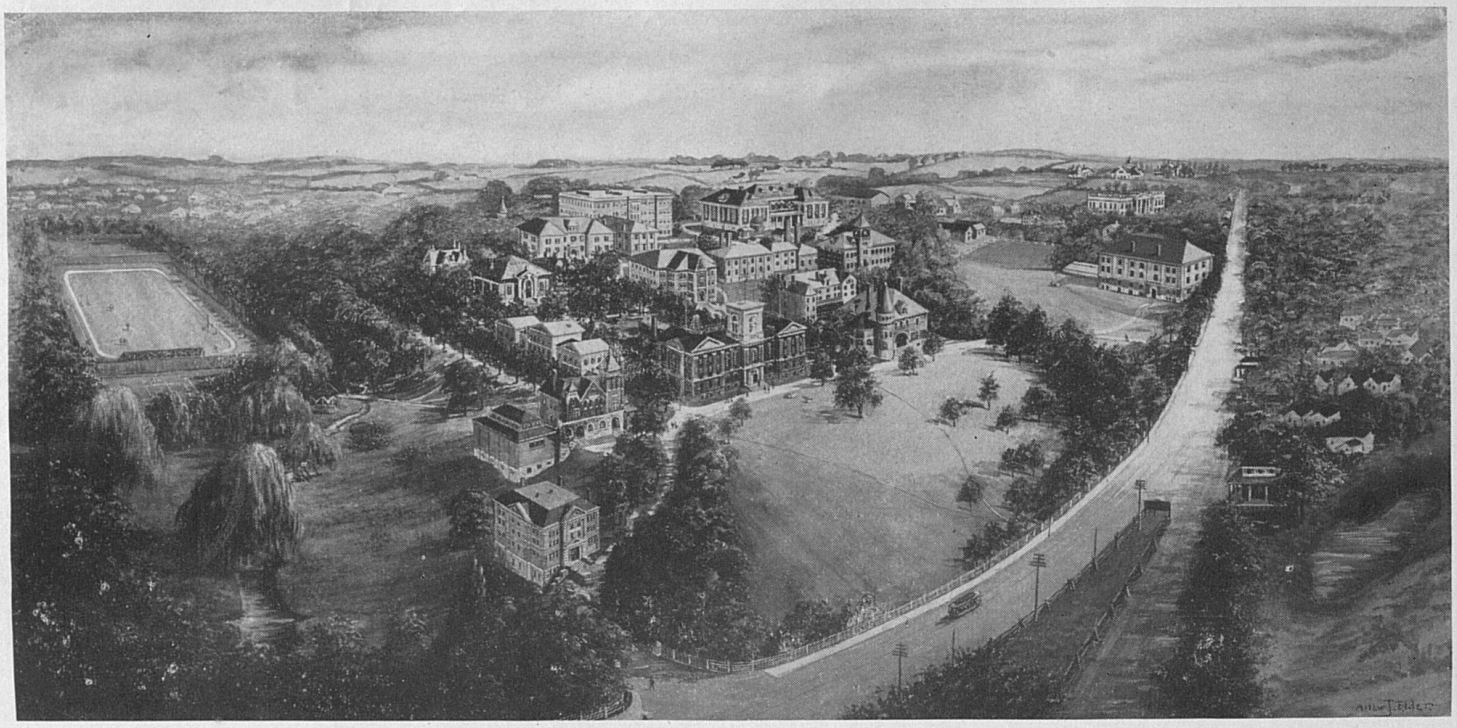


UNIVERSITY OF KENTUCKY

CATALOGUE

OF THE

UNIVERSITY OF KENTUCKY

1915—1916

LEXINGTON
PRINTED BY THE UNIVERSITY PRESS
MAY, 1916.

UNIVERSITY OF KENTUCKY

CONTENTS.

University Calendar 10
Schedule of Entrance Examinations 12
Part I. Officers of Administration and Instruction 13
Board of Trustees 15
Administrative Officers 16
Officers of Instruction 18
Other Officers 29
Standing Committees of the Faculty 32
Part II. General Information 33
History and Equipment 35
Admission and Classification 54
Admission to Freshman Class 54
Admission by Examination 55
Description of Entrance Units 55
Admission by Certificate 66
Accredited Schools 66
Admission to Advanced Standing 73
Special Students 73
Graduate Students 73
Residence and Graduation 74
Scholarships and Prizes 84
Organizations and Student Activities 90
Part III. Colleges and Schools 99
Organization 101
College of Arts and Science 103
College of Agriculture 152
Experiment Station 153
School of Agriculture 155
School of Home Economics 188
School of Veterinary Science 205
College of Civil Engineering 213
School of Civil Engineering 215
School of Rural Highway Engineering 223

College of Mechanical and Electrical Engineering 228
College of Mines and Metallurgy 248
School of Mining Engineering 261
School of Metallurgical Engineering 264
School of Extension 266
College of Law 267
Graduate School 280
General University Departments 294
Department of Physical Education 294
Department of Military Science 297
Summer School 304
Part IV. Degrees and Honors 1914-1915 317
Part V. Alumni Association 333
Part VI. Register of Students 339
Directory of Officers 382
Index 385

228
248
261
264
266
267
280
294
294
297
304
317
333
339
382
385

1916

JANUARY

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

FEBRUARY

S	M	T	W	T	F	S
		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				

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		

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						

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			

FEBRUARY

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	

UNIVERSITY CALENDAR.

1916		
September 6, 7, 8, 9	Wed. Thurs. Fri. Sat.	Examinations for entrance.
September 6, 7, 8, 9	Wed. Thurs. Fri. Sat.	Examinations to remove conditions.
September 11, 12	Monday, Tuesday	Registration for first semester.
September 13	Wednesday	Instruction begins.
September 23	Saturday	Last day for any change in course without payment of fee.
October 6	Friday	Alumni reception to new students.
November 30	Thursday	Thanksgiving Holidays begin.
December 4	Monday	Work resumed.
December 1	Friday	Alumnae Luncheon.
December 1	Friday	Annual Debate, Union and Patterson Literary Societies.
December 2	Saturday	Association of Kentucky Colleges.
December 5	Tuesday	Board of Trustees meets.
December 15	Friday	Inter-Society Debate.
December 23 to January 2, 1917	Friday noon to Tuesday	Christmas holidays.
1917		
January 2, 3, 4, 5	Tuesday to Friday inclusive	Farmers' Week.
January 22 to 27	Monday to Saturday	Mid-year examinations.
January 29	Monday	Registration for second semester.
January 30	Tuesday	Registration (new students only.)
January 31	Wednesday	Instruction resumed.
February 22	Thursday	Washington's Birthday.

March 5 to 10	Monday to Saturday inclusive	Examinations to remove conditions.
March 26	Monday	Patterson Literary Society Contest.
April 13	Friday	Last day for receiving essays for Henry Clews prize.
April 20	Friday	Military Inspection.
April 20	Friday	Arbor Day.
May 1	Tuesday	Last day for receiving theses for higher degrees.
May 28 to June 2	Monday to Saturday	Final examinations.

Commencement Week.

June 3	Sunday	Baccalaureate Sermon.
June 5	Tuesday	Board of Trustees meets.
June 6	Wednesday	Class Day.
June 6	Wednesday	Alumni Banquet.
June 7	Thursday	Fiftieth Annual Commencement.

Summer Session.

June 18	Monday	Summer School opens.
August 1	Wednesday	Summer School closes.

SCHEDULE OF ENTRANCE EXAMINATIONS.

WEDNESDAY, SEPTEMBER 6, 1916.

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 7, 1916.

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 8, 1916.

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 9, 1916.

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; WILLIAM T. LAFFERTY, Secretary.

EXECUTIVE COMMITTEE.

CHARLES B. NICHOLS, Chairman; RICHARD C. STOLL, JOHNSON N. CAMDEN, CLAUDE B. TERRELL, FRANK MCKEE.

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
R. J. BASSETT	Leitchfield	H. M. FROMAN	Ghent
T. L. HORNSBY	Eminence	E. H. RENAKER	Berry

FRED R. BLACKBURN, Stanton.

APPOINTED BY THE GOVERNOR.

Names and Addresses.	*Term Expires.*
ROBERT W. BROWN, 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.

DR. SAMUEL BLACKBURN MARKS, Lexington	December, 1916
JOHN WESLEY WOODS, Ashland	December, 1916
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

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.

DEAN OF THE GRADUATE SCHOOL.

ALEXANDER ST. CLAIR MACKENZIE, M.A., LITT.D., LL.D., Dean of the Graduate School, and Professor of English.

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.

GENERAL ADMINISTRATIVE OFFICERS.

OFFICE OF THE PRESIDENT.

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

OFFICE OF THE COMPTROLLER.

W. T. LAFFERTY, Comptroller.
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.

ALEXANDER ST. CLAIR MACKENZIE, M.A., LITT.D., LL.D. — 463 W. Sixth
Dean of the Graduate School, Professor of English.

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.

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
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.

GLANAILLE 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
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., A.M. 423 West Third
Head of the Food and Drug Department in the Experiment Station.

JAMES OSCAR LABACH, M.S. 523 West Second
Chief Chemist, 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.

*ROBERT CRAIG TERRELL, C.E. Frankfort, Ky.
Professor of Rural and Highway Engineering, Head of the Department.

CHARLES KERR 658 North Broadway
Professor of Law.

LYMAN CHALKLEY, LL.B. 148 East Fifth
Professor of Law.

*On leave of absence.

WILLIAM EDWIN FREEMAN, E.E. Waverley Apts., Hampton Court
Professor of Electrical Engineering, Head of Department.

JOHN JAMES TIGERT, M.A. (Oxon.) 119 Bassett Court
Professor of Philosophy, Head of the Department; 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 Superintendent, Department of Agricultural Extension.

DANIEL VOIERS TERRELL, C.E. 562 West Short
Acting Professor of Rural and Highway Engineering.

FRED MUTCHLER, PH.D. 247 Rodes Avenue
Superintendent, Department of Agricultural Extension.

**WILLIAM SYNDER 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. 259 Rodes Avenue
Professor of Philology, Head of the Department of English.

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

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

**On leave of absence from February to June, 1916.

*ARTHUR RUTLEDGE UNDERWOOD — Commandant's House, Campus
Second Lieutenant, 20th Infantry, U. S. A.
Commandant and Professor of Military Science and Tactics.

ROBERT GRAHAM, D.V.M. — 239 South Limestone
Professor of Veterinary Science, Head of Department of Diseasee 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. — 173 North Ashland 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 Poofessor of Law.

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

*Returned to Regiment, February 20. 1916.

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 Animal Husbandry, Assistant in Dairying in the Experimeut Station.

WILLIAM RODES, M.S. 226 Rodes Avenue
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.

OTTO S. CRISLER, D.V.M. 239 South Limestone
Associate Professor of Veterinary Science, Assistant in Hog Cholera Serum Administration 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
Assistant Professor of Chemistry.

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

AUBYN CHINN, A.B. 355 N. Broadway
Assistant Professor of Home Economics.

†JAMES AARON FARRA, B.S.
Assistant Professor of Agricultural Engineering.

*Resigned March 1, 1916.
†On leave of absence.

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

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 Experimental Steam Engineering.

JOHN SHERMAN HORINE, M.E. 414 Rose Lane
Assistant Professor of Drawing.

JOHN JAMES CURTIS, M.E. 362 Transylvania Park
Assistant Professor of Testing of Materials.

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

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

AVERY EARLY EWAN, B.S. IN AGR. 315 East Maxwell
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 in Hog Cholera Serum Production in the Experiment Station.

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

HARMON KLINE WRIGHT, D.V.M. 239 South Limestone
Extension Agent in Hog Cholera Serum Work, Department of Diseases of Live Stock in the Experiment Station.

OTIS KERCHER, B.S. IN AGR. 151 East High

Assistant in Animal Husbandry, Department of Agricultural Extension. (In cooperation with the U. S. Department of Agriculture.)

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.

NORRIS RAYMOND ELLIOTT, B.SC.HORT. 239 South Limestone

Assistant Professor of Horticulture, Assistant in Horiiculture in the Experiment Station.

ARTHUR STERLING CHAPIN 327 South Upper

Agent in Animal Husbandry, Department of Agricultural Extension. (In cooperation with the U. S. Department of Agriculture.)

ELLEN ANN REYNOLDS, M.S. 319 Linden Walk

Assistant Professor of Nutrition and Sanitation.

GEORGE HAYMAKER VANSELL, A.B. 327 South Upper

Assistant Professor of Entomology and Zoology.

INSTRUCTORS AND ASSISTANTS.

JOHN BORN DICKER 122 Graham Avenue

Instructor in Wood Shop.

SARAH MARSHALL CHORN, A.B., A.M. Nicholasville Pike

Instructor in German.

GORDON THURMAN 131 Virginia Aveuue

Instructor in Steam and Electrical Laboratories.

*JESSE VERNAN BAXTER R. F. D. 5

Engineer and Assistant in Wood Shop.

JOHN WILLIAM NUTTER 149 Virginia Avenue

Superintendent of Dairy Farm, Department of Animal Husbandry (Dairy, Cattle, Horses and Poultry), in the Experiment Station.

*Resigned January 1, 1916.

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
Instructor in Electrical Engineering.

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

*WALTER SHEPPELMAN, M.B. 429 Transylvania Park
Inspector, Bakery Sanitation, Food and Drug Department in the Experiment Station.

WILLIAM GRANVILLE TERRELL 137 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. 337 Grosvenor Avenue
Assistant in Animal Husbandry (Beef Cattle, Sheep and Swine) in the Experiment Station.

D. D. SLADE 354 Linden Walk
Specialist in Poultry, Department of Agricultural Extension.

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.

*DILLON SEYMOUR MYER, B.S. IN AGR.
Assistant in Farm Crops, Assistant in Crops, Department of Agronomy in the Experiment Station.

CHARLES FRANCIS STILES, B.S. 242 Rodes Avenue
Assistant in Entomology and Zoology.

*Resigned Feb. 1, 1916.

IVAN POPPERS TASHOF, E.M. — 242 Rodes Avenue
Instructor in Mining and Assaying.

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

RALPH EMERSON BITNER, B.S. — 241 South Limestone
Instructor in Physics.

MERVIN JOE KELLY, B.S. — 259 East High
Instructor in Physics.

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

REUBEN THORNTON TAYLOR, A.B. — 305 Grosvenor Avenue
Instructor in English.

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

MARY MCPHERSON — 412 Linden Walk
Instructor in Freehand Drawing.

MARQUIS JOSEPH SMITH, B.S. — 212 East Maxwell
Assistant in Animal Husbandry (Beef Cattle, Sheep and Swine) in the Experiment Station.

WILLIAM HERBERT SIMMONS, V.S. — Louisville, Ky.
Assistant in Hog Cholera Serum Administration in the Experiment Station.

ARTHUR LOUIS BRUECKNER, B.S. IN AGR. — Henderson, Ky.
Assistant in Hog Cholera Serum Administration in the Experiment Station.

PHILIP E. BACON, — Elmendorf Farm
Tester of Dairy Herds, Department of Animal Husbandry (Dairy Cattle, Horses and Poultry) in the Experiment Station.

*ROBERT PFANSTIEL, B.S. IN INDUS. CHEM.
Assistant Chemist, Department of Chemistry in the Experiment Station.

*Resigned Jan. 20, 1916.

*EDGAR H. NOLLAU, B.S. 452 Rose Lane
Assistant Chemist, Department of Commercial Feeding Stuffs in the Experiment Station.

ED. HUSTON, 149 Virginia Avenue
Assistant in Dairying, Department of Animal Husbandry (Dairy Cattle, Horses and Poultry) in the Experiment Station.

JOSEPH WALKER REED 452 Rose Lane
Assistant Inspector of Mines, and Instructor in the Examination of Mine Air.

HAROLD GEORGE STACK 424 East Maxwell
Instructor in Physical Education.

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

ROBERT CORNELIUS DABNEY, B.S. 119 Bassett Court
Holder of the Fleischmann Scholarship, Experimental Bakery in the Experiment Station.

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

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

JOHN RICHARD MITCHELL, A.B. 259 Rodes Avenue
Instructor in Chemistry.

WILLIAM HALE STAEBNER, A.B. 259 Rodes Avenue
Instructor in Chemistry.

ALDEN HARRY WAITT, 365 Transylvania Park
Instructor in Chemistry.

PAUL J. N. BLESSING, A.B. Y. M. C. A.
Instructor in Mathematics.

*Resigned January, 1916.

FELLOWS AND SCHOLARS.

CHESLEY WILLIAMS BAILEY, A.B. — 140 East Maxwell
Fellow in Education.

WILLIAM MONROE BRYANT, A.M. — Y. M. C. A.
Fellow in History.

JOHN EZRA DOTTERER, A.B. — 327 Upper Street
Fellow in Mathematics.

ESCO FIRMAN ELLZEY, B.S. — 343 North Upper
Fellow in Chemistry.

ESTYL HANSON, B.S. — 345 Aylesford Place
Scholar in Mathematics.

DERRILL WASON HART, A.B. — Versailles Pike
Fellow in English.

CHRISTINE HOPKINS, A.B. — Patterson Hall
Fellow in Journalism.

MARY FRANCES JEWELL, A.B. — 273 South Ashland Avenue
Fellow in English.

BOURBON A. MARTIN — 504 South Upper
Fellow in Mathematics.

ADOLPHUS RANKIN MCCONNELL, A.B. — 504 South Upper
Fellow in Mathematics.

MABEL HARDY POLLITT, A.B. — Patterson Hall
Fellow in Latin.

*CLARENCE RODGERS, A.B.
Fellow in Chemistry.

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.

*Resigned February 1, 1916.

MARY G. FISHER, Patterson Hall
Matron of Patterson Hall.

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

MRS. ANNA BERRY JONES, 266 South Limestone
Secretary to the Superintendent of the Department of Agricultural Extension.

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 Catte, Sheep, and Swine), in the Experiment Station.

FANNY CLARK ROGERS 646 Central Avenue
Clerk, Department of Commercial Feeding 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
Mimeographer, College of Mechanical and Electrical Engineering.

MARGARET C. RYAN, 129 Forest Avenue
Clerk, Department of Agricultural Extension.

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

SUSAN COGAR KIDD 326 Harrison Avenue
Clerk, Directors's Office, Experiment Station.

KATHERINE MENG 262 Market
Clerk, Department of Agricultural Extension.

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.

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.

TOMMYE B. VEAL
Clerk, Department of Agricultural Extension in the Experiment Station.

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

LILLIAN LISLE — Versailles, Ky.
Clerk, University General.

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

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

*CLARENCE EGBERT — 614 Central Avenue
Supervisor of the Printing Department.

Y. M. C. A. SECRETARY.

†JAMES PARK, A.B. — Maxwell and Lexington Avenue
KARL PEAK ZERFOSS, Acting Secretary — Maxwell and Lexington Ave.

*Died April 29, 1916.
†Resigned March, 1916.

STANDING COMMITTEES OF THE FACULTY.

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

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

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

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

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.

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

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

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

GRADUATE SCHOOL. Professors Mackenzie (*Chairman*), Tuttle, Chalkley, Frankel, Tuthill (*Secretary*).

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

LYCEUM LECTURE COURSE. Professors Farquhar (*Chairman*) Tuthill.

MILITARY. Professors Freeman (*Chairman*) 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 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 State 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 State 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 annually for the benefit of the Experiment Station.

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

The results of experiments have been published in twenty-seven annual reports and one hundred and ninety-eight bulletins, and 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 State 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 waterworks 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 opportnnity 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 thoroughly 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 worship, 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, 96 x 97 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, 100 x 157 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 48 x 96 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. Three large rooms in the basement are used by the printing office.

Library—This building is the gift of Andrew Carnegie. It is located on the court between the Administration Building and the President's House, 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, 45 x 100 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 containsa 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 79 x 127 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 100 x 40 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 14 x 68 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.

Hospital Building—The Hospital is a story and a half brick building of six rooms, located on South Limestone adjoining the campus. It is under the supervision of the Inspector of Dormitories.

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 114 x 60 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 barn, 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, and Law Library, the Experiment Station library, and the various department libraries. The total number of volumes is 31,228, divided as follows:

General library (working collection)	10,702
" (government documents)	3,800
Law library	5,000
Aricultural College library	1,426
Engineering libraries	1,550
Chemical library	450
Arts and Science	1,800
Kentucky Agricultural Experiment Station library	6,500
	31,228

The books and magazines on mathematics and astronomy have been placed in the mathematics seminary room in the basement of the library building.

Two hundred 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 ample material

for the research student in agriculture, chemistry and allied subjects. This library has depository catalogues 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.

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 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, microscopes and such other apparatus as is necessary for elementary work. The other room available for botany is much smaller and not so well lighted for microscopical work. It is capable of accommodating twelve students and is equipped and used for advanced courses, including plant physiology, plant pathology, histology, etc. The equipment of this laboratory includes in addition to twelve desks, a steam sterilizing oven, a dry air sterlizing 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 Scovell 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 oils 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 Engineering, Bulletin de la Societe chimique (Paris). Inorganic chemistry is represented by such words 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 second floor of the building on the corner of South Limestone Street and Washington Avenue. They consist of a large general laboratory devoted to both entomology and botany, in which are incubators, an autoclav, a steam sterilizer, a hot air sterilizer, microscopes and other apparatus required for the study of living things, both animals and plants. Adjoining this laboratory is a subdivision devoted to photography, in which are cameras suited to making enlargements and lantern slides, and others constructed for use with the microscope. 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 Zoology of the School of Agriculture are devoted largely to instruction work and are located on the first floor of the Natural Science Building on the University campus. They consist of two large laboratories, one devoted chiefly to zoology, and the other to entomology.

The lecture room of the department seats about sixty students. A small private laboratory for making preparations and for the use of advanced students adjoins the lecture room, 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 microscopes, microtomes, water baths, charts, a lantern and desks, and other equipment regarded as necessary for giving students both a practical and theoretical acquaintance with entomology and zoology.

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

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

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

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 cooking laboratory in which the proper setting of the table, the serving of meals and other phases of home making are demonstrated to students.

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

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

Horticulture—A greenhouse plant was erected in the summer of 1914 for the Horticultural 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 consists 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 used and announcements of general interest are placed on blackboards. The usual newspaper supplies, a large number of newspapers and up-to-date periodicals, and a library of latest and best works on journalistic subjects are at the disposal of the students.

Mechanical and Electrical Engineering—The laboratories of the College of Mechanical and Electrical Engineering are equipped for experimental work in steam, electrical, gas and automobile engineering and in testing of materials. For complete information see statements under College of 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 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 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 Yezin 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 studies.

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, microscopes, microtomes, paraffin bath, etc. Tables are provided for individual students. Each table is equipped with the apparatus necessary for experimental word 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, microscopes, etc. Microscopic slides are exhibited showing the process of karyokinesis.

Museums.

Geology—The Department of Geology is supplied with collections in mineralogy and paleontology, arranged and classified with especial reference to their use in class instruction. There 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 48 x 95 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. 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 in the near future on Winslow will make it complete and perfect in all its arrangements.

The University Press.

The University Press occupies rooms in the basement of the Education Building. It is under expert professional management and is an indispensable part of the University equipment, printing all the University and Experiment Station bulletins and job work. It is equipped with a Whitlock Premier four roller press, an Oswego thirty-two inch power cutter, a Brown folding machine for 4, 8, 12, 16, 24, 32 page forms, four job presses, a Monitor wire stitcher, a Portland multiple punching machine, together with a full equipment of modern types and facilities for the execution of any work it may be called upon to do.

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 last as given below. The numbers indicate the units that may be offered in each subject.

English	3 to 4	Physical Geography	½ to 1
Algebra	1½	Geology	½ to 1
Plane Geometry	1	Zoology	½ to 1
History	1 to 3½	Psychology or Pedagogy	½
Foreign Languages	2	Political Economy	½
Solid Geometry	½	Agriculture	½
Trigonometry	½	Domestic Science	½
French	1 to 3	Commercial Geography	½
German	1 to 3	Commercial Arithmetic	½
Spanish	1 to 3	Surveying	½
Greek	1 to 3	Bookkeeping	½
Latin	1 to 4	Manual Training	½
Civil Government	½	Drawing	½
Botany	½ to 1	Physiology	½ to 1
Chemistry	½ to 1	Teaching of 6 months or more,	
Physics	1	holding first class 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 per week may offer four units in English.

No subject offered as an entrance requirement can be counted again in the total credits required 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 and this 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 6-9 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 6. 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.

The complete report of the National Conference on Uniform Entrance

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

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 varisus 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) Shakespeare—*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 not chosen for study under (2).

(c) Prose Fiction—Malory: *Morte d'Arthur* (about 100 pages). Bunyan: *Pilgrim's Progress*, Part 1. Swift: *Gulliver's Travels* (voyages to Lilliput and to Brobdingnag). Defoe: *Robinson Crusoe*, Part 1. Goldsmith: *Vicar of Wakefield*. Francis Burney: *Evelina*. Scott's Novels: *Any one*. Jane Austen's Novels: *Any one*. Maria Edgeworth: *Castle Rackrent*, or *The Absentee*. Dickens' Novels: *Any one*. Thackeray's Novels: *Any one*. George Eliot's Novels: *Any one*. Mrs. Gaskell: *Cranford*. Kingsley: *Westward Ho!* or *Hereward the Wake*. Reade: *The Cloister and the Hearth*. Blackmore: *Lorna Doone*. Hughes: *Tom Brown's School Days*. Stevenson: *Treasure Island*, or *Kidnapped*, or *Master of Ballantrae*. Cooper's 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). Thackeray: Lectures on *Swift*, *Addison* and *Steele*, in the *English Humorists*. Macaulay: Any one of the following essays: *Lord Clive*, *Warren Hastings*, *Milton*, *Addison*, *Goldsmith*, *Frederick the Great*, *Madame d'Arblay*. Trevelyan: Selections from the *Life of Macaulay* (about 200 pages). Ruskin: *Sesame and Lilies*, or Selections (about 150 pages). Dana: *Two Years Before the Mast*. Lincoln: *Selections*, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, the Letter to Horace Greeley, together with a brief memoir or estimate of Lincoln. Parkman: *The Oregon Trail*.

Thoreau: *Walden.* Lowell: *Selected Essays* (about 150 pages). Holmes: *The Autocrat of the Breakfast Table.* Stevenson: *An Inland Voyage* and *Travels With a Donkey.* Huxley: *Autobiography* and selections from *Lay Sermons,* including the addresses on "Improving Natural Knowledge," "A Liberal Education," and "A Piece of Chalk." A collection of *Essays* by Bacon, Lamb, DeQuincey, Hazlitt, Emerson, and later writers. A collection of Letters by various standard writers.

(e) Poetry—Palgrave's *Golden Treasury* (*First Series*): *Books II* and *III,* with special attention to Dryden, Collins, Gray, Cowper, and Burns. Palgrave's *Golden Treasury* (*First Series*): *Book IV* with special attention to Wordsworth, Keats and Shelley (if not chosen for study under B). 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.* 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—Shakespeare: *Julius Ceasar, 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 Wordsworth, Keats and Shelley in *Book IV* of Palgrave's *Golden Treasury* (*First Series*).

(c) Oratory—Burke: Speech on *Conciliation with America,* Macaulay's Two Speeches on *Copyright* and Lincoln's *Speech at Cooper*

Union, Washington's *Farewell Address*, and Webster's *First Bunker Hill Oration.*

(d) 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 usuages 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, phases and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

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

2. That individual colleges take such steps as may be found neces-

sary to ascertain whether candidates for entrance possess an adequate equipment in oral Enfilish.

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* unites 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 tne 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 algeba 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.

(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 Philippic.

(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 6f enabling the pupil, first to use his knowledge with facility, in the formation of sentences, and secondly, to state his knowledge correctly, in the technical language of grammar.

(3) *Third year—One unit.* The work should comprise, in addition to the elementary courses, the readlng 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 pronouns, pronominal adjectives, of all but the rare irregular verb forms, and of the simpler uses of the conditional and subjunctive.

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

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

(1) *First year—One unit.* During the first year the work should comprise: (a) careful drill in pronunciation; (b) the rudiments of grammar, including the conjugation of the regular and the more common irregular verbs, the inflection of nouns, adjectives and pronouns, and elementary rules of syntax; (c) exercises containing illustrations of the principles of grammar; (d) the reading and accurate rendering into good English of 100 to 175 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 than 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 not exceed thirty pupils per 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 supervision is indespensable.

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.
Ashland	High School	J. W. Brander
Auburn	County High School	J. D. Speers
Augusta	High School	A. J. Jolly
Bellevue	High School	J. W. Ireland
Bowling Green	Western Kentucky Normal	H. H. Cherry
Bowling Green	High School	J. E. Sigler

LOCATION	NAME OF SCHOOL	PRINCIPAL
Catlettsburg	High School	J. O. Faulkner
Central City	High School	J. R. Kirk
Carrollton	High School	W. F. O'Donnell
Carlisle	High School	R. D. Squires
Corydon	High School	L. H. Gehman
Covington	High School	H. O. Sluss
Cynthiana	High School	R. I. Cord
Dawson Springs	High School	J. C. Jenkins
Dayton	High School	L. N. Taylor
Elkton	High School	E. B. Weathers
Elizabethtown	High School	R. Y. Maxey
Falmouth	High School	G. H. Wells
Flemingsburg	High School	H. G. DeLong
Frankfort	High School	H. C. McKee
Franklin	High School	J. V. Chapman
Fulton	High School	J. C. Cheek
Georgetown	High School	J. C. Waller
Glasgow	High School	E. B. Terry
Greenville	High School	C. C. Haydon
Hardinsburg	High School	T. S. Williams
Harrodsburg	High School	J. G. Prather
Hartford	College (High School)	H. E. Brown
Henderson	High School	Arkley Wright
Hopkinsville	High School	W. E. Gray
Lagrange	High School	W. L. Dawson
Lancaster	High School	W. L. Caneer
Lawrenceburg	County High School	Mrs. R. Kavanugh
Lawrenceburg	City High School	R. L. Kirkpatrick
Lebanon	High School	J. R. Sterritt
Lexington	High School	M. A. Cassidy
Louisa	High School	E. M. Kennison
Louisville	Girls High School	
Louisville	Male High School	C. E. Reed
Ludlow	High School	W. D. Reynolds
Madisonville	High School	R. H. Gatton
Mayfield	High School	M. M. Faughender
Maysville	High School	W. J. Caplinger
Midway	High School	W. R. Chandler
Middlesboro	High School	F. A. Cosgrove
Mt. Sterling	High School	W. O. Hopper

LOCATION	NAME OF SCHOOL	PRINCIPAL
Morganfield	High School	R. A. Edwards
Murray	High School	J. W. Jones
Newport	High School	W. P. King
Nicholasville	High School	W. G. Hart
Owensboro	High School	J. H. Risley
Owenton	High School	B. L. Vallandingham
Paducah	High School	J. H. Bentley
Paris	High School	T. A. Hendrix
Princeton	High School	J. M. Calvin
Richmond	Caldwell High School	D. W. Bridges
Richmond	Model High School	H. W. Dutter
Richmond	Eastern Kentucky Normal	J. G. Crabbe
Shelbyville	High School	H. H. Elliott
Somerset	High School	J. W. P. Brouse
Springfield	High School	G. C. Colvin
Stanford	High School	W. C. Wilson
Sturgis	High School	C. C. Justus
Winchester	High School	O. H. Harris

Class B.

Adairville	County High School	E. H. Ellis
Alexandria	County High School	Cynthia E. Riley
Arlington	High School	Elmer Tarter
Bardstown	High School	P. H. Neblett
Barlow	High School	J. B. Ward
Beaver Dam	West Kentucky Seminary	J. L. Stillwell
Bedford	Trimble County High School	John Howard Payne
Benton	High School	G. E. Everett
Bloomfield	Graded High	George W. Peck
Brandenberg	County High School	Mrs. Ella D. Gregory
Brooksville	High School	E. E. West
Burlington	County High School	J. A. Caywood
Butler	High School	E. E. Bratcher
Cadiz	High School	N. D. Bryant
Calhoun	High School	Miss Cora Stroud
Campbellsville	County High School	J. P. Bolling
Clay	High School	A. L. Morgan
Clinton	County High School	H. W. Puckett
Cloverport	High School	W. H. McCoy
Columbia	High School	W. M. Wilson

LOCATION	HIGH SCHOOL	PRINCIPAL
Danville	High School	J. A. Carnagey
Dixon	High School	Oliver Hoover
Dry Ridge	County High School	Bruce H. Franks
Earlington	High School	C. E. Dudley
Edmonton	County High School	A. B. Thompson
Eminence	High School	J. B. Sibley
Erlanger	High School	P. L. Hamlett
Fordsville	High School	Fred Shultz
Ft. Thomas	Highlands High School	C. R. Rounds
Grayson	High School	J. W. Lusby
Guthrie	High School	J. R. Claypool
Harlan	County High School	A. C. Jones
Hawesville	Beechmont High School	E. L. Arnold
Heath	County High School	J. S. Kagsdale
Hickman	High School	B. F. Gabby
Hodgenville	High School	R. H. Shipp
Horse Cave	High School	D. D. Donahoo
Independence	Graded High School	C. V. Lucy
Junction City	High School	E. L. Grubbs
LaCenter	County High School	W. H. Sugg
Leitchfield	High School	T. A. Humble
Lewisburg	County High School	P. G. Smith
Lexington-Picadome	County High School	Miss M. McCubbing
Little Rock	Graded High School	Byron M. Roberts
Livermore	High School	W. L. Mathews
London	Graded High School	H. W. McNutt
Marion	High School	J. T. Christian
Mayslick	County High School	E. L. Dix
Minerva	County High School	J. A. Caldwell
Monticello	High School	C. O. Ryan
Morgantown	High School	O. J. Jones
Mt. Sterling	Counnty High School	M. J. Goodwin
Mt. Vernon	High School	J. S. Irvine
Munfordsville	High School	Edgar Sanders
New Castle	High School	L. S. Rhoades
Owensboro	County High School	C. E. Baird
Owingsville	City High School	C. F. Martin
Paintsville	High School	W. A. Bond
Pembroke	High School	B. F. Brown
Pineville	High School	B. W, Sherrill

LOCATION	HIGH SCHOOL	PRINCIPAL
Providence	High School	C. C. Miller
Sedalia	High School	J. S. Brown
Sebree	High School	Oscar Shemwell
Sharpsburg	Graded High School	C. P. Caywood
Smith's Grove	County High School	T. B. White
St. Helens	High School	Mrs. Silvia W. Russell
Scottsville	Graded High School	J. A. Mitchell
Tompkinsville	High School	T. B. Culton
Uniontown	County High School	J. S. Singleton
Utica	County High School	Warren Payton
Vanceburg	County 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
West Liberty	High School	E. F. Darnaby
Whitesville	County High School	E. L. Hawkins
Williamstown	High School	Henry Newton
Wingo	High School	E. H. Smith
Wickliffe	High School	H. E. Knarr

ACCREDITED PRIVATE INSTITUTIONS.

Class A.

LOCATION	NAME OF SCHOOL	SUPT. OR PRIN.
Barbourville	Baptist Institute	J. W. Lowry
Barbourville	Union College	E. T. Franklin
Bowling Green	Ogden College	W. M. Pearce
Campbellville	Russell Creek Academy	W. G. Welborn
Clinton	Marvin University School	Edward Filback
Columbia	Lindsey-Wilson	R. R. Moss
Elkton	Vanderbilt Training	Matheney-Batts
Frenchburg	High School	A. G. Weidler
Georgetown	Cardome Academy	Mother Mary Agatha
Jackson	Collegiate Institute	L. M. Lacy
Lexington	Hamilton College	E. W. McDiarmid
Lexington	Sayre College	J. W. Spencer
London	Sue Bennet Memorial	J. C. Lewis
Lyndon	Kentucky Military Institute	Col. C. W. Fowler

LOCATION	NAME OF SCHOOL	SUPT. OR PRIN.
Louisville	Semple Collegiate School	Miss Lucy Baird
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 Orphan School	Miss Ella Johnson
Nazareth	Nazareth Academy	Sister M. Ignatius
Nevinx P. O.	Loretto Academy	Sister Genvieve
Newport	Acad. Notre Dame of Prov.	Mother Maria
Pikeville	Pikeville Academy	Rev. J. F. Record
Russellville	Bethel College, Preparatory	H. G. Brownell
Shelbyville	Science Hill	Mrs. W. T. Poynter
St. Mary's	St. Mary's College	Rev. M. Jaglowicz
Stanton	Stanton College	J. C. Hanley
Versailles	Margaret College	Jas. M. Maxon
Williamsburg	Cumberland College	E. E. Wood
Wilmore	Asbury College Academy	S. A. Arnold
	Class B.	
Campbellsburg	High School	J. W. Pearcy
Franklin	Training School	U. Smiley
Hazel Green	Hazel Green Academy	J. T. McGarvey
Hindman	W. C. T. U. School	Miss Emma Parker
Louisville	Holy Rosary Academy	Sister Mary Rose
Morehead	Normal School	J. W. Hatcher
Nicholasville	Boys School	T. B. Threlkeld
N. Middletown	C. & B. College	J. C. Christopherson
Paintsville	Sandy Valley Seminary	W. B. Ward
Richmond	Madison Institute	J. B. Cassidy
Salyersville	Magoffin Institute	J. G. Austin

Recapitulation.

Public Schools:		
Class A.	64	
Class B.	81	
		— 145
Private Schools:		
Class A.	32	
Class B.	11	
		— 43
Total		188

Growth of Accredited Schools:

	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	145	43	188

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.

County appointees are required by the terms of appointment to do full work in a regular course of study and cannot, therefore, be admitted as special students.

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 Graduate School, 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 11th of September, 1916, and ends on the 7th of June, 1917. It is divided into two semesters. The first semester ends on 27th of January, 1917; the second semester begins on the 29th of January and ends on the 7th of June, 1917.

Entrance Examinations.

Entrance examinations will be held the week preceding the opening of the first semester and on 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 1916-17, they will register for the first semester on September 11 and 12, for the second semester on January 30. 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.

Late Registration.

A registration fee of $5.00 will be charged for all students entering the University after the regular registration period.

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.

Fees.

Each student will be required to pay an *incidental fee* of $15. Students will be furnished with free admission to all public lectures given under the auspices of the Public Lecture Bureau, to the use of the university hospital, and free admission to all athletic contests and exercises given under the auspices of the University Athletic Association. Students not residing in the state will pay an additional fee of $5.00. Students entering the second semester will pay one-half the above fee.

Students who hold county appointments and who occupy rooms in the dormitories upon the campus, each pay a fee of $10.00 to cover use of furniture, service of matron, service of janitor, medical inspection and benefits of the university hospital.

No county appointee will be entitled to expenses of transportation for more than one round trip to and from the University each year, and then only upon the condition that he remain for the full period of the school year.

A diploma fee of $5.00 is charged.

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

A student conditioned in a college subject must pay a fee of $1.00 per semester for each condition carried over from the previous year.

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

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.

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

For fees for late registration and changes in registration, see above.

Credits.

A credit represents one hour of recitation or two hours of laboratory work per week for thirty-six weeks.

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, six weeks before the close of the first semester, six weeks before the close 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 any 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 Univer-

sity. Such "dropped" students may not be re-instated 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, unless he is pursuing a course in Journalism; in which case he may be assigned to reportorial duties by the head of the Department of Journalism.

