.

10. Mine Air. Sampling and Examination. Senior. *Two hours a week. First half of second semester.* Mr. REED.

Mine Visitation. Opportunity for visiting mines under the guidance of the Dean, 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 through 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. Elementary Mine and Land Surveying. Freshman. *Two hours a week. Second half of second semester.* Mr. WORLEY.

2. Mine and Land Surveying. Sophomore. *Two hours a week, thruout the year.* Professor BARR.

3. Advanced Mine and Land Surveying. Field work and maps. Junior. *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; as follows:

1. Motors: Steam engines and boilers, and valve gears; gasoline engines and motors; electric engines and locomotives. Compressed Air: Air compression, compressors, receivers, transmission through 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.

ORE DRESSING.

1. Concentration and Washing. Junior year. *Three hours a week. Second half of second semester.* Professor NORWOOD, Mr. WORLEY.

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, Mr. WORLEY.

Kentucky lead and zinc ores, complexes of fluorspar, calcspar,

and 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 sophomore 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.* Mr. WORLEY.

1a. 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, Mr. WORLEY.

2. Elements of Metallurgy. Sophomore. This includes a general review of typical metallurgical processes. For students in mining and in metallurgy. *Two hours a week. Last half of second semester.* Mr. WORLEY.

3. Metallurgy of Iron and Steel. Junior. For students in Mining. *Two 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, Mr. WORLEY.

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, Mr. WORLEY.

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, Mr. WORLEY.

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, Mr. WORLEY.

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, Mr. WORLEY.

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.* Mr. WORLEY.

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 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.

MINING LAW, MINE RULES, MINING CAMPS.

Mining 9. 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 sophomore 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.

School of Mining Engineering.

MINING ENGINEERING.

OUTLINE OF COURSE LEADING TO THE DEGREE OF B. E. M.

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
English 1	126	English Composition	3		3.
Mining 1	240	Elements of Mining	2		2.
Mathematics 2	148	Trigonometry	5		5.
Chemistry 1	116	General Inorganic Chemistry	3	4	5.
Drawing	223	Mechanical and Freehand		8	4.
Shop Work	239	Bench and Lathe Work in Wood		8	4.
Military Science		Drill		3	1.5

Second Semester.

English 1	126	English Composition	3		3.
Mining 1	240	Elements of Mining. First Half	2		1.
Elementary Sur.	211	Chain Surveying, Ranging. Second Half	2	2	1.5
Mathematics 3	148	College Algebra	5		5.
Chemistry 2	116	Chemistry of Metals	3	6	6.
Drawing	223	Mechanical and Freehand		10	5.
Drawing 3	223	Descriptive Geometry	5		5.
Military Science	223	Drill		3	1.5

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Mathematics 4a	148	Analytical Geometry. First Part	5		2.5
Physics 1a	155	Mechanics, Sound, Heat	3	4	5.
Mine & Land Sur.	242	Recitation; Use of Instruments	2	2	3.
Drawing 4	224	Elementary Design		7	3.5
Geology 1	132	Elementary Geology	4		4.
Military Science		Drill		3	1.5

*A credit represents one hour of recitation or two hours of laboratory for one semester.

Second Semester.

Mathematics 4b	148	Analytical Geometry. 2nd Part	5		5.
Physics 2a	156	Electricity, Magnetism Light	3	4	5.
Mine & Land Sur.	242	Recitations; Use of Instruments	2		2.
Mine & Land Sur.	242	Field Work		8	4.
Mathematics 5a	148	Differential Calculus	5		5.
Magazine Review	246	Magazine Review	3		1.
Metallurgy 2	244	Elements of Metallurgy. Last half	2		1.
Shop Work	239	Iron and Steel Forging. 1st Half		6	1.5
Military Science		Drill		3	1.5

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Electrical Engin. 1	224	Elements of Electrical Engin.	5		5.
Mech. of Engin 1	228	Mechanics of Materials	5		5.
Mech. of Engin. 2	228	Testing of Materials		2	1.
Mathematics 5b	148	Integral Calculus	5		5.
Mining 2, 2a	240	Excavating, Quarrying, Boring, etc.	5		5.
Metallurgy 3	244	Iron and Steel	2		2.
Mine Surveying	242	Field Work and Maps		8	4.

Second Semester.

Elec. Engin. 12	226	Alternating Currents. 1st Half	5		2.5
Mining 3	240	Development; Methods. 1st Half	2		1.
Mining 3	240	Development; Methods. Last Half	3		1.5
Mech. of Engin. 6	229	Analytical Mechanics	5		5.
Metallurgy 5	244	Copper, Lead, Zinc. 1st Half			
Metallurgy 6	245	Silver, Gold, etc. 1st Half	5		2.5
Chemistry 10	117	Quantitative Analysis. 1st Half	1	8	2.5
Geology 7	133	Economic Geology	2		2.
Geology 3	133	Mineralogy		4	2.
Ore Dressing 1	243	Concen. and Coal Washing. Last Half	3		1.5
Electrical Engin. 13	226	Applied Electricity. Last Half	5		1.5
Metallurgy 1	244	Assaying. Last Half		10	2.5
Graphic Statics		Graphic Statics. Last Half	2		1.

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Applied Mechanics and Hydraulics 5	201	Hydraulics	2		2.
Mining 7	241	Engines, Boilers, Mining Machines, etc.	3		3.
Political Science 1	137	American Government	3		3.
Polical Econ. 1	137	Introduction to Economics	2		2.
Mining 5a	241	Ventilation; Principles, etc.	3		3.
Mining 9	242	Mining Law, etc.	2		2.
Mining 4	241	Ore Deposits, Mining Geology, etc.	5		5.
Ore Dressing 2	243	Applications. First Half	4	4	3.
Ore Dressing 2	243	Applications. Second Half		8	2.
Plant Design	243	Structural Drawing		6	3.

Second Semester.

Mining 5	241	Extraction, etc. First Half	5		5.
Political Science 1	137	American Government. 1st Half	3		1.5
Political Econ. 1	137	Introduction to Economics. 1st Half	2		1.
Mining 7	241	Mine Plant. First Half	5		2.5
Mining 6	241	Gases and Accidents. 1st Half	5		2.5
Metallurgy 7	245	Elements of Metallography. 1st Half	3		1.5
First Aid	236	First Aid to Injured. 1st Half	3		1.5
Mining 10	242	Mine Air; Samp. and Exam. 1st Half		2	1.
Mine Structures	243	Design of Mine Structures. 1st Half		4	1.
Mining 8	241	Exam. and Val. of Mines. Last Half	5		2.5
Thesis		Thesis. Last Half			
Mine Visitation	242	Mine Visitation			

THE TWO YEARS' COURSE IN MINING.

A Two Years' Course for young men who for 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 in business or professional

dealings even tho they should not be directly connected with mining operations. Requirements 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 Dean of the College 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 MINER'S 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.

School of Metallurgical Engineering.

One course is given, which extends thru four years and leads to the degree of Bachelor of Metallurgical Engineering. In addition to a certain amount of instruction in mining methods, the technical subjects are: (a) Metallurgy, (b) Ore Dressing (ore separation and concentration), (c) Coal Washing, Coke Making, and Fuel Testing; and (d) Assaying.

OUTLINE OF COURSE LEADING TO THE DEGREE OF B. MET. E.

FRESHMAN AND SOPHOMORE YEARS.

The work in the freshman and sophomore years parallels that given in Mining for the same years, except that Pattern Making and Foundry work may be taken instead of some of the freshman drawing.

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Electrical Eng. 1	224	Elements of Electrical Engin.	5		5.
Mech. of Eng. 1	228	Strength of Materials	5		5.
Mech. of Eng. 2	228	Testing of Materials		2	1.
Mathematics 5b	148	Integral Calculus	5		5.
Mining 2 and 2a	240	Excavating, Quarrying, Boring, etc.	5		5.
Mine Surveying	242	Field Work and Maps		8	4.

Second Semester.

Elec. Eng. 12	226	Alternating Currents. 1st Half	5		
Mining 3	240	Development, Methods. 1st Half	2		1.
Mining 3	240	Development; Methods. Last Half	3		
Metallurgy 13	245	Metallurgical Calculations. 1st Half	3		1.5
Metallurgy 5 and 6	244 245	Copper, Lead, Zinc., etc. 1st Half	5		2.5
Chemistry 10	117	Quantitative Analysis	1	8	5.
Geology 7	133	Economic Geology	2		2.
Geology 3	133	Mineralogy		4	2.
Mining 5	241	Extrac. and Removal of Mat. Last Half	5		2.5
Metallurgy 4	244	Iron and Steel. Last Half	5		2.5
Ore Dressing 1	243	Principles and Applications. Last Half	3		1.5
Electrical Eng. 13	226	Applications of Electricity. Last Half	5		2.5
Graphic Statics		Graphic Statics. Last Half	2		1.

*A credit represents one hour of recitation or two hours of laboratory a week for one semester.

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Applied Mechanics and Hydraulics 5	201	Hydraulics	2		2.
Political Science 1	137	American Goernment	3		3.
Political Econ. 1	137	Introduction to Economics	2		2.
Metallurgy 8	245	Metallurgy of Copper Extended	3		3.
Engines	243	Steam and Other Engines	2		2.
Mining 4	241	Ore Deposits, Mining, Geology, etc.	5		5.
Ore Dressing 2	243	Applications and Laboratory	2	6	5.

Second Semester.

Mining 5	241	Extraction, etc. 1st Half	5		2.5
Political Science 1	137	American Government. 1st Half	3		1.5
Political Econ. 1	137	Introduction to Economics. 1st Half	2		1.
Metallurgy 17	245	Electrometallurgy. 1st Half	3		1.5
Metallurgy 9 and 10	245	Lead, Silver, Gold. 1st Half	5		2.5
Chemistry 17	118	Gas Analysis. First Half		2	.5
Plant Design	243	Plant Design. First Half		4	1.
Metallurgy 1a	244	Assaying and Testing. 1st Half		8	2.
Metallurgy 11	245	Alloys, Metallography. Last Half	4	6	3.5
Metallurgy 12	245	Fuel Testing, etc. Last Half		4	1.
Magazine Review	246	Magazine Review. Last Half	1		.5
Thesis		Thesis. Last half semester			

School of Extension.

The purpose of the School of Extension is in part to extend the instructional work of the College of Mines and Metallurgy through the formation and supervision of local classes in the mining fields for men and youths employed at the mines, and through 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 College, examinations are held by representatives of the College, and a certificate is awarded to such persons as satisfactorily complete the work laid out for them.

COLLEGE OF LAW.

W. T. LAFFERTY, DEAN.

SPECIAL STATEMENT.

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 in 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.

Tuition is free to all law students who are residents of Kentucky, but each student will be required to pay an incidental fee of $22.50.

Five dollars of this fee will be used in paying for use of illustrative case books. Non-resident law students will pay an additional fee of $5.00. Students entering the second semester will pay one-half the above fees. Each graduate will pay a diploma fee of $10.00. The books for the required work will cost about $25.00 a year. Good board and lodging can be had in private families at prices varying from $3.50 to $4.50 per week. Or rooms may be had in private families 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 applicants, 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 line of 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.

All students who are candidates for graduation must be able to offer credit for fifteen units* of high school or other secondary school work. This credit can be secured:

1. By examination.
2. By certificate from an accredited school.
3. By transfer from some other university or college.

Of the fifteen units required for admission, 8½ are specified as follows:

†English	3
‡Algebra	1½
Plane Geometry	1
History	1
Foreign Languages	2

*A unit represents a subject pursued for five periods a week for one school year.

†Graduates of first class high schools who have had four school years' work in English of five recitations a week may offer four units to English.

††In certain cases, a student may offer two credits in algebra. For particulars, see page 64.

No subject offered as an entrance requirement can be counted again in the total credit required for the completion of a college course.

The remaining 6½ units may be selected at will from the following list:

Trigonometry	½	Geology	½ to 1
Solid Geometry	½	Agriculture	½
Surveying	½	Physical Geography	½
French	1 to 3	Civil Government	½
German	1 to 3	Psychology or Pedagogy	½
Spanish	1 to 3	Political Economy	½
Latin	1 to 4	Commercial Geography	½
Greek	1 to 3	Commercial Arithmetic	½
History	1 to 3½	Manual Training	½
Physics	1	Bookkeeping	½
Botany	½ to 1	Free Hand Drawing	½
Chemistry	½ to 1	A General Science	½
Zoology	½ to 1	Teaching one year or more on First Class Certificate	1
Physiology	½ to 1		

A student will be received and classified as first year law student if he offers as many as thirteen of the fifteen units, but he must make up the two additional units before the beginning of his second work or any part of it, will be received from other acceptable schools.

College Work.

All candidates for graduation who are under twenty-one years of age when matriculated, must before beginning the last year of the law course, complete at least fifteen credits of college work equivalent to the freshman year of this University. This work will be chiefly elective, but must be so chosen as to satisfy the Dean, and must in the first year include English and Forensics. Credit for this work or any part of it, will be received from other acceptable schools.

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. For admission to the junior year, satisfactory evidence must

be shown of the completion of the work of the first year of the course in law or its equivalent. For admission to the senior year, evidence must be shown of the completion of the work of the first and junior years of the course in law or its equivalent. 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, and such reading has not been sufficiently extensive to bring them within the rules for admission for graduation, 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 college work and the work in law as prescribed, have passed the final examination and have reached the age of twenty-one year.

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 faculty.

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 department, and is open daily for the free use of students. This library embraces the entire Na-

tional Reporter system, and the separate volumes of the reports to 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, Halbury'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, are on hand. All the best publications of law books being issued are obtained 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.

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 Lawyers Co-operative Publishing Company Prize.

The Lawyers Co-operative Publishing Company, of Rochester, New York, offers as a prize to the student who makes the best general average in the junior year, a set of seven volumes Co-operative Digest of the United States Supreme Court Reports.

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.

Henry S. Barker Prize.

Henry S. Barker, President of the University, offers a prize of twenty dollars to be awarded to the law student of the Henry Clay Law Society, who prepares and delivers the best oration upon some legal topic.

METHOD OF INSTRUCTION.

The method of instruction pursued will be the use of text-books, lectures, cases, and such other methods as the faculty may deem advisable. The value which the study of cases possesses, in illustrating the practical application of legal principles, is fully appreciated, and in addition to the use of prescribed case books the student will be required to use the library freely, in searching for cases illustrative of the principles taught him. He will be required to present the result of his investigation in the law library, to the class-room, that the subject may be discussed before the class until thoroly understood. The preparation of all applicable legal instruments will be taught in connection with the respective subjects.

Examinations will be held on each subject as it is completed, and a general examination will be held at the end of the year upon the entire year's work.

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 statements 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. Brief making and criminal procedure will be taught in this connection.

Practice Court.

The training given in a law school 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 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.

OUTLINE OF COURSE OF STUDY.

FIRST YEAR.

1. **Study of the Common Law.** Robinson's *Elementary Law and Reference Books. Three hours a week. First semester.* Professor CHALKLEY.

2. **Domestic Relations.** Husband and wife, parent and child, guardian and ward, master and servant and infancy; instruction in the keeping of all documents and court records connected with these relations. Text-books: Schouler's *Domestic Relations*, Cooley's *Cases. Three hours a week. First semester.* Professor HUTCHCRAFT.

3. **Torts.** This course deals with all phases of the subject. Text-book: Bigelow's *Text Books and Cases. Two hours a week. First semester.* Professor HUTCHCRAFT.

4. **Contracts.** Elements and principles, formation, classification, the various relations and laws governing same. Tests in the formation of contracts. Text-books: Clark on *Contracts*, Throckmorton's *Cases. Two hours a week. First and second semesters.* Associate Professor VAUGHN.

5. **Real Property.** This subject is treated fully, including instruction in conveyancing, abstracting, and the keeping of real estate court records. Text-book: (To be announced). Lectures and cases. *Two hours a week. First and second semesters.* Professor CHALKLEY.

6. **Agency.** The creation, dissolution, and incidents. Text-books: Meachem's *Outline of Agency*, Meachem's *Cases. Three hours a week. Second semester.* Professor HUTCHCRAFT.

7. Partnership. Formation, dissolution, liabilities, and consequences. Text-books: Meachem's *Elements of the Law of Partnership*, Gilmore's *Cases. Two hours a week. Second semester.* Professor HUTCHCRAFT.

8. Criminal Law. The general principles of criminal law, the elements and classification of crimes, proceedings in criminal cases. Text-books: Clark's *Criminal Law*, Fisher's *Cases. Three hours a week. Second semester.* Professor LAFFERTY.

9. Bailments and Carriers. Origin and history; the various kinds of persons and companies classified under this head and the laws regulating same. Text-book: Elliott on *Bailments and Carrier. Cases. Two hours a week. Second semester.* Associate Professor KERR.

JUNIOR YEAR.

10. Common Law Pleading. A study of the original plan of common law pleading, the present plan of its practice, and extent of its use. Text-books: Andrew's. Stephen's *Common Law Pleading. Cases. Two hours a week. First semester.* Professor CHALKLEY.

11. Evidence. This course covers the rules of evidence as developed by the common law, and the rules in general use in all courts. Also the procedure in court in the treatment of all questions of evidence. Text-book: Greenleaf on Evidence, Vol. 1, fifteenth edition. Select cases. *Three hours a week. First semester.* Professor HUTCHCRAFT.

12. Insurance. History, nature and general principles of insurance law, applicable to all kinds of insurance. Samples of all kinds of policies issued are used in class. Text-books: Vance on *Insurance*, Cooley's *Cases. Two hours a week. First semester.* Professor HUTCHCRAFT.

13. Bills, Notes and Checks. This course deals with the law and business application of the subject. Text-books: Bigelow on *Bills, Notes and Checks*, Moore's *Cases. Two hours a week. First semester.* Associate Professor KERR.

14. Corporation. The nature and classes of corporations, their creation, charter, and organization; franchises, powers, and limitations, consolidation, forfeiture of charter and the laws regulating corporations. Practice work in creating corporations. Text-books: Elliott on *Private Corporations*, Elliott-Wormser's *Cases. Two hours a week. First and second semesters.* Associate Professor BUSH.

15. **Equity.** The origin and development of equity jurisprudence, general maxims, an exhaustive study of the principles and application of the subject. Text-book: Bispham's *Equity, Student's Edition.* Study of cases. *Two hours a week. First and second semesters.* Associate Professor ALLEN.

16. **Real Property.** Continued from first year, including conveyancing and other transactions relating to real property. *Cases on Real Property to be announced. Two hours a week. Second semester.* Professor CHALKLEY.

17. **Code Pleading.** A study of the general rules adopted in the various code states, but particular attention is given to the rules in use in this state. The student is instructed in the framing of all kinds of pleadings, demurrers, etc. *Case book to be announced. Two hours a week. Second semester.* Professor CHALKLEY.

18. **Principles of Sales.** Text-book: Tiffany on Sales. Study of cases. *Two hours a week. Second semester.* Professor HUTCHCRAFT.

19. **Personal Property.** Distinction between real and personal property; acquisition of title to presonal property, by accession, confusion, gift, occupancy and finding; property rights of bailor and bailer; deed, transfer and lien. Gray's *Cases on Property* (2nd ed.), Vol. 1. *Two hours a week. Second semester.* Professor HUTCHCRAFT.

20. **Moot Court.** This work will embrace the study of law and its applications to given statements of facts, brief making, argumentation and the study and practice of uncontested matters such as the lawyer handles in his office. Criminal procedure. *Two hours a week. Second semester.* Professor LAFFERTY.

SENIOR YEAR.

21. **Damages.** This course deals generally with the subject of damages, the kinds, measure and procedure. Text-books: Sedgwick's *Elements of the Law of Damages,* Cooley's *Cases. Two hours a week. First semester.* Professor HUTCHCRAFT.

22. **Wills and Administration.** Persons who make a will, what may be willed, what constitutes a valid will. Preparation of wills, procedure in the qualification of an executor and administrator, settlement of estates, etc. Text-books to be announced, Reeve's *Cases. Two hours a week. First semester.* Professor CHALKLEY.

23. **Conflict of Laws.** A careful study is made of the comparison of theories and practice in various jurisdictions, as to both civil and

criminal matters, and with interstate law in the United States. Text-books: Minor's *Conflict of Laws*, Lorenzen's *Cases*. *Three hours a week. First semester.* Professor LAFFERTY.

24. Elements of Constitutional Law. A study of American federal and state constitutional law, departments of government, legislative, executive and judicial; jurisdiction of the state and federal courts; construction and conflicts of the various constitutions, and the laws on same. Text-book: Hall's *Cases on Constitutional Law. Two hours a week. First semester.* Professor CHALKLEY.

25. Practice Court. Practice court work, code and statute law, including all lines of work elsewhere set out under general title "Practice Court." *Three hours a week. Thruout the year.* Professor LAFFERTY.

26. Roman Law. History of the civil law, its growth and present scope. Also its effect and influence upon the laws of the United States. Text-book: Howe's *Studies in Civil Law. One hour a week. Second semester.* Professor TIGERT.

27. Quasi Contracts. Obligations based upon contractural relations, and imposed upon equitable rules. Text-book: Keener on the *Law of Quasi Contracts.* Lectures and cases. *Two hours a week. Second semester.* Professor CHALKLEY.

28. Trusts. Nature and intents of trust relations, methods of creating trusts, rights and obligations of trustees and beneficiaries, resulting and constructive trusts, charitable trusts. Text-book: Ames' *Cases on Trusts. Two hours a week. Second semester.* Professor HUTCHCRAFT.

29. Administrative Law. Administrative power and action, discretion; form and proof of official acts; notice. Relief against administrative action; action to recover damages; specific relief; jurisdiction and judicial control. Text-book: Goodnow's *Administrative Law. Two hours a week. Second semester.* Professor CHALKLEY.

30. Study of Statute Law. A detailed study and critical analysis of statutes from the standpoint of their structure, interpretation, construction, application, and relation to each other, togeher with a consideration of the fundamental principles of the law which they affect. *Two hours a week. Second semester.* Professor CHALKLEY.

31. Seminar on Contemporary Legislative Problems. Each student will be required to investigate a particular legislative problem of interest to lawyers, and to present informally the present law in Kentucky, the evils for which a remedy is sought, the way the problem has

been met in other states and countries, and a proposed statute for Kentucky. After criticism by the instructor and other students, he will prepare a thesis embodying the results of his investigation. Elective, limited to sixteen students. *One hour a week. Second semester.* Professor HUTCHCRAFT.

32. **Jurisdiction and Procedure in the Federal Courts.** Course of lectures will be delivered upon the history and creation of the Federal Courts, their jurisdiction and procedure. *Second semester.* Judge DU RELLE.

33. **Bankruptcy.** Law and procedure. Course of lectures. Professor LAFFERTY.

SUMMER COURSE IN LAW.

In connection with the summer courses of instruction offered by the University of Kentucky, the College of Law will offer special courses in law, beginning June 11, 1917, and continuing eight weeks. These courses will be given on many of the subjects set out in the regular courses, and are offered for the benefit of those who have not completed the work of the previous year and wish to continue the law course to its completion; for those who are preparing for admission to the bar and have had no training in a law school; for lawyers or students who wish to review the law to familiarize themselves with the theory, or to prepare for advanced standing in pursuing the law course to graduation in this University. Work successfully completed during the summer term will be credited as if done during any regular term, thereby lessening to that extent the period of time necessary for graduation.

Students who enter the Summer Law School will be permitted to supplement their law studies by taking instruction in any of the classes in other departments of the University without extra charge. The surroundings of the University are peculiarly favorable for summer work. The campus of fifty-two acres is well located, well elevated, and covered with trees and shrubbery.

The tuition for the summer term is $12.50. Students will be allowed to room in either of the two large dormitories, including use of furniture and lights, for a nominal sum. Meals may be had at prices ranging from $2.75 to $4.00 per week.

THE GRADUATE SCHOOL.

GENERAL INFORMATION.

Organization.

For a number of years several departments had offered advanced work leading to a Master's degree in Arts or Science and to a second degree in Engineering. At its annual meeting in May, 1912, the Board of Trustees of this University, acting upon the suggestion of the President, formally authorized the organization of a Graduate School. It is administered by the Committee of Deans of the several colleges.

The libraries comprise the General Library, the Agricultural, Engineering and Law Libraries as well as those of the various departments of the College of Arts and Science. Graduate students may also consult the public libraries of Lexington, Louisville and Cincinnati. Arrangements have been made whereby the extensive collections of some of the older institutions of learning may be freely consulted.

Candidacy and Residence.

1. Candidates for a higher degree, whether resident or non-resident, will first communicate with A. M. Miller, Dean of the College of Arts and Science, who is chairman of the Graduate School Committee.

2. No graduate students will be regarded as candidates for a degree unless admitted to candidacy by this committee.

3. Candidates for advanced degrees in the Colleges of Arts and Science and Agriculture must be in residence.

4. Every candidate for a graduate degree must carry exclusive of thesis work at least 9 credit hours in subjects including a major and one or two minors.

5. Prior to matriculation all prospective graduate students, resident or non-resident, must receive the sanction of the Graduate School Committee. Prior to the assignment of work each student will submit a receipt from the registrar showing that the fee of $15.00 has been paid.

REQUIREMENTS FOR DEGREES.

1. For major work the course or courses must be strictly graduate courses. The minor or minors may be such courses as will best contribute to the efficiency of the major study.

2. The student must be in residence at least one year, or for three summer terms, in courses approved by the Graduate School Committee. Instructors under whom graduate work is being done will in January and May of each year submit to the committee a report of work done by the candidate as well as the outcome of the examination in residence. At any time a candidate may be debarred from the privileges of the Graduate School for inefficiency.