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 re-instatement 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 Clubs per week	2.25 to 2.75
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 $3.50 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 at cost.

Employment Bnreau.

Many students find it necessary to earn money with which to help to support themselves while in college. An employment bureau has been organized for the purpose of aiding them in securing work. If a student desires to employ part of his time to earn money, he reports to the bureau the number of hours he can work. Many good positions have been secured for the students in this way. There are about fifty various newspaper routes in the city; all of them are carried by college men. The state farm, which is a part of the University, employs many students. If the prospective student has only one or two hours each day for working, it is so arranged by the farm managers that he is always employed. A number of students wait on tables at the boarding houses for their board. The merchants and tailoring establishments of the city employ students to carry bundles. Young men are employed at hotels and restaurants and other 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 Employment Bureau.

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. County appointees are supplied with rooms first, then other students in order of application. The occupants of the rooms are required to keep them in order. The janitors attend to the halls and the removal of 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 hygienic conditions.

Dormitory for Women.

Patterson Hall, the young women's university home, is under the immediate direction and management of the Dean of Women. 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 are furnished at $3.50 per 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.

University Hospital.

The University maintains a building near the campus, known as the University Hospital. Here provision is made for students who are ill, and who need special medical attention. It is near the city hospital where the University also maintains a ward for students who may need the constant services of a trained nurse.

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 relation-

ship. Frequent receptions by the young peoples' 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.

Lyceum Course.

The University conducts annually a lyceum course, which gives the students opportunity to hear at small cost the foremost lecturers and artists. During the past year these lectures were attended with increased interest and were a source of great pleasure and profit.

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 51 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 15 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 Engineer (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.

County Appointees.

Each county in the state is entitled to select and send to the University one or more properly prepared students, free of charge for tuition, matriculation and gymnasium fees, as follows:

Each county is entitled to make two appointments each year for 4,500 white pupils or less within the common school age, based upon the last official census preceding said appointment, and for each 3,000 white pupils over 4,500, is entitled to make one additional appointment.

County appointments exempt appointees from payment of tuition fees and provide traveling expenses to those matriculated in any regular course of study which leads to a degree in the University. Appointments are all valid for the term of years necessary to complete the course of study in which the appointee marticulates.

Beneficiaries are appointed on competitive examination. A Board of Examiners is appointed for this purpose by the county superintendent of common schools. The results of examinations are reported to the superintendent, who from the data thus furnished selects the appointees. Examinations are made upon subjects transmitted to the county superintendents by the faculty of the University.

Appointments are made by the county superintendent between the first day of June and the first day of September of each year. Blanks for these appointments are furnished by the Registrar of the University.

Appointees who are graduates of accredited schools are admitted without examination; other students are admitted by examination.

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 prizes 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 successful competitor in an oratorical contest. This contest occurs on February 22 in the university chapel.

Declamation Prize.

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

Journalism Prizes.

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

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

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

Fourth Year. $5 in gold for best account of convention gathering of state importance, no limit as to words. $10 for best dramatic criticism on performance at Opera House, performance to be indicated by head of department, and review to be written the night of the play and before local papers are issued. $5 for best current news story of spontaneous origin.

Mining Prize for Freshmen.

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

The American Law Book Company Prize.

The American Law Book Co., of New York, offers as a prize to the law student who makes the best general average during the year a set

of Student's Edition of CYC in twelve volumes, which set is a reproduction of the text of the forty volume edition of CYC.

Callaghan & Company Prize.

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

Military Prizes.

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

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

These prizes will be awarded at the annnal Spring Competition.

Intercollegiate Apple Judging League Prize.

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

State Horticultural Society Prize.

In January, 1916, the Kentucky State Horticulaural 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.

National Dairy Show Trophies and Scholarships.

During the past three 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 or 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 has a steadily increasing membership and is one of the most potent influences in the university community. It occupies spacious rooms in the gymnasium, well-lighted and heated and provided with suitable furniture, offering to the members a place both attractive and convenient. Free stationery and magazines are provided in the reading room, which is comfortably furnished and "a home for the boys." In addition to its religious work, including weekly meetings, Mission and Bible study, it offers an interesting social life to its members and engages them in many activities leading to the formation of character. In order to promote most efficiently this varied and important work, a Board of Management, consisting of eighteen members, cooperates with the Association in its efforts to be influential in the moral and religious life of the University. On this board the citizens of Lexington, the faculty and the students are each represented by six members.

The Y. M. C. A. does not pretend to be an excuse for the gathering together of a lot of "praying parsons" who look upon the world through spectacles that distort everything that comes to their view, but it exists for the gathering together of men, who wish to meet the issues of life fairly, squarely and with an idea to winning honorably.

As a training for becoming real citizens these men, with the guidance of the Secretary undertake work that is beneficial both to them and to the community. Visits are paid to the Reform School by committees appointed for that purpose; other bodies of men act the part of a "big brother" to boys who have been released from the school or are in danger of being sent there.

There are many other endeavors handled by the local association, among which is the Gospel Team work, usually being carried on during the Christmas holidays, This movement has become one of the best instruments for good, and productive of more beneficial results than any inaugurated here for some time. Visits are made to towns where there is no Y. M. C. A. and an effort is made to bring the people to a realization of the needs of such an institution and the benefits to be derived therefrom.

During the present year, Mr. James Park, a graduate of the University in the clas of '15, has had charge of the work. He, as General Secretary, has had associated with him on the cabinet, men who shape the policies of the Association, and who were chosen as true representatives of the student body and who are interested in such work.

Meetings are held each Sunday in the Y. M. C. A. room from 6:30 to 7:15 p. m. to which all students are cordially welcomed. Also the Friday chapel period from 9:45 to 10:30 has been given over to the Association and under its auspices strong programs have been arranged fsr the students.

Y. W. C. A.

This organization for the women of the University is an interesting and important feature of their life. The Association has two attractive rooms in Patterson Hall, both of which have been well equipped by the University; one for religious meetings, the other as a music and a reading room. Meetings are held every Sunday at 7 p. m. There are also weekly prayer meetings, Mission and Bible Study Classes. A great deal of social service work is done by the members, in which much enthusiasm is shown. Every year a delegation is sent to The Blue Ridge Conference in North Carolina to bring back enthusiasm and new plans. Receptions are held during the first months and other social events follow within the year. Miss Mabel Pollitt, who has a teaching fellowship in the Department of Latin, is also the Resident Secretary. A President, with fifteen cabinet members, has charge of the general work of the Association. These are selected annually from the student membership. The President for the year 1915-1916 is Miss Elizabeth Farra. There is also an Advisory Board, consisting of The Dean of Women and six prominent women from the University and from the city of Lexington who have shown an especial interest in the Association.

Every woman in the University is invited and urged to identify herself with the Y. W. C. A., which endeavors to help her to learn that that life counts most which serves most.

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 a commodious and well furnished hall in the gymnasium and is supplied with a library due in part to an appropriation from the State.

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. It is provided with a handsome room and a good library.

The Philosophian Literary Society.

This society, instituted in 1882, by young women of the University, for literary improvement aud social pleasure, offers besides the usual weekly meetings, public entertainments, consisting of declamations, essays, criticism, and addresses.

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.

The Canterbury Club.

The Canterbury Club of the University is a literary fraternity organized some three or four years ago for the purpose of stimulating interest in creative literary art. Membership is limited to fifteen for any one year. Only students who show marked interest in and talent for story writing, poetry, criticism, or drama will be received for membership. Eligibility for membership is based primarily upon ability as exhibited in specimens submitted to the club for criticism, and no student is admitted who is not unanimously elected. The club meets every Thursday night at eight o'clock in the office of the Education Building. Poems, dramas, literary criticisms, stories, pointed paragraphs, etc., are read and discussed by members of the club.

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 twice a month 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.

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 in the Agricultural Building.

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.

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 engineering 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.

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 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.

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.

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.

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 one play in Lexington and present another play in several 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 and is popularly known as "Amateur Right." 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.

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. Since the publication of the Annual Report of the Director of the Experiment Station, the following bulletins have been issued.

193. The Soils of Kentucky. S. D. Averitt. July, 1915.

194. Soils of Graves County. S. C. Jones. July, 1915.
195. Soils of Franklin County. S. C. Jones. July, 1915.
196. Commercial Fertilizers. H. E. Curtis and Wm. Rodes. December, 1915.
197. The Feeding of Young Chicks on Grain Mixtures of High and Low Lysine Content. G. D. Buckner, E. H. Nollau and J. H. Kastle. January, 1916.
198. The Curing of Blue-grass Seeds as Affecting their Viability. H. Garman and E. C. Vaughn. January, 1916.
199. Soil Experiment Fields. George Roberts. January, 1916.
200. The Locust Borer. H. Garman. February, 1916.

In addition to the bulletins, the Experiment Station issues a large number of circulars.

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 through its columns and to gather material and publish articles of interest and value to high school teachers.

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 annually in the intercollegiate oratorical contest. The various colleges of the state constitute the membership of this oratorical association.

Last year we debated the University of Alabama and Vanderbilt.

An Intercollegiate Oratorical Peace Association has just been organized, and the University proposes to have a representative each

year in this contest. There are several inter-society contests and considerable oratorical and debating activitiy.

Athletics.

Under this head are included football, baseball, basketball, 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.

Intercollogiate 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.

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 limited, but it is suggested that the representatives be selected after a contest held at home. A preliminary oontest 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 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, 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.

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 Home Economics.

Department of Household Arts.
Department of Household 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.

Graduate School.

Summer School.

Additional General Departments.

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 com-

pletion of a study, involving lectures or recitations for one hour per week for one semester, or laboratory work for two hours per 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 mnst 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 tbese 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 these 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 Semester.
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 German	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

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.

*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.

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
German	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

Course in Industrial Chemistry.

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

*Geology 1 is repeated the second semester.

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 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, 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 per week. Throughout the year.* Professor PRYOR.

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

2. **Human Osteology.** Lectures, recitations, laboratory. *Two hours per week. Throughout the year, at 9 a. m.* Professor PRYOR.

3. **Advanced Physiology.** Lectures and laboratory. *Four hours per week. First semester, at 1:30 p. m.* Professor PRYOR.

4. **Laboratory Physiology.** *Four hours per week. Second semester, at 1:30 p. m.* 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 prelim-

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

Qualitative Analysis. This subject is studied in the laboratory during the first semester, the amount of time devoted to this work

depending on the course of study pursued by the student. The student first becomes familiar with the reactions involved in the detection of the elements and then employs the knowledge so gained in the analysis of solids and of 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 prceded by a brief general survey of the whole subject. The laboratory course of study in the preparation and purification of typical organic compounds extends throughout 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 throughout 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 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 about five hundred volumes. The very complete library of the 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 per week. First semester.* Professor MAXSON and others.

1a. Elementary Inorganic Chemistry. A course arranged to suit the needs of students in the Two Year Course in Agriculture. *Two hours per week Throughout the year.* Mr. MITCHELL.

2. General Inorganic Chemistry. Chemistry of the metals. Lectures, class-room exercises and laboratory work. Prerequisite, Chemistry 1. *Six hours per 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 per week. Second Semester.* Professor MAXSON.

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

5. Advanced Inorganic Chemistry. A more advanced course in inorganic chemistry, primarily for students specializing in chemistry. *One hour per week. Throughout 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 per week. Second semester.* Assistant Professor DANIELS.

7. Organic Chemistry. An elementary course for non-professional students. Prerequisite, Chemistry 2. *Three recitation and one laboratory hour per 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 per 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 per 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 per 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. Prere-

quisites, Chemistry 1 and 2. *Five hours per 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 per 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 per 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 per week. Second semester.* Assistant Professor DANIELS.

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

15. **Theoretical Chemistry.** Lectures and recitations on the modern theories of physical chemistry. *Two hours per week. Throughout the year.* 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 per 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 per 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 per 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 per week. Throughout 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 per week. First semester.* Dr. BEDFORD.

21. Physical Chemistry. Laboratory studies in physico-chemical measurements. *One hour per week. Throughout the year.* 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 per week. Throughout 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 per 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 per 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 per 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 per week. Second semester.* Assistant Professor DANIELS.

27. Selected Problems in Quantitative Analysis. Elective. Prerequisite, Chemistry 14. *Five hours per 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. IN INDUSTRIAL CHEMISTRY.

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
English 1	120	English Composition	3		3.
Mathematics 3		College Algebra	5		5.
German 1		Bierwirth's Elements of German	5		3.
Drawing 1		Mechanical Drawing		4	2.
Chemistry 1	112	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	120	English Composition	3		3.
Mathematics 2		Trigonometry	5		5.
German 1		Bierwirth's Elements of German	5		3.
Chemistry 2	112	General Inorganic Chemistry	3	6	6.
Chemistry 3	112	Inorganic Preparations		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 per week for one semester.

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec	Hrs. Lab.	Credits
Drawing 1		Mechanlcal Drawing		4	2.
Mathematics 4		Analytical Geometry	5		5.
German 2		Selections from German Prose & Poetry	5		3.
Physics 1a		General Physics	3		3.
Chemistry 4	112	Qualitative Analysis	1	6	4.
Physics 5		Physical Measurements		4	2.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
					21.5

Second Semester.

German 2		Selections from German Prose & Poetry	5		3.
Chemistry 8	112	Quantitative Analysis	1	8	5.
Chemistry 6	112	Organic Chemistry (Elementary)	2		2.
Physics 2a		General Physics	3		3.
Mathematics 4		Analytical Geometry	5		5.
Physics 6		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	113	Organic Chemistry, Aliphatic Series	3		3.
Chemistry 9	112	Quantitative Analysis		10	5.
Chemistry 15	113	Theoretical Chemistry	2		2.
Political Science 1	131	American Government	3		3.
Political Economy 1	130	Economics	2		2.
German 3		Freshman German	3		3.
Chemistry 21	114	Physical Chemistry		2	1.
					19.

Second Semester.

Chemistry 13a	113	Organic Chemistry, Cyclic Series	2		2.
Chemistry 17	113	Gas Analysis		2	1.
Chemistry 15	113	Theoretical Chemistry	2		2.
Political Science 1	131	American Government	3		3.
Political Economy 1	130	Economics	2		2.
German 3		Freshman German	3		3.
Chemistry 16	113	Organic Preparations and Analysis		8	4.
Geology 3	126	Determination of Common Minerals		4	2.
Chemistry 21	114	Physical Chemistry, Continued		2	1.
					20.

SENIOR YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Chemistry 5	112	Advanced Inorganic Chemistry	1		1.
Chemistry 19	113	Industrial Chemistry	2		2.
Chemistry 20	113	Electrochemistry	3		3.
Chemistry 22	114	Journal Club	1		1.
Philosophy 1		Logic, Deductive and Inductive	3		3.
Geology 1 or 7	125	Elem. Geol. or Engineering Geology	4 or 3		4. or 3.
Chemistry 18	113	Water Analysis		4	2.
Chemistry 14	113	Advanced Quantitative Analysis		10	5.
					21. or 20

SECOND SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Chemistry 5	112	Advanced Inorganic Chemistry	1		1.
Chemistry 19	113	Industrial Chemistry	2		2.
Metallurgy 16		Metallurgy	2		2.
Philosophy 1		Logic, Introduction to Philosophy	3		3.
Chemistry 22	114	Journal Club	1		1.
Chemistry	112	Elective		12	6.
Physics		Physics, Advanced		4	2.
					19.

EDUCATION.

Professor Noe, Professor Tigert, Professor Rhoads, Associate Professor Baker, Mr. Bailey.

This department is a training school for teachers. Courses are offered in the Philosophy and the History of Education, in Educational Psychology and in Administration and Method. The high schools of Kentucky are demanding not only teachers who have specialized in one or more subjects but professionally trained teachers as well. Students doing work in the Department of Education are expected early in their course to select a group of related subjects to which they will devote the major part of their work in college.

By an act approved March 16, 1908, the General Assembly of the State of Kentucky established in the University a Department of Education with collegiate rank, leading to the usual degrees in pedagogy as maintained in other similar institutions, with the provision that the degrees of Bachelor of Arts in Education and Bachelor of Science in Education may be conferred, which, with the approval of the State Superintendent of Public Instruction, will entitle the holder to teach in

any of the common schools and high schools of the commonwealth without further examination during life or good behavior.

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

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

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

The distinctive feature of the work offered by the Department of Education consists in the courses in educational psychology, history of education 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 manifested 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 complete record of all teachers who have attended the University at any time on file so that we may be able to supply calls with suitable candidates on short notice.

1. Methods and Aims of Study. An introductory course in the learn-

ing process. Text book and lectures. *Monday, Wednesday, Friday. First semester.* Professor NOE.

2. **Elementary Educational Psychology.** Nature and development of the mind during childhood and youth. Text book and lectures. *Monday, Wednesday, Friday. Second semester.* Professor NOE.

3. **Psychology.** Lectures, text and reports. Required of all major education students. *Monday, Wednesday, Friday. First and second semesters.* Professor TIGERT.

4. **Principles of Education.** A study of the background of educational thought and practice. Text books, lectures and reports. *Tuesday, Thursday, Saturday.* Professor NOE.

5. **Technique in Teaching.** A discussion of method with observation and practice teaching. *Tuesday, Thursday, Saturday. Second semester.* Professor NOE.

7. **History of Education.** Ancient and Mediaeval periods. Text book, lectures, assigned readings and discussions. *Monday, Wednesday, Friday. 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 Ronaissance. Lectures, text book, assigned readings and reports. *Monday, Wednesday, Friday. 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. *Monday, Wednesday. First and second semesters.* 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. *Monday, Wednesday, Friday. Second semester.* Professor NOE.

13. **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. *Tuesday, Thursday. First semester.* Associate Professor BAKER.

13a. **Problems in City School Administration.** Includes a study of city surveys, city superintendents' annual reports, age-grade distribution, standard units of measurement, and principles of constructive supervision. Through co-operation with the Lexington city schools, problems

will be worked out by laboratory method. Lectures, class discussions, reports and assigned readings. *Tuesday, Thursday. Second semester.* 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. *Monday, Wednesday, Friday. First semester.* Professor NOE.

16. Seminary. Problems of Educational Psychology. A study of recent experiments of Educational Psychology in current literature. Prerequisite, Principles of Education. *Two hours, Tuesday evening. First and second semesters.* Professor NOE.

18. Seminary. Educational Classics. Educational writings of Plato, Aristotle and others. *Two hours, Wednesday evening. First and second semesters.* Associate Professor BAKER.

ENGLISH LANGUAGE AND LITERATURE.

Professor Dantzler, Professor Farquhar, Professor Weaver, Associate Professor Hamilton, Mr. Taylor, Mr. Hart, Miss Jewell.

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 freshman, and is prerequisite to all other courses in English. Fourteen sections. *Three hours per week. Throughout the year.* All instructors.

1a. **English Composition.** This course is the same as English 1, but it begins at the second semester and extends through 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. *Three hours per week. Throughout the year.* Professor WEAVER.

2. **Advanced Composition.** This course is for students who have acquired some proficiency in expression, and who wish to do further work in the subject. The object is to cultivate facility and individuality of style, to become better acquainted with the art of composition. Required of sophomores whose major is English, but open to all students. Prerequisite, English 1 or 1a. *Two hours per week. Throughout the year.* Professor WEAVER.

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 per week. Throughout the year.* 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 juniors and seniors. Prerequisite, English 10. *Three hours per week. First semester.* 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 per week. Second 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 per 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 per week. Throughout the year.* Professor DANTZLER, Professor FARQUHAR, Professor HAMILTON, Mr. TAYLOR.

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 per 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, the two Brownings 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 per 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 per week. Throughout the year.* Professor FARQUHAR.

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 1916-17 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 per week. Throughout the year.* Professor DANTZLER.

24. Pre-Shakespearean and Shakespearean Drama. The first semester is devoted to a study of the Pre-Shakespearean Drama in an effort to find the native English element in Shakespeare and prepare for an intensive study of Shakespeare's works in the second semester. Required of juniors, whose major work is English; open to all juniors and seniors. *Three hours per week. Throughout 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. Prerequisite, English 1. *Two hours per week. Second semester.* Professor DANTZLER.

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 per week. Throughout 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 per week. First semester.* Associate Professor HAMILTON.

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 per 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 per 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 per week. Second semester.* Professor WEAVER.

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 per week. Throughout the year.* Professor FARQUHAR.

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. Two hours per week. Throughout the year.* Associate Professor HAMILTON.

26. **Library Training.** Fundamental principles as an aid to a broader knowledge of English. Lectures on theory throughout 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 per week. Throughout the year.* Associate Professor HAMILTON.

26a. Advanced Library Training. First semester—Study of classfication. 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, 26. *Two hours per week. Throughout the year.* Associate Professor HAMILTON.

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. To be omitted 1916-17. *Three hours per week. First semester.* Professor TERRELL.

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 per week. Throughout the year.* Professor WEAVER.

8. Forensics. Students in this class are taught both the theory and practice of debating. Frequent debates are held throughout the year. Required of all law students. *Two hours per week. Throughout 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 per week. Throughout the year.* Professor WEAVER.

FOR GRADUATES.

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

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.*

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 excursions, occupying one day each, are required. *Four hours per 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 per 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 collections of the department are well suited for this purpose. The instruction is almost entirely by lecture and laboratory work. *Three hours per 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 per 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 per week. First semester.* Professor MILLER.

5. **Advanced Geology.** The same topics are treated as in 1, but more thoroughly, 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 per week. Throughout 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 per week. First semester. Repeated second semester.* Professor MILLER.

GERMAN.

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

GREEK.

Professor Terrell.

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

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

8. **Thucydides.** Book 4. Lectures on the causes of the Peloponnesian War, Thucydides' style, his preeminence as a historian, and the reading of selections in translation. *Thres hours per 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 per 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 per 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 per 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 per 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 per week. Second semester.* Professor TERRELL.

HISTORY AND POLITICAL ECONOMY.

President Barker, Professor Tuthill, Assistant Professor Butt, Mr. Bryant.

This department was organized at the opening of the Agricultural and Mechanical College. To the original subjects 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 the sophomore year they will take History 3. 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.

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 letters, 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 per week. Both semesters.* Professor TUTHILL, MR. BRYANT.

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 per week. Throughout the year.* Assistant Professor BUTT.

3. **Medieval History.** Omitted in 1916–17.

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 per week. Throughout the year.* Professor TUTHILL.

5. **History of the United States.** Beginning with the colonies about 1750, omitting most of the military campaigns, and stressing the fundamental progress of the nation. Where possible, topics in Kentucky's history will be assigned. *Three hours per week. Throughout the year.* Professor TUTHILL.

8. **Teaching of History.** Open to Graduates and Undergraduates. *One hour per 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 per week. Second semester.* Professor TUTHILL.

FOR GRADUATES.

For graduate courses in the historical and social sciences, see the announcement of the Graduate School.

POLITICAL ECONOMY.

1. Introduction to Economics. Not open to freshmen, and 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 per week. Throughout 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 per week. First semester.* Assistant Professor BUTT.

3a. 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; cooperation; court decisions on farmers' combinations; problems. *Two hours per week. First Semester.* Assistant Professor BUTT.

3b. Money and Banking. This course will inulude a study of the fundamental principles of money and banking in the United States as well as a study of the systems in the leading conntries of Europe. *Three hours per week. Second semester.* Professor TERRELL.

FOR UNDERGRADUATES AND GRADUATES.

For advanced courses in statistics, and pools and trusts, see the announcements of the Graduate School.

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, and civil, and mining engineering. Two or more sections. *Three hours per week. Throughout the year.* Assistant Professor BUTT.

2. Municipal Government. An examination of the recent tendencies in city government, together with an introduction to the problems of budget, public utility regulation, housing, etc. Recommended to seniors in Arts and Law, and to those who complete Political Science 1, or its equivalent. *Two hours per 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 per 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 per 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	129	Introduction to His. and Social Sciences	3		3.
English 1	120	English Composition	3		3.
Mathematics 3 or	139	College Algebra	5		5.
Physics 1 and 2 or	146	General Elementary Physics	4	2	5.
Chemistry 1	112	General Inorganic Chemistry	3	4	5.
German 3 or	142	Composition and Reading	3		3.
French 1	143	Elementary French	3		3.
Military Sci. or		Drill		3	1.5
Home Econ. 2		Survey Course	1	2	2.
Physical Education		Gymnasium or Field Athletics		2	1.
					16.5or17

SECOND SEMESTER.

History 1	129	Introduction to His. and Social Sciences	3		3.
English 1	120	English Composition	3		3.
Mathematics 2 or	139	Trigonometry	5		5.
Physics 2 or	147	General Elementary Physics	4	2	5.
Chemistry 2	112	General Inorganic Chemistry	3	6	6.
German 3 or	142	Composition and Reading	3		3.
French 1	143	Elementary French	3		3.
Military Sci. or		Drill		3	1.5
Home Econ. 2		Survey Course	1	2	2.
Physical Education		Gymnasium or Field Athletics		2	1.
					16.5to18

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

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
History 3	129	Medieval History	3		3.
English 3	122	History of English Literature	3		3.
Latin 5	137	Livy, Horace	3		3.
Physiology 1 or	109	General Physiology	3		3.
Botany 1 or		General Morphology	2	4	4.
Zoology 9		General Zoology	1	1	1.5
Military Science		Drill		3	1.5
Electives		Electives	3	3	3.
Physical Education		Gymnasium or Field Athletics		2	1.
					16 to 18.5

Second Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
History 3	129	Medieval History	3		3.
English 3	122	History of English Literature	3		3.
Latin 5	137	Livy, Horace	3		3.
Zoology 9 and		General Zoology	1	1	1.5
Electives, or		Electives	5		5.
Electives		Electives			7.
Military Science		Drill		3	1.5
Physical Education		Gymnasium 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	144	Logic	3		3.
Philosophy 2	144	History of Philosophy	3		3.
History 4	129	Modern Europe	3		3.
Political Economy 1	130	Introduction to Economics	2	2	2.
Sociology 1	131	Urban Sociology	2		2.
Electives		Electives	6		6.
					16.

Second Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Philosophy 1 or	144	Logic	3		3.
Philosophy 2	144	History of Philosophy	3		3.
History 4	129	Modern Europe	3		3.
Political Economy 1	130	Introduction to Economics	2		2.
Sociology 2	131	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	129	History of the United States	3		3.
Political Sci. 1	130	American Government	3		3.
Geology 1 or	125	Elementary Geology	4		4.
Astronomy 1	141	General Astronomy	4		4.
Political Economy 2	130	Public Finance	2		2.
History Thesis		History Thesis	2		2.
Electives		Electives	5		5.
					16.

SECOND SEMESTER.

History 5 or	129	History of the United States	3		3.
Political Sci. 1	130	American Government	3		3.
Political Economy 2	130	Public Finance	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, Miss Hopkins.

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, and has direct working connection with the printing department of the University. 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 through it serve about forty papers throughout 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, 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 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 local 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. Practice in typewriting is given. *Recitation two hours per week, laboratory two hours per week, by appointment. Throughout the year.* Miss McLAUGHLIN.

2. Second Year Journalism. History of Journalism, spelling and punctuation. First semester: History of Journalism, two hours per week; practice writing on general assignments, one hour per week. Second semester: Spelling and punctuation, two hours per week; practice writing on assigned subjects, one hour per week. *Three hours per week. Throughout the year.* Professor GREHAN, Miss HOPKINS.

3. Third Year Journalism. Verbal criticism, copy reading, proofreading, 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 will be class members, spelling, sentencing, newspaper style, proofreading, "make up" and interviewing. Students in this course are required to edit not fewer than 60,000 words during the second semester. *Recitation three hours per week. Throughout the year.* Professor GREHAN.

4. Fourth Year Journalism. Editorial and feature writing, dramatic criticism, book reviewing, interviewing, study of law of libel, organization, talks on advertising, lectures on stage folk and theory of dramatic criticism. *Five hours per week. Throughout the year.* Professor GREHAN.

OUTLINE OF COURSE LEADING TO THE DEGREE OF A. B. IN JOURNALISM.

FRESHMAN YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
English 1	120	English Composition	3		3.
Mathematics 3	139	College Algebra	5		5.
Latin 5	137	Livy (Book 1)	3		3.
German I	142	Elementary German	5		3.
Journalism 1	134	First Year Journalism	2	By Ap.	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	120	English Composition	3		3.
Mathematics 2	139	Plane Trigonometry	5		5.
Latin 5	137	Horace (Odes and Selected Satires)	3		3.
German 1	142	Elementary German	5		3.
Journalism 1	134	First Year Journalism	2	By Ap.	2.5
Military Sci. or		Drill		3	1.5
Home Economics		Survey Course	1	2	2.
Physical Education		Gymnasium or Field Athletics		2	1.
					19 or 19.5

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

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 3	122	History of English Literature	3		3.
English 22	123	Literature of the Bible	2		2.
German 3	142	Composition and Reading	3		3.
Physiology 1	109	General Physiology	3		3.
History 1	129	Introduction to His. and Social Sciences	3		3.
Political Economy 2	130	Public Finance	2		2.
Journalism 2	134	History of Journalism	3	By Ap.	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	122	History of English Literature	3		3.
English 22	123	Literature of the Bible	2		2.
German 3	142	Composition and Reading	3		3.
Physiology 1	109	General Physiology	3		3.
History 1	129	Introduction to His. and Social Sciences	3		3.
Political Economy 2	130	Public Finance	2		2.
Journalism 2	134	Spelling and Punctuation	3	By Ap.	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	122	Pre-Shakespearean	3		3.
French 1	143	Elementary French	3		3.
Philosophy 1	144	Logic	3		3.
History 5 or	129	History of the United States	3		3.
Political Sci. 1	130	American Government	3		3.
Journalism 3	135	Verbal Criticism	3	By Ap.	3.
Electives		Electives	2		2.
					20.

Second Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 24	122	Shakespeare	3		3.
French 1	143	Elementary French	3		3.
Philosophy 1	144	Logic	3		3.
History 5 or	129	History of the United States	3		3.
Political Sci. 1	130	American Government	3		3.
Journalism 3	135	Proof-reading, copy-reading, headlining	3	By Ap.	3.
Geology 1		Elementary Geology	4		4.
					19.

SENIOR YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 15b	123	The English Novel	3		3.
English 20	122	Literary Criticism	3		3.
Journalism 4	135	See Descriptive Matter	5	By Ap.	5.
French 2	143	Reading and Composition	3		3.
Electives		Electives	2		2.
					16.

SECOND SEMESTER.

English 15	123	The Modern Drama	3		3.
English 20	122	Literary Criticism	3		3.
Journalism 4	135	See Descriptive Matter	5	By Ap.	5.
French 2	143	Reading and Composition	3		3.
Electives		Electives	2		2.
					16.

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 per week. Throughout 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 per week. Throughout 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 per week. Throughout the year.* Professor JONES.

8. Plautus, Virgil, Cicero. Plautus (Captives and Trinummus); Virgil (Georgics and selections from the last six books of the Aeneid); Cicero (selected Letters). In reading the plays of Plautus some attention will be given to the development of the drama at Rome, and also to the influence of Plautus on modern comedy. The last half of the year is given to reading Virgil and Cicero. 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. *Two hours per week. Throughout 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. Throughout 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. Throughout 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.

PRIMARILY FOR GRADUATES.

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

MATHEMATICS AND ASTRONOMY.

Professor Boyd, Professor Davis, Associate Professor Rees, Assistant Professor Downing, Mr. Blessing, Mr. Dotterer, Mr. McConnell, Mr. Martin, Mr. Hanson.

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 per week. First semester.* Mr. MARTIN.

2. **Plane Trigonometry.** A thorough course in plane trigonometry supplemented by enough algebra to fill out a semester's work. *Five hours per 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 per week. First semestcr. 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, to be mimeographed for 1916–17, and by frequent reference to a text in the hands of students. Prerequisites, courses 2 and 3. *Five hours per 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 per week. First semester. Repeated second semester.* Professor BOYD, Professor DAVIS, Associate Professor REES, Assistant Professor DOWNING, Mr. BLESSING.

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 per week. First semester. Repeated second semester.* Associate Professor REES, Assistant Professor DOWNING, Mr. BLESSING.

5b. Integral Calculus. Certain topics of the differential calculus are included in this course. Prerequisites, courses 1, 2, 3, 4a, 4b, 5a. *Five hours per week. First semester. Repeated second semester.* Professor DAVIS, Associate Professor REES.

6. Spherical Trigonometry; Method of Least Squares. This course is required of civil engineers and students majoring in mathematics. *Two hours per week. Second semester.* Mr. BLESSING, 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 1915–16; offered for 1916–17. *Three hours per 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 1915–16; to be omitted in 1916–17. *Three hours per 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 1915–16; to be

given in 1916–17. *Three hours 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 1915–16; to be given in 1916–17. *Three hours per 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 1915–16; to be omitted in 1916–17. *Three hours per week. Throughout the year.* Professor DAVIS.

12. **Advanced Calculus.** A second course in calculus affording a more critical view of the fundamental notions and theories, and including the study of elliptic integrals and functions defined by definite integrals. The work will be based on the texts of Byerly and Williamson. Omitted in 1915–16; to be given in 1916–17. *Three hours per week. Throughout 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. *Three hours per week. Throughout the year.* Professor BOYD, Associate Professor REES.

14. **Teacher's Course.** A course in the history and pedagogy of mathematics, designed for students majoring in education with mathematics as their minor. Omitted in 1915-16, to be given in 1916-17. *Two hours per week. First semester.* Professor BOYD.

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 and frequent use of an 18-inch celestial globe. 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 per week. First semester.* Assistant Professor DOWNING, Professor MILLER.

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. Omitted in 1915-16: to be given in 1916-17. *Three hours per week. Second semester.* Assistant Professor DOWNING.

MODERN LANGUAGES.

Professor Zembrod, Professor Melcher, Miss Chorn, Mr. Cannon, Miss Pollitt.

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 one year in Spanish and Italian.

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 per week. Throughout the year.* Professor MELCHER, Mr. CANNON, Miss POLLITT.

2. **Prose Reading.** First semester: intermediate German with grammar drill and composition based on text. Second semester: selections from prose and poetry committed; conversations and compositions based on texts read. The class is divided into three sections. *Five hours per week. Throughout the year.* Professor MELCHER, Miss CHORN.

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 cours

Prerequisites, German 1 and 2. The class is divided into three sections. *Three hours per week. Throughout the year.* Professor MELCHER, Mr. CANNON.

4. **Advanced Reading and Composition.** First semester: Wiehr's *German Prose Composition* and such texts as *Der Fluch der Schoenheit, Die Psyche,* etc. Second semester: reading continued; part of simple play committed for class room; essays on subject matter of texts from reproduction. Collateral reading will be required of students taking this course. Also a course in scientific literature will be given, consisting of the reading of a varied selection of essays and lectures by German specialists on topics of common interest to all scientific students. The purpose of the course is to enable the student, upon completion, to carry on investigation in German scientific literature of subjects pertaining to his profession without a burdensome use of the lexicon. The class is divided into three sections. *Three hours per week. Throughout the year.* Professor MELCHER, MR. CANNON.

5. **The Drama.** Junior course. First semester: composition and conversation. Second semester: Goethe's and Schiller's Ballads. Two dramas from Grillparzer or their equivalent. *Three hours per week. Throughout the year.* Professor ZEMBROD.

6. **Novel and Drama.** Senior course. First semester: novel, drama and composition. Second semester: work of first semester continued. *Three hours per week. Throuyhout the year.* 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 two sections. *Three hours per week. Throughout the year.* Miss CHORN.

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

ITALIAN.

1. **Elementary Course.** *Grandgent's Grammar;* Bowen's *Elementary*

Reader; conversation and composition. For juniors only. *Five hours per week. Second semester.* Professor ZEMBROD.

SPANISH.

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

PHILOSOPHY.

Professor Tigert.

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 throughout 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 per week. Throughout 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 per week. Throughout 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 per 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 per 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 per week. Throughout 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 per week; laboratory four hours per week. Throughout the year.* Professor TIGERT.

PHYSICS.

Professor Pence, Professor Webb, Associate Professor Killebrew, Mr. Bitner, Mr. Kelly.

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.

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. The building has a private telephone system and a hoist for apparatus.

1. General Elementary Physics. For students who have had no previous training in physics. Elective for arts students. Course covers the elementary theory of mechanics, sound and heat, particular attention being given to the solution of appropriate problems. Each student is required to perform, and report on, 25 laboratory exercises. *Lectures and recitations four hours, laboratory two hours per week. First semester.* Associate Professor KILLEBREW, Mr. BITNER.

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 per week. First semester.* Associate Professor KILLEBREW, Mr. KELLY.

1b. General College Physics. For sophomore mechanical engineering students. Prerequisites, same as 1a. Should be accompanied by 5b. Lectures, recitations, and problems in mechanics, sonnd, and heat, especial attention being given to mathematical deductions. *Four hours per week. First semester.* Associate Professor KILLEBREW, Professor WEBB, Mr. KELLY.

1c. Household Physics. For sophomores in home economics. No

previous training in physics required. *Lectures and recitations, three hours per 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 per week. Second semester.* Associate Professor KILLEBREW, Mr. BITNER.

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 per week. Second semester.* Associate Professor KILLEBREW, Mr. KELLY.

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. *Four hours per week. Second semester.* Associate Professor KILLEBREW, Professor WEBB, Mr. KELLY.

3. **Elementary Physical Measurements.** For freshmen in science and civil engineering. Laboratory work accompanied by recitation periods. Departmental notes, used as laboratory manual. *Four hours laboratory per week. First semester.* Professor PENCE, Mr. BITNER.

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 per week. Second semester.* Professor PENCE, Mr. BITNER.

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 per week. First semester.* Professor WEBB, Mr. KELLY.

5b. **Measurements in Mechanics and Heat.** For sophomore 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 per week. First semester.* Professor WEBB, Mr. KELLY.

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 per week. Second semester.* Professor WEBB, Mr. KELLY.

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 per week. Second semester.* Professor WEBB, Mr. KELLY.

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 per 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 per week. Second semester.* Associate Professor KILLEBREW, Mr. KELLY.

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

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 per week. First semester.* Associate Professor KILLEBREW.

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

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

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

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

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

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
English 1	120	English Composition	3		3.
Mathematics 2	139	Trigonometry	5		5.
German 3	142	Elementary German	3		3.
Chemistry 1	112	General Inorganic Chemistry	4	2	5.
Military Sci. or		Drill		3	1.5
Home Economics		Survey Course	1	2	2.
Physical Education		Gymnasium or Field Athletics		2	1.
					18.5or19

Second Semester.

English 1	120	English Composition	3		3.
Mathematics 3	139	College Algebra	5		5.
German 3	142	Elementary German	3		3.
Chemistry 2	112	General Inorganic Chemistry	3	6	6.
Physics 4	147	Physical Measurements		4	2.
Military Sci. or		Drill		3	1.5
Home Economics		Survey Course	1	2	2.
Physical Education		Gymnasium or Field Athletics		2	1.
					21.5or22

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

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Physiology 1	109	General Physiology	3		3.
Mathematics 4a	139	Analytical Geometry, first part	5		5.
German 4	143	Advanced Reading	3		3.
Physics 1a	146	General College Physics	3		3.
Physics 5	147	Physical Measurements		4	2.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.
					18.5

SECOND SEMESTER.

Physiology 1	109	General Physiology	3		3.
Mathematics 4b	140	Analytical Geometry, second part	5		5.
German 4	143	Advanced Reading	3		3.
Physics 2a	147	General College Physics	3		3.
Physics 5	147	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
Mathematics 5a	140	Differential Calculus	5		5.
Physics 10	148	Theory of Heat	3		3.
Chemistry 4	112	Qualitative Analysis		6	3.
Electives		Electives			5.
					16.

SECOND SEMESTER.

Mathematics 5a	140	Integral Calculus	5		5.
Physics 8	148	Electricity and Magnetism	3		3.
Mathematics 6	140	Spherical Trigonometry; Least Squares	2		2.
Chemistry 8	112	Quantitative analysis	1	8	5.
					15.

SENIOR YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Mathematics 11	141	Differential Equations	3		3.
Physics 9	148	Theory of Light	3		3.
Astronomy 1	141	General Astronomy	4		4.
Physics 15	148	Measurements in Optics		6	3.
Electives		Elective	3		3.
					16.

SECOND SEMESTER.

Mathematics 11	141	Differential Equations	3		3.
Physics 10	148	Theoretical Mechanics	3		3.
Philosophy 2	144	History of Philosophy	3		3.
Problems		Assigned Problems	4		4.
Electives		Electives	3		3.
					16.

POLITICAL ECONOMY AND POLITICAL SCIENCE.

Courses in these subjects are described under the Department of History and Political Economy.

SOCIOLOGY.

Courses in sociology are described under the Department of History and Political Economy.

SPANISH.

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

COLLEGE OF AGRICULTURE.

JOSEPH H. KASTLE, DEAN.

ORGANIZATION.

The College of Agriculture includes:
The Experiment Station.
The School of Agriculture.
The School of Home Economics.
The School of Agricultural Extension.
The School of Veterinary Science.

The work of the College of Agriculture is conducted along the following lines:

1. Research: having for its object the scientific study and investigation of all problems that in any way affect the agricultural interests of the state.
2. Instruction in agriculture and related subjects to students of the University.
3. Extension: to disseminate agricultural information to citizens of the state.
4. Inspection.

COURSES OF INSTRUCTION.

The following courses have been arranged to meet the needs of students enrolled in the College of Agriculture.

1. Graduate Work in Agriculture.

In the School of Agriculture and in the Experiment Station, excellent opportunities are afforded the student to do post-graduate work in the following subjects: soil fertility, soil physics and farm crops, dairying and poultry husbandry, animal nutrition and the feeding of livestock, 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.

The Experiment Station is the research department of the College of Agriculture. As such it offers excellent opportunities for graduate students. 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 will come in contact with investigators in the sciences pertaining to agriculture. The graduate student in agriculture may select any one of the above subjects as a major study leading to the degree of Master of Science in Agriculture, subject to the approval of the faculty of the College of Agriculture. One or more minor subjects will be assigned by the Executive Committee of the Graduate School. At least one year's resident work at the University will be required of candidates for the degree of Master of Science in Agriculture. Thirty days before the close of the academic year, the candidate for this degree will be required to submit to a committee, consisting of the Dean of the College of Agriculture and the professors under whom the candidate has done his work, a typewritten copy of a thesis on some subject previously assigned by this committee. The candidate for the degree of Master of Science in Agriculture will also be required to pass satisfactory examinations in his major and minor subjects.

2. **Undergraduate Work in Agriculture.**

a. Four Years Course in Agriculture. The regular course in agriculture continues four years and leads to the degree of Bachelor of Science in Agriculture. This course offers opportunity to specialize in agronomy, agricultural chemistry, animal husbandry, bacteriology, botany, dairying, entomology, horticulture, or zoology.

b. Four Years Course in Home Economics.

c. Two Years Course in Veterinary Science.

3. **Extension Courses.**

The Agricultural Experiment Station.

The Agricultural Experiment 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 Station includes thirteen departments of work, namely: Administration; Agronomy, or the study of 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; Commercial Fertilizers; Food and Drugs; Horticulture, including orcharding, cultivation under glass, and market and landscape gardening; Research; Agricultural Extension, including corn shows, agricultural schools and clubs, farmers' institutes, press bulletins on agricultural topics and, indeed, all those agencies by which the work of the Experiment Station and of the United States Department of Agriculture is brought directly to the farmers in various sections of the state.

Among the investigations recently carried out at the Kentucky Agricultural Experiment Station, and on the experimental 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 sulphur content of typical Kentucky soils and the relation of sulphur to soil fertility; tobacco investigations; the life-history and habits of the corn-ear worm, and aiso of the locust borer; 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; poultry raising; feeding studies on young chicks; a study of the marketing conditions prevailing in Kentucky; investigations in infectious abortion in cows and mares and the isolation of the micro-organisms responsible for these diseases; infectious arthritis of colts, and the causative organisms of this disease; extensive studies in pig feeding; 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; 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, foods 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 is also carried out at the Experiment Station. The cleaning of tobacco seed, the distribution of burley tobacco seed and of the seed of other varieties of plants especially adapted to the agricultural conditions of the state, the production of large amounts of hog cholera serum and its distribution at less than the cost of production, the vaccination and inoculation of hogs against cholera, without expense to the owner, the vaccination of cattle against blackleg, the tuberculin testing of dairy cattle, the organization of dairy testing associations in various parts of the state, the supervision of the construction of silos and dairy barns, may be enumerated among the many activities of the Experiment Station, looking to the development of a more permanent and remunerative system of agriculture throughout the state.

Finally, it may be said that the Experiment Station affords excellent opportunities for graduate students in agriculture and offers many advantages to young men and women who desire to perfect themselves in one or more branches related to agriculture.

School of Agriculture.

EQUIPMENT.

The Agricultural Building, which was erected in 1907–08, is located upon the southwest corner of the university campus and is a structure 45x100 feet in size, three stories in height above a roomy basement, and is designed as a wing of a much larger structure which the growing interest in agricultural education will probably necessitate in the near future.

The construction is of the most thorough and substantial character, the materials being native limestone for the foundation, with Maysville pressed brick and Bedford stone for the superstructure. The basement contains two dairy laboratories, a potting and propagating room, together with space for the heating plant. Upon the first floor is the office of the professors of horticulture and botany, adjoining which is a

private laboratory, and nearby are the department lecture room and general advanced botanical laboratories.

Upon the second floor are the offices of the professors of animal husbandry, a lecture room for animal husbandry and a laboratory for bacteriology, together with an attractive reading room provided with fireplace and mission furnishings. A large number of the best agricultural and other periodicals are kept here on file at the service of the students of the College.

The third floor is occupied mainly by the Departmcnt of Agronomy, and includes a well-lighted lecture room, a well-equipped soil physics and soil fertility laboratory, and a room for laboratory work in farm crops. This floor also contains a photographic laboratory, with dark rooms. This laboratory has a superior equipment for the preparation of lantern slides and enlargements for the use ef the various departments, and for the illustration of these and other studies prosecuted in the College of Agriculture.

The lecture rooms in the building are provided with opera chairs, electric projection lanterns, and other appliances for illustrative and demonstrative purposes.

The laboratories for agronomy and bacteriology are large and abundantly lighted and suitably equipped with gas, water and electric current for carrying on the work of these departments. The laboratories for botany and bacteriology are provided with individual tables, with the most approved forms of microscopes, microtomes, incubators, and sterilizing apparatus, balances, charts, etc., in accordance with their several requirements.

All the rooms are exceptionally well lighted with large windows, and by night with both gas and electric lamps. Every room is also provided with ventilating shafts for insuring a constant change of air.

Adjoining the building on the rear is a laboratory greenhouse, 24x 50 feet in size, for the use of classes in botany, horticulture and other studies involving experimental work with living plants.

For botanical instruction there is also an extensive herbarium which contains a nearly complete representation of the flora of Kentucky, together with a large number of foreign exchanges. This is due primarily to the efforts of the late Dr. Robert Peter, who made an extensive collection of Kentucky plants about seventy years ago, and also exchanged specimens with the prominent botanists of that day, thus forming the nucleus of the present collection, which therefore possesses considerable historic value.

Among the additional facilities for agricultural instruction there is installed in the basement of the Civil Engineering building a growing collection of the best farm implements and machinery, most of which has been loaned or donated by the manufacturers.

In the Department of Entomology and Zoology, most of the instruction is given in the laboratories and lecture rooms on the first floor of the Natural Science building. The laboratories are provided with tables, compound microscopes, rearing cages, aquaria collections and other illustrative material. The lecture room is equipped with a good lantern, lantern slides, charts for showing insect structure, and other conveniences for presenting features of the subjects that can not conveniently be studied in laboratories. Spraying apparatus of various sorts is provided for illustration from the equipment of the Experiment Station.

The equipment of the Department of Entomology and Botany of the Experiment Station, available under certain restrictions to advanced students, is of the best that can be procured, and includes an insectary with hothouse, microscopes, microtomes, incubators, extensive collections, and a good working library, containing many of the serials and other works relating to entomology.

ENTRANCE REQUIREMENTS.

For admission as freshman to this college, an applicant must offer 15 units of credit as indicated on pages 54 and 55 of this catalogue. For further details regarding entrance requirements, see general information.

REQUIREMENTS FOR GRADUATION.

The requirements for graduation are undergoing revision. For the final statement of these requirements address the Dean of the College of Agriculture.

To receive the undergraduate degree, a matriculate in the College of Agriculture must offer 138 credits, inclusive of those required in military science and physical training. Men are required to offer 3 credits in military science and 2 in physical training, and women 2 in physical training.

The term "credit hour," or "credit," is defined as the satisfactory completion of a study involving lectures and recitations for one hour per week for one semester, or laboratory work or practicum for two hours per week for the same period. Military science and physical training are classed as laboratory work. Persons excused from military science or physical training 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.

No student in the College of Agriculture will be permitted to take more than 16 hours work per week, exclusive of Military Science and Physical Training, except by special permission of the faculty of the College of Agriculture.

Credit will not be allowed students for summer work except by special arrangement in advance with the head of a department. Not more than 6 credits will be allowed for thesis work. In case a student is assigned thesis work, the subject for the thesis must be assigned by the first of June of the junior year, and all theses must be completed and handed in for inspection before fifteenth of May of the senior year.

All candidates for the degree of Bachelor of Science in Agriculture must, by the beginning of the junior year, select a major study in one of the departments of the College of Agriculture. In the schedule of studies given below, courses required for graduation are starred. All other subjects are electives, under the advice and direction of the professor in charge of the work which the student may select as his major study, subject to the approval of the Dean. At least one-half of the electives are to be taken from courses in the College of Agriculture.

OUTLINE OF COURSE LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE.§

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits †
*Animal Husb. 1	166	Elementary Study of Stock Judging and Study of Breeds	3	2	4.
*Botany 1	169	General Morphology	2	4	4.
*Chemistry 1	112	General Inorganic Chemistry	3	4	5.
*English 1	120	English Composition	3		3.
French 1	143	French Grammar	3		3.
German 1 or 3	142	Elementary Ger. or Comp. and Reading	3		3.
History 1	129	Ancient History	2		2.
Military Science		Drill	3	3	1.5
Physical Edu.		Gymnasium or Field Athletics		2	1.

§For revised outline of course address the Dean of the College of Agriculture.

SECOND SEMESTER.

*Agronomy 7	163	Elementary Agronomy	2		2.
*Botany 1a	170	Morph. and Classification of Seed Plants	2	4	4.
*Chemistry 2	112	Chemistry of the Metals	3	6	6.
*English 1	120	English Composition	3		3.
French 1	143	French Grammar	3		3.
German 1 or 3	142	Elementary Ger. or Comp. and Reading	3		3.
History 1	129	Ancient History	2		2.
Military Science		Drill		3	1.5
Physical Edu.		Gymnasium or Field Athletics		2	1.

SOPHOMORE YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits †
*Agronomy 8	163	Cereals	3	2	4.
Animal Hus. 4	166	Study of Breeds	2	2	3.
Botany 3	140	Plant Histology		6	3.
*Chemistry 11	112	Agricultural Analysis	1	8	5.
*English 3	122	History of English Literature	2		2.
*Entomology 1	173	General Entomology	2	4	4.
Military Science		Drill		3	1.5
Physical Edu.		Gymnasium or Field Athletics		2	1.

SECOND SEMESTER.

*Agronomy 10	163	Forage Crops	3		3.
Agronomy 17	164	Farm Mechanics	2	2	3.
Animal Hus. 4	166	Study of Breeds	2	2	3.
Botany 8	171	Plant Physiology	1	2	2.
*English 3	122	History of English Literature	2		2.
*Geology 1a	125	Elements of Geology	3		3.
*Horticulture 1	182	Principles of Plant and Fruit Culture	2	2	3.
Horticulture 3	183	Vegetable Gardening	2	2	3.
Rural Eng'ring 1	184	Land Surveying } Half semester	2		1.
Rural Eng'ring 2	184	Roads } Half semester	2		1.
*Zoology 10	174	Economic Zoology	2	4	4.
Military Science		Drill		3	1.5
Physical Edu.		Gymnasium or Field Athletics		2	1.

*Required subjects.

†A credit represents one hour of recitation, or two hours of laboratory per week for one semester.

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
*Agricultural Econ	184	Agricultural Economics	3		3.
Agricultural Educ	186	Agricultural Education	3		3.
*Agronomy 1	162	Soil Physics	3	4	5.
Agronomy 12	163	Special Crops	2		2.
Agronomy 14	164	Adv. Grain Judging and Market Grains		2-4	1 to 2
Agronomy 15	164	Course in Tobacco	By Ap.		
Agronomy 18	164	Farm Machinery	3	2	4.
Animal Hus. 3	166	Advanced Stock Judging	3	2-4	4 to 5
Animal Hus. 5	167	Genetics	By Ap.		4.
*Bacteriology 1	168	General Bacteriology**	1	2	2.
Botany 4	170	Plant Pathology	2	4	4.
Botany 10	171	Dendrology	1	2	2.
Entomology 4	173	Advanced Entomology	2	6	5.
*Horticulture 2	182	General Pomology	2	2	3.
Horticulture 5	183	Greenhouse Con. and Management	1	2	2.
Rural Education	186	Rural Education	3		3.
Veterinary Sci. 1	187	Anatomy and Physiology	3		3.
Zoology 12	175	Advanced Zoology	2	4	4.
Zoology 15	175	Biology	3		3.

Second Semester.

Agronomy 2	162	Soil Physics	By Ap.		
*Agronomy 3	162	Soil Fertility	3	4	5.
Agronomy 12	163	Special Crops	2		2.
Agronomy 13	163	Field Crop Improvement	3		3.
Agronomy 15	164	Course in Tobacco	By Ap.		
Agronomy 19	164	Farm Motors	3	4	5.
Animal Hus. 7	167	Live Stock Feeding	3	2	4.
Animal Hus. 8	168	Dairying	3	4	5.
Animal Hus. 11	168	Poultry Husbandry	3	2	4.
Bacteriology 3	169	Bacteria in Rel. to Ani. and Plant Dis.	1	2	2.
Botany 5	170	Methods in Plant Pathology		6	3.
Botany 12	172	Morphology of the Fungi	1	4	3.
Botany 14	172	Systematic Botany	By Ap.		
Entomology 4	173	Advanced Entomology	2	6	5.
Entomology 6	174	Agiculture	1	2	2.
Entomology 7	174	Insect Control: Method of Pre. Injuries	1	2	2.
Farm Management	180	Farm Management	3		3.
Horticulture 3	183	Vegetable Gardening	2	2	3.
Horticulture 7	183	Landscape Gardening; half semester	1		1.
Horticulture 9	184	Elements of Floriculture	1	2	2.
Rural Social Probs.	185	Rural Social Problems	3		3.
Veterinary Sci. 1	187	Anatomy and Physiology	3		3.
Zoology 12	175	Advanced Zoology	2	4	4.
Zoology 13	175	Osteology	2	4	4.
Zoology 14	175	Embryology	2	4	4.
Zoology 15	175	Biology	3		3.

*Required subjects.

**Repeated second semester.

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Agricultural Educ.	186	Agricultural Education	3		3.
Agronomy 4	162	Soil Fertility	By Ap.		
Agronomy 12	163	Special Crops	2		2.
Agronomy 14	164	Adv. Grain Judging (Seed Testing)		2-4	1 to 2
Agronomy 15	164	Course in Tobacco	By Ap.		
Agronomy 20	165	Farm Engineering and Construction	3	4	5.
Bacteriology 4	164	Advanced Bacteriology		2	1.
Botany 9	171	Thesis	3		3.
Botany 11	171	Morphology of Algae	By Ap.		3.
Botany 13	172	Cytology	By Ap.		4.
Botany 14	172	Systematic Botany	By Ap.		4.
Horticulture 4	183	Systematic and Commercial Pomology	2	2	3.
Horticulture 8	183	Thesis and Experimental Horticulture	By Ap.		
Horticulture 10	184	Commercial Floriculture	1	2-4	2 to 3
Horticulture 11	184	Advanced Vegetable Gardening	2	2	3.
Seminar	185	Special Problems of Rural Life	By Ap.		

*Required subjects.

Second Semester.

Agricultural Econ. 3	184	Cooperation and Marketing	3		3.
Agronomy 15	164	Course in Tobacco	By Ap.		
Animal Hus. 6	167	Animal Breeding	By Ap.		4.
Animal Hus. 9	168	Beef Production (First Half Sec. Sem.)	3	2	2.5
Animal Hus. 10	168	Animal Nutrition (Sec. Half Sec. Sem.)	3		1.5
Bacteriology 5	169	Advanced Bacteriology		2	1.
Botany 8	171	Plant Physiology	1	4	3.
Botany 9	171	Thesis	3		3.
Botany 12	172	Morphology of the Fungi	By Ap.		
Farm Management	180	Farm Management	3		3.
Horticulture 7	183	Landscape Gardening; second haif sem.	1		1.
Horticulture 8	183	Thesis and Experimental Horticulture	By Ap.		
Horticulture 12	184	Vegetable Gardening Under Glass	1	2	2.
Ent. and Zool. 16	175	Plant Breeding and Seed Testing	1	2	2.
Rural Education	186	Rural Education	3		3.
Rural Soc. Problems	185	Rural Social Problems	2		2.
Seminar	185	Special Problems of Rural Life	By Ap.		

DEPARTMENTS OF INSTRUCTION.

AGRONOMY.

Professor Roberts (Soil Fertility), Assistant Professor Kinney (Field Crops), Assistant Professor Karraker (Soil Physics), Instructor Myer (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 and results of the Experiment Station. Some seventy acres on the Experiment Station farm are used in the study of agronomic problems. There are nine 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. 5 credits. *Lectures three hours per week; laboratory four hours per 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. Second 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. 5 credits. *Lectures three hours per week; laboratory four hours per 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. 2 credits. *Lectures two hours per week. First semester.* Professor ROBERTS.

5. **Soils.** A general course in soils for special students and students in the two-years course. Physical properties of soils; texture, structure, moisture, aeration, etc. Soil fertility; the nature and sources of plant food; crop rotations and the use of manures and fertilizers with special reference to soil productiveness. Prerequisite, Chemistry 1a. *Lectures three hours per week. Second semester.* Assistant Professor KARRAKER.

7. **Elementary Agronomy.** This course is intended to give freshmen an introduction to the subject of agronomy. Students must be studying chemistry and botany. 2 credits. *Lectures two hours per week. Second semester.* Associate Professor KINNEY.

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, Agronomy 7. 4 credits. *Lectures and recitations three hours per week; laboratory two hours per week. First semester.* Associate Professor KINNEY, Mr. MYER.

9. **Cereals.** A course designed for special students and students in the two-years course. *Lectures three hours per week; laboratory two hours per week. First semester.* Mr. MYER.

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. 3 or 4 credits. *Lectures three hours per week; laboratory elective, two hours per week. Second semester.* Mr. MYER.

11. **Forage Crops.** A course for special students and students in the two-years course. Required in first year. *Lectures two hours per week. Second semester.* Mr. MYER.

12. **Special Crops.** The production of tobacco, hemp, cotton, broom corn, and other special crops. Elective for juniors and seniors in the four-years course and for special students and students in the two-years course during their second year. Tobacco first semester. Other crops second semester. Four credits. *Lectures two hours per week.* Associate Professor KINNEY, Mr. MYER.

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. Three credits. *Three hours per week. Second semester.* Associate Professor KINNEY.

14. Advanced Grain Judging and Market Grains. Prerequisites, Agronomy 7, 8 and 10. One and two credits. *Two to four hours laboratory per week. First semester.* Mr. MYER.

15. Course in Tobacco. This course is offered for those students who wish to make a special study of this crop. Cultivation, curing and marketing are considered in detail. This course begins in March and extends throughout the summer and autumn until the Christmas holidays, so that the student may be able to study all the operations concerned in the cultivation of this crop. For further details, see Special Course in Tobacco. Six credits. Associate Professor KINNEY and others.

17. Farm Mechanics. An elementary course of mechanics arranged as an introduction to the study of farm machinery and farm motors. Lectures are given upon the fundamental principles of mechanics as applied to the construction and use of farm equipment, also upon some of the practical farm problems such as the design of eveners and hitches, lubrication of bearings, care and use of belts, chains and ropes, minor repairs and the construction of simple devices. Laboratory practice supplements class room work giving opportunity for actual application of problem to farm conditions. 3 credits. *Lectures two hours per week; laboratory two hours per week. Second semester.* Assistant Professor FARRA.

18. Farm Machinery. Modern agricultural machinery requires mechanical knowledge and skill for its proper selection and successful operation. 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 and under field conditions when possible. Prerequisite, Agronomy 17. 4 credits. *Lectures three hours per week; laboratory two hours per week. First semester.* Assistant Professor FARRA.

19. Farm Motors. Increasing demand for power in farm operations requires that agricultural students shall become familiar with motors adapted to farm use. 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. 5 credits. *Lectures three hours per week; laboratory four hours per week. Second semester.* Assistant Professor FARRA.

20. Farm Engineering and Construction. The necessity of knowing exactly the area of tracts of land, of properly locating roads and buildings, of terracing hillside lands for cultivation, and establishing drainage, irrigation, water supply and sewage disposal systems, by simple methods and with inexpensive instruments, has been provided for in this course, as well as the construction of farm buildings and a study of building materials. Laboratory practice will offer practical farm problems to be solved, and opportunity to construct model buildings, giving experience with some of the building materials. 5 credits. *Lectures three hours per week; laboratory four hours per week. First 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 W. V. Smith,
Assistant Professor M. J. Smith.

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.

1. **Elementary Study of Stock Judging and Study of Breeds.** Freshmen. In this course the students are made familiar with the various types of horses, cattle, sheep and swine. Points of excellence as well as deficiencies are considered. Animals representing the different types and breeds are brought before the class and the practical work of judging is supplemented by the use of lantern slides in connection with lectures. On each Saturday visits are made to the various stock farms near Lexington. 4 credits. *Lectures three hours per week; laboratory two hours per week by appointment. First semester.* Associate Professor NICHOLLS, Assistant Professor M. J. SMITH.

2. **Principles of Stock Judging.** Two-year students. This course is similar to Course 1, but it is adapted to the needs of students in the two years agricultural course. *Lectures three hours per week; laboratory two hours per week by appointment. First semester.* Associate Professor NICHOLLS, Assistant Professor M. J. SMITH.

3. **Advanced Stock Judging.** Juniors and seniors. The purpose of this course is to give students who desire to specialize in live stock husbandry an opportunity to further perfect their judgment in the selection of horses, cattle, sheep and swine. Students are selected from this class to represent the university in the national stock judging contests at Chicago. 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. 5 credits for those who are selected to represent the University on the judging teams at Chicago, 4 credits for all others. *Lectures three hours per week; laboratory four hours per week. First semester.* Professor HOOPER, Professor GOOD, Assistant Professor W. V. SMITH.

4. **Study of Breeds.** 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. Horses, Jacks and Dairy Cattle, first semester. 3 credits. Beef Cattle, Sheep and Swine, second semester. 3 credits. *Lectures two hours per week; laboratory two hours per week.* Professor GOOD, Professor HOOPER, Associate Professor NICHOLLS, Assistant Professor W. V. SMITH, Assistant Professor M. J. SMITH.

5. **Genetics.** Junior. 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. 4 credits. *Lectures M., W., F.; 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. 4 credits. *Lectures M., M., F.; laboratory by appointment. Second semester.* Professor HOOPER, Assistant Professor ANDERSON.

7. **Live Stock Feeding.** Junior. A comprehensive study is made of the various feedstuffs offered in the local and general markets of the country, 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. 4 credits. *Lectures M., W., F., at 9 o'clock; laboratory two hours per week by appointment. Second semester.* Professor HOOPER, Assistant Professor M. J. SMITH.

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 in 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. 5 credits. *Lectures M., W., F., at 10:30; laboratory W., Th., at 1:30. Second semester.* Professor HOOPER, Associate Professor NICHOLLS.

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. 2.5 credits. *Lectures three hours per week by appointment; laboratory two hours per week. First half of second semester.* Professor GOOD.

10. Animal Nutrition. Senior. Students who have pursued Course 9 may take this instruction if they so desire, and others who have not taken course 9 may pursue course 10. 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. 1.5 credits. *Lectures three hours per week by appointment. 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 judging of fowls during that exhibition. 4 credits. *Lectures three hours per week; laboratory two hours per week. Second semester.* Professor HOOPER, Assistant Professor WILKINS.

BACTERIOLOGY.

Associate Professor Pinnell.

1. General Bacteriology. Classification, morphology, physiology, cultivation and isolation of bacteria. Principles of sterilization and pasteurization. Bacteria in milk, water, and soil. Laboratory work consists of preparation of media; study of cultural characteristics of a

selected number of bacteria; staining pure cultures and counting bacteria in milk, water, soil, etc. 2 credits. *Lectures one hour per week; laboratory two hours per week. First 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. 3 credits. *Lectures one hour per week; laboratory four hours per week. First semester.* Associate Professor PINNELL.

3. **Bacteria in Relation to Animal and Plant Diseases.** Lectures on the theory of immunity, cultivation, staining and identification of a number of selected, disease-producing bacteria. Prerequisite, Course 1 or 2. 2 credits. *Lectures one hour per week; laboratory two hours per week. Second semester.* Associate Professor PINNELL.

4. **Advanced Bacteriology.** Special subjects in agricultural bacteriology will be assigned for reading and laboratory work. Prerequisite, Course 1. 1 credit. *Laboratory two hours per week. First semester.*

5. **Advanced Bacteriology.** Special subjects will be assigned for reading and laboratory work. Prerequisite, Course 1. 1 credit. *Laboratory two hours per 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. 4 credits. Laboratory assignments will be made in three sections. *Lecture Th., fourth hour, recitations, T., fourth hour, and by appointment; laboratory, four hours per week, 1:30. First semester.* Associate Professor GILBERT, Assistant Professor MCFARLAND and others.

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. 4 credits. *Lectures and recitations T., Th., fourth hour; laboratory four hours per week by appointment. Second semester.* Associate Professor GILBERT, Assistant Professor MCFARLAND and others.

2a. Systematic Botany. This course is arranged especially for two-year agricultural students, and aims to acquaint them with the common species of the native flora. Special emphasis is laid on those groups of plants which are of economic importance to the farmer. This course may not be used for university credit unless the student has, when taking it, the required number of entrance units for the four-year course and satisfies the instructor as to his proficiency in the subject. In this case it may be considered a substitute for course 1a. Prerequisite, Course 1 or 7. 4 credits. *Lectures and recitations two hours per week; laboratory four hours per week. Second semester.* 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 twenty-five 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. 3 credits. *M., W., F., 8 to 10. First semester.* Assistant Professor MCFARLAND.

4. Plant Pathology. A study of the pathological conditions of varions 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. 4 credits. *Lectures and recitations, two hours per week by appointment, 8 to 10. 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. 3 credits. *Laboratory M., W., F., 8 to 10. Second semester.* Associate Professor GILBERT.

6. **Plant Diseases.** A course arranged especially for two-year agricultural students, including such a consideration of the most important plant diseases and their means of control as will be most helpful and practical for short course students. This course may not be used for university credit. Prerequisite, Course 7. *Three hours per week, fourth hour. First semester.* Associate Professor GILBERT.

7. **Agricultural Botany.** This course is arranged especially for two-year agricultural students. It includes a study of the forms and structure of plants, of their physiology and ecology; also a brief survey of the plant kingdom with special reference to evolutionary development. This course can not be used for university credit. *Lectures two hours per week; laboratory four hours per week by appointment. First semester.* Assistant Professor MCFARLAND.

8. **Plant Physiology.** This course aims to give training and instruction in such phases of nutrition, growth, movement and the tropisms of plants as have a practical bearing upon agriculture, horticulture and general biology. Prerequisites, courses 1 and 1a and Chemistry 1. 3. Credits. *One lecture per week, by appointment; laboratory four hours per week, M., W., 1:30 to 3:30. 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. *Three hours per week. Throughout the year.* Associate Professor GILBERT, Assistant Professor MCFARLAND.

10. **Dendrology.** A study of the structures and characteristics of the native trees and shrubs, involving their 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. 1 credit. *Lectures M. or W., 3:30; laboratory M. or W., 1:30 to 3:30. 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. 3 credits. *Lectures one hour per week; laboratory, four hours per week by appointment. First semester.* Assistant Professor MCFARLAND.

12. Morphology of the Fungi. Parallel to Course 11, taking up the morphology of the various grobps of fungi with especial emphasis upon those of economic importance. Prerequisites, Courses 1 and 1a. 3 credits. *Lectures one hour per week; laboratory four hours per week by appointment. 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. 4 credits. *Recitations two hours per week; laboratory four hours per week by appointment. 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. 4 credits. *Four hours per week by appointment. First semester.* Assistant Professor MCFARLAND.

ENTOMOLOGY AND ZOOLOGY.

Professor Garman, Assistant Professor Vansell, Assistant Professor Vaughn, Assistant Stiles.

The work of the department in relation to the courses in agriculture is intended, first, to acquaint the students with the fundamentals of the subject, including a knowledge of animal structure, transformations and the life-histories; and second, to give a detailed knowledge of important predatory and parasitic species and of remedies for their injuries. While lecture, recitation and required reading are employed as they may seem desirable, the basis of all work is an actual study of animals, both in the laboratory and in the field.

The laboratories and lecture room of this department occupy the first floor of the Science Building and are provided with desks, microcopes,

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-years 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. 4 credits. *Fifth and sixth hours. Lectures two hours per week; laboratory four hours per week. First semester.* Professor GARMAN, Assistant Professor VANSELL.

2. **Economic Entomology.** (Two-year Agriculture.) This course is designed for two-year students in agriculture, and requires only enough study of structure to enable the student to make use of the literature of entomology. Much of the time is devoted to a study of insects of economic importance and to remedies for the injuries of the more important insect pests. *Three hours per week. Second semester.* Mr. STILES.

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. 4 credits. *Fifth and sixth hours. Lectures two hours per week; laboratory four hours per week. Second semester.* Professor GARMAN, Assistant Professor VANSELL.

4. **Advanced Entomology.** (Elective.) This is intended for students who specialize in the subject, and for those engaged in thesis 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. 10 credits. *Fifth and sixth hours. Lectures two hours per week; laboratory six hours per week. Throughout the year.* Professor GARMAN, Assistant Professor VANSELL.

5. Short Course Entomology. The entomology taught to students taking the 10-weeks winter course in agriculture, is very largely economic and practical. Common injurious species are examined and the main facts of their life-histories are presented by lectures. Insecticides, spraying, and other means of combatting insect pests are dealt with, illustrative apparatus and materials being furnished from the collections belonging to the University aad Experiment Station. *Two hours per week. Second semester.* Assistant Professor VANSELL, Mr. STILES.

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. 2 credits. *Lectures one hour per week; laboratory two hours per week. Second semester.* Assistant Professor VANSELL, Mr. STILES.

7. Insect Control: Methods of Preventing Injuries. Inspection and Field Entomology. Prerequisite, Course 1 or 4. 2 credits. *Lectures one hour per week; laboratory two hours per week. Second semester.* Assistant Professor VANSELL, Mr. STILES.

8. Systematic Entomology and Entomological Literature. (Elective.) Prerequisite, Course 4. 2 credits. *Lectures one hour per week; laboratory two hours per week. First semester.* Professor GARMAN, Assistant Professor VANSELL.

ZOOLOGY.

9. General Zoology. (Arts and Science students.) A general course in Zoology, involving lectures, recitations and laboratory work. 3 credits. *First hour. Lectures one hour per week; laboratory one hour per week. Throughout the year.* Professor GARMAN, Mr. STILES.

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. 4 credits. *Fifth and sixth hours. Lectures two hours per week; laboratory four hours per week. Second semester.* Professor GARMAN, Assistant Professor VANSELL, Mr. STILES.

11. Economic Zoology. (Two-year Agriculture.) A brief course, largely economic and devoted to acquiring an acquaintance with animals

of economic interest. *Three hours per week. First semester.* Mr. STILES.

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. 8 credits. *Fifth and sixth hours. Lectures two hours per week; laboratory four hours per week. Throughout the year.* Professor GARMAN, Assistant Professor VANSELL.

13. Osteology. The course is a study of the comparative osteology of vertebrates, but is restricted largely to the mammalia. Skeletons are prepared by each student, and where time permits may be mounted. 4 credits. *Lectures two hours per week; laboratory four hour per week. Second semester.* Professor GARMAN, Mr. STILES.

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. 4 credits. *Lectures two hours per week; laboratory four hours per week. Second semester.* Professor GARMAN, Assistant Professor VANSELL, Mr. STILES.

15. Biology. The general principles. Prerequisite, Course 10 or 12. 6 credits. *Lectures three hours per week. Throughout the year.* Professor GARMAN, Assistant Professor VANSELL.

SEED TESTING.

16. Seed Testing. A seed laboratory has been established in the Experiment Station building, where such advanced students as can be accommodated will be received. Only Seniors admitted. 2 credits. *Lectures one hour per week; laboratory two hours per week. Second semester.* Assistant Professor VAUGHN.

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. They 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 IN ECONOMIC ENTOMOLOGY FOR THE DEGREE OF BACHELOR OF SCIENCE.

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
Botany 1	169	General Morphology	2	4	4.
Drawing		Drawing		4	2.
English 1	120	English Composition	3		3.
French 1	143	French Grammar	3		3.
Mathematics 2	139	Trigonometry	5		5.
Zoology 12	175	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.

Second Semester.

Botany	169	Morphology and Class. of Seed Plants	2	2	4.
English 1	120	English Composition	3		3.
French 1	143	French Grammar	3		3.
Mathematics 3	139	Algebra	5		5.
Zoology 12	175	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 per week for one semester.

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Botany 4	170	Plant Pathology	1	4	3.
Chemistry 1	112	General Inorganic Chemistry	3	4	5.
Entomology 1	173	General Entomology	2	4	4.
German 1 or 3	142	Elementary Ger.,or Comp. and Reading	3		3.
Military Science		Drill		3	1.
Physical Education		Gymnasium or Field Athletics		2	1.

Second Semester.

Botany 5	170	Methods in Plant Pathology		6	3.
Chemistry 2	112	Chemistry of the Metals	3	6	6.
Entomology 6	174	Apiculture	1	2	2.
German 1 or 3	142	Elementary Ger.,or Comp. and Reading	3		3.
Physiology 1	109	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	168	General Bacteriology	1	2	2.
Entomology 4	178	Advanced Entomology	2	6	5.
German 2 or 4	142	Reading and Composition	3		3.
Physics 5	147	General Physics	3		3.
Horticulture 4	183	Systematic and Commercial Pomology	1	4	3.

Second Semester.

Entomology 4	173	Advanced Entomology	2	6	5.
Geology 1a	125	Elements of Geology	3		3.
German 2 or 4	142	Reading and Composition	3		3.
Horticulture 1	183	Principles of Plant and Fruit Culture	2	2	3.
Physics 5	147	General Physics	3		3.
Ent. and Zoology 16	175	Seed Testing	1	2	2.

SENIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Zoology 15	175	Biology	3		3.
Entomology 8	174	Systematic Entomology	1	2	2.
History	129	Elective	2		2.
Political Economy 1	130	Economics	2		2.
Political Science 1	130	American Government	3		3.
Thesis		Thesis			4.

Second Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Zoology 15	175	Biology	3		3.
Entomology 7	174	Insect Control and Field Work	1	2	2.
History	129	Elective	2		2.
Political Economy 1	130	Economics	2		2.
Political Science 1	130	American Government	3		3.
Thesis		Thesis			4.

OUTLINE OF COURSE IN BIOLOGY FOR THE DEGREE OF BACHELOR OF SCIENCE.

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
Botany 1	169	General Morphology	2	4	4.
Drawing		Drawing		4	2.
English 1	120	English Composition	3		3.
French 1	143	French Grammar	3		3.
Mathematics 2a	139	Trigonometry	3		3.
Zoology 12	175	Advanced Zooiogy	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 per week for one semester.

SECOND SEMESTER.

Botany 1a	170	Morphology and Class. of Seed Plants	2	4	4.
English 1	120	English Composition	3		3.
French 1	143	French Grammar	3		3.
Mathematics 3	139	Algebra	5		5.
Zoology 12	175	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	170	Plant Pathology	1	4	3.
Chemistry 1	112	General Inorganic Chemistry	3	4	5.
German 1 or 3	142	Elementary Ger.,or Comp. and Reading	3		3.
Physiology 1	109	General Physiology	3		3.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.

SECOND SEMESTER.

Botany 5	170	Methods in Plant Pathology		6	3.
Chemistry 2	112	Chemistry of the Metals	3	6	6.
Entomology 6	174	Apiculture	1	2	2.
German 1 or 3	142	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	168	General Bacteriology	1	2	2.
Entomology 4	173	Advanced Entomology	2	6	5.
German 2 or 4	142	Reading and Composition	3		3.
Physics 5	147	General Physics	3		3.
Horticulture 4	183	Systematic and Commercial Pomology	1	4	3.

SECOND SEMESTER.

Entomology 4	173	Advanced Entomology	2	6	5.
Geology 1a	125	Elements of Geology	3		3.
German 2 or 4	142	Reading and Composition	3		3.
Horticulture 1	183	Principles of Plant and Fruit Culture	2	2	3.
Physics 5	147	General Physics	3		3.
Ent. and Zool. 16	175	Seed Testing	1	2	2.

SENIOR YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Ent. and Zool. 15	175	Biology	3		3.
Foods		Microscopy of Foods (to be arranged)	1	4	3.
History	129	Elective			2 to 3
Political Economy 1	130	Economics	2		2.
Political Science 1	130	American Government	3		3.
Thesis		Thesis			4.

SECOND SEMESTER.

Ent. and Zool. 15	175	Biology	3		3.
Textiles		Microscopy of Textiles	1	4	3.
History	129	Elective			2 to 3
Political Economy 1	130	Economics	2		2.
Political Science 1	130	American Government	3		3.
Thesis		Thesis			4.

FARM MANAGEMENT.

Farm management as offered here does not constitute a separate department. However, within recent years the study of farm management has come to be recognized as one of the most valuable courses given in our agricultural colleges. It is the crowning study in agricultural practice as it teaches the student how to apply to personal farming the facts, principles and sciences of agriculture that he has learned during his course. It trains the student to see in their proper proportions the factors which insure success in farming, for farm management is in reality the study of business principles in farming. Farm management deals with the organization and management of a farm enterprise for the purpose of sscuring the greatest continuous profit.