3. In every instance the thesis, typewritten or printed, must be approved: (a) by the major professor; (b) by the Graduate School Committee.

4. The corresponding Bachelor's degree must have been taken before a candidate in residence may hope for the master's degree. For instance, if a Bachelor of Science desired the degree of Master of Arts, he must take up all the necessary undergraduate work before he can be regarded as a regular member of the Graduate School. No Bachelor of Arts from any institution, however exalted, can become a candidate for the degree of A. M., unless he has studied collegiate Latin in a satisfactory manner. These degrees are given, in no case, *honoris causa*.

5. Each candidate must submit a thesis in accordance with Rule 3, not later than May 1st.

Degrees in Engineering.

1. A candidate for the degree of Civil Engineer must hold the bachelor's degree from the College of Civil Engineering of this University, or must have pursued successfully at some reputable institution a course of study equivalent to the degree of B. C. E., conferred by this University.

2. A candidate for the degree of Mechanical or Electrical Engineer must hold the bachelor's degree from the College of Mechanical and Electrical Engineering of this University, or must have pursued successfully at some reputable institution a course of study equivalent to the degree of B. M. E. conferred by this University.

3. A candidate for the degree of Mining Engineering must hold the bachelor's degree from the College of Mines and Metallurgy of

this University, or must have pursued successfully at some reputable institution a course of study equivalent to the degree of B. E. M. conferred by this University.

4. 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, or upon graduates of this University or of equal standing engaged in prearranged residence bachelor's degree.

5. At least thirty days before the date when the second degrees in engineering are conferred, each candidate must submit a thesis which will satisfy: (a) the major professor; and, (b) the Graduate School Committee.

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 1917-18.

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.

Dean Miller.

Professor A. M. Miller will gladly answer inquiries from prospective graduate students in Geology. Work may be arranged after consultation.

GREEK.

Professor Terrell.

8. Plato and Aristotle. Plato's *Republic* will be studied the first half year. A close and analytical study will be made of this famous work. Special attention will be given to Plato's ideas of education, socialism, attitude toward the fine arts and other points of striking interest. Lectures by the professor and papers by the students on special topics.

Aristotle's *Politics* will form the basis of the work in the second half year. This will be read in connection with the recently discovered constitution of Athens. These two courses will be a study in the science of government and politics as conceived by the two greatest Greek writers on these subjects. These two works are among the world's greatest classics on the subjects treated, and can never be out of date so long as human nature is constituted as it is.

HISTORY AND POLITICAL ECONOMY.

Professor Tuthill.

HISTORY.

Graduate students seeking the master's degree must first complete the college courses numbered 1, 3, and 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.

Professor Boyd, Professor Davis, Associate Professor Rees.

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.

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 1916-17; to be given in 1917-18. *Three hours a week. First semester.* Associate Professor REES.

8. **Vector Analysis.** A thorough 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. Given in 1916-17; to be omitted in 1917-18. *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. Omitted in 1916-17; to be given in 1917-18. *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. Omitted in 1916-17. *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 1916-17, first semester; to be given in 1917-18. *Three hours a week. Thruout the year.* Professor DAVIS, Assistant Professor DOWNING.

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. Given in 1916-17; to be cmitted in 1917-18. *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. Given in 1916-17; to be given again in 1917-18. *Three hours a week. Thruout the year.* Professor BOYD, Associate Professor REES.

14. **Teachers' Course.** Given in 1916-17. *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. Omitted in 1916-17; to be given in 1917-18. *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. Omitted in 1916-17. *Three hours a week. Thruout the year.* Professor BOYD.

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. Given in 1916-17; to be omitted in 1917-18. *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.

19. Thesis. Students doing thesis work meet the head of the department once or twice a week for consultation. Professor BOYD.

20. Theory of Functions of a Complex Variable. An introductory course. Lectures and assigned readings. Given in 1916-17. *Three hours a week. First semester.* Associate Professor REES.

LATIN.

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.

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 less 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 Tigert.

4. Psychology. The purpose of this course is to investigate certain of the most important problems of abnormal psychology, such as the phenomena of dreams, hypnosis, spiritualism, etc. Students are encouraged to make independent investigations and to do original work along these lines. This work is not advisable for those who have not completed a course in normal psychology. *Two hours a week. Thruout the year.*

5. Philosophy. This work is designed for those who desire to do advanced work in philosophy, and it is essential that students should have completed one or more of the undergraduate courses before undertaking it. Here the student is introduced to the problems of philosophy proper, including metaphysics and epistemology. Under the former head, theories of cosmology, including atomism, theism and pantheism are explained and discussed, together with the ontological doctrines of materialism, idealism and dualism. Under the latter head, realism, phenomenalism, rationalism and empiricism are examined with the view of forming a clear and consistent theory of knowledge. Students will be required to read the sources in connection with lectures. *Three hours a week. First semester.*

6. Ethics. This is a study of the first principles of moral science but is adapted for advanced students, especially as a continuation after completing course 5. It includes the exposition of the principles of right and wrong and endeavors to make a practical application of these. Virtues and duties are defined and discussed. *Three hours a week. Second semester.*

PHYSICS.

Professor Pence.

Professor Pence will receive students wishing graduate work in physics, provided they have the necessary preliminary training.

AGRICULTURE.

Acting Dean 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.

Dean Rowe.

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 degree B. M. E. 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 of 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 Dean of the Graduate School 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.

Dean Norwood.

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.

FELLOWSHIPS.

The following fellowships, subject to the approval of the Board of Trustees and the President of this University, are appointments open to students of any reputable University, who desire to enter the Graduate School in order to pursue studies in a special department of learning. Prospective fellows must have already evinced a distinguished ability in their undergraduate work. The fellowships vary in value from $200 to $600 per annum.

All appointments to fellowships are made for one year only, tho they may be awarded for a second year.

Arts and Science.

Two fellowships in chemistry; three in English; one in history; three in mathematics; each of which will bring a stipend of $350 per annum. Each teaching fellowship involves from five to ten hours per week in the class room and the laboratory, the remainder of the time being devoted to studies in the Graduate School.

Engineering.

A research fellowship in mechanical or electrical engineering, whose value is $600 per annum; a teaching fellowship in civil engineering to the value of $300 or more per annum, and a teaching fellowship in mining engineering to the value of $300 per annum.

Law.

A fellowship in law which will bring a stipend of $200 or more per annum.

Agriculture.

In addition it is expected that one or more fellowships will be offered in the College of Agriculture, for worthy students who intend to specialize in some phase of agricultural work.

Wealthy Kentuckians or others who desire to develop leaders of thought, through the medium of this University, are respectfully urged to institute one or more fellowships or scholarships, which will be named for anyone whom they may designate. No more dignified or useful monument to the memory of a deceased relative can be conceived. This form of philanthropy is now in vogue in all civilized countries.

The Chairman of the Graduate School Committee will be glad to communicate with those who desire information as to details of the urgent needs of this progressive University. An endowment of $10,000 is usually sufficient to establish a teaching fellowship or a scholarship, whose incumbent will have unusual opportunities of fitting himself to become a leader in the development of the Commonwealth of Kentucky. Each fellowship or scholarship will be administered in accordance with the directions of its founder.

GENERAL UNIVERSITY DEPARTMENTS.

Department of Home Economics.

Food and Nutrition—*Associate Professor Mary E. Sweeny, Assistant Professor Ellen A. Reynolds, Instructor Clara White.*

Textiles and Clothing—*Assistant Professor Ruby Buckman.*

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 household and physiological chemistry 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 and other subjects.

The Food Department of the Experiment Station opens its laboratories to the students in household chemistry 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 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.

Those students taking a course leading to a degree may major in either *Food and Nutrition* or *Textiles and Clothing.*

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 as technical training. 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.

OUTLINE OF COURSE LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN HOME ECONOMICS, FOOD AND NUTRITION MAJOR.

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
English 1	126	English Composition	3		3.
Chemistry 1	116	General Inorganic Chemistry	3	4	5.
German 3 or	151	Advanced Composition and Reading	3		3.
French 1	152	Elementary French	3		3.
Home Economics 1	284	Technology of Cooking	1	4	3.
Physiology 1	113	General Physiology	3		3.
Physical Education		Physical Education		2	1.

Second Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
English 1	126	English Composition	3		3.
Chemistry 2	116	Chemistry of Metals	3	6	6.
German 3 or	151	Advanced Composition and Reading	3		3.
French 1	152	Elementary French	3		
Home Economics 2	285	Home Cookery	1	4	3.
Home Economics 5	285	Marketing		2	1.
Physical Education		Physical Education		2	1.

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab,	Credits*
English 3	127	History of English Literature	2		2.
German 4 or	151	Advanced Composition and Reading	3		3.
French 2	152	Reading and Composition	3		3.
Home Economics 3	285	Food Production and Manufacture	2		2.
Chemistry 7	116	Organic Chemistry	3	2	4.
Botany 1	172	General Morphology	2	4	4.
Physical Education		Physical Education		2	1.

*A credit represents one hour of recitation or two hours of laboratory for one semester.

Second Semester.

English 3	127	History of English Literature	2		2.
German 4 or	151	Advanced Composition and Reading	3		3.
French 2	152	Reading and Composition	3		3.
Chemistry 11	117	Quantitative Analysis	1	8	5.
Physics 1c	156	Household Physics	3		3.
Home Economics 15	287	Elementary Clothing		4	2.
Home Economics 16	287	Textiles	2		2.
Physical Education		Physical Education		2	1.

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Education 4	124	Principles of Education	3		3.
Bacteriology 2	171	Household Baceteriology	1	2	2.
Sociology	138	General Sociology	2		2.
Home Economics 9	286	Human Nutrition	3	4	5.
Home Economics 17	287	Dressmaking	1	4	3.
Electives		Electives			2.

Second Semester.

Education 5	124	Technique of Teaching	3		3.
Home Economics 6	285	Household Chemistry	3	4	5.
Home Economics 8	286	Household Management	3		3.
Home Economics 9	286	Human Nutrition	3		3.
Home Economics 18	287	Home Furnishings	1	4	3.

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Education 3	124	Psychology	3		3.
Home Economics 12	286	Physiological Chemistry	3	6	6.
Home Economics 13	286	Teaching of Home Economics	2		2.
Home Economics 7	285	Household Sanitation	3		3.
Home Economics		Household Sanitation Field Work		4	2.
Electives		Electives			2.

Second Semester.

Education 3	124	Psychology	3		3.
Home Economics 10	286	Diet in Disease	2		2.
Home Economics 28	289	Experimental Cookery	1	4	3.
Home Economics 13	286	Teaching of Home Economics	2		2.
Electives		Electives			7.

OUTLINE OF COURSE LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN HOME ECONOMICS, TEXTILES AND CLOTHING, MAJOR.

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Freehand Drawing	223	Freehand Drawing		2	1.
English 1	126	English Composition	3		3.
Chemistry 1	116	General Inorganic Chemistry	3	4	5.
Botany 1	172	Botany 1	2	4	4.
German 3 or	151	Advanced Composition and Reading	3		3.
French 1	152	Elementary French	3		3.

*A credit represents one hour of recitation or two hours of laboratory for one semester.

Second Semester.

English 1	126	English Compostion	3		3.
Chemistry 2	116	Chemistry of Metals	3	6	6.
Home Economics 15	287	Elementary Clothing		4	2.
Home Economics 16	287	Textiles	2		2.
German 3 or	151	Advanced Composition and Reading	3		3.
French 1	152	Elementary French	3		3.

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Chemistry 7	116	Organic Chemistry	3	2	4.
French 2 or	152	Reading and Composition	3		3.
German 4	151	Advanced Reading and Composition	3		3.
English 3	127	History of English Literature	2		2.
Home Economics 17	287	Dressmaking	1	4	3.
Physiology	113	Physiology	3		3.

Second Semester.

Chemistry 11	117	Quantitative Analysis	1	8	5.
French 2 or	152	Reading and Composition	3		3.
German 4	151	Advanced Reading and Composition	3		3.
English 3	127	History of English Literature	2		2.
Home Economics 19	287	Millinery		4	2.
Physics 1c	156	Household Physics	3		3.

JUNIOR YEAR

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Education 4	124	Principles of Education	3		3.
Sociology	138	Sociology	2		2.
Bacteriology 2	171	Household Bacteriology	1	2	3.
Home Economics 20	288	Tailoring		6	3.
Home Economics 21	288	History of Costume	1		1.
Home Economics 1	284	Technology of Cooking	1	4	3.
Home Economics		Houseplanning and Construction	1	2	2.

Second Semester.

Education 5	124	Technique of Teaching	3		3.
Home Economics 18	287	Home Furnishing	1	4	3.
Home Economics 2	285	Home Cookery	1	4	3.
*Political Economy	137	Political Economy	3		3.
Home Economics 7	285	Household Sanitation	3		3.
Home Economics		Household Sanitation Field Work		4	2.

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Education 3	124	Psychology	3		3.
Home Economics 23	288	Art Needlework		4	2.
Home Economics 13	286	Teaching Home Economics	2		2.
*Home Economics 26	288	Journal Club			1.
Home Economics 22	288	Textile Laboratory	2	4	4.

*Electives.

Second Semester.

Education 3	124	Psychology	3		3.
Home Economics 25	288	Teaching of Textiles and Clothing	2		2.
Home Economics 24	288	Thesis		8	4.
Home Economics 13	286	Teaching of Home Economics	2		2.
*Home Economics 26	288	Journal Club			1.
Home Ecoiomics		Experimental Cooking	1	4	3.

*Electives.

For students majoring in food and nutrition, home economics courses from 14 to 23 (textiles and clothing) may be elected.

For students majoring in textiles and clothing, home economics courses from 3 to 12 may be elected.

Electives.

Mathematics	English 15, 15b, 15c,	Landscape Gardening
Animal Husbandry 7	16, 17, 18, 23, 24	Animal Husbandry 5
Agronomy 7	Home Gardening	Political Science
Geology 1	Horticulture	Chemistry 10
History 1 and 2	Political Economy	Zoology
Spanish	Household Physics 4	Greek
	Latin	Journal Club

Chemistry of Textiles and Dyeing.

HOME ECONOMICS.

1a. Elementary Study of Food and Cookery. A course designed to meet the needs of students not having had preliminary training in home economics in the high schools. No credit. *Lectures one hour a week; laboratory four hours a week. First semester.* Miss WHITE.

1. Technology of Cooking. A study of foods, their chemical composition, kind and use; changes effected by heat, cold and fermentation; manufacture of foods, and dietary combinations. Prerequisite, 1a, or its equivalent in high school, (release from this requirement only upon advice of the Head of the department), Chemistry 1 or as a parallel. *Lectures one hour a week; laboratory four hours a week. First semester. Repeated second semester.* Associate Professor SWEENY.

2. Home Cookery and Table Service. A course emphasizing the practice of home cookery, including planning, cooking, serving of breakfasts, luncheons and dinners. Prerequisite, 1. *Lectures one hour a week; laboratory four hours a week. Second semester.* Associate Professor SWEENY

3. Food Production and Manufacture. Lecture course describing the preparation of various staple foods from their raw state to the condition in which they reach the household, together with a discussion of their nutritive value and cost. Among the foods discussed are cereals, fruits, vegetables, sugar, meat, tea, coffee, and dairy products. *Lectures two hours a week. First semester.* Associate Professor SWEENY.

5. Marketing. This course deals with 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; a study of sources of supply, influence of same upon cost, influence of season upon the price. This will include laboratory practice in the class, purchasing for the department classes in cooking, visiting the market and wholesale houses. Designed to train the student in purchasing not only for her own home consumption but for schools and institutions. *Laboratory two hours a week. First semester.* Associate Professor SWEENY.

6. Household Chemistry. Practical applied study of the materials used in the home. Fuels, their heat value, ash and composition, metals commonly used for domestic purposes, paints, foods, condiments, tea and coffee, adulteration and substitutes. Prerequisites, general chemistry, qualitative and quantitative chemistry. *Lectures three hours a week; laboratory four hours a week. Second semester.* Associate Professor SWEENY, Assistant Professor REYNOLDS.

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. *Lectures three hours a week; field work four hours a week. First semester.* Associate Professor SWEENY, Assistant Professor REYNOLDS.

8. Household Management. A course of lectures dealing with the proper distribution of the income, budgets, labor saving devices, household accounts, scientific management of the home. *Lectures three hours a week. Second semester.* Associate Professor SWEENY.

9. Human Nutrition. Lectures 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, bacteriology, qualitative, quantitative, organic and household chemistry. *Lectures three hours a week; laboratory four hours a week, first semester only. Thruout the year.* Associate Professor SWEENY, Assistant Professor REYNOLDS.

10. Diet in Disease. Lectures on the causes and physiological effects of disease, such as typhoid, tuberculosis, gout, diabetes and intestinal diseases. *Lectures two hours a week.* Second semester. Associate Professor SWEENY.

11. Invalid Cookery. This course consists of practical demonstrations of the preparation and cooking of food for convalescents. *Laboratory two hours a week. Second semester.* Electives. Associate Professor SWEENY.

12. Physiological Chemistry, Chemistry of Digestion and Assimilation. Lectures and laboratory. Presents essential chemical facts concerned in life processes; means of repair; growth maintenance by animal cell and by human body. The laboratory work will include experiments in fermentation, respiration, salivary, gastric, pancreatic and intestinal digestion; absorption; excretion. Prerequisites: general chemistry, organic chemistry, qualitative and quantitative chemistry, household chemistry. *Lectures three hours a week; laboratory six hours a week. First semester. Repeated second semester.* Associate Professor SWEENY.

13. Teaching of Home Economics. A course of lectures and practical demonstration, supplemented by practical teaching, marketing for departments, methods of presenting the subject of Home Economics; introduction of cooking and sewing into elementary and secondary schools. *Lectures two hours a week or their equivalent in laboratory hours. Thruout the year.* Associate Professor SWEENY, Assistant Professor REYNOLDS.

14. **Hand Sewing.** Complete course in hand sewing, practice in fundamental stitches, including patching, darning, making button holes, hemming, hemstitching, ornamental stitches, etc., applied on simple hand-made garments and articles. Textile study preparatory to H. E. 16. *Lectures one hour a week; laboratory four hours a week. Thruout the year.* Assistant Professor BUCKMAN, Miss WHITE.

15. **Elementary Clothing.** Freshman. Machine and hand sewing, drafting of patterns, cutting and making of undergarments, shirt waists and wash dresses. Study of cost, durability and suitability of materials and trimmings, comparison between ready-made and home-made garments. Prerequisite 14, or its equivalent in high school (release from this requirement only upon advice of the head of the department). *Laboratory four hours a week. First or second semester.* Assistant Professor BUCKMAN, Miss WHITE.

16. **Textiles.** Lecture and text course. Primitive forms of textiles and industries are considered and their later development made clear. Growth, manufacture and finishing of cotton, wool, silk, linen and other fibres, their properties, adulterations, etc. Quality and economy in buying, and clothing budgets. Taken parallel with 15. *Lectures two hours a week. First or second semester.* Assistant Professor BUCKMAN.

17. **Dress Making.** Sophomore. 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 Hygiene of clothing, removal of stains, dyeing and cleaning, color, design and economy in dress. Two sections. *Lectures one hour a week; laboratory four hours a week. First semester.* Assistant Professor BUCKMAN.

18. **Home Furnishings.** Junior. Planning and furnishing of a six room house at stipulated cost. Color plans made in water colors for the rooms. Study of color combinations, effect of color and practical application in the home. Stenciling applied on household articles, basketry in raffia and reed. Visits to stores. Two sections. *Lectures one hour a week; laboratory four hours a week. Second semester.* Assistant Professor BUCKMAN, Miss WHITE.

19. **Millinery.** Sophomore. 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. Two sections. *Laboratory four hours a week. Second semester.* Assistant Professor BUCKMAN.

20. Tailoring and Advanced Dressmaking. Junior. A course including instruction in the making of fall and winter costumes, coats, coat suits and winter millinery. All the essentials of cutting, fitting, pressing and finishing, as done by a tailor, are taught. Dress forms are made and practice work in design in paper given. *Laboratory six hours a week. First semester.* Assistant Professor BUCKMAN.

21. Historic Study of Costumes. Junior. This course includes the study of early and modern costumes adapted to needs of dressmaker or domestic art teacher. Taken in connection with Home Economics 20. *Lectures one hour a week. First semester.* Assistant Professor BUCKMAN.

22. Textiles. Junior. 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.* Associate Professor SWEENY, Assistant Professor BUCKMAN, Assistant Professor REYNOLDS.

23. Art Needlework. Senior. An advanced course in hand needle work, including various kinds of embroidery, crochet and tatting, etc., applied on garments—one of which must be a fancy waist—and household articles. Artistic judgment in choice of color and design cultivated. *Laboratory four hours a week. First semester.* Assistant Professor BUCKMAN, Miss WHITE.

24. Thesis. Senior. Practical research and reference work. *Second semester.* Assistant Professor BUCKMAN.

25. Teaching of Home Economics. This course is especially designed to meet the needs of students taking textiles to instruct them in the presentation of the work in elementary and secondary schools. *Lectures three hours a week. Second semester.* Required of textile majors and two-year students. Assistant Professor BUCKMAN.

26. Journal Club. A weekly study and discussion of the current periodical literature in Home Economics, supplemented with the reading of papers upon lines of research of interest and value to students in this line of work. Matriculation is limited to seniors. *One hour a week. Thruout the year.*

27. Survey Course. Arts and Science students only. To meet the requirements of the College of Arts and Science that all women matriculates must present two credits in Home Economics for graduation, the survey course has been arranged. It consists of one full year's work of two lecture periods per week, or their equivalent in laboratory

periods. The year is divided into three equal parts, one of which is given to handsewing, one to practical cookery, and one to household sanitation.

The sewing course consists of laboratory work, including the making of fundamental hand stitches and some machine practice applied on garments. Patterns for these are drafted. Lecture hour gives fundamental work in textile study. *Lectures one hour a week; laboratory two hours a week. For one-third of the year.* Assistant Professor BUCKMAN.

The practical cookery course consists of lectures and laboratory practice designed to acquaint the student with the composition of and the principles of cooking typical food materials. *Lectures one hour a week; laboratory two hours a week. For one-third of the year.* Assistant Professor CHINN.

The household sanitation course consists of lecture work upon the function of sanitation in every day life, the relation of the individual home to the community, the safety of the water supply, the disposal of household and city sewage, physiological effect of bad housing, insufficient light, poor ventilation, and the consequent spread of disease, contamination of the milk supply and its result upon infant mortality, etc. *Lectures two hours a week. For one-third of the year.* Associate Professor SWEENY.

28. Experimental Cookery. A course in which by the application of the scientific principles of chemistry and physics the best, cheapest and most efficient methods of cooking foods are determined. Comparative studies of the value of similar foods in relation to their cost and labor of preparation are made. Prerequisites, Chemistry 1 and 2. *Lectures one hour a week; laboratory four hours a week. Second semester.* Assistant Professor CHINN.

TWO YEARS' COURSE IN HOME ECONOMICS.

The Department of Home Economics feels that four years are required to obtain a comprehensive knowledge of the science underlying work in food and nutrition and textiles and clothing, yet it clearly recognizes the fact that there are many excellent young women who have been teaching academic subjects and who desire to obtain such training as will fit them to take up the subjects involved in Home

---

Note—In clothing and dressmaking courses, students provide all materials for garments and household articles, subject to approval of instructor.

Economics and teach them under supervision; yet for these young women a course extending over four years is prohibitive. It is for such persons that this course is designed; also for those women who desire definite, concise, systematic knowledge regarding the home, who do not expect to teach and who cannot give four years of training to the subject. This course, it is believed, holds much benefit and training.

Applicants for admission to this course must be at least twenty-one years of age, must give evidence of high scholarship, and fulfil in every way the requirements of the department for two year students.

It must be definitely understood that this short course does not lead to a degree, and no study taken in pursuing this course will be afterwards credited toward the full course leading to a degree, except when the student has presented satisfactory entrance credits for the four years' course and has taken the work prescribed in the four years' course or its equivalent.

The conditions relating to matriculation, fees, gymnasium, and other college duties and privileges are the same as those pertaining to full course students.

OUTLINE OF TWO YEARS' COURSE IN HOME ECONOMICS.

For entrance conditions, see page 78.

FIRST YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits†
English 1	126	English Composition	3		3.
Home Economics 1	284	Technology of Cooking	1	4	3.
Home Economics 3	285	Food Production and Manufacture	2		2.
Home Economics 14	287	Hand Sewing	1	4	3.
Education 1 or 2	124	Educational Psychology	3		3.

Second Semester.

English 1	126	English Composition	3		3.
Home Economics 2	285	Home Cookery	1	4	3.
Home Economics 5	285	Marketing		2	1.
Home Economics 15	287	Elementary Clothing		4	2.
Home Economics 16	287	Textiles	1		1.
Education 1 or 2	124	Educational Psychology	3		3.
Elective Course		To be assigned by Head of Department	2		2.

SECOND YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Lab. Lab.	Credits
*Education 4	124	Principles of Education	3		3.
Economics	137	Rural Economics	2		2.
Physiology 1	113	General Physiology	3		3.
Home Economics 4	285	Elementary Food Economics	1	4	3.
Home Economics 7	285	Household Sanitation	3		3.
Home Economics 17	287	Dressmaking	1	4	3.
*Home Economics 20	288	Tailoring and Advanced Dressmaking		4	2.
Home Economics 21	288	Historic Study of Costumes	1		1.
Home Economics 23	288	Art Needlework		4	2.

*Electives

†A credit represents one hour of recitation or two hours of laboratory a week for one semester.

Second Semester.

Education 5	124	Technique in Teaching	2		2.
Home Economics 7	285	Household Sanitation	3		3.
Home Economics 8	286	Household Management	3		3.
*Home Economics 11	286	Invalid Cookery	1	1	1.50
Home Economics 18	287	Home Furnishings	1	4	3.
Home Economics 19	287	Millinery		4	2.
Home Economics 25	288	Teaching of Home Economics	2		2.

*Elective.

DEPARTMENT OF PHYSICAL EDUCATION.

For Men.

Professor Tigert, Mr. Tuttle, Mr. Boles.

Aims.

The work of the department will be conducted with the following aims in view: (1) the development or improvement of 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 pressed brick and Bedford stone, 100x157 feet. The first floor contains the Armory with an unobstructed floor and is 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 canvass 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 for the water and the building is located in the basement.

Requirements.

Physical training is required of all students in the University for the first and second years, running thru five months of the year, two periods a week, except of engineering, 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 from all freshmen and sophomores.

Medical and Physical Examinations.

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 advisor 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 1st, 1917.

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 and 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.* Professor TIGERT, Mr. TUTTLE, 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.

Mrs. Stout.

Department 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.

A German gymnastic lesson is composed of four parts: military tactics, free gymnastics, apparatus work, artistic gymnastics or classic dancing.

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 as a part of the curiculum 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 normal 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.

DEPARTMENT OF MILITARY SCIENCE.

Capt. Fairfax.

(Reserve Officers' Training Corps.)

"THE SUREST OF ALL WAYS TO INVITE DISASTER IS TO BE OPULENT, AGGRESSIVE AND UNARMED."

"TO BE EXPOSED TO SOME HARDSHIP IS GOOD FOR YOUNG MEN. IT OVERCOMES THAT SOFTNESS AND INDOLENCE AND THAT SENSELESS PRIDE WHICH IN THE COURSE OF AN INDULGENT EDUCATION THEY ARE APT TO CONTRACT AND GIVES THEM A GREATER MANLINESS AND ENERGY OF CHARACTER."

Special Statement.

During the present academic year, the authorities of the University made application to the War Department to have established and maintained at this institution an Infantry Unit of the Senior Division of the Reserve Officers' Training Corps in conformity with the existing Federal law known as the National Defense Act, an Act of Congress of June 3, 1916.

This application has received the endorsement of the War Department, and steps have been taken to put into full force and effect during the academic year 1917-1918 the military system known as the Reserve Officers' Training Corps.

In connection with this, will be introduced a Military Course, which will be adopted as a part of the regular curriculum of the University.

Purpose.

The purpose of the Reserve Officers' Training Corps as defined in the National Defense Act is "to qualify by systematic and standard methods of training, students at civil educational institutions for reserve officers," primarily the lower grades of officers in the 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 military course of instruction as outlined on page .....

c. Attend at least one summer training camp, and more if necessary up to the time of his arrival at the age of twenty-one.

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, and later an insignia for excellence in training and target practice 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.

OUTLINE OF COURSE LEADING TO THE DEGREE B. S. IN MILITARY ART.

This course embraces all the subjects (except higher mathematics) that are required to pass the entrance examination into the Army as second lieutenant from civil life.

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits*
Mathematics 3	148	College Algebra	5		5.
English 1	126	English Composition	3		3.
Chemistry 1	116	General Inorganic Chemistry	3	4	5.
Spanish 1	153	Elementary Course	3		3.
Military Science		Theoretical Military Science	3		3.
Military Science		Drill Infantry		3	1.50
Military Science		Drill, Physical		2	1.
					21.50

Second Semester.

Mathematics 2	148	Trigonometry	5		5.
English 1	126	English Composition	3		3.
Spanish 1	153	Elementary Course	3		3.
Chemistry 2	116	General Inorganic Chemistry	3	4	5.
Military Science		Theoretical Military Science	3		3.
Military Science		Drill, Infantry		3	1.50
Military Science		Drill, Physical		2	1.
					21.50

*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
Physics 1	155	General Elementary Physics	4	2	3.
Physics 3	156	Physical Measurements		4	2.
History 5	136	History of United States	3		3.
Spanish 2	153	Prose Reading	3		3.
Drawing 1	223	Mechanical Drawing		8	4.
Hygiene 1		Hygiene, First Aid	3		3.
Military Science		Theoretical Military Science	3		3.
Military Science		Drill, Infantry		3	1.50
Military Science		Drill, Physical		2	1.
					23.50

Second Semester.

Physics 2	156	General Elementary Physics	4	2	5.
Physics 3	156	Physical Measurements		4	2.
History 5	136	History of United States	3		3.
Spanish 2	153	Prose Reading	3		3.
Drawing 1	223	Mechanical Drawing		3	1.50
Hygiene 2		Military Hyg., camp sanitation	3		3.
Military Science		Theoretical Military Science	3		3.
Military Science		Drill, Infantry		3	1.50
Military Science		Drill, Physical		2	1.
					23.

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Field Engineering		Field Engineering	3		3.
Drawing 3	223	Descriptive Geometry	4		4.
Spanish 3		Composition and Reading	5		5.
English 3	127	History of English Literature	3		3.
Military Science		Theoretical Miltary Science	5		5.
Military Science		Drill, Infantry		3	1.5
					21.5

Second Semester.

Mech. Engineering		Construction, Demolitions	3		3.
Civil Engineering		Mil. Top. and Map Reading	3		3.
Civil Engineering	211	Elementary Surveying	1	2	2.
Spanish 3		Composition and Reading	3		3.
Hippology 1	180	Hippology	2		2.
English 3	127	History of English Literature	2		2.
Military Science		Theoretical Military Science	5		5.
Military Science		Drill Infantry		3	1.5
					21.5

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Law 8	262	Criminal Law	3		3.
Military Law		Military Law	3		3.
History of the World		General History of the World	3		3.
Spanish 4		Advanced Spanish	5		5.
Military Science		Theoretical Military Science	5		5.
Military Science		Drill, Infantry		3	1.5
					20.5

Second Semester.

International Law		International Law	3		3.
Political Science 1	137	American Government	3		3.
Spanish 4		Advanced Spanish	5		5.
History		General History of the World	3		3.
Military Science		Theoretical Military Science	5		5.
Military Science		Drill, Infantry		3	1.5
					20.5

BATTALION OFFICERS, 1916-17.

John C. Fairfax, *Captain Infantry, D. O. L., Commandant.*
Emery L. Frazier, *Major.*
George H. Hill, *Captain and Adjutant.*
Murray M. Montgomery, *Captain and Quartermaster.*
Joe M. Robinson, *First Lieutenant.*

Company A

Tilford L. Wilson, *Captain.*
John M. Gibson, *First Lieutenant.*
Harry S. Richards, *Second Lieutenant.*

Company B.

Edwin Cobb, *Captain.*
John G. Stewart, *First Lieutenant.*
Dillord H. Turner, *Second Lieutenant.*

Company C

Dee R. Ellis, *Captain.*
*Frank R. Grainger, *First Lieutenant.*
Olliver K. McAdams, *Second Lieutenant.*

Company D

Clarence O. Clark, *Captain.*
William L. Logan, *First Lieutenant.*
Lloyd T. Wheeler, *Second Lieutenant.*

Company E

Everrett R. Likens, *First Lieutenant.*

Signal Corps

Russell A. Hunt, *Second Lieutenant.*

Band

Laurence A. Cover, *Director.*
J. Fred Loomis, *Captain.*
J. Sherwood, *First Lieutenant.*
R. Pearlman, *First Sergeant.*
G. H. Creech, *Drum Major.*

*Deceased.

THE SUMMER SCHOOL.

College of Arts and Science.

J. T. C. NOE, DIRECTOR.

The Summer School for teachers will begin Monday, June 11, 1917, and continue six weeks for recitations, six days in each week. The first three days of the seventh week, namely: July 23, 24 and 25, will be devoted to examination. This plan enables us to give two-thirds of a semester's work and credit will be given on a regular basis for work done during the college year.

College courses will be offered in all the subjects taught in the high schools of the State, with special attention given to the pedagogy of the subjects. In addition to this work, which will be of a semi-professional nature, courses in the history and principles of education, and in the technique of teaching, and a course of special interest to principals and superintendents in administration and supervision will be offered by the department of education.

A feature of our Summer School is the lecture course open to the entire student body at 10 o'clock every day. Lectures by educators and men and women of note will be heard thruout the term.

No formal examinations will be required for entrance to the Summer School, but students who expect college credit must furnish entrance certificates from accredited schools, or pass entrance examinations, as required by the University for registration at the regular sessions.

All students will be charged a fee of $10.00 for the session.

Patterson Hall will be open for women. Room and Board, $4.50 a week. Rooms may be had in Boys' Dormitories for a nominal fee.

Good board may be had in town for $3.50 a week.

The Library of the University will be open during the summer. Students also have access to the city library.

EDUCATION.

Professor Noe, Associate Professor Baker.

1. **Principles of Education.** This is a combined course of Psychology and Pedagogy. The following are some of the topics that will

be discussed: 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, and hygiene; the nature of the memory process; imitation in education; educational agencies; formal discipline. Text-book, lectures, readings, and reports. *Five hours a week.* Professor NOE.

2. **Technique in Teaching.** This course is a discussion of value, discipline and method. The chief high school subjects will receive attention. Illustrations of presentation will be given through the actual teaching of several high school subjects during the session. Professor NOE.

3. **History of Education.** General Course. Particular reference to the 17th, 18th and 19th Century theorists, with emphasis on Milton, Locke, Rousseau, Dewey and Montessori. Lectures, class discussions, reports and assigned readings. Lectures will be illustrated with lantern slides. Professor BAKER.

4. **Problems in State and County Administration.** A study of the tendencies towards centralization, and units of control, with special reference to the county unit in Kentucky. Lectures, reports, assigned readings and discussions. Professor BAKER.

5. **Problems in City School Administration.** Includes a study of city surveys, city superintendent's annual reports, finances, age-grade distribution, standard units of measurement, and principles of constructive supervision Lectures, class discussions, reports and assigned readings. Professor BAKER.

6. **Esthetic Education. The Theory and Principles of Beauty As Illustrated in the Various Types of Art.** Lectures on the history and development of sculpture, painting, architecture, poetry and music. Illustrated with lantern slides. Esthetic education is sadly neglected in the modern curriculum, and the course which we are offering in the Summer School is intended to give teachers some knowledge and appreciation of Art. Professor NOE.

ENGLISH.

Professor Farquhar, Professor Weaver.

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. Students who take this course will be given credit for English 1 of the University curriculum.

2. **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.

3. **Teachers' Course in English Literature.** This course is designed for teachers who wish to study the aims and methods of teaching literature in the high schools. University credit will be given.

4. **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, but the course will not be accredited as the equivalent of English 3 in the University curriculum.

5. **American Literature.** The literature of America will be studied in its relations to the national life and thought. Attention will also be given to the method of treating the subject in the high school. University credit will be given for this course.

6. **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 methods of treating Shakspere in the high school. Students are advised to bring a copy of Shakspere with them. The Oxford edition is recommended.

HOME ECONOMICS.

Assistant Professor Buckman.

1. **Elementary Clothing.** Fundamental hand sewing, machine sewing and drafting of patterns. The course taught with an effort to meet the need of the teacher of sewing in the public schools. *Laboratory twelve hours a week.*

2. **Textiles.** Study of textile fibers, their manufacture and adulteration, buying of materials, hygiene of clothing, dyeing, laundry and the clothing budget. Correlative with elementary clothing. Text and lecture. *Six hours a week.*

3. Teaching of Textiles and Clothing. Lesson plans, bibliography, courses of study, method of presentation, etc. Designed to meet the needs of teachers of Textiles and Clothing. Lectures and reference work. *Six hours a week.*

4. Elementary Cooking. Practical cookery, adapted to the needs of the public schools. Offered if demand justifies. Text and laboratory: *Three hours lecture, six hours laboratory a week.*

5. Home Furnishing. Planning, furnishing and decoration of the home. Offered if demand justifies. Lecture and reference work. *Six hours a week.*

HISTORY.

Assistant Professor Butt.

1. English History. From the Tudor period to the present time. Emphasis will be laid on constitutional development and colonial expansion.

2. American Government and Politics. The course will have to do chiefly with federal constitution and its historical setting; political parties; and State government.

3. Political Economy. The nucleus of the following subjects will be given: trusts and monopolies; protective tariff; public ownership; property and income taxes.

LATIN.

Professor Jones.

1. Bennett's First Year Latin. The entire text will be covered. Special attention will be given to the subjective, conditional sentences and to syntax in general.

2. Caesar. Easy fables and selections from Caesar, especially the fifth, sixth and seventh books. These books of Caesar describe the customs of the Germans, Britons, and Gauls, and make interesting reading. Due attention will be given to construction.

3. Cicero. The four orations against Catiline and selections from Sallust's Catiline. The historical setting for the conspiracy will be thoroughly presented. Points of agreement and of divergence will be noted in the two authors. If the students offering for the course prefer, the oration of Archias will be read instead of selections from Sallust.

4. Virgil. First, fourth and sixth books of Virgil. Attention will be given to scanning; mythology, etc. The poem will be read as a great work of literature.

Selections from Ovid will be read instead of Virgil if the members of the class prefer this.

5. Livy. The first or twenty-first book. The author's style, sources of information and credibility will be discussed. The class will have the option of taking selections from Horace instead of Livy.

6. Greek. Provision will be made for any students desiring to take Greek, especially the first two years.

MATHEMATICS.

Professor Boyd, Professor Davis.

1. Beginning of Algebra. A course designed for those who have never studied the subject, and also for those who have conditions in it.

2. Advanced Algebra. A second course which will be fitted to the needs of the class desiring it. Pedagogical questions will receive attention.

3. 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.

4. Solid Geometry. A thorough 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.

5. College Mathematics. Courses in college subjects will be given in accordance with the demands for them.

MODERN LANGUAGES.

Professor Zembrod, Professor Melcher.

The courses offered in German will be arranged to suit the wants of three classes of students, i. e., of beginners; of those having a grammatical knowledge of the language, and of those who desire advanced work. Classes will be adapted particularly to the needs of teachers.

GERMAN.

1. **First Course.** *Bacon's German Grammar.*
2. **Second Course.** Rapid Grammar review with reading of intermediate texts and composition based on texts read.
3. **Third Course.** German novel; composition and conversation.
4. **Fourth Course.** German drama.

FRENCH.

1. **Beginning French.** *Fraser and Squair's French Grammar.*

SPANISH.

1. **Elementary Spanish.** *Hill and Ford's Grammar.*

PHYSICS.

W. S. Webb or C. D. Killibrew.

Teachers' Course in High School Physics. This course is intended to be a review of High School Physics for those who expect to teach and who have already had a course in elementary Physics. Attention will be given to the order of subjects and methods of presentation. *No College credit* will be given for this course. Five (5) days a week, 7 to 8 a. m.

The following additional courses will be given under the conditions indicated below. For complete description see University catalog.

Physics 1a or 1b.

Physics 2a or 2b.

Physics 1.

Physics 2.

Any of the above courses will be offered if as many as five persons register for it by June 4, 1917. A fee of $12.50 a course will be charged. Register for these courses at the Department of Physics. Fees are to be paid at opening of Summer School at the Business Office.

AGRICULTURE.

Instructor to be supplied.

A course in Agricultural Education for teachers will be given in the Summer School. This will embrace general agriculture, soils, crops, etc., together with a discussion of materials to be used by High School teachers who may desire to introduce some agricultural instruction in their courses of study.

College of Civil Engineering.

WALTER E. ROWE, DEAN.

COURSE IN DETAIL.

For information concerning fees, see the Dean.

1. **Structural Drafting.** The work in structural drafting consists of fifteen plates of structural detail and covers nearly every phase of structural detail met in actual practice.

2. **Mechanical Drawing.** Free-hand and mechanical lettering; geometrical problems; detail and dimensions drawing; pen topography.

3. **Plane Surveying.** This course consists of an elementary course in land surveying methods and in the use of surveying instruments. Recitations, lectures and field work.

4. **Graphic Statics.** Principles and methods; roof trusses; bridge trusses; locomotive wheel loads; trusses with broken chords.

5. **Railway Engineering.** Simple and compound curves; changing radius; shifting curve; turnouts from straight track; turnouts from curved track; railroad location; earthwork computation.

6. **Roof and Bridge Design.** Theory and design of roofs, bridges, standpipes, towers and other problems of structural interest.

7. **Stone Cutting.** Plane-sided surfaces; structures containing developable surfaces; structures containing warped surfaces; structures containing double-curved surfaces.

8. **Highway Engineering.** In addition to the course of study as outlined above there will be given a course in plane surveying, leveling, mapping and highway location and construction. This course will be given to all county surveyors and road supervisors free of charge.

College of Mechanical and Electrical Engineering.

F. PAUL ANDERSON, DEAN.

W. E. FREEMAN, DIRECTOR.

The buildings and equipment ordinarily used in the regular college work are available for use during the Summer Session. The session will open Monday, June 11, and close Wednesday, July 25, 1917.

COURSES FOR TEACHERS.

The following courses are intended to give training in the teaching of the subjects indicated. The instruction in these courses is individual so that the work can be begun at any time during the session.

1. **Mechanical Drawing.** Comprises: (a) free-hand sketches, drawing from copies and models, using parts of machines in the laboratories as models; (b) free-hand lettering; (c) tracing; (d) blueprinting. *Eighteen hours a week.* Assistant Professor HORINE.

2. **Free-hand Drawing.** *Five hours a week.* Assistant Professor HORINE.

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. Prerequisites, Solid Geometry and Mechanical Drawing. *Six hours a week.* Assistant Professor HORINE.

4. **Elementary Design.** (a) Drawing the parts of machines and complete machines to scale; (b) design of machine details. *Eighteen hours a week.* Professor HORINE.

5. **Photography.** Lectures on the chemistry and optics of photography especially prepared with reference to the latest practice in photographic art. There is some instruction in laboratory practice which gives a good practical working knowledge of picture taking and picture making. *Four hours a week.* Assistant Professor HORINE.

6. **Bench Work in Wood.** This includes exercises in planning, sawing, rabbeting, plowing, notching, splicing, mortising, tenoning, dove-tailing, framing, panneling, and the general use of carpenters' tools. *Twenty-four hours a week.* Mr. J. B. DICKER.

7. **Wood-Turning.** This work includes exercises which involve all the various principles of lathe-work in wood. *Twenty-four hours a week.* Mr. J. B. DICKER.

8. **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. *Twenty-four hours a week.* Mr. J. B. DICKER.

9. **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. Prerequisite, Bench Work in Wood. *Twelve hours a week.* Assistant Professor JOSEPH DICKER.

10. **Machine Shop Work.** This includes exercises in vise work in metal, such as chipping and filing, and general machine work, including screw cutting, drilling, planing and milling of iron, brass and steel. Prerequisite, Wood-turning. *Twelve hours a week.* Assistant Professor JOSEPH DICKER.

COURSES FOR GRADE AND HIGH SCHOOL STUDENTS.

The summer should not be spent in idleness or pleasure alone. If you take some of the following courses it will lighten your college work, or if you do not expect to attend a college or university you will be better trained in the ability to do things. The instruction in these courses is individual so that they can be entered at any time during the session.

1. **Mechanical Drawing.** Comprises: (a) free-hand drawing from copies and models, using parts of machines in the laboratories as models; (b) free-hand lettering; (c) tracing; (d) blue-printing. Eighteen hours a week. Assistant Professor HORINE.

2. **Free-hand Drawing.** Five hours a week. Assistant Professor HORINE.

3. **Bench Work in Wood.** This includes exercises in planing, sawing, rabbeting, notching, splicing, mortising, tenoning, dove-tailing, framing, panneling, and the general use of carpenters' tools. *Twenty-four hours a week.* Mr. J. B. DICKER.

4. **Wood-Turning.** This work includes exercises which involve all the various principles of lathe-work in wood. *Twenty-four hours a week.* Mr. J. B. DICKER.

5. **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. *Twenty-four a week.* Mr. J. B. DICKER.

6. 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. Prerequisite, Bench Work in Wood. *Twelve hours a week.* Assistant Professor JOSEPH DICKER.

7. Machine Shop Work. This includes exercises in vise work in metal such as chipping and filing, and general machine work including screw cutting, drilling, planing and milling of iron, brass and steel. Prerequisite, Wood-turning. *Twelve hours a week.* Assistant Professor JOSEPH DICKER.

8. Photography. Lectures on the chemistry and optics of photography especially prepared with reference to the latest practice in photographic art. There is some instruction in laboratory practice which gives a good practical working knowledge of picture taking and picture making. *Four hours a week.* Assistant Professor HORINE.

COURSES FOR PRACTICAL MEN.

These courses are planned to give a training to men who wish to fill positions as draftsmen, skilled mechanics, electricians or operators of steam or gas engines.

1. Mechanical Drawing. Comprises: (a) free-hand sketches, drawing from copies and models, using parts of machines in the laboratories as models; (b) free-hand lettering; (c) tracing; (d) blue-printing. *Eighteen hours a week.* Assistant Professor HORINE.

2. Free-hand Drawing. Five hours a week. Assistant Professor HORINE.

3. Elementary Design. (a) Drawing the parts of machines and complete machines to scale; (b) design of machine details. *Eighteen hours a week.* Assistant Professor HORINE.

4. Photography. Lectures on the chemistry and optics of photography especially prepared with reference to the latest practice in photographic art. There is some instruction in laboratory practice which gives a good practical working knowledge of picture taking and picture making. *Four hours a week.* Assistant Professor HORINE.

5. Bench Work in Wood. This includes exercises in planing, sawing, rabbeting, plowing, notching, splicing, mortising, tenoning, dovetailing, framing, panneling, and the general use of carpenters' tools. *Twenty-four hours a week.* Mr. J. B. DICKER.

6. **Wood-Turning.** This work includes exercises which involve all the various principles of lathe-work in wood. *Twenty-four hours a week.* Mr. J. B. DICKER.

7. **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. *Twenty-four hours a week.* Mr. J. B. DICKER.

8. **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. Prerequisite, Bench Work in Wood. *Twelve hours a week.* Assistant Professor JOSEPH DICKER.

9. **Machine Shop Work.** This includes exercises in vise work in metal, such as chipping and filing, and general machine work, including screw cutting, drilling, planing and milling of iron, brass and steel. Prerequisite, Wood-turning. *Twelve hours a week.* Assistant Professor JOSEPH DICKER.

10. **Elementary Electricity.** This course is intended for electricians and others who have not had a training in mathematics and physics, but who wish to get a good working knowledge of the laws and facts governing the action of electricity and magnetism and to learn something about the installation and writing of the common electrical devices. *Five hours a week.* Professor FREEMAN.

11. **Elementary Electrical Laboratory.** This laboratory work is planned to give a working knowledge of the usage and characteristics of the common types of measuring instruments such as ammeters, voltmeters and watthourmeters and to give some training in the operation and maintenance of electrical apparatus such as generators, motors, storage batteries, etc. *Four hours a week.* Professor FREEMAN.

12. **Steam Engineering.** This course aims to give a clear understanding of the fundamental principles underlying the operation of steam engines and power plants. *Five hours a week.* Assistant Professor HORINE.

13. **Steam Laboratory.** This laboratory course involves a study of the apparatus commonly used by the steam engineer, and the experiments are intended to give familiarity with the simpler methods of measuring heat units and determining mechanical power. *Four hours a week.* Assistant Professor HORINE.

14. **Gas Engineering.** This covers a study of the theory and construction of gas and oil engines and is accompanied by some laboratory experiments. *Five hours a week.* Assistant Professor HORINE.

15. Gasoline Automobiles. This is intended to help men who drive, repair, sell or have to do in any way with motor cars. It aims to provide a complete understanding of the mechanical principles underlying their operation. *Two hours a week.* Professor FREEMAN.

COURSES FOR BUSINESS MEN.

1. Electricity. This is a course of lectures intended to teach many things in a non-technical way about electricity and its uses. Electricity plays such an important part in our every day lives that some knowledge regarding its laws would be of great benefit to any one. *Two hours a week.* Professor FREEMAN.

2. Gasoline Automobiles. This is a series of lectures given for the benefit of men who drive, repair, sell or have anything to do in any way with automobiles. It aims to increase the pleasure of automobile ownership and to reduce the trouble and expense of operation by providing a complete understanding of the mechanical principles underlying their operation. *Two hours a week.* Professor FREEMAN.

3. Photography. Lectures on the chemistry and optics of photography especially prepared with reference to the latest practice in photographic art. There is some instruction in laboratory practice which gives a good practical working knowledge of picture taking and picture making. *Four hours a week.* Assistant Professor HORINE.

COURSES FOR COLLEGE STUDENTS.

College students who wish to lighten their work during the regular session or to make up deficiencies can obtain instruction in any subject taught in this college during the regular college session. For detailed information regarding these courses, see pages 212-232, of this catalogue.

FEES AND EXPENSES.

The entrance fee for any single course is $15.00; for two or more courses $25.00.

A room in the dormitory for men may be secured for $2.00 for the session. These rooms are furnished except with bedding and towels. Each person must care for his own room.

Board in private families or at Patterson Hall may be obtained for $3.00 to $4.00 a week.

Board and room in private families at $3.50 to $5.00 a week.

Rooms can be obtained at Patterson Hall by women and married couples. Board and room, $4.00 a week.

College of Law.

W. T. LAFFERTY, DEAN.

In connection with the summer courses in other departments of the University of Kentucky, the College of Law will offer a special course in law, beginning June 11, 1917, and continuing six weeks. These courses will be given on many of the subjects set out in the regular courses, and are offered for the benefit of those who have not completed the work of the previous year, and wish to continue the law course to its completion; for those who are preparing for admission to the bar, but have had no training in a law school; for practicing lawyers who wish to review the law to familiarize themselves with the theory or to prepare for advanced standing in pursuing the law course to graduation in this University.