The logical way to find out the most profitable methods of farm organization and management is to study the methods in use and the profits secured on a large number of farms and by comparison learn in what points the more successful farms differ from the less successful ones.

Such agricultural surveys are of great value in pointing out the best ways to improve efficiency in the operation of individual farms. Careful surveys have been made by the federal government and by a number of state experiment stations and the class room instruction in farm management will be largely based on the facts brought out by these investigations. These will be supplemented by data secured in a survey of over 100 Kentucky farms made by the staff of the Kentucky Agricultural Experiment Station in the summer of 1912.

General Farm Management. Elective for juniors and seniors, and for special students. Course consists of lectures, recitations and collateral reading of bulletins on various phases of farm management. Students in the course are familiarized with the principles involved in the choice of a type of farming; the comparative merits of diversifidd and specialized farmng, and of intensive and extensive farming; the maintenance of soil fertility from a business standpoint; the relation of live stock to farm management; the best size of farm; the relation of capital to profits and the farmer's interest in rural credits; farm rental systems; the management of man and horse labor and machinery for greatest profits; the size and shape and arrangement of fields and the relation of buildings to the farm; the marketing of farm products; farm accounts, including an annual inventory and a simple method of book-keeping; a calculation of cost accounts, the choice of a region for farming and the important considerations in buying a farm. A special detailed study is made of a number of successful Kentucky farms involving different types of farming. 3 credits. *Lectures three hours per week. Second semester.* Associate Professor KINNEY, Associate Professor NICHOLLS.

HORTICULTURE.

Professor Mathews, Assistant Professor Elliott, Assistant 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 throughont 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. 3 credits. *Two lectures per week, M., W., 9:00; laboratory two hours per week, in sections, M., Tu., Th., 1:30. Second semester.* Professor MATHEWS, Assistant Professor ELLIOTT, Mr. ADAMS.

2. **Elements of Horticulture (Pomology).** Junior. A study of the origin, history, characteristics, adaptation to Kentucky conditions and management of orchard and garden fruits. Further consideration is given to harvesting, marketing, cold storage, etc. Judging and scoring of apples, pears, nuts and other available fruits. Prerequisite, Horticulture 1. 3 credits. *Two lectures per week, M., W., 9:00; laboratory two hours per week in sections, M., Tu., Th., 1:30. First semester.* Professor MATHEWS, Assistant Professor ELLIOTT.

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. 3 credits. *Two lectures or recitations per week, T., Th., 10:00; laboratory two hours per week, W., 1:30. Second semester.* Mr. 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. 3 credits. *Lectures one hour per week, F., 3:30; laboratory four hours per week, W., F., 1:30. First semester.* Assistant Professor ELLIOTT.

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 9, 10 and 12. 2 credits. *Lectures one hour per week, F., 11:00; laboratory two hours per week, F., 1:30. First semester.* Mr. ADAMS.

6. **Home Garden and Grounds.** Juniors and seniors in the School of Home Economics. A brief course designed to give to goung 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. 6 credits. *Lectures two hours per week; laboratory two hours per week by appointment. 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. 1 credit. *Lecture 11:30; laboratory and field practice 1:30, by appointment, two hours per 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. 2 to 8 credits as determined by character and amount of work undertaken. *Throughout 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, courses 1 and 5. 2 credits. *One lecture per week, Tu., 9:00; laboratory two hours per week, Tu., 1:30. Second semester.* Mr. 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. 3 credits. *One lecture per week, Tu., 9:00; laboratory two or four hours per week, Tu., 1:30. First semester.* Mr. 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. 3 credits. *Lectures two hours per week, T., Th., 11:00; laboratory two hours per week, Th., 1:30. First semester.* Mr. ADAMS.

12. **Vegetable Gardening Under Glass.** 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. 2 credits. *Lectures one hour per week, Th., 11:00; laboratory two hours per week, Th., 1:30. Second semester.* Mr. ADAMS.

20. **Fruit Growing and Gardening.** Short winter course ten weeks. A brief but comprehensive course designed to acquaint farmers and farmers' sons with a few of the most fundamental principles of horti-

culture, and the best known methods of growing garden and orchard crops. Demonstrations and practical exercises will be provided in propagation, pruning, spraying and such other features of the subject as time and the season of year will permit. *Lectures two hours per week, M., F., 10:00; laboratory and field exercises W., 1:30. Ten weeks beginning first week in January.* Professor MATHEWS, Assistant Professor ELLIOTT, Mr. ADAMS.

RURAL ENGINEERING.

Professor Rowe, Professor Terrell.

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

2. **Highway Location and Construction.** Road materials, macadam roads, sand clay roads, gravel roads, specifications for roads. 1 credit. *Two hours per week. Second half second semester.* Professor TERRELL.

3. **Farm Sanitation.** Designs for special problems, plumbing, water closets, baths, urinals, sewage disposal, water supply. Recitations, assigned readings, lectures and designs. *Two hours per week, by arrangement.* Professor ROWE.

RURAL SOCIAL SCIENCE.

Associate Professor Bohannan.

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, cooperation, and the problems of rural social developments as at present. Especial attention is called to the course in cooperation 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 new 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. 3 credits. *Three hours per week. First semester.* Associate Professor BOHANNAN.

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 cooperation for community betterment. An essential feature of the course will be a study of the students 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. 2 credits. *Two hours per week. Second semester.* Associate Professor BOHANNAN.

3. Cooperation 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 cooperation and the science of marketing. A detailed study will be made of the rise and development of the various forms of agricultural cooperation in Europe and America, including cooperative buying, cooperative stores, cooperative marketing, general farmers' organizations, and rural credits. An attempt will be made to ascertain the essentials of successful cooperative effort along each of the lines studied, especial attention will be given to marketing and cooperation in Kentucky. Text, assigned readings, lectures, reports. 3 credits. *Three hours per 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 remainder of the semester or the year. The class will meet once each week for a two hours session to discuss the progress of these investigations. Among other subjects which will be available for 1915-1916 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 per week. Throughout the year.* Associate Professor BOHANNAN.

AGRICULTURAL EDUCATION.

The teaching of agriculture in elementary and high schools is making rapid advances both in the country at large and in Kentucky. The time is not far distant when this subject will be added to our public school system by legislative enactment. Teachers of this branch are in constant demand and at very attractive salaries. The courses here offered are designed to fit students for this new work.

1. **Agricultural Education.** Junior or senior. The work will consist of lectures, assigned readings, reports and discussions on the principles underlying the organization and teaching of agriculture in elementary and high schools. The student will become familiar with the work which is being done in other counties and other states. 3 credits. *Three hours per week. First semester.* Associate Professor BOHANNAN.

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. Among 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. 3 credits. *Three hours per week. Second semester.* Associate Professor BOHANNAN.

School of Home Economics.

Food and Nutrition—*Associate Professor Mary E. Sweeny, Assistant Professor Aubyn Chinn, 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.

Home Economics is a department of the College of Agriculture, whose classes are coordinated and correlated with those offered in this college, 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	120	English Composition	3		3.
Chemistry 1	112	General Inorganic Chemistry	3	4	5.
German 3 or	142	Advanced Composition and Reading	3		3.
French 1	143	Elementary French	3		3.
Home Economics 1	193	Technology of Cooking	1	4	3.
Physiology 1	109	General Physiology	3		3.
Physical Education		Physical Education		2	1.

Second Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
English 1	120	English Composition	3		3.
Chemistry 2	112	Chemisty of Metals	3	6	6.
German 3 or	142	Advanced Composition and Reading	3		3.
French 1	143	Elementary French	3		
Home Economics 2	193	Home Cookery	1	4	3.
Home Economics 5	194	Marketing		2	1.
Physical Education		Physical Education		2	1.

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 3	122	History of English Literature	2		2.
German 4 or	143	Advanced Composition and Reading	3		3.
French 2	143	Reading and Composition	3		3.
Home Economics 3	194	Food Production and Manufacture	2		2.
Chemistry 7	112	Organic Chemistry	3	2	4.
Botany 1	170	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	122	History of English Literature	2		2.
German 4 or	143	Advanced Composition and Reading	3		3.
French 2	143	Reading and Composition	3		3.
Chemistry 11	112	Quantitative Analysis	1	8	5.
Physics 1c	146	Household Physics	3		3.
Home Economics 15	196	Elementary Clothing		4	2.
Home Economics 16	196	Textiles	2		2.
Physical Education		Physical Education		2	1.

JUNIOR YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Education 4	119	Principles of Education	3		3.
Bacteriology 2		Household Bacteriology	1	2	2.
Sociology	131	General Sociology	2		2.
Home Economics 9	194	Human Nutrition	3	4	5.
Home Economics 17	196	Dressmaking	1	4	3.
Electives		Electives			2.

SECOND SEMESTER.

Education 5	119	Technique of Teaching	3		3.
Home Economics 6	194	Household Chemistry	3	4	5.
Home Economics 8	194	Household Management	3		3.
Home Economics 9	194	Human Nutrition	3		3.
Home Economics 18	196	Home Furnishings	1	4	3.

SENIOR YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Education 3	119	Psychology	3		3.
Home Economics 12	195	Physiological Chemistry	3	6	6.
Home Economics 13	195	Teaching of Home Economics	2		2.
Home Economics 7	194	Household Sanitation	3		3.
Home Economics	193	Household Sanitation Field Work		4	2.
Electives		Electives			2.

SECOND SEMESTER.

Education 3	119	Psychology	3		3.
Home Economics 10	195	Diet in Disease	2		2.
Home Economics 28	197	Experimental Cookery	1	4	3.
Home Economics 13	195	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		Freehand Drawing		2	1.
English 1	120	English Composition	3		3.
Chemistry 1	112	General Inorganic Chemistry	3	4	5.
Botany 1	170	Botany 1	2	4	4.
German 3 or	142	Advanced Composition and Reading	3		3.
French 1	143	Elementary French	3		3.

SECOND SEMESTER.

English 1	120	English Composition	3		3.
Chemistry 2	112	Chemistry of Metals	3	6	6.
Home Economics 15	196	Elementary Clothing		4	2.
Home Economics 16	196	Textiles	2		2.
German 3 or	142	Advanced Composition and Reading	3		3.
French 1	143	Elementary French	3		3.

SOPHOMORE YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Chemistry 7	112	Organic Chemistry	3	2	4.
French 2 or	143	Reading and Composition	3		3.
German 4	143	Advanced Reading and Composition	3		3.
English 3	122	History of English Literature	2		2.
Home Economics 17	196	Dressmaking	1	4	3.
Physiology		Physiology	3		3.

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

SECOND SEMESTER.

Chemistry 11	112	Quantitative Analysis	1	8	5.
French 2 or	143	Reading and Composition	3		3.
German 4	143	Advanced Reading and Composition	3		3.
English 3	122	History of English Literature	2		2.
Home Economics 19	196	Millinery		4	2.
Physics 1c	146	Household Physics	3		3.

JUNIOR YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Education 4	119	Principles of Education	3		3.
Sociology	131	Sociology	2		2.
Bacteriology 2		Household Bacteriology	1	2	3.
Home Economics 20	196	Tailoring		6	3.
Home Economics 21	196	History of Costume	1		1.
Home Economics 1	193	Technology of Cooking	1	4	3.
Home Economics	193	Houseplanning and Construction	1	2	2.

SECOND SEMESTER.

Education 5	119	Technique of Teaching	3		3.
Home Econ. 18	196	Home Furnishing	1	4	3.
Home Economics 2	113	Home Cookery	1	4	3.
*Political Economy	130	*Political Economy	3		2.
Home Economics 7	194	Household Sanitation	3		3.
Home Economics	193	Household Sanitation Field Work		4	2.

SENIOR YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Education 3	119	Psychology	3		3.
Home Economics 23	197	Art Needlework		4	2.
Home Economics 13	195	Teaching Home Economics	2		2.
Home Economics 26	197	*Journal Club			1.
Home Economics 22	197	Textile Laboratory	2	4	4.

*Electives.

SECOND SEMESTER.

Education 3	119	Psychology	3		3.
Home Economics 25	197	Teaching of Textiles and Clothing	2		2.
Home Economics 24	197	Thesis		8	4.
Home Economics 13	195	Teaching of Home Economics.	2		2.
Home Economics 26	197	*Journal Club			1.
Home Economics	193	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 traing in home economics in the high schools. No credit. *Lectures one hour per week; laboratory four hours per 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 requirment only upon advice of the Head of the department), Chemistry 1 or as a parallel. 3 credits. *Lectures one hour per week; laboratory four hours per week. First semester. Repeated second semester.* Assistant Professor CHINN.

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. 3 credits. *Lectures one*

hour per week; laboratory four hours per week. Second semester. Assistant Professor CHINN.

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, sugas, meat, tea, coffee, and dairy products. 2 credits. *Lectures two hours per week. First semester.* Assistant Professor CHINN.

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. 1 credit. *Laboratory two hours per week. First semester.* Assistant Professor CHINN.

6. **Household Chemistry.** Practical applied study of the materials used in the home. Fuels, their heat value, ash and compofition, metals commonly used for domestic purposes, paints, foods, condiments, tea and coffee, adulteration and substitutes. Prerequisites, general chemistry, qualitative and quantitative chemistry. 4 credits. *Lectures three hours per week; laboratory four hours per 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 advantages 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. 5 credits. *Lectures three hours per week; field work four hours per 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. 3 credits. *Lectures three hours per week. Second semester.* Assistant Professor CHINN.

9. **Human Nutrition.** Lectures and recitation upon fundamental metabolic processes taking place in digestion; normal absorption, assim-

ilation 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. 8 credits. *Lectures three hours per week; laboratory four hours per week, first semester only. First and second semesters.* 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. 2 credits. *Lectures two hours per week. Second semester.* Associate Professor SWEENY.

11. **Invalid Cookery.** This course consists of practical demonstrations of the preparation and cooking of food for convalescents. 5 credits. *Laboratory two hours per week. Second semester.* Electives. Assistant Professor CHINN.

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. 6 credits. *Lectures three hours per week; laboratory six hours per 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. 4 credits. *Lectures two hours per week or their equivalent in laboratory hours. First and second semesters.* 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 models and simple hand-made articles, such as sewing apron, towel and corset cover. Study of the history and manufacture of needles, pins, scissors, sewing machines, etc. Primitive conditions, implements and materials. No credit. *Lectures one hour per week; laboratory four hours per week. First and second semesters.* 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). 3 credits. *Laboratory four hours per week. First and second semesters.* Assistant Professor BUCKMAN, Miss WHITE.

16. Textiles. Lectures and text-book 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. 1 credit. Taken parallel with 15. *Lectures two hours per week. First and second semesters.* Assistant Professor BUCKMAN.

17. Dress Making. Sophomore. Designing, cutting and making of wool and silk or other fancy dresses. Laboratory practice in selection of fabrics, names, kind, weaves, widths, prices and fibre. Hygiene of clothing, removal of stains, dyeing and cleaning, color design and economy in dress. 3 credits. Two sections. *Lectures one hour per week; laboratory four hours per week. First semester.* Assistant Professor BUCKMAN.

18. Home Furnishings. Sophomore. 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. 3 credits. Two sections. *Lectures one hour per week; laboratory four hours per week. Second semester.* Assistant Professor BUCKMAN.

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. 2 credits. Two sections. *Laboratory four hours per week. Second semester.* Assistant Professor BUCKMAN.

20. Tailoring and Advanced Dressmaking. Junior. A course including instruction in the making of a coat and dress or coat suit and waist. 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. 2 credits. *Laboratory six hours per 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. 1 credit. *Lectures one hour per week. First semester.* Assistant Professor BUCKMAN.

22. Textiles. Junior. This is a laboratory course, dealing with textile adulteration and dyeing, laundry, etc. 4 credits. *Lectures two hours per week; laboratory four hours per 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 applied on garments—one of which must be a fancy waist—and household articles. Artistic judgment in choice of color and design cultivated. 2 credits. *Laboratory four hours per week. First semester.* Assistant Professor BUCKMAN, Miss WHITE.

24. Thesis. Senior. Practical research and reference work. 4 credits. *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 per week. Second semester.* Required of textile majors. 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. 2 credits. *One hour per week. Throughout 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 iuto three equal parts, one of which is given to handsewing, one to practical cookery, and one to household sanitation.

The hand-sewing course consists of lecture work, including directions for the making of all fundamental hand stitches; history and manufacture of implements and materials used, Stitches are applied on

---

NOTE:—In clothing and dressmaking courses students provide all materials for garments and household articles, subject to approval of instructor.

garments, such as fancy aprons and corset covers. Patterns for these are drafted. *Lectures one hour per week; laboratory two hours per 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 per week; laboratory two hours per 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 ot the milk supply and its result upon infant mortality, etc. *Lectures two hours per 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 1, Chemistry 1 and 2. 3 credits. *Lectures one hour per week; laboratory four hours per 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 sudjects and who desire to obtain such training as will fit them to take up the subjects involved in Home 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 fulfill 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 entranee conditions, see page 198.

FIRST YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
English 1	120	English Composition	3		3.
Home Economics 1	193	Technology of Cooking	1	4	3.
Home Economics 3	194	Food Production and Manufacture	2		2.
Home Econ. 14	195	Hand Sewing	1	4	3.
Education 1 or 2	118	Educational Psychology	3		3.

Second Semester.

English 1	120	English Composition	3		3.
Home Economics 2	193	Home Cookery	1	4	3.
Home Economics 5	194	Marketing		2	1.
Home Econ. 15	196	Elementary Clothing		4	2.
Home Econ. 16	196	Textiles	1		1.
Education 1 or 2	118	Educational Psychology	3		3.
Elective Course		To be assigned by Head of Department	2		2.

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

SECOND YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Hrs. Lab.
*Education 4	119	*Principles of Education	3		3.
Economics	185	Rural Economics	2		2.
Physiology 1	109	General Physiology	3		3.
Home Economics 4	194	Elementary Food Economics	1	4	3.
Home Economics 7	194	*Household Sanitation	3		3.
Home Econ. 17	196	Dressmaking	1	4	3.
*Home Econ. 20	196	Tailoring and Advanced Dressmaking		4	2.
Home Econ. 21	197	Historic Study of Costumes	1		1.
Home Econ. 23	197	Art Needlework		4	2.

SECOND SEMESTER.

Education 5	119	Technique in Teaching	2		2.
Home Economics 7	194	Household Sanitation	3		3.
Home Economics 8	194	Household Management	3		3.
*Home Econ. 11	195	*Invalid Cookery	1	1	1.50
Home Econ. 18	196	Home Furnishings	1	4	3.
Home Econ. 19	196	Millinery		4	2.
Home Econ. 25	197	Teaching of Home Economics	2		2.

*May be elected.

THE TWO YEARS COURSE IN AGRICULTURE.

While the four years course in agriculture is not too long a course of preparation for those who expect to engage in agricultural pursuits, it is clearly recognized that there are many young men whose circumstances make it impossible for them to devote to their education as large an amount of time or money as is involved in the completion of a full college course.

An earnest man who desires to excel in his chosen occupation of farming may be greatly benefited by a less extended training in the Agricultural College. It is for such persons that this course is designed.

An applicant for admission to this course must be at least eighteen years of age, and unless he is more than twenty-one years of age, must pass an examination in the common school branches, or bring high school or other satisfactory certificates for these branches.

Applicants who are over twenty-one are admitted without examination, on trial, provided they can write a creditable letter, can carry on ordinary arithmetical operations, and give evidence by their credentials and personal bearing of having a serious purpose in entering the course.

It should be clearly understood that this shorter 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 a student has presented satisfactory entrance credits for the four years course, and has taken the work prescribed in the four years course.

The conditions relating to matriculation, fees, military drill, gymnasium practice, and other college privileges and duties are the same as those pertaining to full course students.

OUTLINE OF TWO YEARS COURSE IN AGRICULTURE.

FIRST YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits †
Agronomy 9	163	Cereals	3	2	4.
Animal Husb. 2	166	Stock Judging	3	2	4.
*Botany 7	171	Agricultural Botany	2	4	4.
*Chemistry 1a	112	Agricultural Chemistry	2		2.
*English 1a	121	Agricultural English	3		3.
Zoology 11	174	Economic Zoology	3		3.

Second Semester.

Agronomy 11	163	Forage Crops	3		3.
Agronomy 17	164	Farm Mechanics	2	2	3.
*Botany 2a	170	Systematic Botany	2	4	2.
*Chemistry 1a	112	Agricultural Chemistry	2		2.
*English 1a	121	Agricultural English	3		3.
*Horticulture 1	182	Principles of Plant and Fruit Culture	2	2	3.
Horticulture 3	183	Vegetable Gardening	2	2	3.

*Required subjects.

†A credit represents one hour of recitation or two hours of laboratory per week for one semester.

SECOND YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Agronomy 12	163	Special Crops	2		2.
Agronomy 15	164	Course in Tobacco	By Ap.		
Agronomy 18	164	Farm Machinery	3	2	4.
Agronomy 20	165	Farm Engineering and Construction	3	2	4.
Animal Husb. 3	166	Advanced Stock Judging	3	4	5.
Animal Husb. 4	166	Study of Breeds	2	2	3.
Animal Husb. 5	167	Genetics	3	2	4.
Animal Husb. 11	168	Poultry Husbandry	3	2	4.
Botany 6	171	Plant Diseases	2		2.
Horticulture 2	183	General Pomology	2	2	3.
Veterinary Sci. 1	208	Anatomy and Physiology	3		3.

SECOND SEMESTER.

Agronomy 5	163	Soils	3		3.
Agronomy 15	164	Course in Tobacco	By Ap.		
Agronomy 19	164	Farm Motors	3	4	5.
Animal Husb. 6	167	Principle of Breeding	2		2.
Animal Husb. 7	167	Live Stock Feeding	3	2	4.
Animal Husb. 8	168	Dairying	3	4	5.
Animal Husb. 11	168	Poultry Husbandry	3	2	4.
Entomology 2	173	Economic Entomology	3		3.
Farm Management	180	General Farm Management	3		3.
Veterinary Sci. 2	209	Applied Pathology	3		3.

THE FARMERS' SHORT COURSE—"FARMERS' WEEK."

This course is given during the first week in January. The week is occupied by the annual conventions of the various live stock breeders' associations of the state and of the State Horticultural Society, and the annual state farm products show, the tobacco and dairy shows. Each stock breeders' association has its own program, which is largely furnished by the faculty of the College of Agriculture and men from this and other states distinguished in their particular lines. Each day judging schools in live stock and grains are conducted.

WOMENS' COURSE IN HOME ECONOMICS.

This course is offered during Farmers Week, in January, for four days, during which time many problems relating to the proper feeding

of the family, balanced menus, clothing and textiles, labor-saving devices capable of installation in the farm home, etc., are discussed.

In connection with the daily program, there is a competitive display of school lunches by the county schools of the state, of luncheons prepared by the high schools of the state, of dresses and undergarments made by individuals and classes in the grades of the elementary schools, and in addition many individual displays emphasizing all phases of home problems. Lectures, demonstrations and exhibits are offered daily by the professors in the Department of Home Economics, their work being supplemented by lectures of government experts and Experiment Station specialists upon subjects of vital interest to the home.

BOYS' COURSE IN CORN PRODUCTION AND GRAIN JUDGING.

This course is conducted during "Farmers' Week," and consists of instruction by lectures and practical exercises, in judging, testing and selecting grains. The matter of rural improvement, formation and management of boys' agricultural clubs, etc., is given particular attention. The boys will also participate in the state corn show.

THE TEN WEEKS' COURSE IN AGRICULTURE.

This course begins the firss of January of each year, and extends through a period of ten weeks, thus coming at a time when the farmers or their sons can most easily leave home. It emphasizes the practical and business aspects of farming and is intended to meet the needs of young men, either farmers or farmers' sons, who wish to secure a more thorough preparation for their life work, and is designed to give instruction of the most helpful and practical kind.

As its primary object is to aid the man upon the business side of farming, not especially in the direction of academic scholarship, there are no examinations of admission as in the longer course. The applicant, however, must be at least seventeen years of age, and it is essential that he have a good common school education, and the more thorough and extensive his general education has been, the more benefit he will derive from the course, It is particularly important that he should have had good training in English and arithmetic, as short course students are sometimes seriously handicapped by their deficiencies in these subjects.

Tuition is free to residents of Kentucky. Non-residents pay a nominal fee of $5.00 for matriculation. Information regarding this course

may be had upon application to the Dean, College of Agriculture, Lexington, Ky.

SPECIAL COURSE IN THE CULTIVATION OF TOBACCO.

Tobacco has become one of the principal agricultural industries of Kentucky, and the City of Lexington, the greatest loose leaf tobacco market of the world. The College of Agriculture of the University, located as it is in the center of the white burley district, affords excellent opportunities for instruction in the cultivation, curing and marketing of tobacco. For the past several years, we have had a considerable number of applications on the part of our regular students in agriculture and others for special instruction in the cultivation of this important crop, and for some time short courses in this subject have been given in connection with the regular work of the Agricultural College, attracting students even from foreign countries and from points as far distant as South Africa. It has not been given the attention which it deserves, however, chiefly for the reason that the growing season of tobacco comes at a time of year when regular students are away from the University on their summer vacation. It has been decided, therefore, to offer as a regular part of the work of the Agricultural College, a special course in the cultivation, housing, curing and marketing of tobacco, beginning the first of March and ending with the Christmas holidays. In this way, opportunity will be afforded the student for the study of the tobacco plant during the entire period of its growth, from the sprouting of the seed until the crop is harvested and sold upon the market, and each student will be given the opportunity to participate in every single operation involved in the cultivation of tobacco, from the cleaning of the seed and the sowing of the plant bed, to the packing of the loose leaf in hogsheads, preparatory to shipment to the manufacturer.

Beginning the first of March, each year, and continuing throughout the season in the order named below, these studies in the cultivation of tobacco will include the cleaning of tobacco seed and germination tests; the preparation and care of the seed bed; preparation of tobacco land and transplanting; the use of fertilizers; methods of cultivation; a study of tobacco pests, such as cut worms, grasshoppers, bud worms, horn worms, etc., and methods of control and eradication; diseases of the growing plant, such as mosaic disease, frog eye, rust, wilt, etc.; seed selection and breeding; topping and suckering; ripening; harvesting of the crop; housing and curing, including a study of the disease

incident to curing, such as house-burn, pole-sweat, stem-rot, white-steam, saltpeter, molds, etc.; stripping; grading and marketing.

Approximately the first three months of this course will be devoted to the cleaning and preparation of the seed, germination tests, and the preparation and care of the seed bed. The work of the second three months will begin with the preparation of the ground for tobacco and with the transplanting of the young plant from the seed bed to the field and will include the practical methods employed in the cultivation of tobacco; the work of the last three months of this course will begin with the harvesting of the crop and will include all of the operations involved in the handling of the crop from this period on until it is finally disposed of on the market, such as curing, stripping, grading and packing. Each student will be expected to participate in every single operation involved in the cultivation of tobacco and each of them will have in his sole charge a small patch of tobacco, and at the end of the season his crop will be graded by some expert tobacco buyer on the Lexington market. In addition to this work of a practical character, lectures and class-room instruction will be provided upon snch topics as the influence of soil and climate on tobacco, the characteristics of a good tobacco leaf of each of the various types produced in the United States, the classification of tobaccos, the distribution and the uses to which they are put in various manufacturing processes, the chemistry of curing and fermentation, economic studies in marketing, profits and yields.

This course of study is now open to all, young and old, regardless of educational qualifications. No fees are required of persons living in the State. Non-resident students will be charged a fee of fifteen dollars, payable in advance. For further information address Dr. Joseph H. Kastle, Dean of the College of Agriculture, Lexington, Ky.

School of Veterinary Science.

Professor Graham, Associate Professor Pontius, Associate Professor Musselman, Assistant Professor Himmelberger.

The course in veterinary science has been established as a result of a demand for this type of training. Some students have completed the agricultural course and have then gone to a veterinary school for the completion of the veterinary course. In order to assist such students it is proposed to give two years of preliminary training in veterinary science, full credit for which will be allowed in recognized institutions

where the degree may be obtained. This course is designed to give training in quality not below that given in the freshman and sophomore years at other universities. A student in this school may have the privilege of taking his bachelor degree in agriculture, and at the same time cover the required subjects outlined in the two years course in veterinary science.

The School of Veterinary Science is a department of the College of Agriculture. Students matriculating in same receive instruction in animal husbandry, chemistry, botany, bacteriology and embryology by the faculty of the College of Agriculture. All these subjects are so arranged in the course that students will be given full credit at other institutions. The veterinary subjects are taught in the agricultural building and in the lecture and laboratory rooms of the biological laboratory.

Field Open to Qualified Veterinarians. The student having completed the course of instruction outlined in this curriculum can go to any four-years school and in two years receive his degree in veterinary science. There is a wide field of usefulness in this work, which may be enumerated as follows:

1. *General Practice.* In view of the fact that the value of the national live stock industry is estimated at millions of dollars, it becomes obvious that the graduate possessing fitness and qualifications for the protection of this industry will meet with a ready demand and substantial compensation for his services.

2. *Bureau of Animal Industry.* Veterinarians are in demand for meat inspection work and field work in the eradication of animal diseases by the United States Bureau of Animal Industry, at salaries ranging from $1,400 to $2,500 per year. These positions are obtained by competitive examinations.

3. *Army.* Veterinarians in the United States Army now have positions similar to that of a commissioned officer. The salary is $1,500 per year with a 10 % increase for each five years service up to twenty years, with the privilege of a second lieutenant of the cavalry. These positions are most desirable, and at this time there is a bill reported favorably by the military committee in the lower house which will greatly increase the opportunities of the veterinarian in the army.

4. *City Milk and Meat Inspection.* Qualified veterinarians are being employed by cities to act as city milk and meat inspectors to guard the food supply of the people.

5. *Animal Husbandry.* Qualified veterinarians are called upon to

act as counsel at the large breeding establishments and as guardians in the protection of the live stock industry.

6. *Instructors.* Teaching positions are frequently available in this work, as it is rapidly being felt that veterinary science is one of the essentials in the training of the agriculture or animal husbandry student.

7. *Experiment Stations.* There are many problems to be solved in connection with animal diseases which are being taken up by different experiment stations throughout the country. It is most essential that this work be in the hands of well trained veterinarians.

OUTLINE OF COURSE IN VETERINARY SCIENCE.

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
Animal Husb. 1	166	Elementary Study of Stock Judging and Study of Breeds	3	2	4.
Botany 1	169	General Morphology	2	4	4.
Chemistry 1	112	General Inorganic Chemistry	3	4	5.
English 1	120	English Composition	3		3.
Veterinary Sci. 1	208	Veterinary Anatomy	3	6	6.
Veterinary Sci. 2	209	Veterinary Physiology	2		2.
Veterinary Sci. 3	211	Review of Current Literature	1		1.
Veterinary Sci. 4	211	Histology	2	2	3.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.

Second Semester.

Botany 1a	169	Morphology and Class. of Seed Plants	2	4	4.
Chemistry 2	112	General Inorganic Chemistry	3	6	6.
English 1	120	English Composition	3		3.
Veterinary Sci. 1	208	Veterinary Anatomy	3	6	6.
Veterinary Sci. 2	209	Veterinary Physiology	2		2.
Veterinary Sci. 3	211	Review of Current Literature	1		1.
Veterinary Sci. 4	211	Histology	2	2	3.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.

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

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Animal Husb. 4	167	Study of Breeds	2	2	3.
Animal Husb. 5	167	Genetics	3	2	4.
Bacteriology 1	168	General Bacteriology	1	4	3.
Veterinary Sci. 1a	208	Veterinary Anatomy	3	6	6.
Veterinary Sci. 3a	211	Review of Current Literature	1		1.
Veterinary Sci. 5	211	Pathology	2		2.
Veterinary Sci. 6	212	Clinical Diagnosis	2		2.
Veterinary Sci. 7	212	Meat and Milk Inspection	2		2.
Veterinary Sci. 9	212	Materia Medica and Therapeutics	2		2.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.

Second Semester.

Animal Husb. 4	167	Study of Breeds	2	2	3.
Animal Husb. 6	167	Principles of Breeding	3	2	4.
Animal Husb. 7	167	Live Stock Feeding	3	2	4.
Animal Husb. 8	167	Dairying	3	4	5.
Bacteriology 3	169	Bac. in Relation to Ani. and Plant Dis.	1	2	2.
Veterinary Sci. 1a	208	Veterinary Anatomy	3	6	6.
Veterinary Sci. 3a	211	Review of Current Literature	1		1.
Veterinary Sci. 5	211	Pathology	2		2.
Veterinary Sci. 8	212	Sanitary Science	2		2.
Veterinary Sci. 9	212	Materia Medica and Therapeutics	2		2.
Zoology 10	175	Economic Zoology	2	4	4.
Zoology 14	175	Embryology	2	4	4.
Military Science		Drill		3	1.5
Physical Education		Gymnasium or Field Athletics		2	1.

NOTE: Special courses in veterinary bacteriology will be arranged by appointment.

1. Anatomy. In presenting the subject of anatomy we recognize it as a fundamental study. In the laboratory a study of the bones and their relation to the skeleton are carefully considered. This work is supplemented by demonstrations from mounted skeletons, prepared specimens and charts. Each student must properly dissect and pass an examination on the different organs of the body. Special stress is placed on the laboratory part of this course, as it is in the dissecting room that the student must obtain his practical working knowledge of anatomy. Osteology and myology are considered during the freshman year; neurology and splanchnology during the sophomore year. 12

credits. *Lectures and recitations three hours per week; laboratory six hours per week. Throughout the year.* Associate Professor PONTIUS.

2. Physiology. Physiology is the science that teaches of the functions of the various tissues and organs of the animal body. In teaching the subject the work is arranged in a systematic manner, presenting to the veterinary student the essentials, thus enabling him to obtain a comprehensive view of the subject. The work consists of lectures, supplemented by charts, papier-mache models, prepared specimens, etc. It is taken up in the following manner:

(1) *Circulation.* (a) Blood circulation, involving a study of the physical and chemical properties of blood, with practical laboratory demonstrations; the heart, including a study of the cardiac cycle and the nervous mechanism of the heart; vasomotor phenomena of blood vessels; circulatory functions, with special reference to metabolic changes and blood pressure. This work is supplemented by practical laboratory exercises on the various experimental animals, demonstrating normal blood pressure under stimulating and inhibitory conditions. (b) Lymph circulation, a study of the composition, functional value and assimilative functions of lymph; the factors that contribute to and promote lymph flow.

(2) *Respiration.* The anatomy of the respiratory apparatus; mechanical phenomena of respiration, physical and chemical modification of inspired and expired air; blood and tissue changes as a result of respiration; enervation of the respiratory movements.

(3) *Digestion.* (a) Food. (b) Mouth digestion, a study of prehension; mastication; saliva and salivation, with laboratory exercises demonstrating flow of saliva; deglutition. (c) Stomach digestion, an anatomic and histologic consideration of stomach digestion; the phenomena of gastric secretion; stomach enzymes and ferments; digestive changes in stomach; vomiting; rumination; mechanics of rumination. (d) Intestinal digestion, the anatomic consideration of intestinal digestion; intestinal secretion; mechanics of intestinal peristalsis; pancreative juice and constituents; the liver, including an anatomic and histologic consideration of the liver, phenomena of bile secretion, physical and chemical properties of bile, nervous control of bile secretion, hepatic metabolism and eliminative power. (e) Absorption of nutrients, means of absorption, stomach absorption and intestinal absorption. (f) Bowel elimination. Work is supplemented by laboratory exercises in digestion.

(4) *Ductless Glands.* A study of the phenomena of internal secre-

tions and functions of the spleen, thyroids and parathyroids, thymus, adrenals and pituitary body.

(5) *The Skin.* Anatomic and histological consideration of skin; skin modifications and functions; secretory functions, including sudoriferous secretion and sebaceous secretion or sebum; skin absorption.

(6) *Urine.* Anatomic and histological consideration of the urinary tract; mechanism of the urinary secretion; blood pressure variations and their influence on secretion of urine, with laboratory exercises; composition of urine; quantity and physical character of the urine of the various domesticated animals; micturition.

(7) *Nutrition.* Constituents of the body; metabolism-fats, carbohydrates, proteids and salts; nitrogen, oxygen and carbon equilibrium and how maintained; starvation; subsistent diets for the various animals.

(8) *Animal Heat.* Source of body heat; seat of production; thermotaxis regulation of body temperature; nervous mechanism of heat regulation; normal temperatures.

(9) *Muscle.* Anatomic and histological considerations; physical properties; chemical constituents; muscular contraction; extensibility and elasticity; excitability and irritability; phenomena of muscular antagonism and co-ordination; rigor mortis; nervous mechanism of the musculature; this work to be supplemented by laboratory exercises.

(10) *The Nervous System.* (a) The central nervous system, anatomic and histologic consideration of the brain; functions of the cerebrum; of the cerebellum; of the medulla; of the spinal cord: ganglionic functions. (b) The peripheral nervous system, anatomic consideration of nerves and their ganglia; distribution and function of cranial and spinal nerves; ganglionic significance; phenomena of transmission of nervous impulses; the sympathetic system, including anatomical connection with cerebro-spinal system; ganglionic significance; reflex functions. Supplemented by laboratory exercises.

(11) *The Senses.* (a) Sight, anatomical and histologic consideration; the refractive mechanism of the eye; the phenomena of visual accommodations; visual stimuli and sensations; special nervous supply. (b) Hearing, the ear; nature and action of sound waves; auditory sensations; special nervous mechanism. (c) Smell, nasal cavities; anatomic considerations; olfactory sensations; special nervous mechanism; (d) Taste, nervous mechanism of taste; phenomena of gustatory sensations. (e) Cutaneous sensations, including touch, temperature and pain sensations; (f) Phenomena of muscle sense. (g) Physiology of thirst and of hunger.

(12) *Locomotor Apparatus.* Anatomic consideration; locomotion the result of applied physics; cooperative antagonism; the mechanics of progression; function of anti-concussion mechanics of the limbs.

(13) *Growth, Decay and Death.* (a) Growth, nutritional influences during foetal life and phenomena of post natal growth. (b) Decay, influenced by domestication. (c) Death, natural death rare; bodily functions performed at instant of death as result of shock to controlling centers; signs of death.

(14) *The Foot.* Anatomic considerations of each structure; histologic consideration of the sensitive sole and laminae and wall; the phenomena of weight bearing, and function of anti-concussion mechanism.

(15) *Reproductive Functions.* (a) Embryologic and anatomic considerations. (b) Male reproductive functions; anatomic considerations; spermotogenesis; coition; nervous mechanism. (c) Female reproductive functions; anatomic considerations; ovulation, coition; fertilization. gestation; parturition, nervous mechanism. 2 credits. *Lectures two hours per week. Throughout the freshman year.* Associate Professor PONTIUS.

3. **Review of Current Literature.** A lecture course on current subjects of importance to veterinary students. It may involve subjects in anatomy, physiology, bacteriology, pathology, animal husbandry, sanitation, etc., and comprises a general review of the material which is not available in text books. 2 credits. *Lectures one hour per week. Throughout freshman and sophomore years.* Professor GRAHAM.