Practice court will be conducted each day in which instruction will be given in the procedure in all matters, both civil and criminal.

Work successfully completed during the summer term will be credited as if done during the term of a regular session.

The Dean of the College of Law will conduct the Summer School, assisted by members of the Law faculty; and during the term arrangements will be made for special lectures.

For tuition fees, communicate with the Dean.

Part IV.

DEGREES AND HONORS.

1915-16.

COMMENCEMENT EXERCISES.

THURSDAY, JUNE 1, 1916.

MUSIC.

INVOCATION.

MUSIC.

ORATION: *The Trophy of Miltiades*

JULIUS WOLFE, B. M. E., Class Representative.

MUSIC.

ADDRESS:

AUGUSTUS OWSLEY STANLEY, LL. D., Governor of Kentucky.

CONFERRING OF DEGREES AND DELIVERY OF DIPLOMAS:

HENRY S. BARKER, LL.D., President of the University.

BENEDICTION.

MUSIC.

DEGREES.

Conferred on Commencement Day, 1916.

COLLEGE OF ARTS AND SCIENCE.

Bachelor of Arts in English.

Charles LeRoy Bowers	Newport
James Franklin Corn	Harrodsburg
Herbert Frank Felix	Hartford
Jean Olive Field	Lexington
Richard Allan Foster	Marion
Herbert Dade Graham	Frankfort
John Robert Marsh	Maysville
Marie Louise Michot	Louisville
Rebecca Washington Smith	Paducah
Grover Cleveland Wilson	Paint Lick
Natalee Woodruff	Eminence

Bachelor of Arts in Latin.

Elizabeth Robinson Cary	Versailles
Mary Louise Dougherty	Maysville
Anna Egli Lewis	Franklin

Bachelor of Arts in Modern Languages.

Eugene Payne Wilkirson	Lexington

Bachelor of Arts in History.

Lila Caye Estes	Lebanon
Sue Hunt Frost	Louisville
John Thomas Gooch	Hanson
Leah Kathleen Howard	Owensboro
Edward Malcolm McCoy	Lexington
Erle Monroe McGuffey	Barthell
James William O'Dell	Lewisburg
Karl Peak Zerfoss	Ashland

Bachelor of Arts in Education.

Clyde Russell Barker	Brooksville
Pearl Allyne Bastin	East Bernstadt
Judith Ellen Beard	Hardinsburg
Elizabeth Carleton Brewer	Eminence
Ina Marion Darnall	Paducah
Josie Lacer Hays	Owensboro
Elsie Beatrice Heller	Paris
Mary Wells Howard	Benton
Archibald Leonard Johnson	Tallega
Bessie Fogle Judd	Lexington
Helen Elizabeth Record	Pikeville
Dudley H. Starns	Lexington
Pressley H. Tipton	London
Annie Lewis Whitworth	Hardinsburg

Bachelor of Arts in Mathematics.

Homer Lloyd Reid	Lexington

Bachelor of Arts in Anatomy and Physiology.

William Curry Martin	Lexington
Leland Early Payton	Horse Cave

Bachelor of Science in Anatomy and Physiology.

George Sidney Sprague	Lexington

Bachelor of Science in Education.

Edith Hazel Brown	Lexington

Bachelor of Science in Geology.

Iley Baker Browning	Paducah

Bachelor of Science in Industrial Chemistry.

Carl Bettinger	Covington
Glover McMurtry Birk	Owensboro
Henry Frye Cromwell	Cynthiana
Edwin John Eimer	Newport
Abe Davis Galanty	Maysville

Charles Frank Kumli	Middlesboro
Cline Warford Owen	Mayfield
Charles Ernest Ruby	Louisville
Laurence Jerome Heyman	Lexington

COLLEGE OF AGRICULTURE.

Bachelor of Science in Agriculture.

Elizabeth Bell Alexander	Midway
Lawrence May Amburgy	Hindman
Maryland D. Amburgy	Hindman
Carl Louis Bernhardt	Newport
Edward Albert Blackburn	Ludlow
Alfred Dunbar Bosley	Owensboro
Armiel Carman	Mayfield
Marcus Jerome Clarke	Owensboro
N. Minton Cregor	Lebanon
Lucille Harrison Cruickshank	Lexington
John Shuff Fish	Georgetown
Angus Neal Gordon	Lexington
William Jefferson Harris	Nolan, West Virginia
Robert Miller Heath	Bedford
William Clarkson Johnstone	Nicholasville
Leslie Phillip Jones	Mayfield
Leon Hatchig Leonian	Van, Armenia
Gambrell McCarty	Owensboro
Morris Leon McCracken	Louisville
Benjamin Harrison Mitchell	Eli
William Crowder Mitchell	Bremen
James Homer Moore	Marion
George Page Neagle	Smith's Grove
Lecoq Herc Nelson	Lexington
Gracean McGoodwin Pedley	Owensboro
Richard Ward Scearce	Lebanon
Noah Norman Terry	Fulton
Richard Stokes Thomas	Falmouth
Fay Overton Townes	Madisonville
Roy Alexander Wallace	Cerulean

Bachelor of Science in Biology.

Virginia Frances Anderson	Lexington

Bachelor of Science in Home Economics.

Ann Elisabeth Farra	Nicholasville
Carolyn Frances Lutkemeier	Frankfort
Lillian Annette Martin	Lexington
Katherine Mitchell	Bowling Green
Kathleen Brennan Sullivan	Richmond
Julia Lashbrooke Van Arsdell	Flemingsburg

COLLEGE OF CIVIL ENGINEERING.

Bachelor of Civil Engineering.

Russell Foster Albert	Elizabethtown
William Whitlock Clarke	Owensboro
Benjamin David Howe	Elizaville
Charles William Lovell	Greenville
Robert Fitzhugh Maclean	Lexington
David McCord Phelps, Jr.	Richmond
Arthur Jinks Rankin	Rankin
Gilbert Berry Shouse	Salt Lick

COLLEGE OF MECHANICAL AND ELECTRICAL ENGINEERING.

Bachelor of Mechanical Engineering.

George L. Cherry	Bowling Green
Ernest Harold Clark	Lexington
William Hewitt Dix	Stephensport
Charles Kemper Dunn	Lancaster
James Douglas Garrett	Fort Garrett
William Mead Glenn	Georgetown
Marshal Gilman Horton	Bradentown, Florida
Aaron Borom Huff	Berea
Robert Edward Hundley	Owensboro
Margaret Ingels	Lexington
Webb Lail	Lexington
Joseph McKinster May	Prestonsburg
Harry Edgar Melton	Danville
Homer Parks Parrigin	Mill Springs
Ernest Raymond Pursley	Hopkinsville
Mitchell Sanborn Sullivan	Mt. Sterling
Thomas Conway Taylor	Greenville

James William Thompson	Falmouth
George Withrow Warwick	Frankfort
Claude Columbus Watson	Georgetown
Fred Whitely	Owensboro
Julius Wolf	Lexington
Herman Worsham	Corbin

COLLEGE OF MINES AND METALLURGY.

Bachelor of Mining Engineering.

Samuel Jefferson Caudill	Shelbyville

COLLEGE OF LAW.

Bachelor of Laws.

Clarence Albert Beutel	Louisville
Anthony Burnam Combs	Prestonsburg
Sewell Stanley Combs	Chavies
Robert Emmett Cullen	Flemingsburg
John Stratton Deering	Nicholasville
Norberto Devera	Philippine Islands
Frederick Louis Arthur Eichelberger	Birmingham, Alabama
Richard Jackson Fogg	Lexington
Logan Nourse Green	Hopkinsville
Fred Ambrose Harrison	Williamstown
Joseph Smith Hays, Jr.	Winchester
Dee Louis McNeill	Hickman
John William McDonald	Mayfield
Walker Porter Mayo	Prestonsburg
Walter Elliott Mobley	Green
Everett Smith Penick	Elkton
Joseph Carr Reynolds	Nicholasville
Leo Joseph Sandmann	Louisville
Carl White Sinclair	Georgetown
William Lee Smith	Sebree
Carlisle Spencer	Catoosa, Tennessee
King Swope	Danville
Ivan Poppers Tashof	Lexington
Joseph Edmund Torrence	Cynthiana
John Henry Williams	West Liberty
William Thomas Woodson	Kuttawa

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.

College of Arts and Science.

Pearl Allyne Bastin
Josie Lacer Hays
Elsie Beatrice Heller
Homer Lloyd Reid
Rebecca Washington Smith.

College of Agriculture.

Lecoq Herc Nelson.

College of Mechanical and Electrical Engineering.

George L. Cherry
Julius Wolf

College of Mining Engineering.

Samuel Jefferson Caudill.

THE GRADUATE SCHOOL.

Master of Arts

Chesley Williams Bailey,
Thesis: Rural Schools of Kentucky under the County Unit System of Administration.

Derrill Wason Hart,
Thesis: A Philological Study of the Kentucky Mountaineer, as based upon Surnames and the Vernacular.

Melvin Hays Judd,
Thesis: Making the City Superintendent's Report of Greater Scientific Value to Students of Education.

Mary Hammond Piper,
Thesis: A Study of Map Projections.

Mabel Hardy Pollitt,
Thesis: The Ethnology of the Italian Peninsula.

Daniel Thomas Roberts,
Thesis: A Comparative Study of the Caeca of the Vertebrates.

Master of Science.

Ralph Emerson Bitner,
Thesis: The Design, Construction, and Testing of a Grating Mounting, as suggested by a Study of the Theory of Diffraction.

Robert Cornelius Dabney,
Thesis: A Study in Yeast Fermentation.

Mervin Joe Kelly,
Thesis: The Design, Construction, and Testing of a Grating Mounting, as suggested by a Study of the Theory of Diffraction.

Master of Science in Agriculture.

Hal Farnsworth Bryant,
Thesis: Beef Production in West Virginia.

David Patterson Campbell,
Thesis: Tobacco Culture, Curing, and Marketing.

James William Whitehouse,
Thesis: A Study of the Escutcheon of the Dairy Cow with relation to Milk and Butter Production.

Civil Engineer.

Arthur Vane Lester,
Thesis: Construction Details of a Modern High School.

Mechanical Engineer.

William Frederick Clark,
Thesis: A Study of the Centralization of Service Requirements for State Institutions.

Cecil Chenault Harp,
Thesis: An Economy Test, and a Determination of Operating Costs of the Heating and Lighting Plant at the Fayette County Court House.

William Charles Rudd,
Thesis: An Analysis of Some of the Most Important Phases bearing upon the Economy and Operation of a Modern Isolated Power Plant.

Electrical Engineer.

Charles Henry Douglas Osborn,
Thesis: A Study of Power Plant for Telephone Exchanges.

Shirley Dean Saunders,
Thesis: Design of the Power Plant for a Modern Three Unit No. 1 Common Battery Telephone Exchange.

HONORARY DEGREES.

Doctor of Laws.

Augustus Owsley Stanley	Frankfort
David Spence Hill	New Orleans, La.

SCHOLARSHIPS, PRIZES AND HONORS.

Southern Railway Scholarship.

Won by Lecoq Herc Nelson, Lexington, Ky.

Tau Beta Pi Scholarship.

Won by C. W. Gordon, Lexington, Ky.

Bennett Prize.

Won by M. U. Conditt, Marion, Ky.

Barker Trophy.

Won by the Patterson Literary Society.

Barker Prize for the Horace Mann Society.

Won by Miss Alma Bolser, Dayton, Ky.

Crum Declamation Prize.

Won by Julius Wolf, Lexington, Ky.

Patterson Oratorical Prize.

Won by William Shinnick, Shelbyville, Ky.

Union Declamatory Prize.

Won by Richard L. Duncan, LaGrange, Ky.

Union Oratorical Prize.

Won by Clarence Clark, R. F. D. No. 6, Owensboro, Ky.

Barker Prize for Henry Clay Law Society.

William J. Kallbreier, Buckner, Ky.

Barker Prize for Philosophian Literary Society.

Won by Eryl Richmond, Louisville, Ky.; Elizabeth McGowan, Bagdad, Ky.

The American Law Book Company Prize.

Won by R. E. Cullen, Flemingsburg, Ky.

Callaghan & Company Prize.

Won by F. A. Harrison, Williamsburg, Ky.

Freshman Individual Drill Prize.

Won by J. A. Milton, C Company, Lexington, Ky.

Sophomore Individual Drill Prize.

Won by T. E. Peake, C Company, LaGrange, Ky.

Prize Company in Competitive Drill.

A Company, Battalion of Cadets.

B. Mahoney, Captain.
E. P. Hatter, First Lieutenant.
O. C. Walker, Second Lieutenant.
H. J. Evans, First Sergeant.

Sergeants.	Corporals.
J. G. Stewart.	R. E. Palmore.
J. E. McClure.	F. T. Street.
R. M. Iglehart.	J. B. Taber.
J. F. Delaney.	E. Turley.
J. M. Gibson.	B. C. Ford.
T. T. Richards.	E. P. Bleidt.
C. L. Morgan.	W. R. Gabbert.
	J. C. Melvin.
	H. Cottrell.

Representatives in the Center-Kentucky Debate.

G. C. Wilson	Paint Lick, Ky.
J. V. Chamberlain	Uniontown, Ky.
F. A. Harrison	Lexington, Ky.

Representatives in the Kentucky-Cincinnati Law School Debate.

Affirmative Team.

T. L. Creekmore	Lexington, Ky.
D. L. McNeill	Hickman, Ky.
King S. Swope	Danville, Ky.

Negative Team.

Frank Ricketson	Kansas City, Mo.
J. C. Kallbrin	Louisville, Ky.
Clifford T. Dotson	Olmstead, Ky.

Representative in the Kentucky Intercollegiate Oratorical Association.

William Shinnick

Arbor Day, 1916.

President's Address	O. M. Edwards
Class Orator	G. C. Wilson
Class Prophet	Rebecca Smith
Junior Class Representative	William Shinnick

Class Day, 1916.

President's Address	O. M. Edwards
Roll Call	Mary L. Dougherty
Class Poem	C. R. Barker
Class History	Ira Darnall
Class Grumbler	H. E. Felix
Giftorian	R. E. Cullen

Kentucky Interscholastic Association Tournament.

Won by Lexington High School.

Individual Championship.

Won by S. Embry, Stanford High School.

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.

George G. Brock, London, Ky.
John E. Brown, Shelbyville, Ky.
Philip P. Johnston, Jr., Lexington, Ky.
J. Irvin Lyle, New York City.
Samuel B. Marks, Lexington, Ky.
John W. Woods, Ashland, Ky.
J. Frank Battaile, Lexington, Ky.

OFFICERS OF THE ASSOCIATION.

J. M. Graves, President, Pittsburg, Pa.
J. H. Gardner, Vice-President, Tulsa, Okla.
J. D. Turner, Secretary-Treasurer, Lexington, Ky.
Harry Staples, 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, 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, resident, 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.

Acker, Annabel (A. B., 1913) White Sulphur Springs, Mont.
Modern Languages.

Allen, Harry R. (A. B. Univ. of Tenn., 1916) Lexington
Mathematics.

Bennett, Arthur Ray (B. M. E., 1914) E. St. Louis, Ill.
Mechanical Engineering.

Bowers, Charles LeRoy (A. B., 1916) Lexington
English.

Branham, Mrs. Ruth Bell (A. B. Georgetown College, 1896) Midway
Political Science.

Bruner, Jacob Franklin (B. S., 1911) Lexington
Education

Bryant, William Monroe (A. B. Southern Univ., 1913) Uniontown, Ala.
History.

Burrier, Mary King (B. S. in Agr., 1915) Lexington
Education.

Caplinger, William J. (A. B., 1908, Lebanon Univ.) Maysville
Education.

Cawood, F. F. (B. C. E., 1910) Harlan
Education.

Coleman, Levi O. (B. C. E., 1914) Chattanooga, Tenn.
Civil Engineering.

Cruickshank, Lucille Harrison (B. S. Agr., 1916) Lexington
Genetics.

Daugherty, Frank (B. M. E., 1901) Philadelphia, Pa.
Mechanical Engineering.

Doup, Grace E. (A. B., Denison Univ.) Mt. Vernon, Ohio
English.

Elder, William Benjamin (A. B. Georgetown, 1902) Cynthiana
Education.

Eldridge, Elizabeth (A. B., 1915) Lexington
English.

Ellzey, Esco Firman (B. S. Miss. A. & M., 1915) Lexington
Chemistry.

Elston, Charles B. (B. S. Agr., 1915) Fort Bliss, Tex.
Agronomy.

Faulkner, William Ernest (A. B. Union, 1907; LL.B., Geo. Washington, 1910) Hazard
Law.

Fleming, Ruby Ringo (A. B., 1910) Midway
German.

Gayle, Hubbard Kavanaugh (B. S. Agr., 1914) Agricultural Col., Miss
Principles of Breeding.

Glass, Rhoda Virginia (A. B., 1900) Lexington
English.

Gough, Achilles Calloway (B. M. E., 1906) Pocatello, Idaho
Electrical Engineering.

Graham, Herbert (A. B., 1916) Lexington
English.

Grove, Vernon G. (A. B. Olivet College, 1916) Lexington
Mathematics.

Gullion, Allen Wyant (A. B. Centre College, 1901) Fort Bliss, Tex.
English.

Hamlett, Percival Launcelot (A. B. Hampden-Sidney, 1912) Erlanger
English.

Hammonds, Lucius Madison (A. B., 1914) El Paso, Tex.
German.

Hardesty, Llewellyn Coons (B. M. E., 1912) Schenectady, N. Y.
Electrical Engineering.

Harp, Cecil Chenault (B. M. E., 1914) Lexington
Mechanical Engineering.

Hester, Byron W. (A. B., 1914, Transylvania College) Chickasha, Okla.
Education.

Hopper, Walter Owsley (A. B. Central, 1904) Mt. Sterling
Education.

Ingles, Howard Payne (B. M. E., 1905) Youngstown, Ohio
Mechanical Engineering.

Jackson, John Hunt (B. Ped., 1902) Worthville
History.

Jaegle, William Henry (B. M. E., 1912) Louisville
Mechanical Engineering.

Johns, Charles Ashley (B. M. E., 1909) Cicero, Ill.
Electrical Engineering.

Johns, W. A. (B. S. Agr. Carnegie College, Rogers, O., 1915) Lexington
Agr. Education.

Jones, Otto Jefferson (A. B., 1914) — Lexington
English.

Jones, Robert Leslie (B. M. E., 1912) — Durham, N. C.
Mechanical Engineering.

La Master, Joseph Paul (B. S. Agr., 1912) — Starksville, Miss.
Dairying.

Loomis, J. Frederick (A. B. Univ. Mo., 1916) — Lexington
Physics.

Lytle, Hendricks Gilbert (B. C. E., 1911) — Dallas, Tex.
Civil Engineering.

McKenney, Henry Fields (A. B., 1912) — Morgantown, W. Va.
Botany.

Maguire, Mary Josephine (B. S., 1904) — Lexington
Chemistry, English.

Marsh, John T. (A. B., 1916) — Lexington
English.

Moynahan, Bernard Thomas (B. C. E., 1911) — Somerset
Civil Engineering.

Naylor, Floyd R. (B. C. E., 1910) — Marshall, Tex.
Civil Engineering.

Perrine, Emmet Burgess (B. M. E., 1909) — Minneapolis, Minn.
Mechanical Engineering.

Pfanstiel, Robert (B. S., 1914) — Pennsgrove, N. J.
Chemistry.

Porter, John Wilson (B. S., 1913) — Chester, Pa.
Chemistry.

Post, Shelby (B. C. E., 1910) — London
Civil Engineering.

Price, John T. (A. B., 1915; M. A., 1916, Centre College) — Lexington
Journalism.

Reid, Homer Lloyd (A. B., 1916) — Lexington
Mathematics.

Roberts, Virgil Dick (B. M. E., 1905) — Somerset
Mechanical Engineering.

Robertson, Isaac William (B. S., 1910) — Akron, O.
Chemistry.

Scott, George Atwell (B. C. E., 1913) — Paducah
Civil Engineering.

Starns, Dudley H. (A. B., 1916) — Lexington
Education.

States, Marshall Ney (A. B. Univ. Pittsburg, 1916) — Lexington
Physics.

Tuttle, William Preston (B. S. Agr., 1915) — Lexington
Bacteriology.

Townsend, Robert Presley (B. M. E., 1914) — Owensboro
Mechanical Engineering.

Utley, Newton Williard (LL. B., 1912) — San Antonio, Tex.
Law.

Watkins, James Rufus (B. C. E., 1915) — Tela, Honduras
Civil Engineering.

Wesson, J. W. (A. B., 1915; B. S. Agr., 1917) — Lexington
Agr. Education.

UNDERGRADUATES.

Abbreviations.

Classes.

1. Freshman.
2. Sophomore.
3. Junior.
4. Senior.
Sp. Special Student.

Courses.

Agr., Agriculture.
A. & S., Arts and Science.
Civ., Civil Engineering.
H. E., Home Economics.
Min., Mining Engineering.
M. & E., Mechanical Engineering.
Law, Law.
Sh. Agr., Short Course in Agriculture.
R. & H. E., Rural and Highway Engineering.
S. M. & E., Short Course in M. & E. Engineering.

Aaron, George D.	(M. E. 4)	Berea
Aaron, Nat H.	(Sp. Law)	Berea
Abell, Harry Davis	(A. & S. 4)	Smithland
Ackman, Lester Mardis	(Sp. Law	Corinth
Adair, Hiram Tyre	(Agr. 1)	Paris
Adams, Leslie Willis	(Civ. 1)	Lexington
Adams, Walter Scott	(A. & S. 2)	Tampa, Fla.
Adams, William Mason	(Civ. 4)	Flemingsburg
Adkins, William Koontz	(M. & E. 3)	Depoy
Agnew, Helen	(H. E. 2)	Sebree
Alfrey, Vivian May	(A. & S. 1)	Mt. Sterling
Allen, Edward Louis	(Law 3)	Prestonsburg
Allen, Elmer B.	(M. & E. 1)	Georgetown
Allen, Eloise S.	(H. E. 3)	Lexington
Amburgy, Linville	(Agr. 2)	Prestonsburg
Ameigh, Howard Carlton	(Law 2)	Addison, N. Y.
Ammerman, Lois	(A. & S. 3)	Poindexter
Anderson, Ambrose Wilson	(H. E. 1)	Midway
Anderson, Edgar Gaither	(M. & E. 1)	Harrodsburg
Anderson, Frederick Paul, Jr.	(M. & E. 2)	Lexington
Andres, Paul M.	(M. & E. 3)	Louisville

Archer, Cecil Elmore	(M. & E. 2)	Williamsburg
Arnold, William Homer	(Law 4)	Wilmore*
Arp, Louis Croft	(M. & E. 1)	Moline, Ill.
Asbury, Charles Augustine	(Agr. 1)	R. R., Chilesburg
Asbury, Maud Norman	(Sp. H. E.)	R. R., Petersburg
Ashbrook, Mary Gray	(A. & S. 2)	Cynthiana
Atchison, Morgan Marion	(Law 3, 4)	Owingsville
Atkinson, Eleanor Veronico	(A. & S. 1)	Lexington
Averitt, Clarence Joyce	(Sp. Agr.)	R. R., Bedford
Aydelott, William Porter	(Sh. Agr.)	Water Valley
Back, Roscoe Conklin	(Law 4)	Jackson
Bailey, Joseph Harrison	(M. & E. 2)	Bagdad
Bailey, Sydney C.	(Sh. Agr.)	Lexington
Baker, Etna Janes	(A. & S. 3)	Murray
Baker, Mary Nancy	(H. E. 1)	Murray
Baker, Ruth	(A. & S. 2)	Lexington
Baker, William Ewing	(A. & S. 1)	Winchester
Barker, Henry Hunter	(Civ. 1)	Auburn
Barnhill, Roy	(Agr. 1)	Madisonville
Bartes, Bruce Orlean	(A. & S. 2)	Louisville
Batsel, Cecil N.	(Min. 2)	Fulton
Bauer, George C.	(A. & S. 3)	Maysville
Bauer, Louis Henry	(M. & E. 3)	Louisville
Baugh, Walter Scott	(M. & E. 2)	London
Baulch, Ernest Langley	(M. & E. 1)	Fulton
Baute, Edward Arthur	(A. & S. 1)	Somerset
Beall, Mary Elizabeth	(A. & S. 2)	Mt. Sterling
Beasley, Gordon H.	(Civ. 4)	Williamstown
Becker, Marie Caroline	(A. & S. 4)	Louisville
Beckner, Elizabeth Taliaferro	(H. E. 1)	Winchester
Beitz, Susanne Valeria	(Sp. A. & S.)	Cincinnati, Ohio
Bell, Frank Homer	(A. & S. 2)	Madisonville
Bell, Jane Stanberry	(H. E. 1)	Camp Nelson
Bell, Trice Morton	(M. & E. 2)	Madisonville
Beloian, Haig G.	(Agr. 3)	Sivas, Bulgaria
Belt, Rupert Arthur	(A. & S. 1)	Sheridan
Bennett, Carlyle Wilson	(Agr. 4)	Narrows
Bennett, George Allen	(Sh. Agr. 4)	Brodnax, Va.
Bennett, Herbert Hobson	(Agr. 1)	R. R., Mayfield
Bennett, James Henry	(M. & E. 1)	R. R., Utica
Bennett, Manning Raswell	(M. & E. 1)	Narrows