4. **Histology.** This course treats of the cell as a unit of structure, of its functions, the classification and characteristics of the different body tissues, including epithelial cells, muscular tissue, nerve tissue, blood circulation, heart, blood cells, lymph cells, lymph nodes, bone marrow, spleen, bone, cartilage, synovial bursa, kidneys, ureters, bladder, urethra, adrenals, thymus, hair, sweat glands, oil glands, etc. 3 credits. *Lectures two hours per week; laboratory two hours per week. Throughout the freshman year.* Assistant Professor HIMMELBERGER.

5. **Pathology.** Pathology treats of the cause of disease, its spread, means and manner of protecting and healing forces, pathological changes, inflammation and regeneration, methods of preparation and preservation of gross specimens, preparation of sections for microscopic study, general technique of laboratory diagnosis. 2 credits. *Lectures two hours per week. Throughout the sophomore year.* Professor GRAHAM.

6. Clinical Diagnosis. This course consists of methods of diagnosis in detecting the presence of specific disease, including a general and systematic examination of the different systems of the animal body. 1. credit. *Lectures two hours per week. First semester, sophomore year.* Associate Professor PONTIUS.

7. Meat and Milk Inspection. This course includes a study of the physical characteristics of animal organs; methods of slaughter; principles of preservation; effect of accidental and pathological conditions of meat and milk for human consumption; putrefaction of meat and consequences of ingestion of such meats by man; transmissibility of disease to man through the flesh of animals, and the effect of cooking on the transmissibility of such diseases, together with a review of the meat inspection laws of the U. S. Department of Agriculture. 1 credit. *Lectures two hours per week. First semester, sophomore year.* Professor ALLEN.

8. Sanitary Scienee. This course will consist of a consideration of the construction and location of farm buildings, and materials for construction, practical methods of disinfection, disinfecting agents and both chemical and physical, methods of dipping animals and dips, water supply, ventilation, importance of quarantine and sanitary regulations in the control of infectious and parasitic animal diseases. Review of State and National regulations affecting interstate shipment of animals. 1 credit. *Lectures two hours per week. Second semester, sophomore year.* Associate Professor MUSSELMAN.

9. Materia Medica and Therapeutics. This course is introduced by definitions and a discussion of the composition of drugs, classifications of official preparations, incompatibilities and classifications of all drugs employed in the treatment of animal diseases. Each drug is then taken up in order of its classification and discussed in general detail. This is followed by a study of modes of action of drugs, the physiological laws governing the same, the absorption, elimination and methods of administration, dosage, idiosyncrasy; also the physiological and therapeutic actions, indications and contra-indications, toxicology and treatment of each therapeutic agent. 2 credits. *Lectures two hours per week. Throughout the sophomore year.* Associate Professor PONTIUS.

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 ten 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 plainmeter, 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 OF B. C. E.

FRESHMAN YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
Mathematics 2	139	Trigonometry	5		5.
English 1	120	English Composition	3		3.
Drawing 1	220	Mechanical Drawing		10	5.
Physics 3	147	Physical Measurements		4	2.
Chemistry 1	112	General Inorganic Cnemistry	3	4	5.
Military Science		Infantry Drill		3	1.5
					21.5

Second Semester.

Applied Mechanics and Hydraulics 1-2	217	Elementary Strength of Materials and Elementary Mechanics	5		5.
Mathematics 3	139	University Algebra	5		5.
English 1	120	English Composition	3		3.
Surveying 1	222	Land Surveying	2		2.
Chemistry 2	112	General Inorganic Chemistry	3	6	6.
Descriptive Geo. 2	220	Descriptive Geometry	5		5.
Military Drill		Infantry Drill		3	1.5
Summer Work	222	Drafting			
					27.5

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Bridge Eng. 1	218	Roof Truss Design. 2nd half 1st sem.		10	2.5
Sur. and Geodesy 1	222	Advanced Surveying	3		3.
Physics 1a	146	Advanced Physics	3		3.
Mathematics 4a	139	Analytical Geometry. First half	5		5.
Physics 5a	147	Advanced Physics Laboratory		2	2.
Chemistry 4	112	Qualitative Analysis		8	4.
Sur. and Geodsey 3	222	Field Practice		9	4.5
English 3	122	History of English Literature	3		3.
High. Eng. 1 and 1a	220	Roads and Road Laboratory	2		2.
Military Science		Infantry Drill		3	1.5
					30.5

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

SECOND SEMESTER.

English 3	122	History of English Literature	3		3.
Physics 2a	147	Advanced Physics	3		3.
Mathematics 5a	140	Differential Calculus	5		5.
Mathematics 4b	140	Analytical Geometry. Second half	5		5.
Physics 6a	147	Advanced Physics. Laboratory		4	2.
Bridge Eng. 2	218	Roof Truss Design. First half 2nd sem.		10	2.5
Chemistry 8	112	Quantitative Analysis	1	8	5.
Summer Work	222	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		Elements of Electrical Engineering	5		5.
Applied Mechanics and Hydraulics 3	217	Advanced Strength of Materials	5		5.
Mathematics 5b	140	Integral Calculus	5		5.
Bridge Eng. 3	218	Bridge Stresses	3		3.
Geology 7	126	Economic Geology	2		2.
Sur. and Geodesy 4	222	Topographical Surveying. First half.		12	3.
Bacteriology 1	168	General Bacteriology	1	2	2.
Hydraulics 5	218	Hydraulics	2		2.
					27.

SECOND SEMESTER.

Electrical Eng. 3		Alternating Currents	5		5.
Applied Mechanics and Hydraulics 4	218	Analytical Mechanics	5		5.
Railway Eng. 1	221	Railway Location. Half semester	5		2.5
Railway Eng. 2	222	Railway Construction. Half semester	5		2.5
Bridge Eng. 4 and 5	218	Highway Bridge Design	3	8	5.
Construction 1	219	Masonry Construction. Half semester	5		2.5
Railroad Eng.	221	Railway Field Practice. Half semester		13	3.
Mathematics 6	140	Spherical Trig. and Least Squares	2		2.
Bacteriology 3	169	Bacteriology	1	2	2.
Summer Work	222	Water Supply and Purifications			
					29.5

SENIOR YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Sur. and Geodesy	222	Geodesy	3		3.
Construction 3	219	Masonry Dams and Retaining Walls	5		5.
Construction 2	219	Reinforced Concrete	5		5.
Bridge Eng. 7	219	Railway Bride Design	2	13	10.
Political Science 1	130	American Government	3		3.
Heat Engineering 1		Thermodynamics	5		5.
					31.

SECOND SEMESTER.

Political Science 2	130	American Government	3		3.
Mun., Water Power and San. Eng. 1	221	Water Power Engineering. Half semester	5		2.5
Highway Eng. 1 & 2	220	Roads, Streets and Pavements. Half semester	5		2.5
Mun., Water Power and San. Eng. 3	221	Sanitary Engineering. Half semester	5		2.5
Contracts, Spec. and Thesis 1, 2, 3	219	Contracts, Specifications and Thesis			12.
Bridge Eng. 7	219	Railway Bridge Design. Half semester		13	3.
Highway Eng. 2a	220	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 beans; cantilever and simple beams; columns and struts; the torsion of shafts; elastic deformation; resilience of materials; reinforced concrete. Prerequisite, trigonometry. *Five hours per 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 per 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 per 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 per 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 per 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 per 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 per 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 per 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 per week, first half of second semester.* Professor CARREL.

4. **Bridge Trusses.** Graphic method. Principles and methods, roof trusses, bridge trusses, locomotive wheel loads, trusses with broken cords, miscellaneous trusses. *Drawing, six hours per week. Second semester.* Professor CARREL.

5. **Highway Bridge Design.** Complete design and shop drawings for

a highway bridge. *Drawing, eight hours per week. Second 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 per 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 per week, first semester; ten hours per week, first half of second semester.* Professor CARREL.

CONSTRUCTION.

1. **Masonry Construction.** Properties of stone, brick, cement, aud 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 per 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 per 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 per 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 per 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 per 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 per 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 per 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 per week. First half of second semester.* Professor

MECHANICAL DRAWING AND DESCRIPTIVE GEOMETRY.

1. Mechanical Drawing. Detail and dimension drawing, pen topography, free hand and mechanical lettering. *Drawing, ten hours per 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 per week; drawing, three hours per 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 per 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 per 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 per 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 per 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 reconnaissance, preliminary survey, topography, maps, projecting the location, making approximate estimates and final location. *Five hours per 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 per 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 per week. Second semester.* Professor ROWE.

5. **Summer Camp.** Each year, two weeks previous to registration in September, all civil engineering juniors, sophomores and seniors 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 per 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 per week. Second semester.* Professor TERRELL.

2. **Field Practice.** Field practice in connection with course 1 in land surveying. *Field work, ten hours per 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 per week. First semester.* Professor CARREL.

4. **Topographical Surveying.** The use of the hand level, plane table, stadia and other instruments used in making topographical surveying 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 per 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 per 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.
Yards and Terminals.
Motive Power and Rolling Stock.
Railway Operation and Management.
Bridge Design.
Reinforced Concrete.
Water Power Development.
Engineering Jurisprudence.
Metallic 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	226	Mechanical Drawing		12	6.
Mathematics 2	139	Trigonometry	5		5.
Physics 1	146	General Physics	3		3.
English 1	120	English Composition	3		3.
					17.

Second Semester.

Bridge Eng. 1	225	Bridge Stresses	3		3.
Mathematics 3	139	University Algebra	5		5.
Physics 1	146	General Physics	3		3.
Surveying 1	227	Land Surveying	2		2.
Drawing 1	226	Mechanical Drawing		12	6.
Mapping 1	220	Mapping		4	2.
Highway Eng. 1	226	Road Location and Construction	5		5.
					26.

SECOND YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Highway Eng. 2	226	Highway Maintenance	5		5.
Surveying 2	227	Advanced Surveying	3		3.
Bridge Eng. 2	225	Highway Bridge Design		8	4.
Highway Law 1	226	Comporative Study of Road Laws	2		2.
					14.

Second Semester.

Municipal Eng. 4	226	Streets and Pavements, half semester	5		2.5
Cement and Its Uses 3	225	Plain and Reinforced Concrete	3	4.	5.
Bridge Eng. 2	225	Highway Bridge Design		8.	4.
Law of Contracts and Specifications	219	Contracts and Specifications, half sem.	1		.5
Construction 1	219	Masonry Construction	5		5.
					21.5

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

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 per 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 per 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 strucures. *Five hours per week. Throughout 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 per 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 per week. First semester.*

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

DRAWING.

1. Mechanical Drawing. Geometrical drawing, geometrical problems, detail and dimensions drawing, pen topography, free hand and mechanical lettering. *Thirteen hours per week. Throughout 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 per week. Second semester.*

HIGHWAY ENGINEERING.

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

MUNICIPAL AND SANITARY ENGINEERING.

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

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

3. Farm Sanitation. Designs for special problems; plumbing, water closets, baths, urinals, sewage disposal, water supply. Recitations, assigned readings, lectures and designs. *Two hours per 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 per 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 per 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 per 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 ventilation; 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 organization 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. A county appointed student not only gets his tuition, matriculation fees and room rent free, but the Legislature has actually provided that he receive his traveling expenses from his home to the college and return. The expenses for any resident of the State, whether he be appointed or not, 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 handsomely furnished room known as the senior room is provided, which serves the purpose of a club room for reading and rest. The meetings of the Tau Beta Pi Association are held here.

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 instructors.

STEAM AND GAS ENGINEERING LABORATORY.

The steam engineering laboratory is equipped with indicators, planimeters, gauges, dead weight gauge tester, pyrometers, colorimeters, 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, a 150-horse power Buffalo Forge tandem compound engine, a 200-horse power Wheeler condenser, which 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. An automobile testing plant has been installed which will make possible the testing of the largest automobile built.

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, 133-cycle, Westinghouse Electric and Manufactnring 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 within

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 a few years ago. 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 characteristic of engineering materials are in part as follows:

Two hundred thousand pound Olsen, specially designed, automatic, autographic, motor-driven testing machine arranged for testing columns up to fifteen feet and transverse specimens up to twenty feet;
100,000 pound Riehle testing machine;
Automatic Cement Testing Machine, Fairbanks-Morse;
Standard Soapstone Moist Closet;
Copper Drying Oven;
Standard Steaming Apparatus;
Vicat Needle;
Set Gilmour's Needles;
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 Univer-

sity 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 OF B. M. E.

FRESHMAN YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
Chemistry 1	112	General Inorganic Chemistry	3	4	5.0
Drawing 1	238	Mechanical Drawing		8	4.0
Drawing 2	238	Freehand Drawing		1	0.5
English 1	120	English Composition	3		3.0
Mathematics 3	139	College Algebra	5		5.0
Practical Mech. 1	245	Wood Working		10	5.0
Military Science		Infantry Drill		3	1.5

SECOND SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
Chemistry 2	112	General Inorganic Chemistry	3	4	5.0
Drawing 1	238	Mechanical Drawing		3	1.5
Drawing 2	238	Freehand Drawing		1	0.5
Drawing 3	238	Descriptive Geometry	5		5.0
English 1	120	English Literature	3		3.0
Mathematics 2	139	Trigonometry	5		5.0
Physics 4	147	Elementary Physical Measurements		4	2.0
Practical Mech.2&3	245	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 per week for eighteen weeks.

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Drawing 4	239	Elementary Design		7	3.5
English 3	122	History of English Literature	3		3.0
Mathematics 4a	139	Analytical Geometry. First Part	5		5.0
Physics 1b	146	General College Physics	4		4.0
Physics 5b	147	Measurements in Mechanics and Heat	1	4	3.0
Military Science		Infantry Drill		3	1.5
		First Half.			
Practical Mech. 4	245	Forge and Machine Shop Work		6	1.5
Surveying 1	222	Land Surveying	2	2	1.5
		Second Half.			
Practical Mech. 4	245	Forge and Machine Shop Work		8	2.0
Surveying 1	222	Land Surveying	2		1.0

Second Semester.

Drawing 4	239	Elementary Design		6	3.0
English 3	122	History of English Literature	3		3.0
Mathematics 4b	140	Analytical Geometry. Second Part	5		5.0
Mathematics 5a	140	Differential Calculus	5		5.0
Physics 2b	147	General College Physics	4		4.0
Physics 6b	148	Measurements in Elec. Sound and Light	1	4	3.0
Practical Mech. 4	245	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	239	Elements of Electrical Engineering	5		5.0
Mathematics 5b	140	Integral Calculus	5		5.0
Mech. of Engin. 1	243	Mechanics of Materials	5		5.0
Mech. of Engin. 2	243	Testing of Materials		2	1.0
Mech. of Engin. 3	243	Kinematics	4		4.0
Mech. of Engin. 4	243	Kinematic Drawing		12	6.0
Mech. of Engin. 5	243	Slide Rule Practice	1		1.0

SECOND SEMESTER.

Mech. of Engin. 6	244	Analytical Mechanics	5		5.0
Mech. of Engin. 7	244	Machine Design		8	4.0
		First Half.			
Bridge Engin. 2		Graphic Statics		6	1.5
Chemistry 17	113	Gas Analysis		2	0.5
Elec. Engin. 2	239	Direct Current Dynamos	5		2.5
Elec. Engin. 6	240	Switchboard Design		5	1.25
Elec. Engin. 10	240	Electrical Laboratory, D. C. { Alternate			
Heat Engin. 8	242	Steam Laboratory { weeks	1	2	1.0
		Second Half			
Elec. Engin. 3	239	Applications of Electricity	5		2.5
Elec. Engin. 7	240	Dynamo Design		8	2.0
Elec. Engin. 10	240	Electrical Laboratory, D. C.	1	2	1.0
Heat Eng. 8	240	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 13 and must have removed any conditions he may have had in subjects scheduled for the three preceding years.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Applied Mechanics and Hydraulics	218	Hydraulics	2		2.0
Collateral Activ. 5	247	Magazine Digest { Alternate			
Collateral Activ. 6	247	A. S. M. E. and A. I. E. E. { weeks	1		1.0
Collateral Activ. 8	247	English Lectures	1		1.0
Elec. Engin. 4	239	Alternating Currents	4		4.0
Elec. Engin. 8	240	Dynamo Design		4	2.0
Elec. Engin. 11	240	Electrical Laboratory A. C.	1	2	2.0
Heat Engin. 1	241	Thermodynamics	5		5.0
Heat Engin. 2 and 3	241	Valve Gears and Steam Boilers.	5		5.0
Heat Engin. 6 and 7	242	Steam Engine and Turbine Design		6	3.0
Heat Engin. 9.	242	Steam and Gas Engine Laboratory	1	2	2.0

SECOND SEMESTER.

Collateral Activ. 5	247	Magazine Digest	Alternate		
Collateral Activ. 6	247	A. S. M. E. & A. I. E. E.	weeks	1	1.0
Collateral Activ. 8	247	English Lectures		1	1.0
		First Half.			
Elec. Engin. 5	240	Generation and Transmission of Power		4	2.0
Elec. Engin. 9	240	Transformer Design		4	1.0
Elec. Engin. 11	240	Electrical Laboratory A. C.		1	2	1.0
Heat Engin. 4	241	Steam Engineering of Power Plants		3	1.5
Heat Engin. 5	242	Gas Engineering		5	2.5
Heat Engin. 9	242	Steam and Gas Laboratory		1	2	1.0
Heat Engin. 10	242	Industrial Engineering		2	1.0
Mech. of Engin. 8	244	Heating and Ventilating		2	1.0
Mech. of Engin. 9	244	Heating and Ventilating Design			6	1.5
		Second Half			
Collateral Activ. 3	246	Thesis			28	7.0
Collateral Activ. 4	247	Thesis Assembly		1		0.5
Drawing 5	239	Theory and Practice of Photography		1	2	1.0

DEPARTMENTS OF INSTRUCTION.

DRAWING.

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

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 per week, first semester; three hours per week, second semester.* Professor NOLLAU, Assistant Professor HORINE.

2. Free-hand Drawing. *One hour per week. Throughout the year.* Miss MCPHERSON.

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 per 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. *Seven hours per week, first semester; six hours per week, second semester.* 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 per week; laboratory two hours per week. Second half of second semester.* Professor NOLLAU.

ELECTRICAL ENGINEERING.

Professor Freeman, Instructor Duncan.

1. Elements of Electrical Engineering. 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 current circuits and transmission lines; and the fundamental theory of direct current generators and motors, and batteries. Prerequisite Physics 2b. Mathematics 5a (Differential Calculus) must have been completed or be taken co-ordinately. *Five hours per 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 per week. First half of second semester.* Professor FREEMAN.

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

4. 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. *Four hours per week. First semester.* Professor FREEMAN.

5. Generator 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 per 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 per 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 described by means of lectures and standard works on design. Prerequisites, Electrical Engineering 1 and 2. *Nine hours per week. Second half of second semester.* Professor FREEMAN, Mr. 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 honrs per week. First semester.* Mr. 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 per week. First half of second semester.* Mr. DUNCAN.

10. Electrical Laboratory. D. C. 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, Mr. DUNCAN.

11. Electrical Laboratory. A. C. A series of experiments is provided which brings out the fundamental principles studied in the class

room. The first experiments are of an elementary character, involving series and parallel combinations of resistances, inductances and capacities, and require the application of complex quantity for the convenient analysis of the data obtained. Then 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 per week; laboratory two hours per week. First semester and first half of second semester.* Mr. DUNCAN.

12. **Alternating Currents for Mining Engineers.** This is a short course covering a study of the fundamental principles of alternating currents and of the more important types of alternating current machines. Prerequisite, Electrical Engineering 1. *Five hours per week. First half of second semester.* Mr. DUNCAN.

13. **Applications of Electricity for Mining Engineers.** This covers a short study of the applications of electricity to mining, such as haulage, hoisting, pumping, lighting and telephoning. Prerequisites, Electrical Engineering 1 and 12. *Five hours per week, second half of second semester.* Mr. DUNCAN.

HEAT ENGINEERING.

Dean Anderson, Assistant Professor Wilhoite, Assistant Professor Cassidy.

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. *Five hours per week. First semester.* Professor ANDERSON, Assistant Professor CASSIDY.

2. **Valve Gears.** The study of various forms of standard engine valves and methods of designing. *Five hours per 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. *Five hours per 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. *Three hours per week. First half of second semester.* Professor ANDERSON, Assistant Professor CASSIDY.

5. **Gas Engineering.** This comprises a study of the theory, design and operation of the various types of internal combustion engines. *Five hours per 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 per week, for thirteen weeks of first semester.* Professor ANDERSON, Assistant Professor CASSIDY.

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 per week. Four weeks of first semester; two weeks of second semester.* Professor ANDERSON, Assistant Professor CASSIDY.

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 simpler methods of measuring heat units and determining mechanical power. *Recitations one hour per week; laboratory two hours per week. Alternate weeks first half, and every week second half of second semester.* Professor ANDERSON, Assistant Professor WILHOITE.

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 per week; laboratory two hours per week. First semester, and first half of second semester.* Professor ANDERSON, Assistant Professor WILHOITE.

10. **Industrial Engineering.** A series of lectures on the principles of modern efficiency methods. *Two hours per week. First half of second semester.* Professor ANDERSON, Assistant Professor CASSIDY.

MECHANICS OF ENGINEERING.

Professor Frankel, Assistant Professor Curtis, Assistant Professor Wilhoite, Assistant Professor Cassidy.

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 5a (Differential Calculus) must have been completed or must be taken co-ordinately. *Five hours per 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 per 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. *Four hours per week. 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 per 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, Mathmatics 2 and 3. *One hour per week. First semester.* Assistant Professor WILHOITE.

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 and Mathematics 5a (Differential Calculus). Mathematics 5b (Integral Calculus) must be completed or taken co-ordinately. *Five hours per 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. *Eight hours per 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 per 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 sre 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 per week. First half of second semester.* Professor FRANKEL, Assistant Professor CASSIDY.

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 per 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 per 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 per week during the secend 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 per week during the first half and eight hours per week during the second half of the first semestsr aud six hours per 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 occupy six hours per week during the first half and eight hours second half of the first semester and six hours per week during the second semester.* Assistant Professor JOS. DICKER.

COLLATERAL ACTIVITIES.

1. Junior Inspection Trip. Five days during the third week of March 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, Mr. DUNCAN.

2. Senior Inspection Trip. This trip includes visits to the most important mechanical and electrical engineering industries in Chicago and vicinity. The fourth week in March is devoted to the itinerary, and the following places are carefully studied from and 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 Pullman Palace Car Works; 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 central office and tunnels of the Automatic Telephone Exchange; 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. Professor ANDERSON, Professor FREEMAN, Assistant Professor CASSIDY.

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 power energy plant by a large part or 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 making a set of plans and specifications for a large power generating station. (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. Professor ANDERSON, Professor FRANKEL, Professor FREEMAN, Assistant Professor CASSIDY, Mr. 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 CASSIDY, Mr. 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. Throughout the year.* Assistant Professor CASSIDY, Mr. DUNCAN.

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. Throughout the year.* Assistant Professor CASSIDY, Mr. DUNCAN.

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.

8. **English Lectures.** A course of lectures is given the seniors in the College of Mechanical and Electrical Engineering for the purpose of acquainting them with the history and the development of the language and of stimulating their interest in the best literature. *One hour per week. Throughout the year.* Professor MACKENZIE.

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 Miners 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 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 Ashland, too, in addition to Beehive ovens, a large newly constructed 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 accom-

panying 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 number of special slides; many charts, photographs and blue-prints, illustrating mining methods, mining machinery and metallurgical operations; large Keuffel & Esser working models of verniers and slide rules; a working

model of a shaft hoist with safety catches; examples of mining tools; three handsome cases showing various sorts of "DuPont" 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; a 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 complete; a Campbell coal-washer; a complete model of the St. Bernard Mining Company's coal washery; and a complete ventilating fan and fan house. The fan has been so installed that various problems relating to mine ventilation may readily be studied.

Mine Rescue Apparatus and First Aid.

The College owns a Fluess "Proto" apparatus. In addition, two sets of Draeger apparatus, provided for the State Mine Inspectors, have heen 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 degree of Mining Englneer (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 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 Dean of the Graduate School.

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 readiiy 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 throughout 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 mining 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 throughout 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 class-room 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 wiers 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 senior 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 per week. Throughout the year.* Mr. TASHOF.

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 sort of rock; underground quarries. *Courses 2 and 2a total five hours per 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 per 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. *Five hours per week. First 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 per week. First semester.* Professor NORWOOD and Assistant.

5. **Extraction.** Junior. Extraction and removal of material: Mine and surface haulage roads; rope and other means of haulage; hoisting; drainage. *Five hours per week. Second half of second semester.* Professor BARR.

5a. **Ventilation.** Senior. Theoretical considerations: Methods of ventilation; distribution of air supply. *Three hours per 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 per 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 per week, first semester. Five hours per 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 per week. Last half of second semester.* Professor NORWOOD.

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

10. **Mine Air. Sampling and Examination.** Senior. *Two hours per 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 per week. Second half of second semester.* Mr. TASHOF.

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

3. **Advanced Mine and Land Surveying.** Field work and maps. Junior. *Eight hours per week. First semester.* Professor BARR.

MINE PLANT: MINING MACHINERY.

The various elements of Mine Plant 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 per week. Second half of second semester.* Professor NORWOOD, Mr. TASHOF.

2. **Applications.** Senior year. *First semester: Recitations four hours and laboratory four hours per week, first half of semester; laboratory eight hours per week, second half of semester.* Professor NORWOOD, Mr. TASHOF.

Kentucky lead and zinc ores, complexes of flourspar, 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 per week. Last half of second semester.* Mr. TASHOF.

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 per week. First half of second semester.* Professor NORWOOD, Mr. TASHOF.

2. **Elements of Metallurgy.** Sophomore. This includes a general review of typical metallurgical processes. For students in mining and

in metallurgy. *Two hours per week. Last half of second semester.* Mr. TASHOF.

3. **Metallurgy of Iron and Steel.** Juniors. For students in Mining. *Two hours per week. First semester.* Professor NORWOOD or ASSISTANT.

4. **Metallurgy of Iron and Steel.** Junior. Metallurgy 3, extended. For students in Metallurgy. *Five hours per 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 per week. First half of second semester.* Professor NORWOOD, Mr. TASHOF.

6. **Metallurgy of Silver, Gold. and Minor Metals.** Junior year. For students in Mining. *Courses 5 and 6 total five hours per week. First half of second semester.* Professor NORWOOD, Mr. TASHOF.

7. **Elements of Metallography.** Senior. An introduction to the subject for students in Mining. *Three hours per week. First half of second semester.* Professor NORWOOD.

8. **Metallurgy of Copper, Specialized.** For students in Metallurgy. *Three hours per week. First semester.* Professor NORWOOD, Mr. TASHOF.

9. **Metallurgy of Lead. Specialized.** For students in Metallurgy. *Courses 9 and 10 total five hours per week. First half of second semester.* Professor NORWOOD, Mr. TASHOF.

10. **Metallurgy of Silver, Gold, Zinc. and Minor Metals.** For students in Metallurgy. *Courses 9 and 10 total five hours per week. First half of second semester.* Professor NORWOOD, Mr. TASHOF.

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 per week for three weeks; laboratory eight hours per week for three weeks. Second semester.* Professor NORWOOD.

12. **Fuel Testing. Pyrometry.** For students in Metallurgy. *Laboratory six hours per week for six weeks. Second semester.* Mr. TASHOF.

13. **Metallurgical Calculations.** For students in Metallurgy. *Three hours per 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 per 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 per week. Last half of second semester.* Professor NORWOOD.

16. Metallurgy. A general account of Metallurgical processes. For students in industrial chemistry. *Two hours per week. Second semester.* Professor NORWOOD or ASSISTANT.

17. Electro-Metallurgy. For students in metallurgy. *Three hours per week. First half of second semester.* Professor NORWOOD.

MINING LAW, MINE RULES, MINING CAMPS.

1. Mining Law. 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 per week. First semester.* Professor BARR or Professor NORWOOD.

MAGAZINE REVIEW.

In the senior year semi-weekly conferences are held, under the guidance of an instructor. Articles on previously listed subjects that have appeared in technical journals, society transactions and similar publications are reviewed. 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	120	English Composition	3		3.
Mining 1	254	Elements of Mining	2		2.
Mathematics 2	139	Trigonometry	5		5.
Chemistry 1	112	General Inorganic Chemistry	3	4	5.
Drawing	253	Mechanical and Freehand		8	4.
Shop Work	254	Bench and Lathe Work in Wood		8	4.
Military Science		Drill		3	1.5

SECOND SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
English 1	120	English Composition	3		3.
Mining 1	254	Elements of Mining. First half.	2		1.
Elementary Sur.	256	Chain Surveying, Ranging. Second half	2	2	1.
Mathematics 3	139	College Algebra	5		5.
Chemistry 2	112	Chemistry of Metals	3	6	6.
Drawing	253	Mechanical and Freehand		10	5.
Drawing 3	238	Descriptive Geometry	5		5.
Military Science		Drill		3	1.5

SOPHOMORE YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs Rec.	Hrs. Lab.	Credits
Mathematics 4a	139	Analytical Geometry. First Part	5		5.
Physics 5a	147	Mechanics, Sound, Heat	3	4	5.
Mine & Land Sur.	256	Recitation; Use of Instruments	2	2	3.
Drawing 4	239	Elementary Design		7	3.5
Geology 1	125	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	146	Analytical Geometry. Second Part	5		5.
Physics 5	147	Electricity, Magnetism, Light	3	4	5.
Mind & Land Sur.	256	Recitations; Use of Instruments	2		2.
Mind & Land Sur.	256	Field Work		8	4.
Mathematics 5a	140	Differential Calculus	5		5.
Geology 1a	125	Elementary Geology	1		1.
Magazine Review	260	Magazine Review. First half	2		1.
Metallurgy 2	258	Elements of Metallurgy Last half	2		1.
Shop Work 4	254	Iron and Steel Forging. First 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	239	Elements of Electrical Engineering	5		5.
Mech. of Engin. 1	243	Mechanics of Materials of Engineering	5		5.
Mech. of Engin. 2	243	Testing of Materials		2	1.
Mathematics 5b	140	Integral Calculus	5		5.
Mining 2, 2a	255	Excavating, Quarrying, Boring, etc.	5		5.
Metallurgy 3	259	Iron and Steel	2		2.
Mine Surveying	256	Field Work and Maps		8	4.

SECOND SEMESTER.

Mining 3	255	Development; Methods. First half.	5		2.5
Mech. of Engin. 6	244	Analytical Mechanics	5		5.
Metallurgy 5	259	Copper, Lead, Zinc. First half	5		2.5
Metallurgy 6	259	Silver, Gold, etc. First half			
Chemistry 10	112	Quantitative Analysis. First half	1	8	2.5
Geology 7	126	Economic Geology	2		2.
Mining 5	255	Extrac. and Removal of Mat. Last half	5		2.5
Geology 3	126	Mineralogy		4	2.
Ore Dressing 1	258	Concen. and Coal Washing. Last half	3		1.5
Electrical Engin. 2	239	Applied Electricity. Last half	3		1.5
Metallurgy 1	258	Assaying. Last half.		10	2.5
Graphic Statics	253	Graphic Statics. Last half	2		1.

SENIOR YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Applied Mechanics and Hydraulics 5	218	Hydraulics	2		2.
Mining 7	256	Engines, Boilers, Mining Machines, etc.	3		3.
Political Science 1	130	American Government	3		3.
Political Econ. 1	130	Introduction to Economics	3		2.
Mining 5a	256	Ventilation; Principles, etc.	3		3.
Mining 9	256	Mining Law, etc.	2		2.
Mining 4	255	Ore Deposits, Mining Geology, etc.	5		5.
Ore Dressing 2	258	Applications. First half	4	4	3.
Ore Dressing 2	258	Applications. Second half		8	2.
Plant Design	253	Structural Drawing		6	3.

SECOND SEMESTER.

Electrical Engin. 11	240	Alternat. Cur. Machines, etc. First half	5		2.5
Political Science 1	130	American Government. First half	3		1.5
Political Econ. 1	130	Introduction to Economics. First half	2		1.
Mining 7	256	Mine Plant. First half	5		2.5
Mining 6	256	Gases and Accidents. First half	5		2.5
Metallurgy 7	259	Elements of Metallography. First half	3		1.5
First Aid	251	First Aid to Injured. First half	3		1.5
Mining 10	256	Mine Air; Samp. and Exam. First half		2	1.
Mine Plant Design	253	Design of Mine Structures. First half		4	1.
Mining 8	256	Exam. and Val. of Mines. Last half	5		2.5
Thesis		Thesis. Last half			
Mine Visitation	256	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 though they should not be directly connected with mining operations. Requirements for entrance are less exactihg 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 MINERS COURSE.

A short course for practical miners, mine foremen, and mine managers who desire to improve their knowledge of the principles that underlie correct mining. This course, which covers eight weeks, is given in the spring. Details concerning the course are set forth in a special circular, which may be obtained upon application to the Dean of this College. Persons desiring to take the examinations for Mine Foreman and for Assistant Inspectors of Mines will find the course quite helpful.

School of Metallurgical Engineering.

One course is given, which extends through 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 in lieu of some of the freshman drawing.

JUNIOR YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
Electrical Eng. 1	239	Elements of Electrical Engineering	5		5.
Mech. of Eng. 1	243	Strength of Materials	5		5.
Mech. of Eng. 2	243	Testing of Materials		2	1.
Mathematics 5b	140	Integral Calculus	5		5.
Mining 2 and 2a	255	Excavating, Quarrying, Boring, etc.	5		5.
Mine Surveying	256	Field Work and Maps		8	4.

SECOND SEMESTER.

Mining 3	255	Development, Methods. First half	5		2.5
Metallurgy 13	259	Metallurgical Calculations First half	3		1.5
Metallurgy 5 and 6	259	Copper, Lead, Zinc., etc. First half	5		2.5
Chemistry 10	112	Quantitative Analysis	1	8	5.
Geology 7	126	Economic Geology	2		2.
Geology 3	126	Mineralogy		4	2.
Mining 5	255	Extrac. and Removal of Mat. Last half	5		2.5
Metallurgy 4	259	Iron and Steel. Last half	5		2.5
Ore Dressing 1	258	Principles and Applications. Last half	3		1.5
Electrical Eng. 2	239	Applications of Electricity. Last half	3		1.5
Graphic Statics	253	Graphic Statics. Last half	2		1.

SENIOR YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Applied Mechanics and Hydraulics 5	218	Hydraulics	2		2.
Political Science 1	130	American Goverment	3		3.
Political Econ. 1	130	Introduction to Economics	2		2.
Metallurgy 8	259	Metallurgy of Copper Extended	3		3.
Engines	257	Steam and Other Engines	2		2.
Mining 4	255	Ore Deposits, Mining, Geology, etc.	5		5.
Ore Dressing 2	258	Applications and Laboratory	2	6	5.

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

SECOND SEMESTER.

Elec. Engin. 11	240	Altern. Current Mech., etc. First half	5		2.5
Political Science 1	130	American Government. First half.	3		1.5
Political Econ. 1	130	Introduction to Economics. First half	2		1.
Metallurgy 17	260	Electrometallurgy. First half	3		1.5
Metallurgy 9 and 10	259	Lead, Silver, Gold. First half	5		2.5
Chemistry 17	113	Gas Analysis. First half.		2	5.
Plant Design	253	Plant Design. First half.		4	1.
Metallurgy 1a	258	Assaying and Testing. First half		8	2.
Metallurgy 11	259	Alloys, Metallography. Last half	4	6	3.5
Metallurgy 12	259	Fuel Testing, etc. Last half		4	1.
Magazine Review	260	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 is thorough 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 $20.00 which will be used in paying for use of illustrative case books in payment of a ticket which will entitle the holder to free admission to all public lec-

tures given under the auspices of the Public Lecture Bureau, to medical advice from the resident physician, to the use of the university hospital, and free admission to all athletic contests and exercises given under the auspices of the University Athletic Association. 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 msut 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 full school years' work in English of five recitations per week may offer four units in English.

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	
Chemistry	½ to 1	Teaching one year or more	
Zoology	½ to 1	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 year's work.

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 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 thoroughness 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 years.

The Degree of Master of Laws (LL. M.)

Persons who can offer the required entrance credits and are regular graduates from an acceptable law school, may become candidates for the degree of Master of Laws (LL. M). For details concerning this degree address the Dean of this college.

Certificates.

A student who has been conneceted 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 9,000 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 National 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 thoroughly 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 thoroughly 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 in long hand 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 precedure.

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 thoroughly, 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. Blackstone's *Commentaries and* Robinson's *Elementary Law. Three hours per 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 per 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 per 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 per 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: Tiedeman on *Real Property.* Lectures and cases. *Two hours per 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 per 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 per 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 per 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 per 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: Perry's *Common Law Pleading*, Shipp and Daish's *Cases*. *Two hours per 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 per 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 per 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 per week. First semester.* Associate Professor KERR.

14. Corporation. The nature and classes of corporations, their creation, charter, and organization; franchises, powers, and limitations, consolidation, forseiture of charter and the laws regulating corporations. Practice work in creating corporations. Text-books: Elliott on *Private Corporations*, Elliott-Wormser's *Cases*. *Two hours per 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, Students Edition.* Study of cases. *Two hours per week. First and second semesters.* Associate Professor ALLEN.

16. Real Property. Continued from first year, including conveyancing and other transactions relating to real property. Burdick's *Cases on Real Property. Two hours per 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. Sunderland's *Cases on Code Pleading. Two hours per week. Second semester.* Professor CHALKLEY.

18. Principles of Sales. Text-book: Tiffany on *Sales.* Study of cases. *Two hours per week. Second semester.* Professor HUTCHCRAFT.

19. Personal Property. Distinction between real and personal property; acquisition of title to personal 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 per 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 per 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 per week. First semester.* Professor CHALKLEY.

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: Bigelow on *Wills*, Reeve's *Cases. Two hours per week. First semester.* Professor HUTCHCRAFT.

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 per 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 per 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 per week. First and second semesters.* 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 per 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 per 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 per 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 per 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, together with a consideration of the fundamental principles of the law which they affect. *Two hours per 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 per 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 14, 1916, 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.

A. S. MACKENZIE, DEAN.

GENERAL INFORMATION.

Organization.

For a number of years several departments had offered advanced work leading to a master's degree in Arts or Science or 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, and thereafter the President appointed an Executive Committee, whose chairman is the Dean. The Graduate School has exclusive control of all graduate work done in the University.

Facilities.

The scientific laboratories are the best equipped in the Commonwealth, some of them comparing favorably with those of similar institutions in the Middle West.

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.

Even now, however, students find that one of the chief assets of the Graduate School is the opportunity for direct supervision of their work by men who have been trained and recognized by Universities such as Cornell, Edinburgh, Glasgow, Goettingen, Harvard, Johns Hopkins, McGill, Oxford, Pennsylvania, Purdue, Wisconsin and Yale.

Every person in Kentucky or elsewhere, provided he has the aptitude and the necessary training, is welcomed to the Graduate School. The object of undergraduate training is to enable the student to survey with understanding and enthusiasm the field alrcady partially explored and to give him some appreciation of the problems that await solution. The object of the Graduate School is to make sure that the field of the known has been surveyed with reasonable thoroughness and then to

guide the student toward the mastery of some really worthy problem that may render the general body of ascertained knowledge more intelligible.