Bennett, Robert Wootton	(Agr. 1)	Central City
Benton, Matthew Haight	(Civ. 1)	Centertown
Berchman, Henry Webster	(A. & S. 3)	Williamsburg
Berry, Wendell Holmes	(Law 3)	Turners Station
Berry, William Morton	(M. & E. 1)	Eminence
Bertram, Elizabeth Lamb	(H. E. 3)	Vanceburg
Bessey, Louis Freeman	(Civ. 3)	Glasgow
Beverly, Russell R.	(M. & E. 1)	Mason
Biehn, Mary Elizabeth	(Agr. 1)	Falmouth
Biesack, Ray John	(Sp. Agr.)	Covington
Bird, William Tate	(Agr. 3)	Shelbyville
Bischof, Lawrence Francis	(Civ. 1)	Louisville
Bishop, Leon Harold	(M. & E. 1)	Centertown
Black, Byron Bacon	(Law 2)	Bedford
Black, James Gilbert	(A. & S. 1)	Harrodsburg
Blackburn, Roberta Dexter	(A. & S. 1)	Lexington
Blair, Carrie Frances	(A. & S. 4)	West Liberty
Bland, Clyde	(Agr. 2)	Cynthiana
Blatz, Lucille Carolyn	(H. E. 1)	Louisville
Bleidt, Everett Price	(Agr. 3)	Lexington
Blevins, Madison Ashby	(A. & S. 1)	R. R., Owingsville
Boggess, William Wallace	(M. & E. 7. 1)	Lawrenceburg
Boles, Ewing Thomas	(Law 2)	Williamstown
Bollinger, Jacob Olive	(Law 3)	Pelzer, S. C.
Bolser, Alma Louisa	(A. & S. 2)	Dayton
Boone, Hervey Parks	(M. & E. 1)	Lexington
Boone, Mary Tee	(A. & S. 1)	Lexington
Borders, Leo Steele	(M. & E. 4)	Buechel
Bornstraeger, Henry Winter	(A. & S. 3)	Louisville
Boston, Ted	(M. & E. 8)	Marion
Bowen, Reginald Strickler	(Law 2)	Elizabethtown
Bowles, Isaac Anderson	(Law 2)	Tyner
Brackett, Besse Burton	(H. E. 1)	Stanford
Bradford, Lawrence Allen	(Agr. 4)	Flemingsburg
Brand, Kathleen	(H. E. 1)	Mayfield
Brewer, Mary Leigh	(H. E. 1)	Eminence
Bricken, Joseph Alexander	(A. & S. 1)	Lexington
Brittain, John Alfred	(M. & E. 3)	Leadville, Colo.
Bromagen, Jerry	(M. & E. 2)	Louisville
Brooker, Jane Spearing	(Sp. H. E.)	Lexington
Brooks, Austine Frances	(H. E. 1)	Shepherdsville

Brooks, Glenn Ulrich	(Law 3)	Louisville
Brown, Clarence Carlisle	(Agr. 3)	Williamstown
Brown, Samuel Harold	(Law 3)	R. R., Lewisburg
Browning, Charles Augustus	(Agr. 1)	Falmouth
Browning, Froy Elsworth	(Min. 1)	Paducah
Browning, May Barnes	(A. & S. 2)	Lexington
Bruner, Walter Lewis	(M. & E. 1)	Louisville
Brunson, Robert Lee	(W. E. 1)	Florence, S. C.
Burchett, Thomas	(Law 2)	Wolf
Buckman, Martha Leigh	(A. & S. 1)	Corydon
Burbank, Julia Yeomans	(H. E. 2)	New Haven, Conn.
Burge, Lofton V.	(A. & S. 2)	Mayfield
Burkhead, Naaman	(Law 2)	Tatam Springs
Burkhart, Roy Samuel	(Sp. Agr.)	R. R., Kevil
Burgin, Manfred V.	(Civ. 4)	R. R., Lexington
Burkholder, Helen Pauline	(A. & S. 4)	Louisville
Burnley, Edwin Ratcliffe	(Civ. 4)	Kevil
Burton, Cecil Madison	(M. & E. 1)	Eminence
Callis, Chester Rouner	(Law 2)	R. R., Bedford
Cambron, William Joseph	(Agr. 1)	Morganfield
Camp, Ambrose Bourne	(Sh. Agr.)	Trenton
Camp, Minnie Lou	(H. E. 1)	Philpot
Campbell, John T.	(Agr. 3)	Campbellsburg
Campbell, John Will	(Agr. 2)	Indian Creek
Campbell, Lola Marie	(Sh. H. E.)	Lexington
Campbell, William Reynolds	(M. & E. 1)	Lexington
Cannon, Lelia Ford	(Sp. A. & S.)	Nicholasville
Card, Elizabeth Lloyd	(A. & S. 1)	Pineville
Cardwell, Ruth Howard	(A. & S. 2)	Shelbyville
Carman, Herman	(Agr. 1)	Lexington
Carter, Phil Strother	(Law 3)	Catlettsburg
Cassady, Earle	(Law 4)	Inez
Cassidy, Laura	(H. E. 2)	Lexington
Castro, Idalina Oliveria	(Sp. A. & S.)	Portugal
Cavallo, Emile Barton	(Civ. 3)	Vicksburg, Miss.
Cecil, Elizabeth Thomas	(A. & S. 1)	Danville
Cawein, Charles Girdler	(Sh. Agr.)	Louisville
Chalkley, Lyman, Jr.	(A. & S. 1)	Lexington
Chambers, Jay L.	(A. & S. 3)	Gatliff
Chamberlain, Jerome V.	(Law 4)	Uniontown
Chapman, Virgil Munday	(Law 3)	Lexington

Chapman, Mollie Munday	(A. & S. 1)	Lexington
Cherry, J. Preston	(Law 3)	Morgantown
Chestnut, Aubrey Edgar	(Sp. Law)	Mink
Choate, Davie Craik	(M. & E. 1)	Erlanger
Choate, Harris Lee	(Sp. M. E.)	Erlanger
Christian, Albert McDougal	(A. & S. 1)	Greenville
Christian, Daniel William	(Civ. 1)	Central City
Christian, Katherine Broaddus	(H. E. 1)	Chilesburg
Church, Zach Lewis	(Sh. Agr.)	R. R., Frankfort
Cisco, Byron Richard	(Law 4)	Grayson
Clark, Clarence O.	(A. & S. 4)	Owensboro
Clarke, Horace Burt	(Civ. 3)	Maysville
Clark, Jr., Jefferson Davis	(M. & E. 3)	R. R., Lexington
Clarke, Jr., John Richard	(Mech. 1)	St. Charles, Mo.
Clark, John T.	(Agr. 2)	R. R., Lexington
Clarke, Roy S.	(M. & E. 3)	St. Charles, Mo.
Clark, William Thomas	(Agr. 4)	Vanceburg
Clay, Horace Miller	(M. & E. 1)	Louisville
Clem, Lena Rivers	(A. & S. 3)	Bedford
Clements, Earle Chester	(Law 2)	Morganfield
Cleveland, Leslie Clinton	(M. & E. 1)	Lexington
Coates, Aaron	(A. & S. 1)	Richmond
Cobb, Edwin M.	(Sp. Agr.)	Richmond
Cobb, Samuel Earl	(M. & E. 1)	R. R., Maysville
Cobb, William Clifton	(Civ. 3)	Byington, Tenn.
Coke, William Gaston	(Sp. Agr.)	Auburn
Cole, Andrew Leon	(Agr. 2)	Bowling Green
Cole, Samuel H.	(Sp. Law)	R. R., Lexington
Coleman, James V.	(Agr. 1)	Paradise
Coleman, John Winston	(M. & E. 1)	R. R., Lexington
Coleman, Sally Henri	(H. E. 1)	Paradise
Collier, Hugh Minter	(Civ. 3)	McKee
Collins, Marie	(A. & S. 2)	N. Middletown
Collins, Orville William	(Civ. 1)	Henderson
Collins, Sarah Mildred	(H. E. 2)	N. Middletown
Collins, William Joel	(Law 3)	Richmond
Combest, Homer Burke	(Agr. 4)	Liberty
Conditt, Marion Uri	(A. & S. 4)	Marion
Conkwright, Bessie Taul	(Sp. A. & S.)	Winchester
Conley, Neil Burgess	(M. & E. 2)	Louisa
Connell, John Thornton	(A. & S. 2)	Paris

Cook, Jessamine Bertha	(A. & S. 1)	Somerset
Cooper, John William	(M. & E. 3)	Nicholasville
Cooper, Paul P.	(A. & S. 2)	Benton
Corn, Jr., Charles Thomas	(Law 2)	Harrodsburg
Corn, James Franklin	(Law 3)	Harrodsburg
Cottingham, Wayne	(A. & S. 3)	Paris
Cottrell, Harry Roberts	(Agr. 3)	Owensboro
Coyle, True F.	(Law 2)	Berea
Crabbe, Anita Dickerson	(A. & S. 3)	Louisville
Cracroft, Lucy Jane	(A. & S. 1)	White Sulphur
Crain, Nell Ruth	(A. & S. 1)	Paducah
Cramer, Clark Johnston	(M. & E. 1)	Lexington
Cramer, Vie Tolen	(H. E. 4)	Lexington
Cramer, Willard Frederick	(A. & S. 4)	R. R., Lexington
Crawford, Albert Byron	(A. & S. 4)	Rose Hill
Crawford, Jane Walton	(H. E. 2)	Louisville
Crawford, Nelle Florence	(A. & S. 4)	Somerset
Creech, Benjamin Franklin	(Sp. Agr.)	Harlan
Creech, Grover Howard	(Agr. 2)	Pineville
Creekmore, Thomas Lindsay	(Law 4)	Lexington
Cregor, Celia Bartlett	(H. E. 3)	Springfield
Crenshaw, Archie Douglas	(Law 2)	Cadiz
Croft, Virginia Halbert	(H. E. 1)	Louisville
Cromwell, Anna Jewell	(A. & S. 2)	Cynthiana
Cropper, Carroll Lee	(Agr. 1)	R. R., Burlington
Crow, Elizabeth	(A. & S. 4)	R. R., Versailles
Crowder, Charles Walter	(M. & E. 2)	St. Mathews
Crum, Frank Moore	(A. & S. 4)	Inez
Crutcher, Morrie Julian	(M. & E. 4)	Louisville
Cureton, Nathaniel Clay	(A. & S. 1)	Anchorage
Debney, Edward Settle	(Law 2)	Hopkinsville
Dahringer, John Franck	(M. & E. 2)	Lebanon
Daly, Lorena	(A. & S. 1)	R. R., Utica
Daniel, Jay Virgil	(A. & S. 1)	Paintsville
Daniel, Nehemiah	(Sp. Law)	Fayetteville, W. Va.
Daugherty, Mabel	(H. E. 1)	Lexington
David, Bertie Wilson	(M. & E. 1)	Winchester
David, William Russell	(M. & E. 2)	Lexington
Davidson, Carl Rogers	(M. & E. 3)	Lexington
Davidson, Lilburn Clifford	(M. & E. 2)	Jackson
Davidson, Nancy Elizabeth	(A. & S. 1)	Hartford

Davies, Arthur Wayne	(M. & E. 4)	Lexington
Davies, Paul Drummond	(Agr. 2)	Lexington
Davis, Allen Lacy	(A. & S. 2)	Morehead
Davis, John C.	(A. & S. 3)	Morganfield
Davis, John Henry	(A. & S. 1)	Lexington
Davis, Pearl Virginia	(H. E. 1)	Lexington
Davis, Robert Morris	(M. & E. 3)	Utica
Day, Sterling A.	(A. & S. 3)	Flemingsburg
Dean, Lucille Minerva	(A. & S. 1)	Pineville
Dearborn, Elbert R.	(M. & E. 3)	Cynthiana
Debrovy, Sol Henry	(M. & E. 1)	Louisville
DeLaine, Vivian E.	(A. & S. 3)	Carrollton
DeMey, C. Frederic	(M. & E. 2)	Louisville
Dempsey, Frank Walton	(Law 3)	Burlington
Denker, Carl Henry	(Law 2)	Paducah
Denton, Esther Higgins	(A. & S. 2)	Somerset
Diamond, Ruby Karl	(Civ. 2)	Louisville
Dickey, Jane K.	(A. & S. 4)	Richwood
Dietrich, Aime Lagsden	(A. & S. 1)	Lexington
Dinkle, Vernon Andrew	(Law 3)	Catlettsburg
Dinsmore, Robert Donald	(A. & S. 1)	R. R., Lawrenceburg
Dixon, Gladys Vienna	(A. & S. 2)	Huntington, W. Va.
Doss, Beard	(Civ. 2)	Shelbyville
Dotson, Clifford T.	(Law 4)	Olmstead
Dotson, William	(A. & S. 4)	R. R., Carlisle
Downing, Mary Deweese	(H. E. 1)	Nicholasville
Draddy, William Cabel	(A. & S. 1)	Newport
Drake, Ellis Ewin	(M. & E. 4)	Lexington
Drummy, John Rudy	(Min. 1)	Lexington
Duckwall, Ruth Montgomery	(Agr. 1)	Louisville
Dudley, David Russell	(M. & E. 2)	Earlington
Duke, J. Edward	(A. & S. 1)	Hartford
Dulaney, Rupert C.	(A. & S. 1)	Sedalia
Duley, Vennie Edwina	(H. E. 2)	Smithland
Dun, Alfretta Gordon	(A. & S. 1)	Frankfort
Duncan, Elizabeth Bryan	(A. & S. 3)	Lawrenceburg
Duncan, Florence Ethel	(A. & S. 3)	Lawrenceburg
Duncan, Richard Lindsey	(Agr. 2)	LaGrange
Duncan, Robert Graham	(A. & S. 2)	Owensboro
Dunkin, Byron Frame	(A. & S. 3)	Louisville
Durham, Jerome Parker	(Sp. Agr.)	Central City

Duty, Mrs. Lillian C.	(H. E. 1)	Winchester
Eaker, Eleanor Flora	(A. & S. 3)	Princeton
Early, Charles Cuvier	(Agr. 1)	Lexington
Easley, Willie Kate	(A. & S. 2)	Lexington
Eblen, Mervin Kohl	(Agr. 1)	Henderson
Edens, George Edward	(A. & S. 2)	Burkesville
Edmonds, Eugene Allen	(Sp. M. & E.)	Winchester
Edmonds, Lois Eunice	(Sp. A. & S.)	Lexington
Eimer, Albert Lee	(M. & E. 4)	Newport
Eish, Leland Stanford	(Agr. 2)	Newport
Elder, Eugene V.	(Min. 2)	Paris
Elder, Paul Mitchell	(A. & S. 1)	Camelton, Ind.
Elliott, Lavinia May	(M. & E. 2)	Lexington
Elliott, Paul Phillips	(Agr. 1)	Lancaster
Ellis, Dee Richard	(M. & E. 3)	Eminence
Ellwanger, Bernice Charlotte	(A. & S. 1)	R. R., Shelbyville
Elsey, Edward Everett	(M. & E. 1)	Lexington
Elswick, Kit Carson	(Law 4)	Estep
Engle, Stanley L.	(A. & S. 4)	McKee
Enlow, Harold	(Civ. 1)	Hodgenville
Evans, Herndon Julian	(A. & S. 3)	Frankfort
Evans, James Howard	(M. & E. 4)	Lebanon
Eyl, Joseph Michael	(M. & E. 2)	R. R., Lexington
Eyl, William Christopher	(Min. 4)	R. R., Lexington
Farmer, Harry Walker	(Agr. 2)	Stanford
Farry, Kathryn	(A. & S. 1)	Lexington
Faulkner, Robert T.	(Agr. 3)	Barbourville
Featherston, Elizabeth	(A. & S. 2)	Lexington
Feigel, Madeline Louise	(H. E. 2)	St. Mathews
Fenley, Richard Boggess	(Agr. 3)	Valley Station
Ferguson, Miles Henry	(Agr. 1)	Caney
Ferguson, Zula Inez	(A. & S. 2)	Wickliffe
Field, Russell Robert	(A. & S. 1)	Catlettsburg
Filbeck, Clyde	(A. & S. 1)	R. R., Benton
Fincel, Neville	(A. & S. 1)	Frankfort
Finney, Milton Carroll	(A. & S. 3)	Frankfort
Fiskback, George Benjamin	(Law 3)	Mt. Vernon
Fishback, Rutherford Y.	(Civ. 4)	Pine Grove
Fisher, Julia Maddell	(Sp. H. E.)	R. R., Lexington
Fisher, William Edward D.	(Sh. Agr.)	R. R., Bardwell
Fitzgerald, Lloyd Greenworth	(Min. 1)	Burnside

Flege, John Blain	(Agr. 3)	Williamstown
Flege, Robert Frederic	(A. & S. 3)	Williamstown
Fleming, Ernest Berry	(Min. 3)	Elizaville
Fletcher, Ethel Constance	(H. E. 1)	Lexington
Flocken, Jacob John	(Min. 3)	Louisville
Florence, Jessie H.	(H. E. 4)	Cynthiana
Fogg, William O'Rear	(Law 2)	Paintsville
Ford, Ben Conway	(Agr. 3)	Owensboro
Forman, Howard Clark	(Civ. 3)	Williamstown
Forman, C. Morris	(A. & S. 2)	Louisville
Forester, Edgar Smith	(Civ. 1)	Harlan
Foster II., Addison Gardner	(Sp. Law)	St. Paul, Minn.
Foster, Benjamin Franklin	(A. & S. 4)	Lexington
Foster, William Joseph	(Agr. 2)	R. R., Marion
Fowler, Orie Lee	(Law 4)	R. R., Cynthiana
Frankel, Gilbert	(M. & E. 2)	Louisville
Franklin, William Hobart	(A. & S. 1)	Clay
Frasier, Edward Rowland	(Law 4)	Corydon
Frazier, Emery Lee	(Law 3)	Lawrenceburg
Frazier, Margaret	(H. E. 1)	Louisville
Fried, Hyman	(Civ. 4)	Flemingsburg
Friedman, Eli B.	(A. & S. 2)	Paris
Frost, Elizabeth	(Sp. A. & S.)	Shelbyville, Tenn.
Frye, Kenneth C.	(Civ. 4)	Waddy
Fuss, John Carroll	(Civ. 3)	Frankfort
Gabbert, William Richard	(Agr. 3)	Louisville
Gaines, Lillian Askew	(A. & S. 4)	Hopkinsville
Gardner, George Weedon	(Agr. 2)	Eminence
Garner, Whitt Lockridge	(Agr. 1)	Mayfield
Garred, Ulysses V.	(M. & E. 3)	R. R., Louisa
Garrott, Ned Long	(Agr. 1)	Pembroke
Gartin, Otto Colton	(Law 4)	Louisa
Gary, Weller Ray	(A. & S. 2)	Logansport
Gaugh, Clarence Russell	(Civ. 4)	Lexington
Gault, Lelah Vaughn	(H. E. 3)	R. R., Maysville
Gay, Augustus Benjamin	(A. & S. 1)	Lexington
Gay, Myra Katherine	(A. & S. 4)	Winchester
Gayle, Joseph Lee	(Agr. 2)	Falmouth
Geisel, Frances Dudley	(H. E. 4)	Maysville
Gentry, Effie Lee	(H. E. 2)	Prentice
Georgieff, Constantine	(Agr. 3)	Sofia, Bulgaria

Gibson, John Marshall	(Agr. 3)	Irvington
Gilbert, Raymond Harlan	(Agr. 3)	Covington
Gill, Anderson Smith	(Agr. 2)	Columbia
Gilliam, William Alonzo	(Law 2)	Paducah
Gillis, Ezra L.	(Sp. Law)	Lexington
Givens, James Douglas	(M. & E. 2)	Uniontown
Glickman, David	(Law 3)	Pineville
Glickman, Max	(A. & S. 1)	Pineville
Godman, Max Selsor	(Law 4)	Kansas City, Mo.
Goldberg, Louis	(A. & S. 2)	Newport
Goosman, Karl William	(M. & E. 3)	Richmond
Gordon, Clarke William	(M. & E. 3)	Lexington
Gordon, Thomas B.	(Agr. 4)	Lexington
Gore, Margaret Elizabeth	(A. & S. 2)	Bardstown
Gorman, Thomas Leo	(Min. 1)	Lexington
Gossage, Paul Huston	(Sp. Law)	Lola
Gossum, Felix Maurice	(Sh. Agr.)	Fulton
Gould, Louis P.	(A. & S. 1)	Bellevue
Grabfelder, Earle	(Law 2)	Louisville
Graddy, Ivan Clay	(Agr. 4)	Utica
Graham, Mildred Hazen	(A. & S. 2)	Louisville
Graham, Virginia Taylor	(A. & S. 2)	Lexington
Grainger, Frank R.	(Min. 3)	Paducah
Grant, Frances Louise	(Sp. Agr.)	Petersburg
Gray, Virginia Mildred	(A. & S. 1)	Winchester, Ind.
Greene, Herbert Horton	(Law 2)	Ashland
Greene, Jobe	(Sp. Law)	Bruin
Green, Nicholas Price	(M. & E. 1)	R. R., Lawrenceburg
Green, O. C.	(A. & S. 1)	Bloomfield
Greene, Richard M.	(Agr. 4)	Georgetown
Green, Roberta Calhoun	(A. & S. 1)	Louisville
Gregory, Jesse Forrest	(LL. B. 4)	R. R., Owensboro
Gregory, Ruth Elizabeth	(H. E. 1)	Louisville
Grehan, Henry Emight	(A. & S. 2)	Lexington
Grehan, Robert Johnson	(A. & S. 2)	Lexington
Grossman, Herbert R.	(Civ. 3)	Louisville
Grubbs, Thomas Dillard	(Sp. Law)	Mt. Sterling
Grundy, Lillian Claire	(A. & S. 1)	Louisville
Grundy, Mary Logan	(A. & S. 1)	Louisville
Gumbert, George Martin	(Agr. 4)	Richmond
Guthrie, John Thomson	(M. & E. 1)	Mt. Sterling

Hackney, Edwin H., Jr.,	(Law 3)	London
Haffler, Whayne Wilson	(Civ. 3)	LaGrange
Hagan, Wilhelmina Mary	(H. E. 2)	Lexington
Hagins, Una Gray	(A. & S. 1)	Lexington
Haggan, Henry Clay	(Agr. 3)	Covington
Halbert, Harlan Russell	(Agr. 1)	Vanceburg
Hall, Alexander D.	(M. & E. 2)	Lexington
Hamilton, Hugh Miller	(M. & E. 1)	Nicholasville
Hamilton, Mary Katherine	(A. & S. 4)	Cynthiana
Hammonds, Carsie	(Agr. 2)	Russell Springs
Hammond, John Lewis	(Agr. 3)	Vanceburg
Hampton, Rose Lenore	(A. & S. 3)	Corinth
Hanson, Raymond N.	(Civ. 3)	Germantown
Harbison, McClarty	(A. & S. 4)	Shelbyville
Harbison, Sarah Caldwell	(H. E. 2)	Shelbyville
Harbold, Lucille Lee	(A. & S. 1)	Louisville
Hardesty, Ada Louise	(A. & S. 1)	Fort Thomas
Hardin, Edward Everett	(Law 2)	Sebree
Hargraves, Clarence Milton	(M. & E. 1)	Lexington
Harney, Clarence Wilbur	(A. & S. 4)	Cynthiana
Harper, John William	(Sh. Agr.)	Hickman
Harrison, Clyde D.	(Agr. 3)	Lebanon
Hart, Virginia Frances	(H. E. 1)	Berry
Haswell, Robert Bruce	(Agr. 1)	Louisville
Hatter, Emmett Presley	(A. & S. 4)	Franklin
Haydon, Charles Joseph	(Law 4)	Springfield
Haydon, Lillian E.	(H. E. 2)	R. R., Lexington
Haynes, Zelma Holloway	(A. & S. 1)	R. R., Lexington
Hays, Rutherford B.	(Agr. 4)	R. R., Mayfield
Head, John Paul	(A. & S. 1)	Greenville
Heathman, Masie	(H. E. 1)	Lexington
Heavrin, Cecil Hubert	(Law 2)	Owensboro
Heber, John George	(Sp. Civic)	Philadelphia, Pa.
Hedges, James M.	(M. & E. 3)	Lexington
Heick, Frank M.	(Agr. 2)	St. Mathews
Helburn, Esther Kahn	(H. E. 2)	Eminence
Helm, Chester Bryan	(Law 2)	Morgantown
Henry, Chiles W.	(Law 3)	Mt. Sterling
Henry, Hall Massolin	(M. & E. 3)	Dixon
Henry, Richard Earl	(A. & S. 2)	Mortons Gap
Herman, John Raymond	(Agr. 2)	Newport