In other words, for years the student, as his very name implies, indulges in search before he attempts research, and many a man secures his bachelor's degree who is innocent of that poise, that undying mental curiosity and brain power which are requisite in the critical study of achieved results or in any serious investigation. It is the purpose of this school to establish a reputation for sane scholarship, and to maintain without pretentiousness a standard of enlightened specialization so far as our means and intelligence permit.

Growth.

This year the increase, relatively more rapid than that of any branch of our University work, has swelled the total enrollment from 56 to 83.

Candidacy and Residence.

1. Candidates for a higher degree, whether resident or non-resident, will first communicate with the Dean of the Graduate School.
2. No graduate students will be regarded as candidates for a degree, unless admitted to candidacy by the executive committee of the Graduate School.
3. Registration for study *in absentia* is permissible only to accepted candidates for advanced degrees. Residence wherever a student may be directed by the Graduate School Committee to prosecute systematic investigation is regarded as residence at this University.
4. No summer work will at present be recognized unless such work is prearranged with the Dean of the Graduate School, who, so far as English is concerned, will as usual give his services without remuneration.
5. Every graduate student in residence, whether a candidate for a degree or not, must be in actual attendance on at least one regularly authorized course of instruction; and this attendance must amount to at least four hours a week exclusive of thesis work.
6. 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.

7. Every graduate student, who is a candidate for a higher degree, must file with the Secretary of the Graduate School, at least eight months before the time proposed for examination, a detailed schedule of studies on which the candidacy is based.

REQUIREMENTS FOR DEGREES.

The Master's Degree.

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. Non-resident students, who are candidates for a master's degree *in absentia,* will do at least three years' work, part of which must be spent at this University in consultation and examination. 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. At stated intervals all resident students will appear for consultation before the committee.

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 desires 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. At least thirty days before the date when second degrees are conferred, each candidate must submit a thesis in accordance with Rule 3.

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. con erred 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 Engineer 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. M. E. 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 universities of equal standing engaged in prearranged residence work at the University for at least one year after receiving the 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.

The Doctor's Degree.

1. No student shall be enrolled as a candidate for a doctor's degree until he has been in residence as a graduate student for at least one year. This rule may be waived in the case of those who have taken the master's degree at another reputable university.

2. Candidates who hold the master's degree may complete the work required for the degree of Ph. D. within three years, although this is the minimum. This degree will not be conferred for faithful work merely, but for original and worthy investigation. No doctor's degree will be conferred for work done *in absentia* or *honoris causa*.

3. No student will be regarded as a candidate for the degree of Doctor of Philosophy who has not a good reading knowledge of French and German as well as any other language essential for the mastery of his special line of work.

4. The thesis must prove satisfactory to (a) the major professor and (b) the Graduate School Committee. After it has received the foregoing sanction, the thesis will be printed, one hundred and fifty copies of which will be used for exchange with other university libraries.

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 AND COMPARATIVE LITERATURE.

Dean Mackenzie.

The following courses are for graduate students exclusively.

ENGLISH LANGUAGE.

1g. English Philology. General principles; phonetic changes; semantics; linguistic geography; Keltic and other elements; scope and method of research.

2g. English Philology. Important branches of scholarship relative to English language and literature. The instructor's investigations may prove an incentive to the student.

3g. Comparative Philology. Introduction to Gothic, Friesic, Sanskrit, Arabic or Hebrew as a basis for Aryan and Semitic analogies.

4g. Paleography. A study of facsimiles of the Paleographical Society of London; majuscules and minuscules.

5g. Special Study. The instructor is ready to assist and advise competent students who may suggest plans in which they have a vital interest.

ENGLISH LITERATURE.

6g. Literary Problems. Details will be arranged by consultation.

COMPARATIVE LITERATURE.

7g. Methodology.

8g. Bibliography. Discussion of gazetteers, year-books, book-trade lists, etc.; the catalogue of copyright entries; manuscript and pamphlet catalogues; how to build up a bibliography for a thesis or a book.

9g. Literary Types. Growth and phases as revealed in European literature.

10g. Current Drama. Continental, English and American; critical examination of domestic and heroic tragedy; relation to photoplay and revue.

11g. Special Study. As determined by consultation with Dean Mackenzie.

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 per 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 per 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 per week. First semester.*

14. Statistics. A study of averages, weighting, criticism, and practical exercises. *Two hours per 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 per week. Throughout 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 as a major 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 1915–16; to be given in 1916–17. *Three hours per 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 1915–16; to be omitted in 1916–17. *Three hours per 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 1915–16; to be given in 1916–17. *Three hours per 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 1915–16; to be given in 1916–17. *Three hours per week. Second semester.* Assistant 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 1915–16; to be omitted in 1916–17. *Three hours per week. Throughout the year.* Professor DAVIS.

12. Advanced Calculus. A second course in calculus, affording a more critical view of the fundamental notions theorems and including the study of elliptic integrals and functions defined by definite integrals. Work based on the texts of Byerly and Williamson. Omitted in 1915–16; to be given in 1916–17. *Three hours per week. Throughout 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 1915-16; to be given again in 1916-17. *Three hours per week. Throughout the year.* Professor BOYD, Associate Professor REES.

14. Teachers' Course. Omitted in 1915-16. *Two hours per week. First semester.* Professor BOYD.

15. Geometric Transformations. Homogeneous coordinates are first developed from the standpoint of anharmonic ratios. After this the projective transformations in the binary, ternary and quaternary fields are studied in order. Given in 1915-16, first semester; to be omitted in 1916-17. *Three hours per week. Throughout the year.* Professor BOYD.

16. Theoretical Mechanics. The customary course in the theory and problems of kinematics, statics and kinetics, it being the purpose to emphasize the mathematical side of the subject perhaps more than the practical. Given in 1915-16, first semester; to be omitted in 1916-17. *Three hours per week. Throughout 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. Omitted in 1915-16; to be given in 1916-17. *Three hours per week. Throughout 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 are expected to 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. To be given in 1916-17. *Three hours per 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 per week. Throughout the year.*

GERMAN.

7. **19th Century Novel and Drama.** Prerequisite courses, German 5 and 6. *Two hours per week. Throughout 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 per week. Throughout 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 per 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 applicatioh of these. Vir-

tues and duties are defined and discussed. *Three hours per week. Second semester.*

PHYSICS.

Professor Pence.

Professor Pence will receive students wishing graduate work in physics, provided they have the necessary preliminary training.

AGRICULTURE.

Dean Kastle, Professor Mathews, Professor Garman, Professor Hooper, Professor Peter, Professor La Bach, Professor Good, Professor Roberts, 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 constand 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 ln 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.

Minor 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 Engineer (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.

GRADUATE CLUB.

The Graduate Club has been organized to promote the spirit of fraternity and research among graduate students. It hopes to cooperate toward a national movement involving federation of all American graduate clubs.

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, though they may be awarded for a second year.

Arts and Science.

Two fellowships in chemistry; two 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 Dean of the Graduate School 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 PHYSICAL EDUCATION.

For Men.

Professor Tigert, Mr. Stack, Mr. Park, Mr. Tuttle, Mr. Roth.

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 coordination, 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 sportmanship 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, 100 x 157 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 48 x 95 feet, contains all the apparatus and necessary equipment for carrying on the work of the department. There ls 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 Trustee's 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 piant 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 through five months of the year, two periods per 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 coordination.

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 per year for steel lockers and fifty cents for wooden lockers. A laundry fee of twenty-five cents per year per man is required from all freshman 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 overtraining, 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, 1916.

All required work of this department begins Monday, October 2nd, 1916. All absences on or after that date must be made up.

Courses in Educational Athletics and Phyiscal 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, baseball, 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 through lectures and practice. It is open to all students of the University who have met the entrance requirements. *Two hours per week. Throughout the year, each sport in season.* Professor TIGERT, Mr. PARK, Mr. TUTTLE.

2. **Physical Education.** This course is intended to prepare students for giving instruction in gymnastics. Physical education, theoretical and practical, is emphasized. *Two hours per week. Throughout the year.* Mr. STACK.

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, Thursdays and Saturdays are devoted to the work. On 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 curriculum is graded as other studies. Pupils must have an examination of heart and lungs by the University Physician, and an anthropometric examination by the professor in charge before entering the work.

No courses looking toward the theoretical side of gymnastics are offered. Excellent work in anatomy and physiology is given by Dr. Pryor, but these courses are not given in relation to 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.

Lieut. Underwood.

"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.

The military instruction is in charge of an officer on the active list of the U. S. Army. For students who desire to make military science their major, a course of study leading to the degree of Bachelor of Science in the Military Art is offered. This course is broadly cultural but it is especially suited to those students who intend to enter the army, the marine corps, the diplomatic or the consular service.

Purpose.

The department has a two-fold purpose: first, to develop the essential military virtues, neatness, promptness and regularity, truth, courage and loyalty; second, to diffuse among the young men of the state a knowledge of the military art so that the nation will have trained and efficient defenders in time of need.

Requirements.

Every male student is required to drill three times each week throughout the freshman and sophomore years. The successful completion of two years of military work is *requisite to graduation* in every course in the University. Students who can furnish satisfactory evidence of the equivalent of two years drill in the regular army or at a recognized military school *may* be excused from drill at the option of the Commandant. Students physically unable to drill in the ranks are assigned to the signal detachment.

Organization.

Cadets are organized into an infantry battalion of five companies, a band and a signal detachment. The officers are usually selected from the junior and senior classes and the non-commissioned officers from the sophomore class.

The Uniform.

The uniform is of olive drab woolen cloth cut after the army pattern. Each cadet must purchase his uniform from the firm having the contract. High-cut tan shoes with laces are part of the uniform, but they are not furnished by the contractor. *The wearing of second-hand uniform is prohibited.* The complete uniform costs about eighteen dollars.

Plan of Military Instruction.

1. *Theoretical Instruction.*

a. For officers and non-commissioned officers: infantry drill regulations, firing regulations, guard duty, field service regulations.

b. For all students: lectures on the organization and administration of the U. S. Army, on the military policy and military history of the United States and on the general principles of field service and minor tactics.

c. For students whose major is military art: four years theoretical

military science including the subjects of paragraph a. and, also, military hygiene, the three arms combined, or the tactical use of infantry, cavalry and field artillery, customs of the service, army regulations, hippology (College of Agriculture), drawing (College of Civil Engineering), field engineering, military mapping, Upton's Military Policy of the United States, military ancient history, Napoleon's First Campaign (Sargent), Napier's Penninsular War, Steele's American Campaigns, military law and courts-martial.

2. *Practical Instruction.*

a. For all cadets: infantry drill and ceremonies, field service, military gymnastics, practical bayonet fencing.

b. For officers and students whose major military art: tactical walks, fencing with foil and broad-sword.

NOTE: A full supply of arms and ammunition is furnished by the War Department.

OUTLINE OF COURSE LEADING TO THE DEGREE B. S. IN MILITARY ART.

FRESHMAN YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits *
Mathematics 3	139	College Algebra	5		5.
English 1	120	English Composition	3		3.
Chemistry 1	112	General Inorganic Chemistry	3	4	5.
German 1 or 2, or French 1	142 / 143	Elementary German or French	5 or 3		3.
Military Science	298	Theoretical Military Science	2		2.
Drill	298	Drlll		3	1.5
Physical Education	296	Gymnasium or Field Athletics		2	1.
					20.5

SECOND SEMESTER.

Mathematics 2	139	Trigonometry	5		5.
English 1	120	English Composition	3		3.
German 1 or 3, or French 1	142 / 143	Elementary German or French	5 or 3		3.
Chemistry 2	112	General Inorganic Chemistry	3	6	6.
Military Science	298	Theoretical Military Science	3		3.
Drill	298	Drill		3	1.5
Physical Education	296	Gymnasium or Field Athletics		2	1.
					22.5

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

SOPHOMORE YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Physics 1	146	General Elementary Physics	4	2	3.
Physics 3	147	Physical Measurements		4	2.
History 5	129	United States History	3		3.
French 2 or German 2 or 4	143 142	Elementary German or French	3		3.
Drill	298	Drill		3	1.5
Physiology 1	109	General Physiology	3		3.
Military Science	298	Theoretical Military Science	3		3.
Physical Education	296	Gymnasium or Field Athletics		2	1.
					19.5

Second Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Physics 1	146	General Elementary Physics	3		3.
Physics 3	147	Physical Measurements		4	2.
History 5	129	United States History	3		3.
French 2 or German 2 or 4	143 142	Elementary German or French	3		3.
Physiology 1	109	General Physiology	3		3.
Military Science	298	Theoretical Military Science	3		3.
Drill	298	Drill		3	1.5
Physical Education	296	Gymnasium or Field Athletics		2	1.
					19.5

JUNIOR YEAR.

First Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Philosophy 1	144	Logic	3		3.
Geology 1 or Astronomy 1	125 141	Elements of Geology General Astronomy	4 4		4. 4.
Spanish 1	144	Elementary Spanish	5		5.
English 3	122	History of English Literature	3		3.
Military Science	298	Theoretical Military Science	2		2.
					17.

Second Semester.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Philosophy 2	144	History of Philosophy	3		3.
Geology 3	125	Mineralogy, Text and Laboratory		4	2.
Hippology	298	Hippology	2		2.
Botany 1	169	General Morphology	2	4	4.
English 18	123	Victorian Essayists	2		2.
Military Science	298	Theoretical Military Science	5		5.
Military Science	298	Practical and Elective		3	1.5
					19.5

SENIOR YEAR.

FIRST SEMESTER.

Course	See Page	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Military Science	298	Theoretical Military Science	5		5.
Military Science	298	Practical and Elective		3	1.5
Law 1	275	Blackstone's Commentaries	3		3.
History 4	129	Modern Europe	3		3.
Political Science 1	130	American Government	3		3.
Law 4	275	Contracts	2		2.
Law 23	277	Conflict of Laws	2		2.
					19.

SECOND SEMESTER.

Military Science	298	Theoretical Military Science	5		5.
Military Science	298	Practical and Elective		3	1.5
History 4	129	Modern Europe	3		3.
Political Science 1	130	American Government	3		3.
Law 4	275	Contracts	2		2.
International Law		International Law	2		2.
					16.5

NOTE: 1. By permission of the Professor of Military Science a student whose major is military art may substitute some of the following courses for courses of equivalent weight not listed as required for the B. S. Degree: analytics, calculus, descriptive geometry, Latin, Greek, and certain courses in English.

2. A student with a major study other than military art, may, with his Dean's permission, enter any of the courses in theoretical military science.

BATTALION OF CADETS, 1915-1916.

LIEUTENANT A. R. UNDERWOOD, 20th Infantry, Commandant.

Staff.

R. F. Albert, *Major.*
L. J. Heyman, *Senior Captain and Adjutant.*
J. H. Coleman, *Captain and Quartermaster.*
William Rodes, *Sergeant Major.*
J. W. Wesson, *Quartermaster Sergeant.*
C. D. Harrison, *Color Sergeant.*
H. L. Kinne, *Color Sergeant.*

"A" Company.

B. Mahoney, *Captain.*
E. P. Hatter, *First Lieutenant.*
O. C. Walker, *Second Lieutenant.*
H. J. Evans, *First Sergeant.*

Sergeants.

J. G. Stewart.
J. E. McClure.
R. M. Iglehart.
J. F. Delaney.
J. M. Gibson.
T. T. Richards.
C. L. Morgan.

Corporals.

R. E. Palmore.
F. T. Street.
J. B. Taber.
E. Turley.
B. C. Ford.
E. P. Bleidt.
W. R. Gabbert.
J. C. Melvin.
H. Cottrell.

"B" Company.

C. Martin, *Captain.*
G. H. Hill, *First Lieutenant.*
Edward Cobb, *Second Lieutenant.*
T. L. Wilson, *First Sergeant.*

Sergeants.

J. J. Kremmer.
J. B. Given.
J. C. Fuss.
W. M. Jarvis.
F. R. Granger.

Corporals.

G. L. Jacob.
L. Reusch.
H. R. Grossman.
F. H. Shaw.
F. L. Rice.
C. H. Matherly.
J. J. Flocken.
H. C. Forman.

"C" Company.

L. E. Payton, *Captain.*
H. B. Combest, *First Lieutenant.*
E. E. Drake, *Second Lieutenant.*
D. R. Ellis, *First Sergeant.*

Sergeants.
W. D. McDougle.
H. R. Nisbet.
H. Parks.
T. A. Powell.
R. S. Sauer.
H. L. Milward.

Corporals.
U. V. Garred.
M. G. Martin.
H. E. Maddox.
J. W. Cooper.
M. L. Watson.
W. L. Logan.
F. P. Anderson.
T. E. Peak.

"D" Company.

H. Cromwell, *Captain.*
M. M. Montgomery, *First Lieutenant.*
H. Pulliam, *Second Lieutenant.*
W. P. Ringo, *First Sergeant.*

Sergeants.
E. S. Lawson.
H. W. Borntraeger.
A. S. Treadway.
G. E. Park.
O. K. McAdams.
M. C. Harbison.

Corporals.
A. J. Zimmerman.
D. H. Turner.
E. M. Beatty.
J. T. Cassidy.
G. C. Bauer.
W. D. Snoddy.
R. H. Tomlinson.
C. E. Maynard.
E. H. Kolb.

"E" Company.

G. W. Briggs, *Captain.*
E. L. Frazier, *First Lieutenant.*
C. R. Bourland, *First Sergeant.*

Sergeants.
N. S. Reid.
J. M. Scott.

Corporals.
L. D. Taylor.
C. Clark.
A. B. Finlay.

Signal Corps.

J. B. Flege, *Sergeant.*

Band.

C. E. Ruby, *Drum Major.*
T. C. McCown, *First Lieutenant.*

THE SUMMER SCHOOL.

College of Arts and Science.

J. T. C. NOE, DIRECTOR.

The Summer School will begin Monday, June 12, 1916, and continue six weeks for recitations, six days in each week. The first three days of the seventh week, namely: July 24, 25 and 26 will be devoted to examinations. 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. No student will be given more than six semester credits for summer school work.

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, whlch 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 throughout 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, $4.00 a week. Rooms may be had in the men's dormitories for a nominal fee.

Good board may be had in town for $3.50 per week.

The Carnegie Library of the University will be open during the summer. Students also have access to the city library.

CHEMISTRY.

Assistant Professor Daniels.

1. Elementary Chemistry for Teachers. A brief survey of general chemistry The course is not an equivalent of any given for college credits,

so no examination is held. Special emphasis is given to such topics as the equipment and arrangement of the laboratory, the selection and ordering of supplies, and methods of difficult points in teaching elementary chemistry. *Three lectures and four laboratory periods per week.*

EDUCATION.

Professor Noe, Assistant 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. Textbook, lectures, readings and reports. *Five hours per 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 toward 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.

ENGLISH.

Professor Dantzler.

1. The Teaching of English Composition. This course is designed for teachers who wish to study the aims and methods of teaching composi

tion in the high school. It includes practice in the writing and correction of themes. University credit will not be given for this work. *Five hours per week.*

2. **General Survey of English Literature.** This course is intended to give the student a general survey of English literature. Selections from representative authors of each period will be studied, beginning with Milton. 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. *Five hours per week.*

3. **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. *Five hours per week.*

4. **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. *Five hours per week.*

HISTORY AND THE SOCIAL SCIENCES.

Professor Tuthill.

In planning the summer courses which follow, an effort has been made to offer work which is of fundamental importance to high school and college students. Should the demand, however, arise for one of the introductory courses of the Department of History, a change will be made only with the approval of the authorities and the department. The following courses, numbered according to the catalogue of the regular session, are selected for the summer session:

4. **Modern Europe.** This course is designed to survey the general history of Europe since about 1750, thereby including the French Revolution and the great developments of the 19th and 20th Centuries. 1.5 credits. Arrangements may also be made for auditors to attend without seeking credit.

5. **The United States.** Beginning at the close of Jackson's administration, touching lightly the civil war period, and studying more thoroughly the recent evolution of our country.

1b. **Rural Sociology.** A course treating of the welfare of the rural

communities as tested by their institutions. Among the subjects to be considered are the drift to the city, illiteracy, tenancy, poverty, the rural church and school.

HOME ECONOMICS.

Associate Professor Buckman.

1. Elementary Clothing. This course deals with fundamental hand sewing as well as machine sewing and drafting of patterns. It is taught with an effort to meet the need of the teacher of sewing in the public schools. Materials for garments subject to approval of the instructor, provided by students. *Laboratory twelve hours per week.*

2. Textiles. This course deals with the study of textile fibers, their manufacture and adulteration. buying of materials, hygiene of clothing, dyeing and laundry. Correlative with Elementary Clothing. Text and lectures. *Three hours per week.*

3. Teaching of Textiles and Clothing. This course is designed to meet the needs of teachers of Textiles and Clothing. Lesson plans, bibliography, courses of study, method of presentation, etc., will be discussed and reading assigned. Lectures.

4. Elementary Cookery. This is a course in practical cookery. Text and laboratory. (Offered if demand justifies.)

LATIN.

Professor Jones.

1. Bennett's First Year Latin. The entire text will be covered. Special attention will be given to the subjunctive, conditional sentences and to syntax in general.

2. Ceasar. 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 student 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 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: 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.

Professor Killebrew.

1. **Elementary Physics.** A course in the elements of physics, designed to prepare to teach high school physics. Lectures and recitations. Four hours per week, laboratory four hours per week. Gage's Elements of Physics, revised by Dr. Goodspeed, will be used as a basis of the lecture and recitations. Some attention will be given to the selection of material for high school courses in physics and to methods of instruction. The laboratory work will consist of selected experiments from a list of more than fifty, suitable for high school laboratory courses.

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 about fee 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 12, and close Saturday, July 29, 1916.

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) blue-printing. *Eighteen hours per week.* Assistant Professor HORINE.

2. **Free-hand Drawing.** *Five hours per 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 per 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 per week.* Profəssor 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 per week.* Assistant Professor HORINE.

6. **Bench Work in Wood.** This includes exercises in planing, sawing, rabbeting, plowing, notching, splicing, mortising, tenoning, dove-tailing, framing, panneling, and the general use of carpenters' tools. *Twenty-four hours per 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 per 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 per 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 per 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 per 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 per week.* Assistant Professor HORINE.

2. **Free-hand Drawing.** *Five hours per week.* Assistant Professor HORINE.

3. **Bench Work in Wood.** This includes exercises in planing, sawing, rabbeting, notching, splicing, mortising, tenoning, dovetailing, framing, panneling, and the general use of carpenters' tools. *Twenty-four hours per week.* Mr. J. B. DICKER.

4. **Wood-turning.** This work includes exercise which involve all the various priciples of lathe-work in wood. *Twenty-four hours per week.* Mr. J. B. DICKER.

5. **Pattern Making.** This is a continuation of course 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 per 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 per 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 per 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 per 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) freehand-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 per week.* Assistant Professor HORINE.

2. Free-hand Drawing. *Five hours per 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 per 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 per 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 carpenter's tools. *Twenty-four hours per week.* Mr. J. B. DICKER.

6. Wood-turning. This work include exercises which involve all the various principles of lathe-work in wood. *Twenty-four hours per 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 per 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 per 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 per 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 per 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 per 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 per 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 per 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 per 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 per 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 per 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 per 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 per 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 228 to 247, 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 per week.

Board and room in private families at $3.50 to $5.00 per week.

Rooms can be obtained at Patterson Hall by women and married couples. Board and room, $4.00 per 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 12, 1916, 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, 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.

1914-15.

COMMENCEMENT EXERCISES.

THURSDAY, JUNE 10, 1915.

MUSIC.

INVOCATION.

MUSIC.

ORATION: *The Golden Key.*

MARION ROBERT MCCAULLEY, L.L.B., Class Representative.

MUSIC.

ADDRESS:

HENRY SKILLMAN BRECKINRIDGE, L.L.D., Washington, D. C.

CONFERRING OF DEGREES AND DELIVERY OF DIPLOMAS:

HENRY S. BARKER, L.L.D., President of the University.

BENEDICTION.

MUSIC.

DEGREES.

Conferred on Commencement Day, 1915.

COLLEGE OF ARTS AND SCIENCE.

Bachelor of Arts in English.

Elizabeth Fearn Eldridge	Paint Lick
Christine Hopkins	Louisville

Bachelor of Arts in Latin.

Aleene Bradford Edwards	Butler
Esta Olivet Gunn	Lexington
Alfred Holbrook Johnson	Paintsville
Elizabeth Elinor White	Louisville

Bachelor of Arts in Modern Languages.

Teresa Eugenia Buchignani	Lexington
Marguerite Schweers	Frankfort

Bachelor of Arts in History.

James Henry Coleman	Oak Grove
Annabel Grainger	Paducah
Lester Winston Grady	Granite, Oklahoma
Leo Joseph Sandmann	Louisville
Natalie Massie Wood	Maysville

Bachelor of Arts in Education.

Esther Mae Bailey	Garden City, Kansas
Jeanette Torrence Bell	Fulton
Rexie Brooks	Murray
Anna Elizabeth Colegrove	Ashland
Helen Elizabeth Desha	Paris
David Dallas Donohoo	Lexington
Martha Fox Hieatt	Lexington

Annie Newell Hodges	Greensburg
Ludie Estella Hollowell	Princeton
Melvin Hays Judd	Lexington
Rhoda Caldwell Kavanaugh	Lawrenceburg
James Otis Kelley	Whitesville
Alex. B. Leibovitz	Lewisport
Esther Lee Rider	Rawletts
James Wright Wesson	Wingo

Bachelor of Arts in Mathematics.

James Park	Richmond

Bachelor of Arts in Anatomy and Physiology.

Daniel Thomas Roberts	West Point

Bachelor of Science in Education.

Amy Isabelle Breslin	Louisville
Eva Marguerite Brown	Lexington
Ella May Cheatham	Louisville
Grace Anderson Cruickshank	Lexington
Nancy Fielding Pilcher	Lexington

Bachelor of Science in Industrial Chemistry.

Albert John Kraemer	Brodhead
Clarence Barbour Shoemaker	Falmouth
Robert Brooks Taylor	South Elkhorn

Bachelor of Science in Modern Languages.

Arthur Eugene Wegert	Louisville

COLLEGE OF AGRICULTURE.

Bachelor of Science in Agriculture.

James Yost Bailey	Adairville
Robert Louis Bierbaum	Louisville
Horace Philemon Bird	Shelbyville
David Patterson Campbell	Louisville
Walter Kenneth Clore	Ludlow

James Salmon Connell	Lexington
Albert Gallatin Craig	Ghent
Ernest Heathman Darnaby	Clintonville
William Terry Davis	Fulton
Columbus Gibson Downing	Lexington
Dennie David Elliott	Eubank
Charles B. Elston	Turner's Station
Harry Carroll Galbraith	Brooksville
James William Jones	Calvert City
Frank Hopkins Kennedy	Lexington
John McGarvey Ligon	Barbourville
Samuel Jechonias Lowry, Jr.	Oak Grove
John Warlick McDonald	Louisville
Ralph Robert Morgan	Covington
Archie Xavier Peffer	Somerset
Charles John Petrie	Fairview
Walter Joseph Piggott, Jr.	Irvington
Ernest Edgar Pittman	Sedalia
Henry Lewis Poole	Greenville
Wayland Rhoads	Lexington
Phil Everett Richards	Morganfield
Abraham Jacob Roth	Louisville
Bernard Wehle Roth	Louisville
Herschel Scott	Madisonville
Grover Cleveland Settles	Lexington
Claude Baker Taylor	Augusta
William Preston Tuttle	Somerset
John Wilbur Worthington	Owensboro
Alfred Combs Young	Elic

Bachelor of Science in Home Economics.

Jessie Elizabeth Acker	Paducah
Lois Bartlett	Rockport
Mary King Burrier	Nicholasville
Minnie Toler Cramer	Lexington
Ada Bransford Dean	Owensboro
Brilla May Lloyd	Lexington
Elizabeth Graeme Moore	Louisville
Elsie Margaret Speck	Paducah

COLLEGE OF CIVIL ENGINEERING.

Bachelor of Civil Engineering.

James Elliott Byers	Lexington
Townsel Combs	Smithsboro
Samuel Edward Cooke	Harrodsburg
James Vance Karrick	Lexington
Chang-Yuen Lay	Hupek, China
Roger Mills Parrish	Scottsville
Charles Smith Rollings	La Center
James Rufus Watkins	Lexington

COLLEGE OF MECHANICAL AND ELECTRICAL ENGINEERING.

Bachelor of Mechanical Engineering.

George Bowen Arnold	Earlington
Joseph Guy Aud	Owensboro
Harold Yancey Barker	Lexington
Herbert Edwin Barth	Louisville
Max Carter Batsel	Fulton
Albert Ricketts Blackburn	Petersburg
John Esten Bolling	Louisville
Minott Brooke	Murray
George Francis Campbell	Butler
Logan Bentley Caywood	Owensboro
Samuel Newton Courtney	Owensboro
William Patrick Crawley, Jr.	Louisville
Walter Bruce Croan	Shepherdsville
Theodore Frederick Eichhorn	Cynthiana
Lynn Barkley Evans	Lebanon
John Thomas Gelder	Rochester, New York
Frank Withrow Haff	Frankfort
Robert Dawson Hawkins	Lexington
Thomas Francis Haynes	Lexington
Kenneth Plummer Howe	Elizaville
Merritt McCauley Hughes	Versailles
Gatewood Ireland	LaGrange
John Thomas Jackson, Jr.	Lexington
Carlyle Jefferson	Louisville

Seta Baldwin Mellen	Knoxville, Tennessee
Thomas Richard Nunan	Winchester
Lester Severance O'Bannon	Stanford
Espie Clay Parker	Lexington
Norbourn Edward Philpot	Owensboro
Roy Dee Puckett	Hodgenville
Charles Stephenson Rainey	Mt. Sterling
Reuben Thornton Taylor	Lexington
Henry Oscar Wagner	Mayfield
Edford Milton Walter	Blaine

COLLEGE OF MINES AND METALLURGY.

Bachelor of Mining Engineering.

Walter F. Hanley	Maysville
William Henry Noel	Bellevue
George Clark Rogers	Lexington

COLLEGE OF LAW.

Bachelor of Laws.

William Stewart Berkshire	Petersburg
Silas Dishman	Stephensport
Paull Errett Dixon	Lexington
Alvin Clarence Elliott	Eubank
Louis Joseph Emmert	Wheeling, W. Virginia
John F. Ford, Jr.	Georgetown
Earl Louis Fowler	Waverly
John Thomas Gooch	Hanson
Richard Hall Hood	Murray
Chester D. Ihrig	Carntown
Silas Jacobs	Brooksville
Jeff Terry Jones	Lexington
Louis Wallace Macloskey	Collingswood, N. Jersey
Major Wesley McBrayer	Lawrenceburg
Marion Robert McCaulley	Louisville
James Monroe Morris	Pembroke
Ira Morton Nickell	Panama
James McGinnis Nieding	Salisbury, N. Carolina
Ben Louis Nisbet	Madisonville

Younger Evans O'Neal	Middlesboro
Bert T. Rountree	Smith's Grove
Gustavus Adolphus Rice	Harlan
Jacob Owen Reynolds	Lexington
Raymond Anthony Schoberth	Versailles
George Rowe Smith	Central City
Martin Oscar Wheeler	Paintsville
Harry Croft Williams	Auburn
Zephaniah Wells	Boone's Camp

HONOR GRADUATES.

To be eligible for "Commencement Honors" a student must have been in attendance a this University three full years. No student is 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 maintained 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 selection of honor graduates.

College of Arts and Science.

Elizabeth Colgrove
Dan Roberts
Margaret Schweers

College of Agriculture.

Phil Richards
Bernard Roth
Herschell Scott
Elsie Speck

College of Mechanical and Electrical Engineering.

Joseph Aud
Norbourn E. Philpot

THE GRADUATE SCHOOL.

Master of Arts.

Zechariah Pierce Hamilton, Albany
Thesis: Relation of the Sunday School to the Public School.

Temple Rice Hollcroft, Lexington
Thesis: On the Classification of Plane Cubic Curves.

David Yandell Ragan, Cold Spring
Thesis: Some Evolutionary and Comparative Anatomical Considerations of Gorilla Savagei.

Master of Science in Agriculture.

William Durrett Nicholls, Lexington
Thesis: Some Improved Sanitary Dairy Appliances.

Civil Engineer.

Willard Dante Barrows, St. Thomas, Ark.
Thesis: Flood Protection of the Lower Mississippi River.

Thomas Evans Earle, Kankakee, Ill.
Thesis: Railway Maintenance.

Robert Schuyler Haff, Hannibal, Mo.
Thesis: The Construction of a Spur with Mine Yard and Storage Yard for the Ohio Valley Mining Company.

John Edward Robertson, Agricultural College, Miss.
Thesis: The Design of a Combined System of Sewers for the City of Starkville, Mississippi.

Ralph Skiff, Mattoon, Ill.
Thesis: Maintenance of Track and Roadway.

Mechanical Engineer.

Wilbur Wesley Stevenson, East Pittsburg, Pa.
Thesis: Measurement of Fluid Flow.

Electrical Engineer.

Hubert LeGrand Cornelison, Jacksonville, Fla.
Thesis: A Modern Underground Lighting and Distribution System for a Modern City of 75,000 Inhabitants.

Mining Engineer.

Harry Edward Taylor, Williamsburg
Thesis: The Opening, Equipment and Operation of the Bon Jellico Coal Company's Mine, with Proposed Changes in the System of Mining. With Maps, Plans and Photographs.

Master of Laws.

Samuel Edwin Love, Lexington
Basil Duke Sartin, Lexington
Thesis: Pleading to Issue in Kentucky.

HONORARY DEGREES.

Doctor of Laws.

Henry Skillman Breckinridge	Washington, D. C.
Frederick Scheetz Jones	New Haven, Conn.
Aquilla Webb	Louisville
Bennett Henderson Young	Louisville

Doctor of Engineering.

David Francis Crawford	Pittsburgh, Pa.

SCHOLARSHIPS, PRIZES AND HONORS.

Southern Railway Scholarship.

Won by Lecoq Rerc Nelson, Lexington, Ky.

Tau Beta Pi Scholarship.

Won by A. W. Davis, Lexington, Ky.

Japanese Society Prize.

Won by J. T. Gooch, Hanson, Ky.

Bennett Prize.

Won by G. C. Wilson, Paint Lick, Ky.

Barker Trophy.

Won by the Union Literary Society.

Barker Prize for the Horace Mann Society.

Won by Frank Crum, Inez, Ky.; Marie Becker, Louisville, Ky.

Crum Declamation Prize.

Won by Jacob S. Satley, New York City.

Patterson Oratorical Prize.

Won by Julius Wolf, Lexington, Ky.

Union Declamatory Prize.

This prize was not awarded 1914–15.

Union Oratorical Prize.

Won by T. W. Jones, Calvert City, Ky.

Barker Prize for Henry Clay Law Society.

Won by S. S. Combs, Chavies, Ky.

Barker Prize for Philosophian Literary Society.

Won by Marie Becker, Lovisville, Ky.; Rebecca Smith, Paducah, Ky.

John B. Atkinson Prize.

Won by Clark Rogers, Lexington, Ky.; Samuel Caudill, Cannel City, Ky.; Wm. H. Noel, Bellevue, Ky.; Joseph Flocken, Louisville, Ky.

The American Law Book Company Prize.

Won by R. E. Cullen, Flemingsburg, Ky.

Callaghan & Company Prize.

Won by F. A. Harrison, Williamsburg, Ky.

Southern Intercollegiate Athletic Association Scholarship Medal.

Won by Hershel Scott, Madisonville, Ky.

The American Saddle Horse Breeders Association Trophy.

$50 cup won by E. C. Kirtley, Frankfort, Ky.

Commissioner of Agriculture Prizes, State Fair, 1915.

Draft and Light Horses.

1. $15 won by W. J. Harris, Nolan, W. Va.
2. $10 won by E. C. Kirtley, Frankfort, Ky.
3. $ 5 won by L. D. Taylor, Louisville, Ky.

Beef and Dairy Cattle.

1. $15 won by J. H. McConnell, Arlington, Ky.
2. $10 won by J. T. Campbell, Campbellsburg, Ky.
3. $ 5 won by E. C. Kirtley, Frankfort, Ky.

Sheep and Swine.

1. $15 won by J. T. Campbell, Campbellsburg, Ky.
2. $10 won by W. J. Harris, Nolan, W. Va.
3. $ 5 won by J. H. McConnell, Arlington, Ky.

Corn.

1. $5 won by F. T. Johnson, Louisville, Ky.
2. $3 won by F. T. Street, Cadiz, Ky.
3. $2 won by N. N. Terry, Fulton, Ky.

Sweepstakes.

1. $25 won by J. T. Campbell, Campbellsburg, Ky.
2. Won by J. H. McConnell, Arlington, Ky.
3. Won by W. J. Harris, Nolan, W. Va.

Panama Exposition Premium, San Francisco, 1915.

Second Premium won by University of Kentucky. Score 98%.

Freshman Individual Drill Prize.

Won by H. J. Evans, Frankfort, Ky.

Sophomore Individual Drill Prize.

Won by E. E. Drake, Lexington, Ky.

Prize Company in Competitive Drill.

D Company, Battalion of Cadets.

Captain L. J. Heyman
First Lieut. H. F. Cromwell
Second Lieut. C. S. Stevens
First Sergeant E. L. Littleton
Sergeant J. P. Ricketts
Sergeant Ad. Thomas
Sergeant L. E. Steinhauser
Sergeant S. L. Ware
Sergeant O. C. Walker
Corporal W. P. Ringo
Corporal R. B. Rankin
Corporal O. G. Schwant
Corporal W. E. Spencer
Corporal D. S. Springer
Corporal C. R. Wilkie
Signal Ser. R. W. Cowerd
Signal Ser. M. M. Montgomery
Private L. F. Boerner
Private L. L. Botto
Private H. E. Dickerson
Private C. B. Dickerson
Private J. E. McClure
Private Jacob Liebschutz
Private H. C. Simpson
Private L. E. Sleet
Private Z. M. Sloss
Private H. C. Smiser
Private H. Smith
Private W. O. Snoddy
Private G. E. Spaulding
Private H. W. Stedman
Private J. G. Stewart
Private F. T. Street
Private W. R. Taylor
Private J. H. Taylor
Private T. B. Taylor
Private C. A. Timmer
Private Tompkinson
Private A. S. Treadway
Private D. H. Turner
Private J. B. Taber
Private Ed. Turley
Private M. E. Threlkeld
Private R. E. Tinkler
Private W. C. Warfield
Private W. P. Walton

Private R. C. Monroe	Private M. L. Watson
Private C. L. Morgan	Private R. W. Waterfill
Private L. S. Russell	Private E. D. Wilder
Private J. G. Roney	Private M. Williams
Private R. L. Sauer	Private R. B. Wright
Private W. C. Shinnick	Private T. Wilson

Representative in the Kentucky Intercollegiate Oratorical Association.

Julius Wolf	Lexington, Ky.

Representatives in the Alabama-Kentucky Debate.

T. H. Coleman	Oak Grove, Ky.
O. R. Willet	Elizabethtown, Ky.

Representatives in the Vanderbilt-Kentucky Debate.

E. L. Fowler	Waverly, Ky.
Jacob S. Satley	New York City.

Representatives in the Georgetown-Kentucky Debate.

S. S. Combs	Chavies, Ky.
C. W. Bailey	Madisonville, Ky.
J. N. Farmer	Somerset, Ky.

Arbor Day, 1915.

President's Address	James Park
Class Orator	Estin Bolling
Class Prophet	Christine Hopkins
Junior Class Representative	Karl Zerfoss

Class Day, 1915.

President's Address	James Park
Roll Call	Elizabeth White
Class Poem	J. O. Reynolds
Class History	Elizabeth G. Moore
Class Grumbler	S. N. Courtney
Giftorian	F. H. Kennedy

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 through the 1914 legislature an act giving the alumni representation on the Board of Trustees of the University.

Membership of the organization is wideiy scattered and alumni clubs have been formed in many of the larger cities throughout 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.

OFFICERS OF THE ASSOCIATION.

M. E. Johnston, President, Lexington, Ky.
Mrs. Martha White Blessing, Vice-President, Swarthmore, Pa.
J. D. Turner, Secretary-Treasurer and Editor of the Kentucky Alumnus, Lexington, Ky.

Executive Committee.

W. E. Freeman, Chairman, Lexington, Ky.
Frank Battaile, Lexington, Ky.
J. W. McFarlan, Franklin, Ky.

Miss Lucy K. Hutchcraft, Lexington, Ky.
Mrs. Charles J. Smith, Lexington, Ky.
Wallace Hoeing, Louisville, Ky.
Presidents of the Clubs.
President and Secretary, *ex-officio*.

Class Secretaries.

1915 Clyde Taylor, Nicholasville, Ky.
1914 R. C. Dabney and E. H. Nollau, Lexington, Ky.
1913 A. T. Bryson, Ashland, 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 H. H. Lowry, 401 Eighth Avenue, LaGrange, Ill.
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 Henry Clay Wilson, 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 J. R. Johnson, Richmond, Ky.
1892, 1891 and 1890 (To be selected).
1889, 1888 and 1887, H. E. Curtis, Experiment Station, Lexington, Ky.
1886 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.

H. H. Lowry, '09, President, 401 Eighth Avenue, LaGrange, Ill.
J. B. Sanders, '11, Vice-President, 108 S. Stone Ave., LaGrange, Ill.
F. H. Graham, '08, Secretary-Treasurer, 204 N. Mason Ave., Chicago, Ill.

Columbus, Ohio.

A. E. Waller, '14, President, Department of Agronomy, O. S. U., Columbus, O.
Phil E. Richards, '15, Secretary, Department of Agronomy, O. S. U., Columbus, O.

Cincinnati, Ohio.

Paul S. Ward, '98, President, 1646 Cedar Ave., Cincinnati, O.
W. P. Sayers, Vice-President, 219 W. Fourth St., Cincinnati, O.
J. J. Thompson, '03, Secretary-Treasurer, 201 Pearl St., Cincinnati, O.

Detroit, Michigan.

J. E. Bolling, '15, Secretary, 212 Medbury Ave., Detroit, Mich.

Lexington, Kentucky.

M. E. Johnston, '00, President, 230 S. Limestone St., Lexington, Ky.
S. B. Marks, '99, Vice-President, 243 Rodes Ave., Lexington, Ky.
Marguerite McLaughlin, '03, Secretary, 226 E. Maxwell St., Lexington, Ky.
Mary L. Didlake, '95, Treasurer, 481 E. Main St., Lexington, Ky.

Lexington Alumnae Club.

Mary E. Clarke, '97, President, Lexington, Ky.
Inez Gillis, '13, Vice-President, Lexington, Ky.
Mrs. J. H. Kastle, '91, Secretary, Lexington, Ky.

Louisville, Kentucky.

S. L. Pottinger, '92, President, 627 E. Broadway, Louisville, Ky.
Eugenia S. McCullough, '06, Secretary, 2304 Alta Ave., Louisville, Ky.

Nashville, Tennessee.

J. M. Foster, '11, President, 1909 Division St., Nashville, Tenn.
Eugene Gilliland, '04, Vice-President, 845 Meridian St., Nashville, Tenn.
John J. Tigert, '09, Secretary-Treasurer, 1905 West End Ave., Nashville, Tenn.

New York City.

Perry West, '01, President, 6 Ninth St., Newark, New Jersey.
L. L. Lewis, '07, Vice-President, 39 Cortlandt St., New York.
Chas. White, '09, Secretary-Treasurer, 521 W. 122d St., New York.

Philadelphia, Pennsylvania.

Frank Daugherty, '01, President, 2109 Chestnut St., Philadelphia.
K. F. Anderson, '07, Vice-President, University of Pa., Philadelphia.
H. Logan, '10, Secretary-Treasurer, 1530 S. 55th St., Philadelphia.

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, Secretary, 724 Bandywine Avenue, 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, Jessie Elizabeth (B.S., 1915) Home Economics.	Lexington
*Ammerman, John Roger (B. M. E., 1907) Mechanical Engineering.	Chicago, Ill.
Bailey, Chesley William (A.B., 1915) Education.	Madisonville
*Bain, Charles Kremer (B. E. M., 1911) Mining Engineering.	Roundup, Mont.
Bitner, Ralph Emerson (B.S., Pa. State Coll., 1914) Physics.	Lexington
Blessing, Paul J. N. (A.B., Swarthmore, 1914) Mathematics.	Lexington
Branham, Ruth Bell (A.B., Georgetown, 1896) History.	Midway
*Brown, Paul Dennis (B. S. Agr., 1914) Bacteriology.	Henderson
*Bryant, Hal Farnsworth (B. S. Agr., 1914) Principles of Breeding.	Charleston, W. Va.
Bryant, William Monroe (A.B., Southern Univ., 1913) History.	Lexington
Campbell, David Patterson (B.S., Agr., 1915) Tobacco Culture.	Lexington
*Caplinger, William J. (B. S., Lebanon, Ohio) Education.	Maysviile
*Cawood, Frank Finley (B. C. E., 1910) Civil Engineering.	Harlan
*Clark, William Frederick (B. M. E., 1910) Mechanical Engineering.	Albany, N. Y.
Dabney, Robert Cornelius (B.S., 1914) Chemistry.	Lexington
Darnaby, Ernest Heathman (B.S., Agr., 1915) Constitutional Law.	Clintonville

*Non-resident.

*Daugherty, Frank (B. M. E., 1901) Mechanical Engineering.	Philadelphia, Pa.
Dotterer, John Ezra (A.B., Blue Ridge, 1912) Mathematics.	Lexington
*Elder, William Benjamin (A.B., Georgetown, 1902) English.	Cynthiana
Ellzey, Esco Firman (B.S., Miss. A. and M., 1915) Chemistry.	Lexington
Elston, Charles B. (B.S., Agr., 1915) Agronomy.	Lexington
*Faulkner, William Ernest (A.B., Union, 1907; L.L.B., Geo. Washington, 1910) Law.	Barbourville
Fleming, Ruby Ringo (A.B., 1910) German.	Midway
*Forsyth, Frank James (B.M.E., 1913) Electrical Engineering.	La Grange, Ill.
Gastineau, Lucile Adair (A.B., 1913) Education, English.	Stanford
*Gayle, Hubbard Kavannaugh (B.S., Agr. 1914) Principles of Breeding.	Agric College, Miss.
*Giltner, James Bristow (B.E.M., 1912) Mining Engineering.	Dante, Va.
Glass, Rhoda Virginia (A.B., 1909) English.	Lexington
*Grady, William Henry (B.M.E., 1905) Mechanical Engineering.	Louisville
*Gullion, Allen Wyant (A.B., Centre College, 1901) English.	Fort Bliss, Tex.
Hamlett, Percival Launcelot (A.B., Hampden-Sidney, 1912) English.	Erlanger
Hammonds, Lucius Madison (A.B., 1914) German.	Lexington
Hanson, Estyle Drucy (B.S., Berea, 1915) Mathematics.	Lexington
*Hardesty, Llewellyn Coons (B.M.E., 1912) Electrical Engineering.	Schenectady, N. Y.
Harp, Cecil Chenault (B.M.E., 1914) Mechanical Engineering.	Lexington

*Non-resident.

Hart, Derrill Wason (A.B., 1912) English.	Pisgah
*Hatter, John Albert (B.S., Agr., 1914) Bacteriology.	Hagan, P. I.
Hopkins, Christine (A.B., 1915) English.	Lexington
*Hopper, Walter Owsley (A.B., Central, 1904) Education.	Mt. Sterling
*Jackson, John Hunt (B., Ped., 1902) History.	Defoe
*Jaegle, William Henry (B.M.E., 1912) Electrical Engineering.	Louisville
Jewell, Mary Frances (A.B., Vassar, 1913) English.	Lexington
*Johns, Charles Ashley (B.M.E., 1909) Mechanical Engineering.	Chicago, Ill.
*Johnson, Hampton Wallace (B.M.E., 1904) Mechanical Engineering.	Baltimore, Md.
*Jones, Robert Leslie (B.M.E., 1912) Mechanical Engineering.	Durham, N. C.
Judd, Melvin Hayes (A.B., 1915) Education, English.	Lexington
Kelly, Mervin Joe (B.S., Missouri Univ., 1914) Physics.	Lexington
*Korfhage, Harry George (B.M.E., 1912) Electrical Engineering.	Schenectady, N. Y.
*LaMaster, Joseph Paul (B.S., Agr., 1912) Dairying.	Brookhaven, Miss.
*Lester, Arthur Vane (B.C.E., 1900) Civil Engineering.	Dayton, O.
*Lytle, Hendricks Gilbert (B.C.E., 1911)	Birmingham, Ala.
Maguire, Mary Josephine (B.S., 1904) Chemistry, English.	Lexington
Martin, Burbon Almer (B.S., Berea, 1915) Mathematics.	Lexington
*McBrayer, Major W. (LL.B., 1915) Law.	Lawrenceburg
McConnell, Adolphus Rankin (A.B., Maryville, 1915) Mathematics.	Lexington

*Non-resident.

*McKenney, Henry Fields (A.B., 1912) Botany.	Parsons, W. Va.
Morris, James Monroe (LL.B., 1915) Law, English.	Lexington
*Moynahan, Bernard Thomas (B.C.E., 1911) Civil Engineering.	Mt. Vernon
*Naylor, Floyd Reed (B.C.E., 1910) Civil Engineering.	New Orleans, La.
*Neighbors, Jesse Thomas (B.M.E., 1909) Mechanical Engineering.	Lakeland
*O'Neal, Younger Evans (LL.B., 1915) Law.	Bardstown
*Osborn, Charles Henry Douglas (B.M.E., 1913) Electrical Engineering.	Chicago, Ill.
*Perrine, Emmet Burgess (B.M.E., 1909) Mechanical Engineering.	Minneapolis, Minn.
*Pfanstiel, Robert (B.S., 1914) Chemistry.	Pittsburgh, Pa.
Piper, Mary Hammond (A.B., 1908) Mathematics.	Lexington
Pollitt, Mabel Hardy (A.B., 1913) Latin.	Lexington
*Porter, John Wilson (B.S., 1913) Chemistry.	E. St. Louis, Ill.
*Post, Shelby (B.C.E., 1910) Civil Engineering.	Chattanooga, Tenn.
*Richardson, Clarence Hudson (B.S., 1913) Mathematics.	Lake City, Fla.
Roberts, Daniel Thomas (A.B., 1915) Biology.	Lexington
*Roberts, Virgil Dick (B.M.E., 1905) Mechanical Engineering.	Weatherford, Tex.
*Robertson, Isaac William (B.S., 1910) Chemistry.	Pittsburgh, Pa.
Rodgers, Clarence (A.B., Univ. of Louisville, 1915) Chemistry.	Lexington

*Non-resident.

Roth, Bernard Wehle (B.S., Agr., 1915) Entomology.	Lexington
*Rudd, William Charles (B.M.E., 1913) Mechanical Engineering.	Detroit, Mich.
*Sanders, Joseph Bishop (B.M.E., 1911) Electrical Engineering.	Chicago, Ill.
*Saunders, Shirley Dean (B.M.E., 1912) Electrical Engineering.	Chicago, Ill.
*Scott, George Atwell (B.C.E., 1913) Civil Engineering.	Cedar Rapids, Ia.
*Shanklin, Shelby (B.M.E., 1910) Electrical Engineering.	Philadelphia, Pa.
Tuttle, William Preston (B.S. Agr., 1915) Bacteriology.	Lexington
*Utley, Newton Willard, Jr. (LL.B., 1912) Law.	Eddyville
*Whitehouse, James William (B.S. Agr., 1914) Dairying.	Berea
*Yankey, Andrew George (B.C.E., 1909) Civil Engineering.	Zamboanga, P. I.

*Non-resident.

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 Doan	(M. & E. 3)	Berea
Aaron, Nat	(Sp. Law)	Berea
Abell, Harry Davis	(A. & S. 3)	Smithland
Abner, James Robert	(A. & S. 2)	Burgin
Adams, William Mason	(Civ. 3)	Flemingsburg
Adams, William Taylor	(Sh. Agr.)	Munfordville
Adkins, William Koontz	(M. & E. 2)	Depoy
Albert, Russell Foster	(Civ. 4)	Elizabethtown
Alexander, Elizabeth Bell	(Agr. 4)	Midway
Allen, Eloise Saunders	(Agr. 2)	Lexington
Allen, William Frederick	(M. & E. 2)	Georgetown
Amburgy, Lawrence May	(Agr. 4)	Hindman
Amburgy, Linville	(Agr. 1)	Prestonsburg
Amburgy, Maryland	(Agr. 4)	Hindman
Anderson, Felix Bryan	(M. & E. 1)	Corydon
Anderson, Frederick Paul, Jr.	(M. & E. 1)	Lexington
Anderson, Matthew William	(Agr. 1)	R. R., Lexington
Anderson, Virginia Frances	(Agr. 4)	Lexington
Andres, Paul Maxmilian	(M. & E. 3)	Louisville
Ariewitz, Samuel	(Agr. 1)	New York, N. Y.
Arnold, Robert Samuel	(M. & E. 2)	Richmond
Arnold, William Homer	(Law 3)	Wilmore
Asbury, Charles Augustine	(Agr. 1)	Chilesburg
Ashbrook, Mary Gray	(A. & S. 1)	Cynthiana

Asher, Ruby	(A. & S. 1)	Marion
Atchison, Morgan Marion	(Law 2)	Owingsville
Averitt, Clarence Joyce	(Agr. 2)	R. R., Bedford
Back, Roscoe Conklin	(Law 3)	Jackson
Bailey, Cassius Camillo	(M. & E. 1)	Olmstead
Bailey, Joseph Harrison	(M. & E. 1)	Bagdad
Bailey, William Atwood	(A. & S. 1)	White Plains
Barker, Clyde Russell	(A. & S. 4)	Brooksville
Barkley, Marie Rodes	(Sp. Agr.)	Lexington
Bartee, Bruce Orlean	(Agr. 1)	Louisville
Bastin, Pearl Allyne	(A. & S. 4)	East Bernstadt
Batsel, Cecil Norman	(Min. 1)	Fulton
Bauer, George C.	(A. & S. 2)	Maysville
Bauer, Louis Henry	(M. & E. 2)	Louisville
Baugh, Walter Scott	(M. & E. 1)	London
Beagle, Seymour Ellis	(M. & E. 2)	Butler
Beam, Henry Jordan	(M. & E. 1)	Bardstown
Beard, Judith Ellen	(A. & S. 4)	Hardinsburg
Beard, Ruth	(A. & S. 2)	Lexington
Beasley, Gordon H.	(Civ. 3)	Williamstown
Beatty, Ernest Nutter	(A. & S. 2)	Lexington
Becker, Marie Caroline	(A. & S. 3)	Louisville
Beitz, Suzanna Valeria	(Sp. A. & S.)	Cincinnati, O.
Bell, Frank Homer	(A. & S. 1)	Madisonville
Bell, Henrietta	(Sh. M. & E.)	Lexington
Bell, Trice Morton	(M. & E. 1)	Madisonville
Beloian, Haig	(Agr. 2)	Armenia
Bennett, Carlyle Wilson	(Agr. 3)	Narrows
Bernhardt, Carl Louis	(Agr. 4)	Newport
Berry, Wendell Holmes	(Law 3)	Turners Station
Bessey, Louis Freeman	(M. & E. 1)	Glasgow
Bettinger, Carl	(A. & S. 4)	Covington
Beutel, Clarence Albert	(Law 4)	Louisville
Biehn, Mary Elizabeth	(Agr. 1)	Falmouth
Biesack, Raymond John	(Agr. 1)	Covington
Bird, William Tate	(Agr. 2)	Shelbyville
Birk, Glover McMurtrey	(A. & S. 4)	Owensboro
Blackburn, Edward A.	(Agr. 4)	Ludlow
Blair, Carrie Frances	(A. & S. 3)	West Liberty
Bland, Clyde	(Agr. 1)	Cynthiana

Bland, William Richard	(M. & E. 1)	Smith's Grove
Bleidt, Everett Price	(Agr. 2)	Lexington
Bohrer, Rachael Marie	(A. & S. 3)	Bellevue
Bollinger, Jacob Olive	(Sp. Law)	Pelzer, S. C.
Bolser, Alma Louisa	(A. & S. 1)	Dayton
Borders, Leo Steele	(M. & E. 3)	Buechel
Borntraeger, Henry Winter	(A. & S. 2)	Louisville
Bosley, Alfred Dunbar	(Agr. 4)	Owensboro
Boston, Ted	(M. & E. 1)	Marion
Bourland, Charles Rice	(Civ. 2)	Madisonville
Bowers, Charles Leroy	(A. & S. 4)	Newport
Bowling, Bascum Carlston	(Sp. Law)	Marcum
Boyd, Edward Frank, Jr.	(10 wks. Agr.)	Minerva
Bradford, Lawrence Allen	(Agr. 3)	R. R. 3, Flemingsburg
Brewer, Elizabeth Carleton	(A. & S. 4)	Eminence
Briggs, George Waverley, Jr.	(Sp. Law)	Lexington
Brittain, John Alfred	(M. & E. 2)	Leadville, Colo.
Brock, Gayle	(Law 3)	New Liberty
Bromagem, Jerry	(M. & E. 1)	Louisville
Brooks, Glenn Ulrich	(Sp. Law)	Pittsburgh, Pa.
Brown, Clarence Carlisle	(Agr. 2)	R. R. 4, Williamstown
Brown, Edith Hazel	(A. & S. 4)	Lexington
Brown, Lois Real	(Agr. 2)	Providence
Brown, Oath Lee	(Prac. Min.)	Williamsburg
Brown, Samuel H.	(Law 2)	R. R. 3, Lewisburg
Browning, Iley Baker	(A. & S. 4)	Paducah
Browning, May Barnes	(A. & S. 1)	Lexington
Buchanan, Roy George	(A. & S. 1)	Morganfield
Bullock, Henry McDowell	(Agr. 1)	Lexington
Burbank, Julia Yeomans	(Agr. 1)	Chicago, Ill.
Burge, Lofton Voris	(Agr. 1)	R. R. 5, Mayfield
Burgin, Manfred V.	(Civ. 3)	R. R. 8, Lexington
Burkhead, Naaman	(A. & S. 1)	Tatham Springs
Burkholder, Helen Pauline	(A. & S. 3)	Ashland City, Tenn.
Burnley, Edwin Ratcliffe	(Civ. 3)	Kevil
Button, Frank Whitfield	(Agr. 2)	Versailles
Burns, William Seeley	(10 wks. Agr.)	Brock
Byrd, Lloyd Ewing	(A. & S. 1)	Murray
Camp, Ambrose Bourne	(Sh. Agr.)	Trenton
Campbell, John Thomas	(Agr. 2)	Campbellsburg

Campbell, John Will	(Agr. 1)	Indian Creek
Canary, Jesse Earl	(Agr. 1)	Fordsville
Cannon, Lelia Ford	(Sp. A. & S.)	Nicholasville
Carman, Armiel	(Agr. 4)	Mayfield
Carman, Herman	(Sh. Agr.)	Mayfield
Carroll, William Pryor	(Sp. Agr.)	New Castle
Carson, Daniel C.	(Civ. 2)	Richmond
Carter, Phillip Strother	(Law 2)	Catlettsburg
Cary, Elizabeth Robinson	(A. & S. 4)	Versailles
Cassady, Earle	(Law 2)	Inez
Cassidy, John Thomas	(A. & S. 2)	Lexington
Cassidy, Laura	(Sh. H. E.)	Lexington
Castro, Idalina Oliveira	(Sp. A. & S.)	Portugal
Caudill, Samuel Jefferson	(Min. 4)	Cannel City
Cavallo, Emile Barton	(Civ. 2)	Vicksburg, Miss.
Chalkley, Lyman, Jr.	(Sh. M. & E.)	Lexington
Chamberlain, Jerome DeVize	(Law 3)	Uniontown
Champion, Talmage	(Sh. Agr.)	Smithland
Chancellor, Herbert Hall	(A. & S. 2)	Sturgis
Chenault, Cecil C.	(Sh. Agr.)	Louisville
Cherry, George L.	(M. & E. 4)	Bowling Green
Cherry, James Preston	(Law 2)	Morgantown
Childress, Hugh J.	(Sp. Agr.)	R. R. 2, Jellico, Tenn.
Chilton, Gabriel Levi	(Civ. 1)	Turner's Station
Chrisman, Marvin Cecil	(A. & S. 1)	Owenton
Church, Zack Lewis	(Sh. Agr.)	R. R. 1, Frankfort
Cisco, Byron Richard	(Law 3)	West Liberty
Clarke, Carter Weldon	(M. & E. 2)	Smithland
Clark, Clarence O.	(A. & S. 3)	R. R. 6, Owensboro
Clark, Ernest Harold	(M. & E. 4)	Lexington
Clarke, Horace Burt	(Civ. 2)	Maysville
Clark, Jefferson Davis	(M. & E. 2)	R. R. 6, Lexington
Clark, John T.	(Agr. 1)	R. R. 6, Lexington
Clarke, Marcus Jerome	(Agr. 4)	Owensboro
Clarke, Roy S.	(M. & E. 2)	St. Charles, Mo.
Clark, William Thomas	(Agr. 3)	Vanceburg
Clarke, William W.	(Civ. 4)	Owensboro
Clayton, Robert Shirley	(M. & E. 2)	Murray
Clem, Lena Rivers	(A. & S. 2)	Bedford
Clements, Earle Chester	(Sh. Agr.)	Morganfield

Coates, Aaron	(A. & S. 1)	Frankfort
Cobb, Edwin	(Agr. 2)	Richmond
Cody, Tom Henry	(Civ. 4)	Hindman
Cody, William F.	(A. & S. 2)	Fond du Lac, Wis.
Cole, Andrew Lee	(Sp. Agr.)	Bowling Green
Coleman, J. Henry	(Law 3)	Oak Grove
Collier, Frederick William	(Sh. Agr.)	R. R. 1, Lexington
Collier, Hugh Minter	(Civ. 2)	McKee
Collins, Mary C. Love	(Law 4)	R. R. 10, Lexington
Collins, Sarah Mildred	(Agr. 1)	North Middletown
Collins, William Joel	(Law 2)	Richmond
Combest, Homer Burke	(Agr. 3)	Liberty
Combs, Anthony Burnam	(Law 4)	Prestonburg
Combs, Henry Kelly	(Agr. 1)	Hollonville
Conditt, Marion Uri	(A. & S. 3)	Marion
Conley, Neil Burgess	(M. & E. 1)	Louisa
Connell, John Thornton	(A. & S. 1)	Paris
Cook, Jessamine Bertha	(Agr. 1)	Somerset
Cooley, Charles R., Jr.	(A. & S. 1)	Catlettsburg
Coons, Bettie Louise	(Agr. 3)	R. R. 4, Lexington
Coons, Margaret Ferguson	(A. & S. 1)	Lexington
Cooper, John William	(M. & E. 2)	Nicholasville
Cooper, Paul Parker	(A. & S. 1)	Benton
Corn, James Franklin	(A. & S. 4)	Harrodsburg
Cottingham, Wayne Taylor	(A. & S. 2)	Paris
Cottrell, Harry	(Agr. 2)	Owensboro
Cox, James Robert	(Sp. Agr.)	Versailles
Crabbe, Anita Dickerson	(Sp. A. & S.)	Louisville
Cramer, Vie Toler	(Agr. 3)	Lexington
Cramer, Willard Frederick	(A. & S. 3)	R. R. 1, Lexington
Crawford, Albert Byron	(A. & S. 3)	Rose Hill
Crawford, Nelle Florence	(A. & S. 3)	Somerset
Crawley, Miles Edward	(A. & S. 1)	Henderson
Creech, Benjamin Franklin	(Sp. Agr.)	Harlan
Creech, Grover Howard	(Agr. 1)	Pineville
Creekmore, Thomas Lindsey	(Law 3)	Lexington
Cregor, Celia Bartlett	(Agr. 2)	Springfield
Cregor, N. Minton	(Agr. 4)	Lebanon
Crenshaw, John Werner	(M. & E. 2)	Versailles
Crenshaw, William Percy	(M. & E. 2)	Versailles

Cromwell, Anna Jewell	(A. & S. 1)	Cynthiana
Cromwell, Henry Frye	(A. & S. 4)	Cynthiana
Crow, Elizabeth Robinson	(A. & E. 3)	R. R. 4, Versailles
Crowder, Charles Walter, Jr.	(M. & E. 1)	St. Matthews
Cruickshank, Lucille Harrison	(Agr. 4)	Lexington
Crum, Frank Moore	(A. & S. 3)	Inez
Crutcher, Morris Julian	(M. & E. 3)	Louisville
Cullen, Robert Emmet	(Law 4)	Flemingsburg
Culley, Harry Lou	(10 wks. Agr.)	Sturgis
Cummings, Jessie Pearl	(Agr. 1)	Leitchfield
Dahringer, John Franck	(M. & E. 1)	Lebanon
Darnall, Ina Marion	(A. & S. 4)	Paducah
Daugherty, George Edward	(Prac. Min.)	Stone
David, William Russell	(M. & E. 1)	Lexington
Davidson, Carl Rogers	(M. & E. 3)	Lexington
Davidson, Clarence Morris	(Agr. 1)	Covington
Davidson, Leonard Thornton	(M. & E. 2)	Lexington
Davidson, Lilburn Clifford	(M. & E. 1)	Jackson
Davies, Arthur Wayne	(M. & E. 3)	Lexington
Davis, Hestelle Ray	(Sp. Law)	Bascom
Davies, Paul Drummond	(Agr. 1)	Lexington
Davis, Frank	(Prac. Min.)	Jenkins
Davis, Robert Morris	(M. & E. 2)	Utica
Davis, Titus Eldridge	(Prac. Min.)	Henderson
Dawes, Frances Marie	(A. & S. 2)	Fulton
Dean, Edith Cary	(A. & S. 4)	Owensboro
Dearborn, Elbert R.	(M. & E. 2)	Cynthiana
DeBell, Eliza Dudley	(Agr. 1)	Flemingsburg
Deboe, Era Pickens	(A. & S. 1)	Marion
Deering, John Stratton	(Law 4)	Nicholasville
DeLaine, Vivian E.	(Sp. A. & S.)	Carrollton
Delaney, James Foster	(Agr. 2)	Carlisle
De Mey, C. Frederic	(M. & E. 1)	Los Angeles, Cal.
Dempsey, Frank Walton	(Law 2)	Burlington
Denton, Cromwell Sayre	(Sh. Agr.)	Lexington
Denton, Esther Higgins	(A. & S. 1)	Somerset
Devera, Norberto	(Law 4)	Philippine Islands
Diamond, Ruby Karl	(Civ. 1)	Louisville
Dickerson, Charles Bingley	(Sp. M. & E.)	Paris
Dickey, Jane Kennedy	(A. & S. 3)	Richwood

Dills, Jno. B.	(Prac. Min.)	Thealka
Dinkle, Vernon Andrew	(Sp. Law)	Catlettsburg
Ditto, Russell Hobson	(A. & S. 1)	Vine Grove
Dix, William Hewitt	(M. & E. 4)	Stephensport
Dixon, Gladys Vienna	(A. & S. 1)	Vanceburg
Dorman, Bertha P.	(Sh. H. E.)	Lexington
Dorman, Edith	(Sp. H. E.)	High Bridge
Doss, Beard	(M. & E. 1)	Shelbyville
Dotson, Clifford T.	(Law 3)	Olmstead
Dotson, William Ira	(A. & S. 3)	R. R. 5, Carlisle
Dougherty, Mary Louise	(A. & S. 4)	R. R. 2, Maysville
Downing, John Preston	(Sh. Agr.)	R. R. 8, Lexington
Downing, Willis Taylor	(M. & E. 2)	Lexington
Drake, Ernest Gay	(Civ. 2)	Lexington
Drake, Eleanor	(Sp. H. E.)	Lexington
Drake, Ellis Ewen	(Sh. M. & E.)	Lexington
Duckwall, Ruth Montgomery	(Sh. Agr.)	Louisville
Dudley, David Russell	(M. & E. 1)	Earlington
Duley, Vennie Edwina	(Sh. H. E.)	Smithland
Duncan, Elizabeth Bryan	(A. & S. 2)	Lawrenceburg
Duncan, Florence Ethel	(A. & S. 2)	Lawrenceburg
Duncan, Richard Lindsey	(Agr. 1)	La Grange
Duncan, Robert Graham	(A. & S. 1)	Owensboro
Dunn, Charles K.	(M. & E. 4)	Lancaster
Durham, Jerome Parker	(Sp. Agr.)	Central City
Eaker, Eleanor Florra	(A. & S. 2)	Princeton
Eakins, Emlous	(Sh. Agr.)	Robards
Early, Charles Cuvier	(Sh. Agr.)	Lexington
Easley, Willie Kate	(A. & S. 1)	Stamping Ground
Ecker, Laura Esther	(Agr. 1)	Louisville
Edens, George Edward	(A. & S. 1)	Burkesville
Edmonds, Eugene Allen	(Sp. M. & E.)	Winchester
Edwards, Ordie Morton	(A. & S. 4)	R. R. 1, Caneyville
Eichelberger, Frederick L. A.	(Law 4)	Birmingham, Ala.
Eimer, Albert Lee	(M. & E. 3)	Newport
Eimer, Edwin John	(A. & S. 4)	Newport
Eish, Leland Stanford	(Agr. 1)	Newport
Elder, Eugene Vincent	(Min. 1)	Paris
Elkin, Bertha Davis	(A. & S. 3)	Lexington
Elliott, Foster Floyd	(Agr. 2)	Eubank

Elliott, Lavinia May	(M. & E. 1)	Lexington
Elliott, Robert Boyd	(Prac. Min.)	Pineville
Ellis, Dee Richard	(M. & E. 2)	Eminence
Ellis, Hilton Hayden	(Sh. Agr.)	R. R. 3, Butler
Elston, Wallace Smith	(Agr. 1)	Turner's Station
Elswick, Kit Carson	(Law 3)	Estep
Engle, Stanley L.	(A. & S. 3)	McKee
Estes, Lila Caye	(A. & S. 4)	Lebanon
Eubank, Albia Linea	(M. & E. 2)	Columbia
Eubank, Warren Lyddane	(Law 4)	Lexington
Evans, Herndon Julian	(A. & S. 2)	Frankfort
Evans, James Howard	(M. & E. 3)	Lebanon
Eyl, Joseph Michael	(M. & E. 1)	Lexington
Eyl, William Christopher	(Min. 3)	Lexington
Farmer, Harry Walker	(Agr. 1)	Stanford
Farmer, James Napoleon	(Law 4)	Somerset
Farra, Ann Elizabeth	(Agr. 4)	Nicholasville
Farrell, Jane Matilda	(Sp. A. & S.)	Lexington
Farrell, Josephine Edward	(Sp. A. & S.)	Lexington
Faulkner, Robert T.	(Agr. 2)	Barbourville
Fearing, Henry Lincoln	(M. & E. 3)	Olympia
Featherston, Elizabeth	(A. & S. 1)	Lexington
Feigel, Madeline Louise	(Agr. 1)	St. Matthews
Felix, Herbert Frank	(A. & S. 4)	Hartford
Fenley, Richard Boggess	(Agr. 2)	Valley Station
Ferguson, Zula Inez	(A. & S. 1)	Wickliffe
Ferris, George Marvin	(Civ. 4)	Knoxville, Tenn.
Field, Jean Olive	(A. & S. 4)	Lexington
Finney, Milton Carroll	(A. & S. 2)	Frankfort
Fish, John Shuff	(Agr. 4)	Georgetown
Fishback, George Benjamin	(Law 2)	Mt. Vernon
Fishback, Rutherford Y.	(Civ. 3)	Pine Grove
Fitts, Wilfred T.	(Sh. Agr.)	Owensboro
Fitzgerald, George Harbeson	(Sp. Agr.)	Maysville
Fitzgerald, Lloyd Greenworth	(Min. 1)	Burnside
Flanery, Dawn Tennyson	(A. & S. 2)	Catlettsburg
Flanery, Lillian Dew	(A. & S. 2)	Catlettsburg
Flege, John Blain	(Agr. 2)	Williamstown
Flege, Robert Frederic	(A. & S. 2)	Williamstown
Fleming, Ernest Berry	(Min. 2)	Elizaville

Flocken, Jacob John	(Min. 2)	Louisville
Florence, Jessie Hunt	(Agr. 3)	Cynthiana
Flournoy, Landon Cabell, Jr.	(Law 4)	Morganfield
Flournoy, Thomas Stanhope	(Agr. 1)	Morganfield
Fogg, Richard Jackson	(Law 4)	Lexington
Fogg, William O'Rear	(A. & S. 1)	Paintsville
Foit, Harrie	(Prac. Min.)	Edgarton, W. Va.
Folks, Maybelle LeVon	(Agr. 1)	Macy, Indiana
Ford, Ben Conway	(Agr. 2)	Owensboro
Foreman, Charles Beard	(Sh. Agr.)	Taylorsville
Forman, Howard Clark	(Civ. 2)	Williamstown
Forman, Morris	(A. & S. 1)	Louisville
Foster II, Addison Gardner	(Sp. Law)	Tacoma, Wash.
Foster, Richard Allan	(A. & S. 4)	R. R. 4, Marion
Foster, William Joe	(A. & S. 1)	R. R. 4, Marion
Fowler, Orie Lee	(Law 3)	R. R. 7, Cynthiana
Frankel, Gilbert	(M. & E. 1)	Louisville
Frazier, Emery Lee	(Law 2)	Lawrenceburg
Frasier, Edward Rowland	(Law 3)	Corydon
Fried, Hyman	(Civ. 3)	Flemingsburg
Fritts, Thomas	(Prac. Min.)	Williamsburg
Frost, Sue Hunt	(A. & S. 4)	Louisville
Frost, Elizabeth Dee	(Sp. A. & S.)	Shelbyville, Tenn.
Frost, William Bernes	(Agr. 1)	Central City
Frye, Kenneth C.	(Civ. 3)	Waddy
Fultz, William	(Agr. 1)	Ashland
Fuss, John Carroll	(Civ. 2)	Frankfort
Gabbert, William Richard	(Agr. 2)	Louisville
Gaines, Lillian Askew	(A. & S. 3)	Hopkinsville
Galanty, Abe Davis	(A. & S. 4)	Maysville
Gardner, George Weedon	(Agr. 1)	Eminence
Garred, Ulysses Victoria	(M. & E. 2)	R. R. 1, Louisa
Garrett, James Douglas	(M. & E. 4)	Fort Garrett
Garrison, William	(A. & S. 1)	R. R. 2, Brooksville
Garrow, Agnes Kathleen	(Agr. 2)	Paducah
Gartin, Otto Colton	(Law 2)	Louisa
Gary, Weller Ray	(A. & S. 1)	Loganport
Gasser, Paul Howard	(Law 1)	Owenboro
Gaugh, Clarence Russell	(Civ. 3)	Lexington
Gault, Lelah Vaughn	(Agr. 2)	R. R. 2, Maysville

Gayle, Joseph Lee	(Agr. 1)	Falmouth
Geisel, Frances Dudley	(Agr. 3)	Maysville
Gentry, Effie Lee	(Agr. 1)	Prentiss
Georgieff, Constantin	(Agr. 2)	Lofio-Bulgaria
Gerhard, Otto Paul	(Agr. 4)	Covington
Gernert, Clinton H.	(Sp. Agr.)	Louisville
Gibson, John Marshall	(Agr. 2)	Irvington
Gilbert, Roy H.	(Agr. 2)	Covington
Gill, Anderson Smith	(Agr. 1)	Columbia
Ginocchio, Frank S.	(Law 4)	Lexington
Ginocchio, Lawrence S.	(Agr. 2)	Lexington
Gish, Samuel Culbertson	(M. & E. 1)	Central City
Givens, James Douglas	(M. & E. 2)	Uniontown
Glenn, Howard Emmit	(Civ. 1)	Hartford
Glenn, William Mead	(M. & E. 4)	Georgetown
Glickman, David	(Law 3)	Pineville
Godfrey, George Joseph	(Sp. M. & E.)	Lexington
Godman, Mark Selsor	(Law 3)	Lexington
Goldberg, Louis	(A. & S. 1)	Newport
Gooch, John Thomas	(A. & S. 4)	Hanson
Goodwin, Marietta	(Sh. H. E.)	Lexington
Goosman, Karl William	(M. & E. 2)	Richmond
Gordon, Angus Neal	(Sp. Agr.)	Lexington
Gordon, Charles William	(M. & E. 2)	Lexington
Gordon, Thomas B.	(Agr. 3)	Lexington
Gore, Margaret Elizabeth	(A. & S. 1)	Bardstown
Gossage, Paul Huston	(Sp. Law)	Lola
Gottlieb, Samuel	(Agr. 1)	New York, N. Y.
Grabfelder, Earle	(A. & S. 2)	Louisville
Graddy, George Neville	(10 wks. Agr.)	Frankfort
Graddy, Ivan Clay	(Agr. 3)	Utica
Graham, Herbert Dade	(A. & S. 4)	Frankfort
Graham, Mildred Hazen	(A. & S. 1)	Louisville
Graham, Virginia Taylor	(A. & S. 1)	Lexington
Grainger, Frank Rogers	(Min. 2)	Paducah
Graves, Frank Kavanaugh	(Sh. Agr.)	R. R. 2, Frankfort
Green, Logan Nourse	(Law 4)	Hopkinsville
Greene, Richard M.	(Agr. 3)	R. R. 4, Georgetown
Greenbaum, Herman	(M. & E. 2)	Midway
Gregory, Alice Miller	(Sp. A. & S.)	Louisville