Herndon, John Presley	(Law 2)	Frankfort
Herndon, Lewis Washington	(M. & E. 2)	Irvington
Hesson, Hugo Thurston	(A. & S. 2)	Shelbyville
Hewitt, John Marion	(Law 2)	R. R., Losantville, Ind.
Heyman, Lawrence Jerome	(Sp. A. & S.)	Lexington
Hickerson, Broadus Edward	(Law 4)	Bardstown
Hicks, Herbert Eugene	(Law 3)	Madisonville, Tenn.
Hicks, Robert William	(Sh. Agr.)	Midway
Hicks, Sue Kerr	(Law 2)	Madisonville, Tenn.
Hieatt, Kate Gray	(A. & S. 4)	R. R., Lexington
Hieronymus, William Shelton	(Agr. 3)	St. Helens
Higdon, William Henry	(Sh. M. & E.)	Kirk
Higgason, Benjamin Tillman	(Sh. Agr.)	R. R., Jonesville
Higgason, Joe	(Sh. Agr.)	R. R., Jonesville
Higgins, Sue Wallace	(Sp. H. E.)	Lancaster
Highfield, Mary Virginia	(A. & S. 2)	Lexington
Hill, Clyde Brooks	(Civ. 1)	Fulton
Hill, George H., Jr.,	(Civ. 4)	Bluefield, W. Va.
Hilliard, Luther Moss	(A. & S. 1)	Clinton
Hillsman, George Albert	(M. & E. 2)	Livermore
Hines, Harry Kemble	(Min. 4)	Bowling Green
Hines, Henry Duncan	(Sp. Min.)	Bowling Green
Hodges, Julian Adair	(Agr. 4)	Greensburg
Hogard, Joseph S.	(M. & E. 2)	Elizabethtown
Hogrefe, John H.	(Civ. 4)	Independence
Holland, John William	(Agr. 1)	Whitesville
Hogg, Hiram	(Sp. A. & S.)	Booneville
Hollowell, Carney Agnew	(M. & E. 1)	Princeton
Holloday, James, Jr.	(Agr. 3)	Columbia
Holton, Emma Gladys	(A. & S. 3)	Forks of Elkhorn
Hopkins, Elmer Woodson	(Civ. 4)	Henderson
Hopson, Winthrop Howell	(Sh. Agr.)	Canton
Horine, Henry Price	(M. & E. 4)	Nicholasville
Horine, Miriam Virginia	(A. & S. 4)	Nicholasville
Hoskins, William Caudle	(Sp. Law)	Hyden
Hounchell, Harry Lee	(Agr. 2)	Oneida
Howard, Dudley Charles	(A. & S. 1)	Benton
Howard, J. Woodford	(Law 3)	White Oak
Howard, Otis	(M. & E. 2)	Hartford
Howerton, Edwin David	(A. & S. 1)	Greenville
Hubble, Clyde Murphy	(Agr. 4)	Somerset

Hudson, Sherley	(Civ. 3)	Louisville
Hughes, Bessie	(A. & S. 3)	Edenton
Hughes, James Robert	(Agr. 2)	Bloomfield
Hume, James J.	(Min. 4)	Falmouth
Humphreys, Thomas David	(Civ. 3)	Dallas, Tex.
Hunt, Russell Aubrey	(Agr. 3)	Utica
Hutchcraft, Winn V.	(Agr. 2)	Paris
Hutchinson, Ronald	(Agr. 4)	London, Eng.
Hutson, John B.	(Agr. 3)	Murray
Iglehart, Royse McMurtry	(Sp. Agr.)	Hartford
Iler, Wayne Dickerson	(A. & S. 4)	Covington
Inman, Ollie	(A. & S. 1)	Hardin
Innes, Nancy Webb	(A. & S. 4)	Lexington
Ireland, Robert Young	(Civ. 3)	LaGrange
Irvine, James Farra	(Min. 2)	Lexington
Irvin, Pauline Aradith	(A. & S. 1)	Marion, Ind.
Jackson, Frederick Marion	(A. & S. 2)	Versailles
Jackson, George Lewis	(M. & E. 3)	Franklin
Jameson, Laura Lee	(H. E. 3)	R. R., Cynthiana
Janes, Louise Elizabeth	(A. & S. 1)	Louisville
Jarvis, Walter Monroe	(M. & E. 3)	Barbourville
Jefferson, Margaret Guthrie	(H. E. 1)	Louisville
Jenkins, Frank Perry	(A. & S. 1)	Flemingsburg
Jenkins, John Richard	(Sh. M. & E.)	Lexington
Jenkins, Richard Harold	(Law 4)	Georgetown
Jennings, Doris Orrene	(H. E. 1)	Murray
Johns, Anna May	(Sp. Agr.)	Lexington
Johns, Francis Girard	(M. & E. 2)	Lexington
Johnson, Charles Franklin	(Civ. 2)	Mayfield
Johnson, Edward M.	(Agr. 3)	Vanceburg
Johnson Esther	(H. E. 1)	Paducah
Johnson, Frank H., Jr.,	(Agr. 4)	Louisville
Johnson, Herbert Craig	(M. & E. 1)	Paris
Johnson, Lena	(H. E. 1)	R. R., Henderson
Johnson, Maxie	(A. & S. 2)	Tallega
Johnson, Richard Spalding	(Sp. Agr.)	Waverly
Johnson, Vinson Lair	(M. & E. 1)	Richmond
Johnston, William Ford	(M. & E. 1)	Cannel City
Jones, Carrie Lee	(A. & S. 2)	Lexington
Jones, Elmer Burton	(Min. 4)	Louisville
Jones, George Martin	(Min. 1)	Millersburg

Jones, Leslie D.	(Law 2)	Mayfield
Jones, Stanley Higgason	(Civ. 2)	Elizabethtown
Kallbreier, William Joseph	(Law 3)	Buckner
Karnes, Reuben Jack	(Sp. Min.)	Paducah
Kastle, Elizabeth Thane	(A. & S. 4)	Lexington
Kavanaugh, Aileen Gilbert	(A. & S. 3)	Lawrenceburg
Kelley, Arthur Sewall	(A. & S. 4)	Whitesville
Kelley, Everett Edward	(A. & S. 2)	Whitesville
Kerswill, Lela May	(A. & S. 3)	Lexington
Kibbey, Delbert Valley	(Sp. Law)	Rooney
Kimpton, Edward Kenneth	(Min. 2)	Chicago, Ill.
Kinne, Howard Irving	(Civ. 3)	Stearns
Kirtley, Elliott Campbell	(Agr. 3)	Frankfort
Knight, Neal William	(Civ. 1)	Louisville
Kohn, Alvin I.	(M. & E. 2)	Louisville
Kolbey, Henry J.	(M. & E. 3)	Warsaw, Russia
Kuykendall, Edwin Lewis	(Civ. 1)	Morgantown
Lafferty, William Thornton	(A. & S. 4)	Lexington
Lair, Margaret Denison	(A. & S. 3)	Dayton, Ohio
LaMaster, Benjamin Franklin	(A. & S. 3)	Sulphur
LaMaster, Fowler Orem	(Agr. 4)	Campbellsburg
Lambert, Elmer Lee	(Agr. 4)	Covington
Lancaster, Frank Stillman	(Agr. 2)	Lebanon
Land, Effie Masie	(Sp. H. E.)	Lexington
Land, John March	(Civ. 1)	Hanly
Lane, Lucille Frances	(H. E. 1)	South Bend, Ind.
Lasley, Marion Grinter	(Civ. 1)	Lewisburg
Laub, Freda R.	(Sp. A. & S.)	Louisville
Lee, Chilton Frazier	(M. & E. 4)	Shepherdsville
Lee, Edward Gano	(M. & E. 2)	Lexington
Lemon, Frieda	(A. & S. 3)	Providence
Leman, John Julian	(M. & E. 2)	Pineville
Lewis, Junius	(Agr. 3)	R. R., Stanley
Lewis, Merriam G.	(Sh. Agr.)	Berea
Liebschutz, Jacob	(A. & S. 3)	Louisville
Likens, Everett Ray	(A. & S. 3)	Beaver Dam
Lillard, Eugene Allen	(M. & E. 2)	Versailles
Lillard, Katherine Davis	(A. & S. 3)	Versailles
Lilly, Austin Page	(H. E. 2)	Richmond
Lipps, Bethel Chase	(H. E. 1)	Lexington
Lindsay, John William	(Agr. 3)	Covington

Lisanby, Cornelius Rufus	(A. & S. 2)	Dawson Springs
Little, Roscoe Conklin	(M. & E. 1)	Quicksand
Littrell, Herman G.	(Civ. 1)	Owenton
Logan, William Lindsey	(M. & E. 3)	R. R., Shelbyville
Long, Henry Sherley	(Agr. 3)	Bedford
Longsworth, Laurence Irvine	(A. & S. 2)	Somerset
Lovett, Joe Thomas	(A. & S. 1)	Benton
Lowenthal, Ben	(M. & E. 2)	Newport
Lucas, Birdie Lewis	(A. & S. 2)	Lexington
Lyon, Alvin Robert	(M. & E. 1)	Campbellsville
McAdams, Anne Elizabeth	(H. E. 2)	Lexington
McAdams, Oliver Kennett	(A. & S. 2)	Lexington
McAfee, George Henry	(Sh. Agr.)	Cecilia
McBrayer, Jasper Johnson	(Law 3)	Lawrenceburg
McCann, Mamie	(Sp. A. & S.)	Flemingsburg
McCarty, Mai Elizabeth	(H. E. 1)	Owensboro
McCarthy, Margaret Claire	(A. & S. 4)	Lexington
McClanahan, Luther Cleveland	(M. & E. 4)	Metropolis, Ill.
McClellan, James Ellyson	(M. & E. 2)	Springfield
McClure, Charles Rose	(M. & E. 3)	R. R., Lawrenceburg
McClure, John Edwin	(Agr. 3)	Mt. Sterling
McClure, Margaret Elizabeth	(A. & S. 1)	Lexington
McConnell, Homer Glenn	(A. & S. 1)	Marion
McConnell, Lillian Frances	(A. & S. 2)	Lexington
McConnell, Rod Frazier	(Sh. Agr.)	Arlington
McConnell, Sara Winn	(A. & S. 3)	Arlington
McConnell, Virginia Vertner	(H. E. 3)	Lexington
McCormick, Charles Ellsworth	(M. & E. 3)	Brooks
McCown, Thomas Chenault	(Agr. 4)	Richmond
McCreight, James M.	(Min. 3)	Reynoldsville, Pa.
McDanell, James Henry	(Agr. 1)	Warsaw
McDonald, Mary	(Sh. H. E.)	Lexington
McDougle, William Darnall	(M. & E. 3)	Lexington
McGowan, Elizabeth	(A. & S. 2)	Bagdad
McGowan, George Jesse	(A. & S. 2)	Bagdad
McGregor, Harold Bowers	(A. & S. 3)	Lexington
McGuffey, Erle Monroe	(Law 3)	Barthell
McGuire, Arlie Estus	(Agr. 3)	Salyersville
McIlvain, Ernest Newton	(Agr. 2)	Cynthiana
McInteer, Berthus Boston	(Agr. 3)	R. R., Horse Cave
McKenney, Garnett Jennings	(Agr. 1)	Winchester

McKenzie, John William	(Law 2)	LaGrange
McLaughlin, Marguerite	(H. E. 1)	Lexington
McMonigle, Ruth Mason	(H. E. 1)	Owensboro
McMurtry, Bryan William	(Law 2)	Cynthiana
McMurtrey, James Edward, Jr.,	(Agr. 4)	R. R., Bowling Green
McMurtry, Joseph Samuel	(Agr. 4)	Vine Grove
McMurtry, Mattie Brooks	(A. & S. 4)	Nicholasville
McNamara, Joseph Emmet	(M. & E. 4)	Germantown
Mabry, Charles Poindexter	(Law 3)	Bardwell
MacLeod, Mary	(Sp. H. E.)	Versailles
Maddox, Harry Edward	(M. & E. 3)	Mt. Carmel, Ohio
Maddox, John DaCosta	(M. & E. 3)	Lexington
Maddox, Mary Louise	(H. E. 1)	Lexington
Mahoney, Charles Hallam	(A. & S. 1)	R. R., Lexington
Mansfield, Virgil Luther	(Civ. 1)	Glasgow
Mapstone, Roy Arthur C.	(M. & E. 2)	Natal, S. Africa
Marking, John Henry	(M. & E. 2)	Louisville
Marsh, Ben Gordon	(Agr. 2)	Maysville
Marshall, Charles Alexander	(Sh. M. & E.)	R. R., Maysville
Marshall, Elizabeth	(A. & S. 1)	Lexington
Marshall, William Francis	(Civ. 2)	Greendale
Martin, Edna Rodgers	(A. & S. 3)	Midway
Martine, Glenn Francis	(Law 2)	Louisville
Martin, Marion Gordon	(M. & E. 2)	Winchester
Martin, William Bryan	(Law 3)	S. Carrollton
Mason, Eliza Clay	(H. E. 2)	R. R., Paris
Matherly, Hartford	(Agr. 4)	Springfield
Mathews, George Frederick	(M. & E. 1)	Lexington
Matthews, Margaret Catherine	(H. E. 2)	Lexington
Mathews, Ruth Elizabeth	(R. & S. 3)	Lexington
Maxey, Herbert C.	(Law 3)	West Liberty
Mayer, Louise C.	(H. E. 1)	Louisville
Mayes, Fred Overton	(A. & S. 3)	Rose Hill
Mayhew, Earl	(Agr. 4)	Barboursville
Meadows, Bealy Austin	(M. & E. 1)	Newport
Mellen, George Frederick	(Agr. 1)	Knoxville, Tenn.
Melvin, James Cleveland	(Agr. 3)	Sedalia
Middleton, Dorothy	(H. E. 1)	Lexington
Milam, James William	(A. & S. 1)	R. R., Guthrie
Miller, Bertha Klein	(A. & S. 3)	Lexington

Miller, George Adolph	(Sp. A. & S.)	Louisville
Miller, Jean	(Sh. H. E.)	Lexington
Miller, John Charles	(Min. 3)	LaFollette, Tenn.
Million, Russell Travis	(Agr. 1)	Newby
Milner, Virginia Helm	(A. & S. 1)	Union Star
Milton, Hugh Meglone, Jr.,	(M. & E. 2)	Lexington
Milward, Frances Victoria	(Sp. H. E.)	Lexington
Milward, Harry L.	(M. & E. 3)	Lexington
Milward, Joe Usher	(Min. 1)	Lexington
Minihan, William Andrew	(Law 2)	Lexington
Misrack, Joe Stewart	(M. & E. 2)	Newport
Mitchell, Myrl Edna	(A. & S. 1)	Paducah
Molloy, Anne Shirley	(A. & S. 1)	Lexington
Molloy, Genevieve Morgan	(A. & S. 1)	Lexington
Monroe, Raleigh C.	(A. & S. 3)	Auburn
Montgomery, Murray Matthews	(M. & E. 4)	Madisonville, Tenn.
Moore, Neville	(Law 2)	Marion
Moore, Stanley Clay	(Civ. 1)	R. R., Lexington
Moore, William Owen	(Agr. 1)	Marion
Moore, William S.	(M. & E. 4)	Hartford
Moosnick, Bernard	(A. & S. 2.)	Nicholasville
Morancy, Angela Agnes	(H. E. 1)	Versailles
Morgan, Charles Lee	(Agr. 3)	Sirocco
Morris, Helen Elizabeth	(A. & S. 3)	Lexington
Morris, J. C.	(Civ. 1)	Lexington
Morton, Gertrude E.	(A. & S. 2)	Lexington
Morton, Samuel Helm	(Law 3)	Owensboro
Moseley, Carroll Lucille	(A. & S. 1)	Whitesville
Moseley, Edward D.	(Sp. Agr.)	Hopkinsville
Moseley, Joe Graham	(Agr. 1)	Hopkinsville
Moss, Thomas Edward	(Civ. 1)	R. R., Paducah
Mueller, Eleanor Carrie	(A. & S. 1)	Bellevue
Muller, Mortimer Glover	(Sp. Agr.)	Lexington
Muncie, Maurice Lee	(A. & S. 2)	Edmonton
Murphy, Marvin E.	(A. & S. 1)	Frankfort
Murphree, Eger Vaughan	(A. & S. 1)	Louisville
Mushlin, Samuel	(M. & E. 1)	Derry, N. H.
Myers, Pansy Marie	(A. & S. 2)	Covington
Nance, Gordon Bennett	(Agr. 4)	R. R., Kevil
Nash, Annie Belle	(A. & S. 2)	R. R., Lexington

Nash, Buford Wallace	(Agr. 1)	R. R., Lexington
Neblett, John Alexander	(A. & S. 2)	Turners Station
NeVille, Minnie E.	(A. & S. 3)	Lexington
Newman, Henry Offutt	(Agr. 1)	Morganfield
Nicholoff, Constantine	(M. & E. 3)	Orehania, Bulgaria
Nicholoff, Todor	(Agr. 2)	Koniaro, Bulgaria
Nisbet, Kenneth Rhea	(M. & E. 3)	Earlington
Noel, Howard Miller	(A. & S. 2)	Bellevue
Noland, Zerelda	(A. & S. 1)	Richmond
Norris, Earl Larue	(M. & E. 1)	Morgantown
Norris, Wilbur	(Agr. 1)	Philpot
Northcutt, Archie Lloyd	(Law 3)	R. R., Burlington
Northcutt, Johnst	(Law 4)	R. R., Burlington
Northcutt, Richard Clarence	(Sp. Law)	R. R., Burlington
O'Neill, Louise Marion	(Sp. H. E.)	Lexington
Oberwarth, Leo Edwin	(M. & E. 1)	Frankfort
Oden, Elizabeth Elmore	(A. & S. 1)	Lexington
Oldham, Lee, Jr.,	(A. & S. 1)	Hopkinsville
Orr, Hugh Ben	(A. & S. 1)	Bardstown
Owen, J. C.	(M. & E. 3)	Mayfield
Owens, Joe Walter	(M. & E. 1)	Horse Cave
Owsley, Bernard Hugh	(Sh. Agr.)	Barlow
Owsley, Warner W.	(Agr. 4)	Owensboro
Page, George Vernon	(Agr. 4)	R. R., Sedalia
Paritz, Rebekah	(Law 2)	Lexington
Park, Curtis Field, Jr.,	(Agr. 4)	Richmond
Park, George Elliott	(A. & S. 3)	R. R., Richmond
Park, R. Smith	(M. & E. 2)	R. R., Richmond
Parker, Edna Blanche	(A. & S. 1)	Lexington
Parker, Jr., James Edward	(Agr. 1)	Maysville
Parker, William Howard	(Sp. Agr.)	Sanders
Parks, Harold	(M. & E. 3)	Irvington
Parrish, Anna Laura	(Agr. 1)	Lexington
Parrish, Sarah Katherine	(H. E. 2)	Lexington
Payne, Walter Landram	(M. & E. 2)	Paris
Peak, Bart Nixon	(A. & S. 4)	LaGrange
Peak, T. Ellis	(M. & E. 3)	LaGrange
Pearlman, Reuben	(A. & S. 4)	Richmond
Peel, Marguerite Merry	(A. & S. 1)	Danville
Pendleton, Morris Eades	(M. & E. 4)	Lexington

Penn, Everett S.	(M. & E. 4)	Georgetown
Pennington, Stella	(A. & S. 3)	London
Perkins, James Henry	(Sh. Agr.)	Hopkinsville
Perkinson, Perry M.	(Civ. 1)	R. R., Milton
Perry, Elizabeth Homer	(Agr. 4)	Lexington
Peters, Ralph Fred	(A. & S. 1)	Viper
Petty, Elizabeth Carrithers	(H. E. 2)	Shelbyville
Petty, Oscar V.	(A. & S. 3)	Lexington
Pfinstag, Vivian R.	(Agr. 4)	Newport
Phillips, Lena Madesin	(Law 4)	Nicholasville
Pickett, Elizabeth Danforth	(Sp. H. E.)	Finchville
Piggott, Eliza MacLean	(A. & S. 2)	Irvington
Pilcher, Elmer Ellsworth	(Agr. 3)	Lexington
Piper, Artemsia	(A. & S. 2)	R. R., Lexington
Piper, Lewis Allie	(Civ. 1)	R. R., Lexington
Piper, Walter Clay	(A. & S. 2)	R. R., Lexington
Pirtle, John Russell	(Agr. 1)	Hartford
Planck, Charles Evans	(A. & S. 2)	Lexington
Pollitt, Martha Hutchison	(A. & S. 1)	Vanceburg
Poole, William McKinley	(Agr. 1)	Greenville
Porch, Sarah Elizabeth	(H. E. 1)	Somerset
Porter, Goebel	(Agr. 1)	Dixon
Potter, Elsie Gertrude	(H. E. 2)	Somerset
Potter, Etta	(A. & S. 3)	Lexington
Potts, Floyd Wellman	(Agr. 4)	R. R., Owensboro
Powell, Lois	(H. E. 3)	Red House
Powell, Thomas A.	(Agr. 3)	Sebree
Preston, Amos Charles	(Law 3)	Inez
Prichard, Daniel LaFayette	(Sp. Civ.)	Wheeler, Miss.
Pritchett, Virgil James	(A. & S. 3)	Clay
Proctor, Edwin Thomas	(Sp. Law)	Paris
Proctor, Homer G.	(M. & E. 2)	Mt. Vernon
Propps, Thomas Bryan	(M. & E. 1)	Broken Bow, Okla.
Puckett, Nick Thomas	(M. & E. 2)	Hatton
Pullen, Edward Markey	(A. & S. 1)	Fulton, N. Y.
Purdom, Horace Scahill	(Civ. 1)	Vanceburg
Purnell, Linda Bertram	(H. E. 4)	Middlesboro
Pursifill, Jimmie M.	(Sp. Civ.)	Whitesburg
Puryear, Charles Rupert	(A. & S. 1)	Greenville
Puryear, Edward Alexander	(Law 2)	Paducah

Puryear, Grover Cleveland	(M. & E. 3)	Waverly
Radford, William Tandy	(M. & E. 4)	Hopkinsville
Ramsey, Carl Raymond	(Law 3)	Dalton
Ramsey, Charles Spurgeon	(Law 2)	Sebree
Randle, Joe Earl	(M. & E. 1)	Hopkinsville
Rankin, Robert Bryan	(Agr. 4)	Steubenville
Rascoe, Neida	(A. & S. 1)	Lexington
Ratliff, Fan D.	(A. & S. 1)	Sharpsburg
Ratican, Martine Catherine	(A. & S. 4)	Owensboro
Rawlings, John Thomas	(Civ. 4)	Newport
Rawlings, Robert Willard	(Civ. 3)	Newport
Rector, Lee Thornton	(A. & S. 3)	R. R., Hopkinsville
Reddish, George Fultz	(Agr. 2)	Lexington
Reddish, Kate Crawford	(H. E. 1)	Lexington
Redmon, John Talbott	(Agr. 1)	R. R., Paris
Reed, Martha Frances	(A. & S. 1)	Mt. Sterling
Reichling, Gerard A.	(Sp. Law)	Brooklyn, N. Y.
Reis, Edith	(H. E. 1)	Mt. Sterling
Reis, Harry Edward	(M. & E. 1)	Mt. Sterling
Renick, Felix	(Law 4)	Winchester
Reusch, Louis, Jr.,	(Agr. 3)	Bellevue
Revenaugh, Vernon Daniel	(Sp. Agr.)	Louisville
Reynolds, J. P. Goodson	(Law 3)	Lexington
Rhoads, Annie Laura	(H. E. 2)	R. R., Lexington
Rhoads, George William	(M. & E. 1)	Lexington
Rhoads, Wilbur Preston	(Agr. 2)	Hartford
Rice, Edgar Everitt	(Law 2)	Booneville
Rice, Than Givens	(M. & E. 4)	Providence
Richards, Henry Lieuknecht	(Min. 1)	Winchester
Richards, Tom T.	(Agr. 3)	Morganfield
Richardson, Amy Walker	(Sp. A. & S.)	Lexington
Richardson, Olney Energy	(M. & E. 1)	R. R., Hartford
Richey, Robert Francis	(Sp. A. & S.)	Newport
Richmond, Eyrl Adelaide	(H. E. 2)	Columbus, Ohio
Ricketson, Jr., Farnk Henry	(Law 4)	Leavenworth, Kan.
Ricketts, John Peter	(Agr. 4)	R. R., Mt. Sterling
Ricketts, Mary Washington	(A. & S. 2)	R. R., Mt. Sterling
Riggins, Alfred Patrick	(M. & E. 1)	Middleburg
Riley, Bartley Jasper	(Agr. 2)	Salem
Riley, Mary Gray	(A. & S. 1)	Lexington

Risen, Rollin Franklin	(M. & E. 1)	Campbellsville
Risque, Juliet Lee	(A. & S. 1)	Midway
Rivers, Thomas Grundy	(Civ. 1)	Paducah
Robbins, Mabel	(Sp. A. & S.)	Paris
Roberts, Cary Russell	(M. & E. 2)	Maceo
Robinson, Alexander Fleece	(A. & S. 1)	Lancaster
Robertson, Elmer Kranz	(M. & E. 4)	Louisville
Robertson, Herman Erwin	(Sp. Civ.)	New Albany, Ind.
Robertson, Lora Lee	(A. & S. 1)	Paducah
Robinson, Joseph Marcellus	(A. & S. 3)	Lexington
Robinson, Lucy Erwina	(A. & S. 3)	Lexington
Robinson, Mallow Smith	(Agr. 1)	Harned
Robnett, Pleasant Hunt	(M. & E. 2)	Bartow, Fla.
Rochester, William Henry	(Agr. 4)	Marion
Rodes, Mary Ford	(Sp. A. & S.)	Lexington
Rodes, William	(Law 3)	R. R., Lexington
Rodgers, Charles Raymond	(A. & S. 1)	Milton
Rodman, Thomas Merlin	(Agr. 1)	Shelbyville
Roney, James Givens	(Civ. 4)	Providence
Rork, Joseph Spencer	(M. & E. 2)	Paducah
Ross, William LaVerne	(M. & E. 1)	Huntington, W. Va.
Rouse, William Leonard	(Agr. 2)	Cynthiana
Rowe, Walter Edward	(Civ. 2)	Lexington
Rush, Lovel Feris	(A. & S. 3)	Tomkinsville
Russell, Buford B.	(M. & E. 3)	Elkton
Russell, Hobart S.	(Agr. 2)	Louisville
Rust, William Samuels	(Law 2)	Nova Scotia
Ruttle, Raymond H.	(A. & S. 2)	Covington
Sachs, Edith Claire	(H. E. 2)	Louisville
Sale, June	(Sh. H. E.)	Frankfort
Salisbury, Nell Howard	(Sp. H. E.)	Lexington
Sallee, John Louis	(Agr. 2)	Harrodsburg
Scaggs, Pearl Rose	(A. & S. 1)	Morehead
Scearce, Robert Emmett	(Sh. Agr.)	R. R., Frankfort
Scearce, Sara Belle	(Sp. A. & S.)	R. R., Frankfort
Scent, Edward W.	(Civ. 2)	Barbourville
Schaber, George Herbert	(A. & S. 4)	R. R., Alexandria
Schaber, Oscar B.	(A. & S. 3)	R. R., Alexandria
Schirmer, Cal John	(Min. 4)	Ft. Thomas
Schirmer, Joe Brown	(A. & S. 1)	Ghent

Schneider, William Frederick	(A. & S. 2)	Louisville
Schrader, Charles Christopher	(M. & E. 4)	Philadelphia, Pa.
Scott, Benjamin Harrison	(Law 3)	Louisville
Scott, J. Griff	(M. & E. 4)	Nicholasville
Scott, Mary Campbell	(A. & S. 1)	Lexington
Scott, Roy Cunningham	(A. & S. 4)	R. R., Lexington
Scrivner, Edward Irvine	(Agr. 1)	Lexington
See, Ila	(A. & S. 2)	Levee
Sewell, Hobart McKinley	(A. & S. 1)	Bethelehem
Sexton, Margaret	(A. & S. 2)	Lexington
Shaw, Arthur Judson	(Agr. 1)	Louisville
Shearer, Albert Lee	(M. & E. 1)	Hidalgo
Sherwood, John Stewart	(Law 3)	Cynthiana
Sherwood, William Sigsbee	(A. & S. 1)	Bellevue
Shinnick, Francis Blake	(Agr. 1)	Shelbyville
Shinnick, William	(A. & S. 4)	Shelbyville
Shipp, Jr., John	(Agr. 1)	Midway
Shouse, John Felix	(M. & E. 2)	Versailles
Shouse, L. B., Jr.	(Sp. Law)	Lexington
Shouse, Samuel Headley	(Agr. 2)	R. R., Lexington
Showalter, Freeman B.	(Sp. Agr.)	Georgetown
Shwant, Otto George	(Min. 4)	Covington
Siegel, Harry Harman	(A. & S. 1)	Newport
Siegel, Jacob Bert	(Civ. 1)	Newport
Simpson, Frank Weddall	(M. & E. 1)	Lexington
Simpson, Henry Clay	(Agr. 3)	R. R., Lexington
Simrall, Anne D.	(Sp. A. & S.)	Mt. Sterling
Simrall, Ida Bright	(A. & S. 1)	Scotts Station
Sims, Raymond Franklin	(Agr. 1)	Sedalia
Sims, Rubye Carman	(H. E. 1)	Lexington
Skees, Anna Rose Tyler	(A. & S. 1)	Ft. Thomas
Skidmore, Andrew Allen	(Law 2)	Columbus, Kan.
Sloan, Anne Elizabeth	(A. & S. 3)	Lexington
Sloan, Ira Grant	(Agr. 1)	Madisonville, Tenn.
Smiser, Harmon Courtney	(M. & E. 4)	Cynthiana
Smiser, Louisa	(H. E. 1)	Cynthiana
Smith, Arthur Crowell	(Civ. 2)	Lexington
Smith, Charles R.	(Agr. 4)	Somerset
Smith, Edna Withers	(A. & S. 1)	Corbin
Smith, George Darsie	(A. & S. 1)	Ashland

Smith, Mose	(Civ. 2)	Ruston, La.
Smith, Myrtle Rose	(A. & S. 3)	LaGrange
Smith, Roland Elston	(M. & E. 1)	R. R., Bowling Green
Smith, Stanley Hartwell	(Law 2)	Berea
Snoddy, William Owsley	(A. & S. 2)	Glasgow
Snodgrass, Grace Lee	(Sp. A. & S.)	Lexington
Snyder, Augustus Henry	(A. & S. 1)	Louisa
Snyder, Catherine Belt	(H. E. 3)	Louisville
Snyder, J. W.	(A. & S. 2)	Livermore
South, Mary Weldon	(Sp. H. E.)	R. R., Frankfort
Soward, William Carlyle	(A. & S. 1)	R. R., Maysville
Sparks, Bradley	(Civ. 2)	Greenville
Sparks, Dewey	(M. & E. 1)	Greenville
Sparrow, Ezra	(Agr. 1)	R. R., Sinai
Spencer, Frances B.	(A. & S. 3)	Lexington
Sprague, Anna Bentley	(H. E. 1)	Lexington
Sprague, Marion Brooke	(A. & S. 2)	R. R., Lexington
Springer, David S.	(M. & E. 4)	Corydon
Spurrier, Eliza Kaye	(A. & S. 2)	Louisville
Stagg, Mary Dedman	(A. & S. 4)	Lexington
Stagg, Nancy Lowry	(A. & S. 2)	Lexington
Stalion, Carl	(Sh. M. & E.)	Lexington
Stedman, Harvey Worley	(Agr. 2)	Versailles
Steinhauser, Leo Ellis	(Agr. 2)	DeMossville
Stephens, Albert Cornelius	(Civ. 1)	Burlington
Stephens, May Sweeney	(A. & S. 3)	Williamsburg
Stevenson, Louise Singer	(A. & S. 1)	Lexington
Stewart, Brady Marshall	(A. & S. 1)	Kevil
Stewart, John Gilbert	(Agr. 3)	Crittenden
Stewart, William Alex	(Sh. Agr.)	Vest
Stokes, James Wilson	(Agr. 1)	Farmington
Stokes, Silas Johnson	(Agr. 4)	Farmington
Strahm, Victor Herbert	(M. & E. 2)	Bowling Green
Street, Jr., Frank Tandy	(Agr. 4)	Cadiz
Stroud, William Joseph Bryant	(Agr. 1)	Norwood
Sullivan, Henry Wilbur	(A. & S. 1)	Mt. Sterling
Sullivan, Neal Grace	(Law 2)	Elkton
Sumner, Wood	(M. & E. 2)	Greenville
Sutton, Will D.	(Agr. 4)	Mayfield
Sweatt, James Freeman	(Civ. 1)	Lewisburg

Sweeney, Bess E.	(A. & S. 1)	R. R., Paris
Swinney, Lula Ben	(H. E. 1)	Eminence
Swope, John William	(Law 3)	R. R., Lancaster
Taber, J. Branch	(Agr. 3)	Elizabethtown
Tachau, Lewis	(Agr. 1)	Louisville
Tapp, Byron	(Sh. Agr.)	R. R., Corydon
Tapp, Jesse	(Apr. 1)	R. R., Corydon
Tapscott, Edwin Terrill	(Agr. 2)	Owensboro
Taylor, Charles L.	(Agr. 4)	Prentiss
Taylor, Eugene Avery	(A. & S. 4)	Louisville
Taylor, Henry Flournoy	(Civ. 1)	Fulton
Taylor, Mildred	(A. & S. 3)	Lexington
Taylor, Otis Boyd	(Agr. 4)	Prentiss
Taylor, Robert Dudley	(Sh. Agr.)	Winchester
Taylor, William Parke	(Law 3)	Hartford
Templin, Charles Landen	(M. & E. 2)	Paris
Terrell, Horace White	(M. & E. 1)	Barlow
Thomas, Mary Josephine	(A. & S. 3)	Frankfort
Thomas, Perry Elmo	(Agr. 3)	Murray
Thomas, Robert Price	(A. & S. 1)	Versailles
Thompson, Alvin S.	(Agr. 1)	R. R., Paris
Thompson, Jr., Henry Clay	(M. & E. 1)	Ft. Thomas
Thomson, Henry Lawrence	(M. & E. 1)	Providence
Thompson, John Kincheloe	(Agr. 1)	R. R., Owensboro
Thompson, Russelle	(H. E. 1)	Lexington
Thompson, Will Wallace	(A. & S. 1)	Mt. Vernon
Tichenor, McHenry	(M. & E. 1)	R. R., Hopkinsville
Timmer, Carl Albert	(M. & E. 3)	Louisville
Told, Anna Kathryn	(H. E. 1)	Carrollton
Tolle, Raymond Estill	(Sp. A. & S.)	R. R., Maysville
Tomkies, Douglas Christian	(A. & S. 1)	R. R., Lexington
Tomkies, Toney Caperton	(Sp. Law)	R. R., Lexington
Tomlinson, Robert Hugh	(A. & S. 3)	Lancaster
Trapp, Francis Joseph	(Civ. 1)	Lexington
Treadway, Adli Stephen	(A. & S. 2)	Tanksley
Trik, Frank Allen	(A. & S. 1)	Bellevue
Triplett, Cardwell Douglas	(A. & S. 2)	Beech Grove
Troutman, George Jacob	(Sp. Agr.)	Nicholasville
Tucker, Catherine Olivia	(A. & S. 1)	Lexington
Turner, Dillard Hazelrigg	(A. & S. 3)	Frankfort

Turner, Louise	(H. E. 2)	Lexington
Turner, Mary Frances	(H. E. 2)	Louisville
Tuttle, Frank Waldo	(A. & S. 1)	Lexington
Tuttle, Margaret Helmsing	(A. & S. 2)	Lexington
Underwood, II., Tom	(A. & S. 2)	Hopkinsville
Utterback, John Milton	(Civ. 2)	Clinton
Vanarsdall, George Washington	(M. & E. 1)	Burgin
VanDeren, Edward Yancey	(Agr. 1)	R. R., Cynthiana
Vanmeter, Mary Scott	(Agr. 1)	Lexington
VanMeter, Virginia	(Sp. H. E.)	Lexington
Varnon, Martha	(A. & S. 2)	Asheville, N. C.
Vilcofsky, Morriss	(Agr. 1)	Newport
Vories, Emma DeWitt	(A. & S. 2)	Sparta
Vowel, Joseph Truman	(Civ. 1)	Harlan
Wagers, William Ambrose	(Agr. 1)	R. R., Richmond
Walker, Dorothy Caldwell	(A. & S.)	Rim
Walker, Mary Elizabeth	(H. E. 3)	Lexington
Walker, Orin Coomis	(Law 2)	R. R., Stithton
Walker, William Green	(Agr. 1)	R. R., Lexington
Wallace, Ike Bourne	(Sp. Law)	Nicholasville
Wallace, Jr., William Mason	(M. & E. 1)	Lexington
Wallen, Ishmael Huram	(Civ. 3)	Lackey
Wallingford, Joseph Kevil	(Min. 2)	Cynthiana
Wallingford, James Stuart	(M. & E. 2)	Paris
Walton, Jr., William P.	(A. S. 2)	Lexington
Ward, Urey Gorman	(Law 2)	Inez
Ware, Sim Louis	(Min. 4)	Somerset
Ware, William Wallace	(Sp. Law)	Hopkinsville
Warren, Jr., Cary Ives	(Sh. Agr.)	Lexington
Warren, Frances Sidney	(Sp. A. & S.)	Lexington
Warren, Myra Aldrich	(H. E. 1)	Louisville
Warth, Henry K.	(Agr. 1)	Georgetown
Warth, Robert	(M. & E. 1)	Georgetown
Wash, Ida Belle	(A. & S. 2)	Lexington
Wash, Ruth	(A. & S. 2)	Lexington
Waterfill, Robert William	(M. & E. 3)	Lawrenceburg
Waters, John Newland	(M. & E. 4)	Middletown
Watson, Mervin Lytle	(M. & E. 3)	Brooksville
Watts, Jr., Thomas Wallace	(M. & E. 2)	Frankfort
Weakley, Hannah Sarah	(H. E. 1)	Louisville

Weakley, Katherine Thomas	(A. & S. 1)	Louisville
Weathers, Laura Ruth	(A. & S. 2)	Hutchison
Webb, Arnold Henry	(A. & S. 3)	West Liberty
Webb, Julia Elma	(A. & S. 1)	R. R., Lexington
Welch, James Whitcomb	(A. & S. 3)	Nicholasville
Weldon, Elmer	(A. & S. 3)	Sanders
Wesson, James Wright	(Agr. 4)	Wingo
Wesson, Joe Alexander	(Agr. 2)	Wingo
Whaley, Harry Wilbur	(Civ. 2)	Covington
Whaley, James Saunders	(Agr. 2)	Cynthiana
Whalen, Agnes Hyacinth	(H. E. 1)	Harrodsburg
Wheeler, Hattie Ell	(H. E. 1)	Lexington
Wheeler, Lloyd T.	(Civ. 3)	Louisville
Whitcomb, Calvin Dulaney	(A. & S. 2)	Covington
White, James E.	(Sp. Law)	Green
Whittinghill, Sudie Floris	(A. & S. 1)	Glen Dean
Whitworth, Clara Donald	(A. & S. 3)	Hardinsburg
Wicklund, Carl A.	(Agr. 4)	Central City
Wieman, Blanche Annette	(A. & S. 4)	Lexington
Wilkey, Clovis Ray	(Agr. 4)	Dixon
Wilkinson, Margaret Rathell	(A. & S. 1)	Lexington
Will, Louise	(A. & S. 1)	Louisville
Williams, Buford	(Law 4)	R. R., Lexington
Williams, Charles Baird	(Civ. 1)	Graham
Wilson, Archibald Cameron	(Agr. 2)	Bardstown
Wilson, Coy Virginia	(A. & S. 2)	Providence
Wilson, Hume	(A. & S. 2)	Paint Lick
Wilson, Robbie Douglas	(H. E. 2)	Cadiz*
Wilson, Robert Eugene	(A. & S. 3)	R. R., Sullivan
Wilson, Tilford Lanier	(Agr. 3)	Lexington
Wilson, William Rives	(A. & S. 1)	Sturgis
Wise, Leon	(A. & S. 1)	Eminence
Witten, Raleigh Ham	(Law 2)	Stambaugh
Wood, Alfred M.	(A. & S. 2)	Wildie
Wood, John Douglass	(M. & E. 1)	Elkton
Woodruff, John Grant	(A. & S. 1)	Cadiz
Woods, Elmer Scott	(A. & S. 1)	R. R., Lexington
Woods, Mamie Miller	(H. E. 1)	Lexington
Wright, Sidney Arthur	(M. & E. 3)	Owensboro
Wright, Walter	(A. & S. 3)	Campbellsburg

Wyatt, Clinton P.	(A. & S. 3)	Benton
Wygal, Calvin Aurelius	(A. & S. 1)	Scottsville
Yarbro, Anna Mae	(A. & S. 1)	Paducah
Young, Anna Kinnear	(Sp. H. E.)	Lexington
Young, Bernice Mildred	(A. & S. 1)	Pineville
Young, Charles Edward	(Law 2)	Louisville
Yourish, William	(M. & E. 1)	Lexington
Zimmerman, Alex Julius	(A. & S. 3)	Louisville

SUMMER SCHOOL STUDENTS, 1916.

Aaron, Nat	Berea
Abner, James Robert	Burgin
Agee, Carl	Lexington
Agnew, Annie	Sebree
Anderson, Frances Fern	Ludlow
Armes, Gordon Sherman	Leitchfield
Armstrong, Charles Edwin	St. John., N. B., Canada
Arnold, William Homer	Wilmore
Baker, Etna Janes	Murray
Barker, Clyde	Brooksville
Bastin, Arthur	Lexington
Beatty, Ernest Nutter	Lexington
Bell, Katherine	Harrodsburg
Bell, Trice Morton	Madisonville
Berkele, Edna King	Lancaster
Biehn, Mary	Falmouth
Boone, Florence Dollie	Lexington
Borntraeger, Henry W.	Louisville
Botts, Lee Ernest	Glasgow
Bruner, Jacob Franklin	Lexington
Burge, Lofton Voris	Mayfield
Canary, Peyton Henry	Lexington
Carr, Ophelia S. T.	Lexington
Carter, Frank	Flora
Cassady, Earle	Inez
Castro, Idalina O.	Portugal
Chapman, Virgil	Frankfort
Clarke, Evelyn J.	Midway
Clark, Julia Ruth	Paris

Coleman, J. Henry	Oak Grove
Combs, Henry Kelly	Hollonville
Cook, Leland	Vanceburg
Corn, J. Franklin	Harrodsburg
Cramer, C. J.	Lexington
Cramer, Willard F.	Lexington
Creekmore, Thomas L.	Lexington
Crow, Elizabeth R.	R. R., Versailles
Day, Sterling A.	Flemingsburg
Denton, Mary Lou	Lexington
Dowdy, Fred Sanford	Fullerton
Dunn, Marshall	Minneapolis, Minn.
Edens, George Edward	Burkesville
Edgar. Isabella Marshall	University, Va.
Engle, Stanley L.	McKee
Espy, C. L.	Lafayette, Ind.
Ewen, Mabel Russell	Stanton
Foster, Earl Ware	Covington
Fried, Hyman	Flemingsburg
Garrow, Agnes Kathleen	Paducah
Gartin, Otto C.	Louisa
Gentry, P. T.	Lexington
Gibson, H. T.	Wilmore
Gilbert, James Freeman	Lawrenceburg
Godman, Mark S.	Lexington
Gorham, Edna Clara	Brighton
Gordon, Thomas B.	Lexington
Graddy, Ivan Clay	Utica
Graham, Virginia Taylor	Lexington
Grossman, Herbert Robert	Louisville
Hall, Elizabeth Wallace	Crestwood
Hammonds, Carsie	Russell Springs
Hampton, Rose Lenore	Corinth
Hardy, Victor Deweese	Lexington
Henry, Elizabeth Beatrice	Lexington
Henry, Nellye P.	Versailles
Henry, William T.	Lexington
Herz, Charles	Lexington
Hester, Byron	Pryor, Okla.
Hill, George H.	Bluefield, W. Va.

Hines, Harold K.	Bowling Green
Hogard, Joe Samuel	Columbia
Horine, Bessie	Nicholasville
Horine, Henry Price	Nicholasville
Horine, Miriam Virginia	Nicholasville
Hughes, Bessie	Edenton
Imamura, Shoichi	Hongo Ku, Tokyo, Japan
Jackson, Edith Hollaway	Lexington
Jenkins, Richard Harold	Georgetown
Judd, Melvin H.	Lexington
Kelley, Edward Everett	Whitesville
Kelly, Karl David	Georgetown, Ind.
King, Effie	Lexington
Kirk, Herschel Roscoe	Irvington
Leman, John Julian	Pineville
Liles, Eva	Tannery
Lisanby, Rufus	Dawson Springs
Lowry, Ben	Catlettsburg
Lykins, Lena Wells	Petersville
Mapstone, Roy Clifford A.	Natal, S. Africa
Matthews, Margaret C.	Lexington
May, Mattie Cleek	Verona
Mayfield, Charles Wm.	Murray
McClain, Lee	Bardstown
McClure, Bernice	Mt. Sterling
McClure, Eugene Thomas	Gallup
McClure, Margaret E.	Lexington
McCord, Grace Elma	Paris
McGuire, Arlie E.	Cannel City
McGuire, Samuel H.	Ebon
McKee, Walter L.	Centerville, Miss.
Meglone, Mary Lucretia	Lexington
Messman, Margaret Clara	Dayton
Mills, Vaught	Kenton
Minor, Emil Thomas	Louisville
Moore, Lee S.	Central City
Morgan, Mrs. Florence B.	Lexington
Morris, J. C.	Lexington
Morris, Nancy Talbott	Lexington
NeVille, Minnie E.	Louisville

Norris, James Wm.	Somerset
Northcutt, Johnst	Burlington
Northcutt, Richard	Burlington
Osborne, Edmund Arthur	Lexington
Oldham, Ronald C.	Carlisle
Owens, John Stiles	Calhoun
Parker, George	Sadieville
Parker, J. Sanders	Sanders
Parks, Harold	Irvington
Paslay, Dolly	Lexington
Pfanmuller, Albert L.	Lexington
Phillips, Lena M.	Nicholasville
Powell, Ida May	Nicholasville
Preston, Amos Charles	Inez
Purnell, Mary Agnes	Millersburg
Proctor, Edwin T.	Leitchfield
Qualls, David Webster	Olive Hill
Rector, Lee Thornton	Hopkinsville
Redwine, Marcus Carlisle	Sandy Hook
Reusch, Louis, Jr.	Bellevue
Riley, Mary Gray	Lexington
Ringo, J. Collis	Lexington
Ringo, William Pryor	Owensboro
Robnett, Pleasant Hunt	Bartow, Florida
Rochester, William Henry	Marion
Rodes, Mary Ford	Lexington
Ryan, Charles Obie	Monticello
Sadtler, Charlotte Leah	LaGrange
Schaber, George Herbert	Alexandria
Schirmer, Cal John	Ft. Thomas
Scott, Frances S.	Lexington
Scott, J. Griff	Nicholasville
Shelton, Allie M.	Newtown
Shwant, Otto George	Covington
Sims, Mrs. Rubye	R. R., Sedalia
Sloan, Ada Elsie	Lexington
Stansel, Howard Edmonds	Lexington
Stoll, Richard Cromwell	Lexington
Sweets, Minnie May	Elizabethtown
Tallent, Robert Wickliffe	Jackson

Taylor, Charles L.	Prentiss
Taylor, Mary Elizabeth	Lexington
Taylor, Eugene Avery	Louisville
Thomas, Mary Etta	Owensboro
Timmer, Carl Albert	Louisville
Townsend, Albia H.,	R. R., Hickman
Tracy, Edward Joseph	Jeffersonville, Ind.
Treadway, Adli Stephen	Tanksley
Turner, Ervine	Crockettsville
Vance, J. W.	
Vaughn, Esther	Bagdad
Vogelbach, Alice G.	Dayton
Walker, Thomas L., Jr.	Lexington
Wall, Joseph Raymond	Cayce
Ware, Sim Louis	Somerset
Ware, Wallace W.	Hopkinsville
Warner, Hattie Catherine	Nicholasville
Watkins, Allen R.	Henderson
Watts, T. W., Jr.	Frankfort
Webb, Arnold Henry	Lexington
Wills, Nancye	Eminence
Wilson, Hume	Paint Lick
Young, Clarence Caldwell	Nelson

SUMMARY.

OFFICERS OF INSTRUCTION.

Professors	39
Associate Professors	17
Assistant Professors	12
Assistants and Instructors	23
University Officers of Instruction	91

STUDENTS.

Candidates for Degrees	Arts and Science	Agriculture.	Civil Eng.	Mech. Eng.	Mining Eng.	Law.	Home Econ.	Totals.
Graduates	33	8	7	12	....	2	....	62
Seniors	39	39	13	23	7	22	4	147
Juniors	65	40	17	37	5	36	9	209
Sophomores	79	37	12	48	6	42	25	249
Freshmen	127	57	29	61	8	....	49	331
	343	181	78	181	26	102	87	998
Not Cand'tes for Degrees.								
Special Students	20	18	4	2	2	19	13	78
One Year Agriculture	....	23	....	....	....	....	....	23
Six days crs. Hgwy. Eng.	....	....	127	....	....	....	....	127
Short Mechanical Eng.	....	....	....	4	....	....	....	4
Short Home Economics	....	....	....	....	....	....	4	4
Eight wks. crs. in Min.	....	....	....	....	20	....	....	20
Summer School	....	....	....	....	....	....	....	172
	363	222	209	187	48	121	104	428
Totals	....	....	....	....	....	....	....	1426
Less names counted twice	....	....	....	....	....	....	....	71
								1355

SUMMARY BY COUNTIES IN KENTUCKY.

Adair County	2	Grayson County	1
Allen County	1	Green County	1
Anderson County	11	Hardin County	6
Ballard County	7	Harlan County	3
Barren County	3	Harrison County	21
Bath County	2	Hart County	2
Bell County	9	Henderson County	9
Boone County	9	Henry County	15
Bourbon County	18	Hickman County	2
Boyd County	5	Hopkins County	8
Boyle County	2	Jackson County	3
Bracken County	2	Jessamine County	15
Breathitt County	3	Johnson County	3
Breckinridge County	9	Jefferson County	75
Bullitt County	3	Kenton County	14
Butler County	5	Knott County	1
Caldwell County	2	Knox County	6
Calloway County	5	Larue County	1
Campbell County	26	Laurel County	3
Carlisle County	4	Lawrence County	5
Carroll County	5	Lee County	2
Carter County	3	Leslie County	1
Casey County	2	Lewis County	7
Christian County	13	Lincoln County	2
Clark County	14	Livingston County	3
Clay County	3	Logan County	7
Crittenden County	11	Madison County	22
Cumberland County	1	Magoffin County	1
Davies County	28	Marion County	4
Elliott County	2	Marshall County	6
Fleming County	7	Martin County	4
Floyd County	2	Mason County	11
Franklin County	19	McCracken County	15
Fulton County	6	McCreary County	3
Gallatin County	1	McLean County	3
Garrard County	7	Meade County	2
Fayette County	200	Mercer County	8
Grant County	11	Metcalfe County	1
Graves County	19	Monroe County	1

Montgomery County	15	Shelby County	18
Morgan County	6	Simpson County	3
Muhlenberg County	17	Taylor County	2
Nelson County	6	Todd County	5
Nicholas County	1	Trigg County	5
Ohio County	17	Trimble County	7
Oldham County	8	Union County	10
Owen County	2	Warren County	6
Owsley County	2	Washington County	6
Pendleton County	5	Wayne County	2
Perry County	2	Webster County	14
Pulaski County	12	Whitley County	5
Rockcastle County	3	Woodford County	14
Rowan County	2		
Russell County	1		983
Scott County	8		

SUMMARY BY OTHER STATES AND COUNTRIES.

Armenia	1	North Carolina	1
Bulgaria	3	Ohio	7
Colorado	1	Oklahoma	1
England	1	Oregon	1
Florida	2	Pennsylvania	3
Illinois	3	Portugal	1
Indiana	4	Russia	1
Kansas	2	South Africa	1
Louisiana	1	South Carolina	2
Minnesota	1	Tennessee	9
Mississippi	2	Texas	1
Missouri	3	Virginia	1
Connecticut	1	West Virginia	4
New Hampshire	1		
New York	3		62

DIRECTORY OF OFFICERS.

Numbers in Parentheses are Telephone Numbers.

ADAMS, CARROLL SIDNEY, Asst. Prof.
162 E. High (2389-X)

ALLEN, HARRY RAYMOND, Fellow.
216 Bell Court E. (3487-X)

ALLEN, J. EMBRY, Assoc. Prof.
365 Aylesford Place (472)

ANDERSON, F. PAUL, Dean.
147 Kentucky Ave. (941)

ANDERSON, VIRGINIA FRANCES, Instructor.
147 Kentucky Ave. (941)

ANDERSON, WALTER S., Asst. Prof.
149 Washington Ave. (1563-X)

AVERITT, SAXE DABNEY, Chemist, Experiment Station.
304 E. Maxwell St.

BACON, PHILIP E., Tester of Dairy Herds, Experiment Station.
414 Rose Lane.

BAKER, GEORGE M., Associate Prof.
701 S. Limestone (3627-X)

BARKER, HENRY STITES, President.
Patterson Hall (1239)

BARR, THOMAS JAMES, Professor.
454 Rose Lane (2194-X)

BEAN, CARRIE A., Clerk.
574 W. Short St. (2824-X)

BEDFORD, M. HUME, Instructor.
Paris, Ky. (624)

BLUMENTHAL, PHILIP LEE, Chemist.
Phoenix Hotel (1900)

BOHANNON, CHARLES D., Associate Prof.
Cor. Waller Avenue (3653-X)

BOLES, STANLEY ATWOOD, Physical Instructor for Men.
406 Woodland Avenue.

BOWERS, CHARLES LEROY, Fellow.
450 Rose Lane (2448-X)

BOYD, PAUL PRENTICE, Professor.
Waller Ave., Rhodes Place (5639)

BRUECKNER, ARTHUR LOUIS, Assistant.
819 S. Limestone.

BROWN, LINWOOD ARNOLD, Chemist, Experiment Station.
425 Transylvania Park (1356-X)

BRADLEY, EUSTICE U., Instructor.
120 Warren Court (1946-X)

BROOKE, MINOTT, Instructor.
737 S. Limestone (1171)

BRYANT, THOMSON RIPLEY, Professor.
239 Clay Avenue (1612)

BUCHIGNANI, TERESA EUGENIA, Secretary.
217 N. Limestone (439-Y)

BUCKMAN, RUBY, Assistant Professor.
267 S. Limestone (515)

BUCKNER, GARRETT DAVIS, Chemist, Experiment Station.
461 N. Limestone (1009)

BUSH, JAMES RICHARD, Assoc. Prof.
221 S. Ashland Ave. (131)

BUTT, WILLIAM E., Asst. Prof.
412 Woodland Ave.

CANNON, HARRY S., Asst. Prof.
287 S. Limestone.

CARREL, WILLIAM JOSEPH, Assoc. Prof.
371 Linden Walk.

CHALKLEY, LYMAN, Professor.
272 Lexington Ave. (2637-Y)

CHORN, SARAH, Instructor.
Nicholasville Pike (367)

CRISLER, OTTO S., Assoc. Prof., Experiment Station.
239 S. Limestone (3219)

CRUMBAUGH, GERMAINE, Secretary.
612 N. Broadway.

CURTIS, HENRY ERNEST, Professor.
355 Linden Walk (2908)

CURTIS, JOHN JAMES, Assistant Prof.
344 Transylvania Park (2697-Y)

DANIELS, LLOYD CADIE, Asst. Prof.
185 Park Ave. (1296-Y)

DANTZLER, LEHRE LIVINGSTON, Prof.
200 East Maxwell (2001-Y)

DAVIS, JOSEPH MORTON, Professor.
340 Madison Place (1483-Y)

DICKER, JOHN BORN, Instructor.
122 Graham Avenue.

DICKER, JOSEPH, Supt. of Shops.
120 Graham Avenue.

DIDLAKE, MARY LeGRANDE, Asst. Prof.
431 E. Main Street (234-Y)

DOWNING, HAROLD HARDESTY, Assistant Professor.
158 N. Ashland Ave. (3509)

DUNCAN, JAMES RAY, Asst. Prof.
429 Maple Avenue (2348-X)

ELLZEY, ESCO F., Fellow.
450 Rose Lane.

FAIRFAX, JOHN CARLYLE, Commandant.
University Campus (1135)

FARQUHAR, EDWARD F., Professor.
629 Sayrs Avenue (2079-Y)

FRANKEL, LEON K., Professor.
324 Aylesford Place (1891)

FREEMAN, WILLIAM EDWIN, Prof.
Waverly Apts. (2571)

GARMAN, HARRISON, Professor.
638 S. Limestone St. (2551)
GILBERT, ALFRED H., Assoc. Prof.
609 S. Limestone (582)
GILLIS, EZRA L., Registrar.
237 S. Limestone (2307-Y)
GOOD, EDWIN STANTON, Professor.
Experiment Station Farm (1659-Y)
GORDON, ANGUS NEAL, Instructor.
Y. M. C. A. (226)
GOTT, EDWIN J., Asst., Experiment Station.
819 S. Limestone.
GRADDY, LIZZIE LEE, Asst. Registrar.
215 E. High St. (2077-X)
GRAHAM, HERBERT, Fellow.
326 Grosvenor Ave. (3089)
GRAHAM, ROBERT, Professor.
239 S. Limestone (3219)
GREHEN, ENOCH, Professor.
348 Aylesford Place (1124)
GROVE, VERNON GUY, Fellow.
802 S. Limestone (2434-Y)
HAMILTON, ANNA J., Assoc. Prof.
Patterson Hall (24)
HEALY, DANIEL JOSEPH, Professor.
530 Sayre Avenue (969)
HOOPER, JOHN JULIEN, Professor.
609 S. Limestone (582)
HORINE, JOHN SHERMAN, Asst. Prof.
252 E. Maxwell (2673)
HUTCHCRAFT, REUBEN BRENT, Professor.
Paris, Ky.
INGRAM, ELMER, Chief Inspec.
239 South Limestone (3219)
JELLEY, ETHEL, Stenographer.
370 S. Broadway (2303)
JEWELL, M. FRANCES, Instructor.
311 S. Ashland Ave. (249)
JEWETT, HOWARD H. Research Asst., Experiment Station.
424 Linden Walk (1354)
JONES, THEODORE TOLMAN, Prof.
318 Aylesford Place (1812-X)
JOHNSON, JOHN E., Gen. Secretary, University Y. M. C. A.
116 E. Maxwell (890-Y)
JOYEUX, LILA, Private Secretary.
R. R. 2, Georgetown, Ky. (236)
KARRAKER, PERRY ELMER, Asst. Prof.
327 S. Upper St. (655)
KERR, CHARLES, Professor.
659 N. Broadway (431-X)
KILLEBREW, CINCINNATUS DECATUR, Assoc. Prof.
287 S. Limestone (2307-Y)
KING, MARGARET I., Librarian.
225 S. Limestone (1827-X)
KINNEY, EDWARD J., Assoc. Prof.
465 Woodland Ave. (1542-Y)
LaBACH, JAMES OSCAR, Professor.
Preston Inn (1192)
LAFFERTY, WILLIAM THORNTON, Dean.
418 E. Maxwell (1080)
LEE, OWEN SCOTT, Assistant, Experiment Station.
350 Aylesford Place (1824-Y)
LENAGHAN, MRS. MAMIE, Secretary.
129 E. High St. (2663)
LOOMIS, JOHN FREDERICK, Instructor.
Physics Building (2248-X)
LOVE, EDITH, Secretary.
461 W. Sixth St. (2325)
LYONS, JAMES B., Cashier.
507 Maryland Ave. (1234)
MARSH, JOHN R. Fellow.
210 Arlington Ave. (1492-X)
MATHEWS, CLARENCE WENTWORTH, Professor.
660 S. Limestone (895-Y)
MAXSON, RALPH NELSON, Professor.
366 Transylvania Park (1813-Y)
McDANIEL, KATE, Secretary.
428 Fayette Park (1470)
McFARLAND, FRANK T., Asst. Prof.
703 S. Limestone (3277)
McHARGUE, JAMES S., Asst. Chemist.
411 Transylvania Park (3517-Y)
McLAUGHLIN, MARGUERITE, Instructor.
226 E. Maxwell (117)
MELCHER, COLUMBUS R., Professor and Dean of Men.
Preston Inn (1192)
MILLER, ARTHUR McQUISTON, Dean.
609 S. Limestone (582)
MITCHELL, JOHN RICHARD, Instructor.
327 S. Upper St. (655)
MUTCHLER, FRED, Professor.
337 Transylvania Park (1824-X)
NICHOLLS, WILLIAM DERRETT, Professor.
Rodes Addition (5539)
NISWONGER, HOLLY RAY, Asst. Field Work, Experiment Station.
550 East Main St. (849)
NOE, JAS. THOMAS COTTON, Prof.
725 Rose Street (3627-Y)
NOLLAU, LOUIS EDWARD, Professor.
309 E. Maxwell (3428-X)
NORWOOD, CHARLES JOSEPH, Dean.
339 Aylesford Place (1540)
NUTTER, JOHN WILLIAM, Supt. Dairy Farm, Experiment Station.
149 Virginia Ave. (2200)
OLNEY, ALBERT JACKSON, Asst. Professor.
114 Gazette Avenue.
OWENS, KATHERINE W., Secretary.
157 Forest Ave. (1466-Y)
PEAK, DAVID HOWARD, Business Agent.
Y. M. C. A. Building (226)
PENCE, MERRY LEWIS, Professor.
364 Merino Street (1560)

PETER, ALFRED MEREDITH, Acting Director of Experiment Station.
268 E. Maxwell Street (2549)
PICKETT, ELIZABETH D., Matron.
Patterson Hall (24)
PINNELL, WALTER REDMON, Bacteriologist, Experiment Station.
Scovell Place, Station Farm (1462-X)
POLLITT, MABEL HARDY, Instructor.
University Campus (240)
PONTIUS, ROBERT L., Assoc. Prof. Experiment Station.
239 S. Limestone (3219)
PORTER, CHILTON SCOTT, Drug Inspector, Experiment Station.
430 E. Maxwell St. (2125-X)
PRYOR, JOSEPH WILLIAM, Professor.
261 N. Broadway (796)
PRESTON, AMOS CHARLES, Bookkeeper.
118 Woodland Ave. (2704)
PRICE, JOHN T., Fellow.
326 Grosevenor Ave. (3089)
REED, JOSEPH W., Instructor. Asst. Inspector of Mines.
452 Rose Lane (2523)
REES, ELIJAH LAYTHAM, Assoc. Prof.
726 E. Main St. (2118-Y)
REID, HOMER LLOYD, Fellow.
Observatory.
REYNOLDS, ELLEN ANN, Asst. Prof.
319 Linden Walk (787-Y)
RHOADS, McHENRY, Professor.
Nicholasville Pike (2354)
ROBERTS, GEORGE, Acting Dean.
340 Transylvania Park (2025-Y)
RODES, WILLIAM, Chemist.
152 East High St. (2576)
ROWE, WALTER ELLSWORTH, Dean.
347 Transylvania Park (795-Y)
SHEDD, OLIVER MARCH, Chemist, Experiment Station.
348 Linden Walk (2004-X)
SLADE, D. D., Supt. Poultry Farm, Experiment Station.
275 Lexington Ave. (1718-Y)
SMITH, MARQUIS JOSEPH, Assistant, Experiment Station.
212 East Maxwell (1244-Y)
SPEARS, HOWELL DAVIS, Chemist, Experiment Station.
703 Rose Street (1563-Y)
STAEBNER, WILLIAM HALE, Instructor.
137 East High St. (1668-Y)
STARNS, DUDLEY H., Fellow.
802 S. Limestone (2434-Y)
STATES, MARSHALL NEY, Instructor.
453 E. Maxwell (787-X)
STOUT, MRS. ROBERT LEE, Professor.
Frankfort, Kentucky.
SWEENEY, MARY E., Dean.
Pine Grove, Kentucky (5963)
TAYLOR, ROBERT BROOKS, Asst. Chemist, Experiment Station.
R. R. 5 (4566)
TERRELL, DANIEL VOIERS, Prof.
653 S. Limestone (2034-X)
TERRELL, GLANVILLE, Professor.
609 S. Limestone (582)
TERRELL, WILLIS GRANVILLE, Inspector, Experiment Station.
135 E. Second St. (915)
THURMAN, GORDON, Assistant.
131 Virginia Avenue.
TIGERT, JOHN JAMES, Professor.
119 Bassett Court (2225-X)
TURNER, JOB DARBIN, Professor.
135 Washington Ave. (2175-Y)
TURNER, MRS. NELL H., Secretary.
370 S. Broadway (2303)
TUTHILL, JAMES EDWARD, Professor.
253 S. Limestone (2141-X)
TUTTLE, FRANKLIN ELLIOTT, Prof.
125 E. Maxwell St. (1477-X)
VANSELL, GEORGE HAYMAKER, Assistant.
327 S. Upper St. (655)
VAUGHN, ERLE CLEVELAND, Asst. Prof., Experiment Station.
304 S. Limestone (3374)
VAUGHN, GEORGE W., Assoc. Prof.
111 N. Ashland Ave. (1182-X)
WAITT, ALDEN HARRY, Instructor.
211 E. Maxwell St. (1651-X)
WEAVER, CHARLES PRESTON, Prof.
720 East High St. (1034-Y)
WEBB, WILLIAM SNYDER, Professor.
363 Transylvania Park (1750-X)
WHITE, CLARA WARLAND, Instructor.
158 E. Maxwell St. (1236-Y)
WILHOITE, ARZA LYTLE, Asst. Prof.
412 Rose Street (2656-X)
WILKINS, RAYMOND HARVEY, Research, Asst. in Poultry, Experiment Station.
239 S. Limestone (3219)
WITHERS, BELLA T., Secretary.
628 W. High St. (529)
WORLEY, BRICE COUCH, Instructor.
321 Grosvenor Avenue.
ZEMBROD, ALFRED CHARLES, Prof.
456 W. Fourth St. (1404-X)

INDEX.

A.

Accredited Schools 70
Accredited Schools, Growth of 78
Administrative Officers 14
Admission and Classification 57
Admission by Certificate 69
Admission by Examination 58
Admission to Freshman Class 57
Admission to Advanced Standing 78
Admission as Special Students 78
Admission as Graduate Students 78
Entrance Subjects 57
Entrance Units 58
High Schools 71
Private Institutions 76
Agriculture, College of 161
Agricultural Experiment Station 39, 192
Agricultural Extension 193
Agriculture, Graduate School 274
Agriculture, School of 161
Agriculture, Summer School 309
Agricultural Education 189
Agricultural Economics 187
Agricultural Society 95
Agronomy 166
Alpha Zeta 97
Alumni Association 331
American Law Book Co. Prize 90, 258
Anatomy and Physiology 112
Animal Husbandry 168
Apple Judging Prize 90
Applied Elec., Mines and Metallurgy 238
Applied Mechanics 209
Arts and Science, College of 107
Arts—Law Course 112
A. S. H. B. Association Trophy 91
Assistant Professors 22
Associate Professors 20
Astronomy 150
Athletics 98
Athletic Field 56
Athletic Teams, Rules Governing 82

B.

Bacteriology 171
Barker Prize, Horace Mann Society 89
Patterson Society 88
Philosophian Society 89
Union Literary Society 88
Barker Trophy 88
Battalion of Cadets 302
Bennett Prize 88
Biology Club 100
Board of Trustees 13
Bookkeeping, Entrance 69
Botany 172
Entrance 68
Bowles Prize 91
Bridge Engineering 202, 209
Brooks Civil Engineering Society 96, 196
Buildings 41

C.

Calendar 8
Callaghan & Co. Prize 90, 258
Canterbury Club 100
Cement and Its Uses 209
Certificate of Admission 69
Changes in Registration 80
Chemistry, Arts and Science 114
Entrance 68
Graduate School 268
Mines and Metallurgy 237
Churches in Lexington 85
Civil Engineering, College of 196
Graduate School 274
Summer School 309
Classification, Senior 86, 108
Collateral Activities, Mech. & Elec. Eng. 231
Colleges and Schools 103
Agriculture 161
Civil Engineering 196
Law 253
Graduate School 266

C.—Continued.

Mechanical and Electrical Engineering 212
Mines and Metallurgy 233
Summer School 303
Commencement Exercises, 1916 319
Commencement Honors 87
Commissioner of Agriculture Prize 91
Committees of the Faculty 34
Conditions and Failures 80
Construction 202
Contents 5
Contracts, Civil Engineering 203
Convocation 85
County Agricultural Agents 194
Credits Permitted, Arts 108
Crum Prize 89

D.

Debating Teams 96
Declamation Prize 89
Degrees, Agriculture 87, 161
Arts and Science 87, 107
Civil Engineering 87, 198
Commencement, 1916 320
Graduate School 87, 267
Law 87, 256
List of 87
Mechanical and Electrical Engineering 219
Mines and Metallurgy 87, 236
Residence Req. for Bach. Degree 86
Degrees and Honors, 1915-16 317
Descriptive Geometry, Civil Engineering 204
Directory of Officers 379
Dormitories for Men 84
Dormitory for Women 84
Drawing, Civil Engineering 204, 210
Entrance 69
Mechanical and Electrical Eng. 223
Mines and Metallurgy 239
Drawing Rooms 55
Dropping of Delinquent Students 81

E.

Education, Arts and Science 122
Agriculture 189
Graduate School 268

E.—Continued.

Summer School 303
Economics, Agricultural 187
Electrical Engineering 224
Electrical Laboratory 216
Employment Bureau 83
English, Arts and Science 126
Entrance 58
Graduate School 268
Summer School 303
Rule Relating to Deficiencies in 82
English Club 100
Entomology and Zoology 174
Special Course 177
Entrance, Basic Units for 58
Entrance Examinations, Schedule of 10
Entrance Subjects 57
Entrance Units 58
Ewing Prize 91
Examinations, Entrance 79
Removal of Conditions 81
Schedule of 10
Expenses 83
Experiment Station 39, 192
Bulletins 39, 101
Extension, Mines and Metallurgy 252

F.

Faculty Committees 34
Failures 81
Farmers' Short Course 191
Farmers' Week 191
Farm Management 182
Fees 79
Fellowships 276
Foundry, Mines and Metallurgy 239
French, Arts and Science 152
Entrance 66
Graduate School 272
Summer School 308

G.

General Administrative Officers 15
General Conduct 82
General Information 35
General University Departments 278
Geodesy 205
Geology, Arts and Science 131

G.—Continued.

Entrance 68
Graduate School 269
Mines and Metallurgy 239
German, Arts and Science 150
Entrance 65
Graduate School 273
Summer School 308
Graduate School 266
Graduate Students 341
Greek, Arts and Science 134
Entrance 65
Graduate School 269
Grounds 40
Gymnasium 55

H.

Hazing 82
Heat Engineering 226
Henry Clay Law Society 95, 258
History and Equipment 37
History, Arts and Science 135
Entrance 67
Graduate School 270
Summer School 306
Club 99
Highway Engineering 203, 210, 211
Short Winter Course 211
Home Economics, Department of 278
Summer School 305
Honors, Commencement 87
1916-17 325
Horace Mann Literary Society 95
Horticulture 184
Horticultural Society Prize 90
Hydraulics, Civil Engineering 201
Mines and Metallurgy 238

I.

Industrial Chemistry 112, 119
Instructors and Assistants 27
Interscholastic Tournament 98
Interscholastic Tournament Prizes 92
International Live Stock Exp. Prize 92
Irregular Class Attendance 82

J.

Journalism, Arts and Science 141
Journalism Prizes 89

K.

Kentucky High School Quarterly 101
Kentucky Kernel 101
Kentucky Law Journal 101

L.

Laboratories 45
Late Registration 80
Latin, Arts and Science 145
Entrance 64
Graduate School 272
Summer School 306
Law, College of 253
Summer School 265, 315
Location 40
Library 44, 86
Library Club 100

M.

Mathematics, Arts and Science 147
Entrance 63
Graduate School 270
Summer School 307
Club 99
Mechanical and Electrical Engineering 212
Graduate School 275
Summer School 310
Mechanical Drawing, Civil Engineering 204, 210
Mechanical and Elec. Eng. Societies 96
Mechanics of Engineering 228
Mechanics, Practical 230
Mechanics, Mines and Metallurgy 238
Metallurgy 244
Military Prizes 90
Military Science 296
Mine Plant 243
Mineralogy, Mines and Metallurgy 239
Mines and Metallurgy, College of 233
Graduate School 275
Two Years' Course 249

M.—Continued.

Mine Surveying 242
Mining 240
Mining Camp 246
Mining Law 246
Mining Machinery 243
Mining Prize 90
Mining Society 97
Modern Languages, Arts and Science 150
Entrance 65, 66
Graduate School 272
Summer School 307
Moot Court 259
Municipal Engineering 204, 210
Museums 55
Musical Clubs 99

N.

National Dairy Show Prizes 91

O.

Officers, Directory of 379
Officers of Administration and Instruction 11
Officers of Instruction 16
Oratorical Contests 96
Oratorical Prize 89
Ore Dressing 243
Organization 105
Organizations 93
Other Officers 28
Outline of Courses, Arts 112
Biology 180
Civil Engineering 198
Economic Entomology 178
Four Year Agriculture 162
History and Political Economy 138
Home Economics, Foods 279
Home Economics, Textiles 281
Industrial Chemistry 120
Journalism 143
Law 261
Mechanical and Electrical Engineering 220
Metallurgical Engineering 251
Military Science 296
Mining Engineering 247
Physics 158

O.—Continued.

Rural and Highway Engineering 208
Two Year Home Economics 291
Veterinary Science 190

P.

Patterson Literary Society 94
Patterson Prize 89
Philosophian Literary Society 94
Philosophy, Arts and Science 153
Graduate School 273
Physical Education 292
Physical Geography, Entrance 68
Physics, Arts and Science 154
Entrance 68
Graduate School 273
Mines and Metallurgy 238
Summer School 308
Physiology, Arts and Science 112
Entrance 68
Political Economy, Arts and Science 137
Club 100
Graduate School 270
Political Science, Arts and Science 137
Graduate School 270
Practical Mechanics 230
Practical Miners' Course 250
Pre-Medical Course 113
Press Association 100
Practice Court 260
Prizes 88
Professors 16
Publications 101
Public Speaking 130
Public Lectures 131

R.

Railway Engineering 205
Recommendation of Teachers 85
Register of Students 339
Registration 79
Changes in 80
Late 80
Removal of Conditions 109
Reports to Parents 80

R.—Continued.

Summer Course in Law 265, 315
Reserve Officers' Training Corps 296
Residence and Graduation 79
Residence in Sorority Building 83
Road Laws 210
Rural Highway Engineering 207
Rural Social Science 187

S.

Sanitary Engineering 204, 210
Scholarships 88
Scholarships, Prizes and Honors, 1915-16 328
School of Agriculture 161
School of Civil Engineering 198
School of Metallurgical Eng. 250
School of Mining Engineering 247
School of Rural and Highway Eng. 207
Scope of Studies 38
Senior Classification 86
Shop Work, Mech. and Elec. Engineering 213, 230
Mines and Metallurgy 239
Short Winter Course, Agriculture 191
Highway Engineering 211
Smoking in University Buildings 83
Societies 94
Sociology 138
Summer School 303
Sociology, Agricultural 187
Southern Railway Scholarship 88
Spanish, Arts and Science 153
Entrance 67
Summer School 308
Specifications, Civil Engineering 203
Strollers 99
Steam and Gas Engineering Lab. 215
Student Activities 93
Student Advisers 85
Students, Graduate 341
Register of 341
Summer School 308
Summary 376
By Counties in Kentucky 377
By other States and Counties 378
Officers of Instruction 376
Students 376

S.—Continued.

Summer school 303
Summer School Students 371
Surveying and Geodesy 205
Surveying, Mines and Metallurgy 242
Surveying, School of Highway Engineering 211

T.

Tau Beta Pi 97
Tau Beta Pi Scholarship 88
Tau Kappa Alpha 95
Tennis Club 98
Ten Weeks' Course, Agriculture 191
Testing of Materials Laboratory 218
Thesis, Graduate School 287
Transit 1
Trustees 13
Two Years' Course, Home Economics 289
Mining 249
Rural Engineering 207

U.

Undergraduates 345
Union Literary Society 94
University Bulletin 101
University Sessions 79
University Woman's Club 86

V.

Veterinary Science 190
Vocational Subjects, Entrance 69

W.

Water Power Engineering 204
Winter Course, Agriculture 191
Highway Engineering 211
Wood and Forge Shops, Mines and Met. 239

Y.

Y. M. C. A. 93
Secretary 93
Y. W. C. A 93

Z.

Zoology, College of Agriculture 176
Special Courses 177
Entrance 68

5. The equipment must be sufficient to properly teach the subjects offered.

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.

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 Supervisor is indispensable.

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 its course of study which will lower in any way the character of the work done without notification of the State Supervisor of High Schools. 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	E. A. Signer
Catlettsburg	High School	J. O. Faulkner
Central City	High School	T. Sanford Williams
Carrollton	High School	W. F. O'Donnell
Carlisle	High School	R. D. Squires
Corydon	High School	E. L. West
Covington	High School	H. C. Cox
Cynthiana	High School	R. I. Cord
Dawson Springs	High School	J. C. Jenkins
Dayton	High School	L. N. Taylor