Gregory, Jesse Forrest	(Law 3)	R. R. 6, Owensboro
Grehan, Henry Enright	(A. & S. 1)	Lexington
Grehan, Robert Johnson	(A. & S. 1)	Lexington
Gribbin, Eugene Leigh	(A. & S. 1)	Lexington
** Griffith, Eldridge Scott	(A. & S. 1)	Benton
Grossman, Herbert Robert	(Civ. 2)	Louisvillle
Grubbs, Samuel Flowers	(Agr. 2)	Adairville
Grubbs, Thomas Dillard	(Law 2)	Mt. Sterling
Gruber, Mary Elizabeth	(Agr. 2)	Shelbyville
Gumbert, George Martin	(Agr. 3)	Richmond
Hackney, Jr., Edwin H.	(Law 2)	London
Haffler, Whayne Wilson	(Civ. 3)	La Grange
Hagan, Wilhelmina Mary	(Agr. 1)	Lexington
Hager, Reuben Wilham	(Civ. 2)	R. R. 1, Grant
Haggan, Henry Clay	(Agr. 2)	Lexington
Hale, George Daniel	(Prac. Min.)	McRoberts
Hale, Philip Theodore	(M. & E. 2)	Louisville
Hall, Maggie Louise	(6 wks. H. E.)	R. R. 2, Georgetown
Hall, Aleander Daniel	(M. & E. 1)	Lexington
Hamic, William Harvey	(Prac. Min.)	Hazard
Hamilton, Mary Katherine	(A. & S. 3)	Cynthiana
Hamilton, Stanton Egbert	(Civ. 3)	Brooksville
Hamilton, Scott Isaac	(10 wks. Agr.)	Stanford
Hamman, Andrew Neal	(Sh. Min.)	Lexington
Hammond, John Lewis	(Agr. 2)	Vanceburg
Hamon, Andrew	(Sp. Law)	Lexington
Hancock, Cecil Ulric	(Agr. 1)	Sebree
Hanson, Raymond W.	(Civ. 2)	Germantown
Harbison, Anna Howard	(Sp. A. & S.)	Lexington
Harbison, McClarty	(A. & S. 3)	Shelbyville
Harbison, Sarah Caldwell	(Agr. 1)	Shelbyville
Harmon, Ella Maude	(A. & S. 3)	Perryville
Harney, Clarence Wilbur	(A. & S. 3)	Cynthiana
Harper, Lila Catherine	(A. & S. 1)	R. R. 2, Paducah
Harris, William Jefferson	(Agr. 4)	Nolan, W. Va.
Harrison, Clyde D.	(Agr. 2)	Lebanon
Harrison, Fred A.	(Law 4)	Lexington
Hart, Aubrey Maximilian	(M. & E. 2)	Uniontown
Hatter, Emmett Presley	(A. & S. 3)	Franklin

** Died October 15, 1915.

Hauck, Milton John	(Agr. 2)	Newport
Hawkins, Mary Keith	(A. & S. 1)	Versailles
Haydon, Charles Joseph	(Law 2)	Springfield
Haydon, Lillian Ella	(Agr. 1)	R. R., Lexington
Haydon, Thomas S.	(Sh. Agr.)	Springfield
Hays, Joseph Smith, Jr.	(Law 4)	Winchester
Hayes, Lorenzo George	(Civ. 1)	Madisonville
Hays, Josie Lacer	(A. & S. 4)	Owensboro
Hays, Rutherford B.	(Agr. 3)	R. R. 1, Mayfield
Heath, Robert Miller	(Agr. 4)	Bedford
Heathman, Masie Tudor	(Sp. H. E.)	Lexington
Hedges, James M., Jr.	(M. & E. 2)	Lexington
Heick, Frank	(Agr. 1)	Louisville
Heinrich, Albertine	(Sp. A. & S.)	Carrollton
Helburn, Esther Kahn	(Agr. 1)	Eminence
Heller, Elsie B.	(A. & S. 4)	Paris
Henderson, Jesse Robert	(Civ. 3)	Flemingsburg
Henry, Chiles Walter	(Law 2)	Mt. Sterling
Henry, Hall Massolin	(M. & E. 2)	Dixon
Henry, Richard Earl	(A. & S. 1)	Morton's Gap
Herman, John Raymond	(Agr. 1)	Newport
Herndon, John Presley	(M. & E. 2)	Frankfort
Herndon, Lewis Washington	(M. & E. 1)	Irvington
Hesson, Hugo Thurston	(Agr. 1)	Shelbyville
Heyman, Laurence Jerome	(A. & S. 4)	Lexington
Hickerson, Broadus Edward	(Law 2)	Springfield
Hieatt, Kate Gray	(A. & S. 3)	R. R. 8, Lexington
Hieronymous, William Shelton	(Agr. 2)	St. Helens
Higgins, James Thomas	(Sh. Min.)	Belvidere, Ill.
Highfield, Mary Virginia	(A. & S. 1)	Lexington
Hill, Edward Bruce	(Prac. Min.)	Chenoa
Hill, George H.	(Civ. 3)	Bluefield, W. Va.
Hill, James	(M. & E. 2)	Stanley
Hill, John Parker	(Min. 2)	Vanceburg
Hillsman, George Albert	(M. & E. 1)	Livermore
Hines, Harold Kemble	(Min. 2)	Bowling Green
Hodges, Julian Adair	(Agr. 3)	Greensburg
Hogard, Joe Samuel	(M. & E. 1)	Columbia
Hogrefe, John H.	(Civ. 4)	Walton
Holladay, Arthur Anderson	(Agr. 1)	Columbia

Holladay, James Jr.	(Law 2)	Columbia
Holton, Emma Gladys	(A. & S. 2)	Forks of Elkhorn
Hopkins, Arthur T.	(Min. 1)	Frankfort
Hopkins, Elmer Woodson	(Civ. 3)	Henderson
Horine, Henry Price	(M. & E. 3)	Nicholasville
Horine, Miriam Virginia	(A. & S. 3)	R. R. 3, Nicholasville
Horton, Bessie Agnes	(Agr. 1)	Middlesboro
Horton, Marshal Gilman	(M. & E. 4)	Bradentown, Fla.
Horton, Rowland Miller	(Agr. 2)	Louisa
Hoskins, William Caudell	(Sp. Law)	Hoskinston
Hounchell, Harry Lee	(Agr. 1)	Oneida
Howard, J. Woodford	(Law 2)	White Oak
Howard, Leah Kathleen	(A. & S. 4)	Russellville
Howard, Mary Wells	(A. & S. 4)	Benton
Howard, Otis	(M. & E. 1)	Hartford
Howe, Benjamin David	(Civ. 4)	Elizaville
Hubble, Clyde Murphy	(Agr. 3)	Mt. Vernon
Hudson, Sherley	(Civ. 2)	Louisville
Huff, Aaron Borom	(M. & E. 4)	Berea
Hughes, Bessie	(A. & S. 1)	Edenton
Hughes, Charles Allen	(Sh. Agr.)	Edmonton
Hughes, Linor Earl	(Agr. 1)	Olmstead
Hughes, Rod Perry	(Sp. Agr.)	Richwood
Hume, James J.	(Min. 3)	Falmouth
Hundley, Robert Ed.	(M. & E. 4)	Owensboro
Hunn, Boyce	(Agr. 1)	Stanford
Hunt, Russell Aubrey	(Agr. 2)	Utica
Hutchcraft, Winn V.	(Agr. 1)	Paris
Hutchison, Frank Young	(M. & E. 2)	Nicholasville
Hutchinson, Ronald	(Agr. 3)	England
Hutson, John B.	(Sp. Agr.)	Murray
Iglehart, Rayse McMurtry	(Agr. 2)	Hartford
Iler, Wayne Dickerson	(A. & S. 4)	Covington
Ingels, Margaret	(M. & E. 4)	Lexington
Innes, Nancy Webb	(A. & S. 3)	Lexington
Ireland, Robert Young	(Civ. 2)	La Grange
Irvine, James Farra	(Min. 1)	Lexington
Jackson, Frederick Marion	(A. & S. 1)	Versailles
Jackson, George Louis	(M. & E. 3)	Franklin
Jacob, George Lawrence	(Civ. 1)	Franklin

Jameson, Laura Lee	(Agr. 2)	R. R., Cynthiana
Janes, Louise Elizabeth	(A. & S. 1)	Louisville
Jarvis, Walter Monroe	(M. & E. 2)	Barbourville
Jasper, Milton Gaines	(Agr. 2)	Richmond
Jenkins, Richard Harold	(Law 2)	Georgetown
Jennings, Hal Keith	(M. & E. 2)	Murray
Johns, Francis Girard	(M. & E. 1)	Lexington
Johns, Mary Elizabeth	(Sh. H. E.)	Lexington
Johnson, Andrew	(Sh. Agr.)	Central City
Johnson, Archibald Leonard	(A. & S. 4)	Tallega
Johnson, Charles Franklin	(Civ. 1)	Mayfield
Johnson, Edward M.	(Agr. 2)	Vanceburg
Johnson, Frank H., Jr.	(Agr. 3)	Louisville
Johnson, Maxie	(A. & S. 1)	Tallega
Johnson, Richard Spalding	(10 wks. Agr.)	Waverly
Johnson, Samuel Camp	(Agr. 3)	Frankfort
Johnstone, William Clarkson	(Agr. 4)	R. R. 2, Nicholasville
Jones, Arthur Evan	(Law 3)	London
Jones, Carrie Lee	(A. & S. 2)	Lexington
Jones, Elmer Burton	(Min. 3)	Louisville
Jones, Emily	(A. & S. 1)	Monticello
Jones, Leslie Phillip	(Agr. 3)	Mayfield
Jones, Stanly Higginson	(Civ. 1)	Elizabethtown
Judd, Bessie Fogle	(A. & S. 4)	Lexington
Kallbreier, William J.	(Law 3)	Buckner
Kape, Julius	(M. & E. 1)	Russia
Karnes, Reuben Jack	(Sh. Min.)	Paducah
Karsner, George Dunlap	(Sh. Agr.)	R. R. 8, Lexington
Kastle, Elizabeth Shane	(A. & S. 3)	Lexington
Kavanaugh, Aileen Gilbert	(A. & S. 2)	Lawrenceburg
Keene, John Paul	(M. & E. 2)	Georgetown
Kelley, Arthur S.	(A. & S. 3)	Whitesville
Kelley, Everett Edward	(A. & S. 1)	Whitesville
Kelly, John Carroll	(M. & E. 2)	Mt. Sterling
Kendrick, William Taylor, Jr.	(Law 3)	Los Angeles, Cal.
Kenney, Henry Fletcher	(Agr. 1)	Nicholasville
Kerr, Charles	(A. & S. 1)	Lexington
Kerswill, Lela May	(A. & S. 2)	Lexington
Kibbey, Delbert Valley	(Law 2)	Rooney
Kimball, Edness Merrick	(A. & S. 2)	Casper, Wyoming

Kimpton, Edward Kennett	(Min. 1)	Chicago, Ill.
King, John	(Agr. 1)	Ages
Kinkead, Laura de Savillon	(Sp. A. & S.)	Lexington
Kinkead, Sidney Clay	(Agr. 3)	Lexington
Kinne, Howard Irving	(Civ. 2)	Stearns
Kinsie, Paul	(Sp. M. & E.)	New York, N. Y.
Kirtley, Elliott Campbell	(Agr. 2)	Frankfort
Kohn, Alvin	(M. & E. 1)	Louisville
Kolb, Edwin H.	(Sp. M. & E.)	Buffalo, N. Y.
Kolbey, Henry J.	(M. & E. 2)	Russia
Kremer, Frank Fehr	(Min. 1)	Louisville
Kumli, Charles Frank	(A. & S. 4)	Middlesboro
Lail, Webb	(M. & E. 4)	Lexington
LaMaster, B. Fowler	(Sp. A. & S.)	Sulphur
LaMaster, Orem	(Agr. 3)	Campbellsburg
Lambert, Elmer Lee	(Agr. 3)	Lexington
Lancaster, Frank Stillman	(Agr. 1)	Lebanon
Land, John March	(Civ. 1)	Hanly
Land, Robert Henry	(Sp. Agr.)	Hanly
Latimer, Doil Wadsworth	(Agr. 1)	Dry Ridge
Lawson, Ector Smith	(A. & S. 2)	Lancaster
Lauwill, Susan Dewey	(Agr. 1)	Manchester, Ohio
Ledwidge, Guy	(Agr. 1)	Hickman
Lee, Chilton Frazier	(M. & E. 3)	Shepherdville
Lee, James Edward	(Prac. Min.)	Kettle Island
Lee, Owen Scott	(A. & S. 4)	Sadieville
Lemon, Frieda Blanche	(A. & S. 2)	Providence
Leman, John	(M. & E. 1)	Pineville
Leonian, Leon	(Agr. 4)	Armenia
Lewis, Anna Egli	(A. & S. 4)	Franklin
Lewis, Henry Passant	(Law 2)	London
Lewis, Junius	(Agr. 2)	R. R. 1, Stanley
Lewis, Merriam Sarretson	(Sh. Agr.)	Lawrenceville, Va.
Likens, Everett Ray	(A. & S. 2)	Beaver Dam
Lillard, Eugene Allen	(M. & E. 2)	Versailles
Lillard, Katherine Davis	(A. & S. 2)	Versailles
Lilly, Austin Page	(Agr. 1)	Richmond
Lindsay, John William	(Agr. 2)	Covington
Lisanby, Cornelius Rufus	(A. & S. 1)	Dawson Springs
Littrell, Herman Gayle	(Civ. 1)	Owenton

Logan, William Lindsey	(M. & E. 2)	R. R. 7, Shelbyville
Long, Henry Sherley	(Agr. 2)	Bedford
Longsworth, Laurence Irving	(A. & S. 1)	Somerset
Lovell, Charles William	(Civ. 4)	Greenville
Lowenthal, Ben	(M. & E. 1)	Newport
Lowry, Ben H.	(Sp. Agr.)	Catlettsburg
Lucas, Birdie Lewis	(A. & S. 1)	Lexington
Lucas, William Linton	(Sp. Law)	Louisville
Luigart, Annabel	(Sh. H. E.)	Lexington
Lutkemeier, Carolyn Frances	(Agr. 4)	Frankfort
Lyle, Josephine Irvine	(Sp. Agr.)	Lexington
Lyle, Judith Virginia	(Agr. 3)	Lexington
Lytle, Montgomery Bell	(10 wks. Agr.)	Lexington
McAdams, Anne Elizabeth	(Agr. 1)	Lexington
McAdams, Olivet Kennett	(A. & S. 1)	Lexington
McAlister, Louise Virginia	(Sp. H. E.)	Lexington
McBrayer, Jasper Johnson	(Law 2)	Lawrenceburg
McCarthy, Margaret Claire	(A. & S. 3)	Lexington
McCarty, Gambrell	(Agr. 4)	Owensboro
McClanahan, Luther Cleveland	(M. & E. 3)	Metropolis, Ill.
McClelland, Frances	(Sp. A. & S.)	Lexington
McClellan, James Ellyson	(M. & E. 2)	Springfield
McClure, Charles Rose	(M. & E. 2)	R. R. 3 ,Lawrenceburg
McClure, Eugene Thomas	(Agr. 4)	Gallup
McClure, John Edwin	(Agr. 2)	R. R. 4, Mt. Sterling
McClure, Margaret E.	(A. & S. 1)	Lexington
McClure, Orie Lee	(M. & E. 2)	Springfield
McConnell, James Hubbard, Jr.	(Agr. 3)	Arlington
McConnell, Lillian Frances	(A. & S. 1)	Lexington
McConnell, Virginia Vertner	(Agr. 2)	Lexington
McCown, Thomas Chenault	(Agr. 3)	R. R., Richmond
McCracken, Morris L.	(Agr. 4)	Louisville
McCreight, Jas. M.	(Min. 1)	Reynoldsville, Pa.
McCuddy, Charles Overton	(Sp. Agr.)	Oakville
McDanell, Lavinia Ray	(A. & S. 2)	Warsaw
McDaniel, Marshall Alexander	(Agr. 1)	Hickman
McDonald, John William	(Law 4)	Mayfield
McDougle, William Darnall	(M. & E. 2)	Lexington
McGowan, Elizabeth	(A. & S. 1)	Bagdad
McGraw, George Boyd	(Sh. Agr.)	R. R. 2, Guthrie

McGregor, Harold Bowers	(A. & S. 2)	Lexington
McGuffey, Erle Monroe	(A. & S. 4)	Barthell
McGuire, Arlie Estus	(Agr. 2)	Salyersville
McIlvain, Ernest Newton	(Agr. 1)	R. R. 5, Cynthiana
McInteer, Berthus Boston	(Agr. 2)	R. R. 4, Horse Cave
McIntyre, Howard D.	(A. & S. 3)	Carlisle
McKee, Walter Lindsay	(A. & S. 3)	Centreville, Miss.
McKenzie, Robert	(Law 2)	Mt. Vernon
McMurtrey, James Edward, Jr.	(Agr. 3)	R. R. 5, Bowling Green
McMurtry, Joseph Samuel	(Agr. 4)	Vine Grove
McMurtrey, Mattie Brooks	(A. & S. 3)	Nicholasville
McNamara, Joseph Emmet	(M. & E. 3)	Germantown
McNeill, Dee Louis	(Law 4)	Hickman
McNelis, James	(Prac. Min.)	Kettle Island
McRoberts, George Allen	(M. & E. 1)	LaGrange
McWhorter, John Frank	(A. & S. 2)	Springfield
Mabry, Charles Poindexter	(Sp. Law)	R. R. 2, Bardwell
Maclean, Robert Fitzhugh	(Civ. 4)	Lexington
Maddox, Harry Edward	(M. & E. 2)	Mt. Carmel, O.
Maddox, John DeCosta	(M. & E. 2)	Owensboro
Mahoney, Ben	(Agr. 3)	R. R. 3, Lexington
Malter, Joseph	(Sp. A. & S.)	Tarnow, Austria
Mapstone, Roy Clifford A.	(M. & E. 1)	Natal, South Africa
Marking, John Henry	(M. & E. 1)	Louisville
Marr, John Wesley, Jr.	(Sp. Agr.)	R. R. 4, Lexington
Marsh, Ben Gordon	(Agr. 1)	Maysville
Marsh, John Robert	(A. & S. 4)	Maysville
Marshall, Charles Alexander	(Sh. M. & E.)	Maysville
Marshall, Thomas Franklin	(Agr. 1)	Cold Spring
Marshall, William Francis	(Civ. 1)	Greendale
Martin, Edna Rodgers	(A. & S. 2)	Midway
Martin, Lillian Annette	(Agr. 4)	Lexington
Martin, James Newton	(Sp. A. & S.)	Newberry, S. C.
Martin, Lyman Chamberlain	(M. & E. 1)	Owenton
Martin, Marion Gordon	(M. & E. 2)	Winchester
Martin, William Bryan	(Law 2)	S. Carrollton
Martin, William Curry	(A. & S. 4)	Lexington
Mason, Eliza Clay	(Sh. H. E.)	Paris
Mason, Eugene Deruelle	(Sh. M. & E.)	Somerset
Mastin, John Leslie	(A. & S. 1)	Germantown

Maston, John Wesley	(M. & E. 1)	Hawesville
Matherly, C. Hartford	(Agr. 3)	Springfield
Matthews, Ruth Elizabeth	(A. & S. 2)	Lexington
Matthews, Jo Edwin	(M. & E. 1)	Maysville
Matthews, Margaret Catherine	(Agr. 1)	Lexington
Maxey, Herbert Cottle	(Law 2)	West Liberty
May, Joseph McKinster	(M. & E. 4)	Prestonburg
Mayes, Fred Overton	(A. & S. 2)	Rose Hill
Mayhew, Earl	(Agr. 3)	Barbourville
Maynard, Charles Ernest	(M. & E. 2)	Elkton
Mayo, Walker Porter	(Law 4)	Prestonburg
Medley, Francis Joseph	(Agr. 1)	Owensboro
Melton, Harry Edgar	(M. & E. 4)	Lexington
Melvin, James Cleveland	(Agr. 2)	Sedalia
Michot, Marie Louise	(A. & S. 4)	Louisville
Miller, Bertha Klein	(A. & S. 2)	Lexington
Miller, Glenn E.	(Sp. Law)	Warnock
Miller, Jean	(Sh. H. E.)	Lexington
Miller, Ray Eugene	(M. & E. 1)	R. R. 3, Nicholasville
Mills, Vaught	(A. & S. 3)	Kenton
Milton, Hugh Meglone	(M. & E. 1)	Lexington
Milton, James Allen	(M. & E. 1)	Lexington
Milward, Harry L.	(M. & E. 2)	Lexington
Minor, Emil Thomas	(Sh. M. & E.)	Louisville
Misrack, Joe Samuel	(M. & E. 1)	Newport
Mitchell, Ben H.	(Agr. 4)	Eli
Mitchell, Katherine	(Agr. 4)	Bowling Green
Mitchell, Robert, Jr.	(Sh. Agr.)	Paducah
Mitchell, William C.	(Agr. 4)	Bremen
Mobley, Walter E.	(Law 4)	Green
Monroe, Raleigh C.	(A. & S. 2)	Auburn
Montgomery, Murray Matthews	(M. & E. 3)	Madisonville, Tenn.
Moore, James Homer	(Agr. 4)	Marion
Moore, Lee Stephens	(Law 3)	Central City
Moore, Rogers Thomas	(A. & S. 1)	Paris
Moore, William Shultz	(M. & E. 3)	Hartford
Moosnick, Bernard	(A. & S. 1)	Nicholasville
Morgan, Charles Lee	(Agr. 2)	Sirocco
Morris, Helen Elizabeth	(A. & S. 2)	Lexington
Morris, Jo Anderson	(M. & E. 1)	Lexington

Morris, William Lee	(Sp. Law)	Lexington
Morton, Gertrude Estelle	(A. & S. 1)	Lexington
Morton, Samuel Helm	(Law 2)	Owensboro
Moseley, Edward Downes	(Sh. Agr.)	Hopkinsville
Mounts, Drury	(Prac. Min.)	Vulcan, W. Va.
Muller, Mortimer Glover	(Agr. 2)	Lexington
Muncie, Maurice Lee	(A. & S. 1)	Edmonton
Myers, Pansy Marie	(A. & S. 1)	Covington
Nance, Gordon Bennett	(Agr. 3)	Kevil
Narisawa, Kenjiro	(Sp. Agr.)	Japan
Nash, Annie Belle	(A. & S. 1)	R. R. 1, Lexington
Neagle, George Page	(Agr. 4)	R. R. 2, Smiths Grove
Neagle, Walter Cleveland	(Sp. Agr.)	R. R. 2, Smiths Grove
Neblett, John Alexander	(A. & S. 1)	Turners Station
Nelson, Lecoq Herc	(Agr. 4)	Lexington
Nelson, Rebecca Clare	(Sp. Agr.)	Lexington
Ne Ville, Minnie E.	(A. & S. 2)	Louisville
Nicholoff, Constantine	(M. & E. 2)	Bulgaria
Nicholson, Christopher Pittman	(Law 2)	Fagertown
Nisbet, Kenneth Rhea	(M. & E. 2)	Erlington
Noe, James Cecil	(A. & S. 1)	Lexington
Noel, Howard Miller	(A. & S. 1)	Bellevue
Noland, Zerelda	(A. & S. 1)	R. R. 3, Richmond
Norris, James William	(Law 3)	Somerset
North, May	(Sh. H. E.)	Hustonville
Northcutt, Archie Lloyd	(Law 2)	Burlington
Northcutt, Johnst.	(Law 3)	Burlington
Northcutt, Richard Clarence	(Sp. Law)	Burlington
O'Dell, James William	(A. & S. 4)	Lewisburg
Oden, Elizabeth Elmoore	(A. & S. 1)	Lexington
Oakley, William J. P. C.	(A. & S. 1)	West Liberty
Oglesby, Mary Elizabeth	(Agr. 2)	Shelbyville
Orme, George Rankin	(A. & S. 1)	Marion
Otten, Ralph A.	(A. & S. 1)	Newport
Owen, Cline W.	(A. & S. 4)	Mayfield
Owen, J. C.	(M. & E. 2)	Mayfield
Owens, John Stiles	(Law 2)	Calhoun
Owsley, Warner W.	(Agr. 3)	Owensboro
Page, George Vernon	(Agr. 3)	R. R. 1, Sedalia
Palmore, Reginald Ellsworth	(Sh. Agr.)	Persimon

Park, Curtis F., Jr.	(Agr. 3)	R. R. 3, Richmond
Park, George Elliott	(A. & S. 1)	R. R. 3, Richmond
Park, James	(Law 3)	R. R. 3, Richmond
Park, Russell Smith	(M. & E. 1)	R. R. 3, Richmond
Parker, J. Sanders	(Civ. 3)	Sanders
Parker, Mary Byrne	(A. & S. 2)	Maysville
Parker, William Howard	(Sh. Agr.)	Sanders
Parks, Harold	(M. & E. 2)	Irvington
Parrigin, Homer Parks	(M. & E. 4)	Mill Springs
Parrish, Sarah Katherine	(Sp. A. & S.)	Lexington
Patterson, Ilumna Vaught	(Agr. 1)	Millersburg
Payne, James William	(Law 3)	Providence
Payne, Walter Landram	(M. & E. 1)	Paris
Peak, Bart Nixon	(A. & S. 3)	La Grange
Peak, T. Ellis	(M. & E. 2)	La Grange
Pearlman, Reuben	(A. & S. 3)	Richmond
Pedley, Gracean M.	(Agr. 4)	Owensboro
Peel, Dwight R.	(Sp. Agr.)	Benton
Pendleton, Morris Eades	(M. & E. 3)	Lexington
Penick, Everett Smith	(Law 4)	Elkton
Penn, Everett Sleet.	(M. & E. 3)	Georgetown
Pennington, Stella	(A. & S. 2)	London
Perry, Homer	(Agr. 3)	Lexington
Pettit, William	(Sh. Agr.)	Lexington
Petty, Elizabeth Carrithers	(Agr. 1)	Shelbyville
Peyton, Leland Early	(A. & S. 4)	Horse Cave
Pfingstag, Vivian R.	(Agr. 3)	Newport
Phelps, David McCord, Jr.	(Civ. 4)	R. R. 4, Richmond
Phillips, Lena Madesin	(Law 2)	Nicholasville
Phillips, Stanley	(A. & S. 3)	Narrows
Pickett, Elizabeth Danforth	(Agr. 3)	R. R. 1, Finchville
Piggott, Eliza MacLean	(A. & S. 1)	Irvington
Pilcher, Elmer E.	(Agr. 2)	Lexington
Piper, Ann Coleman	(A. & S. 1)	R. R. 2, Lexington
Piper, Walter Clay	(A. & S. 1)	R. R. 2, Lexington
Planck, Charles Evans	(A. & S. 1)	Lexington
Poindexter, Robert Gaylen	(Agr. 1)	Cynthiana
Porter, Charles Carr	(Sp. M. & E.)	Shelbyville
Porter, Philip Henry	(A. & S. 3)	Clinton
Postletweight, David Henry	(Sh. Agr.)	Marion

Potter, Elsie Gertrude	(Agr. 1)	Somerset
Potts, Floyd Wellman	(Agr. 3)	Owensboro
Powell, Harry Jennings	(Law 2)	Richmond
Powell, Henry Taylor	(Civ. 2)	Louisville
Powell, Lois	(Agr. 2)	Red House
Powell, Thomas A.	(Agr. 2)	Sebree
Preston, Amos Charles	(Sp. Law)	Inez
Proctor, Edwin Thomas	(Law 2)	Leitchfield
Proctor, Homer G.	(M. & E. 1)	Mt. Vernon
Puckett, Nick Thomas	(M. & E. 1)	Hatton
Pulliam, Harold Arthur	(A. & S. 2)	Lexington
Pulliam, Keel Gaines	(M. & E. 3)	Lexington
Purnell, Linda Bertram	(Agr. 3)	Middlesboro
Pursifill, Jimmie Madison	(Sh. Civ.)	Whitesburg
Pursley, Ernest Raymond	(M. & E. 4)	Hopkinsville
Puryear, Grover Cleveland	(M. & E. 2)	Waverly
Radford, William Tandy	(M. & E. 3)	Hopkinsville
Ramsey, Edgar Homer	(Sh. Agr.)	Slaughters
Ramsey, Mary Louise	(A. & S. 1)	Dawson Springs
Rankin, Arthur Jinks	(Civ. 4)	Rankin
Rankin, Robert Bryan	(Agr. 3)	Steubenville
Rasco, Neida	(A. & S. 1)	Lexington
Ratican, Martine Catherine	(A. & S. 3)	Owensboro
Ratliff, Jennie Judy	(Sp. H. E.)	Winchester
Rawlings, John Thomas	(Civ. 3)	Newport
Record, Helen Elizabeth	(A. & S. 4)	Pikeville
Rector, Lee Thornton	(A. & S. 2)	R. R. 2, Oak Grove
Redwine, John Tennyson	(Sp. Law)	Sandy Hook
Redwine, Meredith M.	(Sh. M. & E.)	Jackson
Reid, Homer Lloyd	(A. & S. 4)	Lexington
Reid, Walter Albert	(A. & S. 2)	Lexington
Reusch, Louis, Jr.	(Agr. 2)	Bellevue
Revenaugh, Vernon Daniel	(Sh. Agr.)	Louisville
Reynolds, Joseph Carr	(Law 4)	Nicholasville
Reynolds, J. P. Goodson	(Law 2)	Lexington
Rhoads, Wilbur Preston	(Agr. 1)	Hartford
Rice, Francis Leslie	(Min. 2)	Paintsville
Rice, Lexie Clark	(Agr. 1)	Hickman
Rice Than Givens	(M. & E. 3)	Providence
Richards, Tom T.	(Agr. 2)	Morganfield

Richardson, Audrey Wood	(A. & S. 2)	Lexington
Richey, Robert Francis	(Agr. 2)	Newport
Ricketts, John Peter	(Agr. 3)	R. R. 6, Mt. Sterling
Ricketson, Frank Henry, Jr.	(Sp. Law)	Leavenworth, Kas.
Richmond, Eyrl Adelaide	(Agr. 1)	Louisville
Riley, Mary Gray	(A. & S. 1)	Lexington
Ringo, William Pryor	(Agr. 2)	Owensboro
Rives, Raymond Allen	(Sh. Agr.)	R. R. 1, Hopkinsville
Robbins, Mabel	(Sp. A. & S.)	Paris
Roberts, Cary Russell	(M. & E. 2)	Maceo
Roberts, William Head	(Prac. Min.)	Providence
Robertson, Elmer Kranz	(Sp. M. & E.)	Louisville
Robertson, Herman Ervin	(Sh. Civ.)	Louisville
Robinson, Harry	(A. & S. 1)	Somerset
Robinson, Joseph Marcellus	(A. & S. 2)	Owensboro
Robinson, Lelia Ernestine	(A. & S. 2)	Lebanon, Va.
Robinson, Lucy Erwina	(A. & S. 2)	Lexington
Robinson, William Weber	(M. & E. 1)	Chattanooga, Tenn.
Robnett, Pleasant Hunt	(Mech. 1)	Bartow, Fla.
Rochester, William Henry	(Agr. 2)	Marion
Rodes, Elizabeth	(A. & S. 4)	R. R. 4, Lexington
Rodes, William	(Sp. Law)	R. R. 4, Lexington
Rodmon, John Hearst	(Agr. 3)	Owensboro
Rogers, John , Jr.	(M. & E. 2)	Colesburg
Rollings, Dudley Neal	(A. & S. 1)	La Center
Romine, James Daniel	(Prac. Min.)	Wheeler
Roney, James Givens	(Civ. 3)	Providence
Rorer, Charles Newton	(A. & S. 1)	Cynthiana
Rorer, John Alvin	(Min. 1)	Sunrise
Rork, Joseph Spencer	(M. & E. 1)	Paducah
Rose, Noah Virgil	(10 wks. Agr.)	Clay City
Rouse, William Leonard	(Agr. 1)	Cynthiana
Rowe, Walter Edward	(Civ. 1)	Lexington
Ruby, Charles Ernest	(A. & S. 4)	Louisville
Rush, Lovel Feris	(A. & S. 2)	Tomkinsville
Russell, Buford B.	(M. & E. 2)	Elkton
Russell, Hobart S.	(Agr. 2)	Louisville
Russell, Lewis Sterling	(Civ. 3)	Danville
Ruttle, Raymond Henry	(A. & S. 1)	Covington
Ryley, Claude Reginald	(A. & S. 1)	Versailles

Ryley, Mae Taft	(Sp. H. E.)	Versailles
Sachs, Edith Claire	(Agr. 1)	Louisville
Sadler, Hilary Albert	(M. & E. 2)	Auburn
Sadler, Will Roy	(Sp. A. & S.)	Bowling Green
Sale, June	(Sh. H. E.)	Frankfort
Salisbury, Nell Howard	(Sp. H. E.)	Lexington
Sallee, John Louis	(Agr. 1)	Harrodsburg
Sallee, William Merrit	(A. & S. 2)	Lexington
Sandman, Leo Joseph	(Law 4)	Louisville
Sansom, Charles Arthur	(M. & E. 2)	Russellville
Sauer, Robert Louis	(M. & E. 2)	Louisville
Scearce, Richard Ward	(Agr. 4)	Lebanon
Scent, Edward William	(Civ. 1)	Barbourville
Schaber, George Herbert	(A. & S. 2)	R. R. 2, Alexandria
Schaber, Oscar B.	(A. & S. 2)	R. R. 2, Alexandria
Schirmer, Cal John	(Min. 3)	Bellevue
Schneider, William Frederic	(A. & S. 1)	Louisville
Schrader, Charles Christopher	(M. & E. 3)	Philadelphia, Pa.
Schwant, Otto George	(Min. 3)	Covington
Scott, Benjamin Harrison	(Law 2)	Louisville
Scott, Irl Dabney	(Sh. Agr.)	Woodburn
Scott, J. Griff	(M. & E. 3)	Nicholasville
Scott, J. Morris	(A. & S. 3)	R. R. 4 ,Fulton
Scott, Mary Campbell	(A. & S. 1)	Lexington
Scott, Roy Cunningham	(A. & S. 3)	R. R. 8, Lexington
See, Ila	(A. & S. 1)	Levee
Sellers, Amplias Ross	(M. & E. 1)	Sebree
Sellars, James Vernon	(Law 2)	Robards
Server, James Milton	(Agr. 2)	Henderson
Sexton, Margaret	(A. & S. 1)	Lexington
Shade, Clarence Otto	(Prac. Min.)	Providence
Shaw, Arthur Judson	(Agr. 1)	Louisville
Shaw, James Westley	(M. & E. 1)	Lexington
Sherwood, John Stewart	(Law 2)	Cynthiana
Shinnick, William	(A. & S. 3)	Shelbyville
Shouse, Gilbert Berry	(Civ. 4)	Salt Lick
Shouse, John Felix	(M. & E. 1)	Versailles
Shouse, Samuel Headley	(Agr. 1)	R. R., Lexington
Showalter, Freeman B.	(Sh. Agr.)	Georgetown
Simmons, Robert Francis	(Agr. 1)	Richmond

Simmons, Arnold	(Sp. Civ.)	Richmond
Simpson, Henry Clay	(Agr. 2)	R. R., Lexington
Sinclair, Carl White	(Law 4)	Georgetown
Sine, Charles Albert	(Prac. Min.)	Sebree
Skidmore, Robert Carlisle	(A. & S. 1)	Lexington
Slade, Karl Prentiss	(Sp. A. & S.)	Lexington
Sloan, Anne E.	(A. & S. 2)	Lexington
Smathers, Edwin Dean	(M. & E. 2)	Lexington
Smedley, Hazel Belle	(Sp. A. & S.)	R. R. 2, Lexington
Smiser, Harmon Courtney	(M. & E. 3)	Cynthiana
Smith, Arthur Crowell	(Civ. 1)	Lexington
Smith, Charles R.	(Agr. 3)	Somerset
Smith, Earl Thomas	(M. & E. 1)	Fordsville
Smith, Frank Dudley	(Civ. 1)	Nicholasville
Smith, Fred Willard	(Sh. Civ.)	Harlan
Smith, Lila Delia	(Sp. A. & S.)	Lexington
Smith, Mose	(Civ. 1)	Ruston, La.
Smith, Myrtle Rose	(A. & S. 2)	La Grange
Smith, Rebecca Washington	(A. & S. 4)	Paducah
Smith, Waller D.	(Prac. Min.)	St. Charles
Smith, W. Lee	(Law 4)	Sebree
Snoddy, William Owsley	(A. & S. 2)	Glasgow
Snodgrass, Grace Lee	(Sp. A. & S.)	Lexington
Snyder, Catherine Bell	(Agr. 2)	Louisville
Snyder, Mary DeWitt	(Sp. M. & E.)	Lexington
Spalding, George Edward	(Sp. Agr.)	Springfield
Spann, Paul Joseph	(Agr. 1)	Shelbyville
Spanton, Elizabeth Searles	(Sp. A. & S.)	Lexington
Sparks, William Bradley	(Civ. 1)	Greenville
Spencer, Carlisle	(Law 4)	Catoosa, Tenn.
Spencer, Frances Boyle	(A. & S. 2)	Lexington
Spickard, Fred Herbert	(Sh. Agr.)	Fredonia
Sprague, George Sidney	(A. & S. 4)	R. R. 5, Lexington
Sprague, Marion Brooke	(A. & S. 1)	R. R. 5, Lexington
Springer, David Sumner	(M. & E. 3)	Corydon
Spurrier, Eliza Kaye	(A. & S. 1)	Louisville
Stack, Harold George	(Sp. A. & S.)	Brooklyn, N. Y.
Stagg, Annie Barkley	(A. & S. 4)	Lexington
Stagg, Mary Dedman	(A. & S. 3)	Lexington
Stagg, Nancy Lowry	(A. & S. 1)	Lexington

Stalion, Carl	(Sh. M. & E.)	Lexington
Starkey, Fred Christopher	(M. & E. 1)	Somerset
Starns, Mrs. Dudley H.	(Sp. A. & S.)	Lexington
Starns, Dudley H.	(A. & S. 4)	Lexington
Starr, W. W.	(Prac. Min.)	Wayland
Stedman, Harvey Worley	(Agr. 1)	Versailles
Steinhauser, Fred Anthony	(Sh. Agr.)	DeMossville
Stephens, Ralph Gaines	(Law 2)	Covington
Sterett, Russell Hawley	(Agr. 1)	Hawesville
Stevenson, Louise Singer	(A. & S. 1)	Lexington
Stewart, John Gilbert	(Agr. 2)	Crittenden
Stokes, James Wilson	(Sh. Agr.)	Farmington
Stokes, Silas Johnson	(Agr. 3)	Farmington
Stout, Virginia Dare	(A. & S. 2)	Owensboro
Strahm, Victor Herbert	(M. & E. 2)	Bowling Green
Street, Frank Tandy, Jr.	(Agr. 3)	Cadiz
Stroud, William Jos. Bryant	(Agr. 1)	Norwood
Stuart, William St. Clair	(Sh. Agr.)	R. R. 1, Lexington
Sullivan, Kathleen Brennan	(Agr. 4)	Richmond
Sullivan, Mitchell S.	(M. & E. 4)	Mt. Sterling
Sullivan, Sylvester D. J.	(Agr. 1)	Bloomfield
Sullivan, Wallace Dunlap	(Agr. 3)	Mt. Sterling
Sumner, Wood	(M. & E. 2)	Greenville
Sutton, Mary Ruth	(A. & S. 1)	Flemingsburg
Sutton, Will D.	(Sp. Agr.)	Mayfield
Swope, John William	(Law 2)	R. R., Lancaster
Swope, King	(Law 4)	Danville
Taber, John Branch	(Agr. 2)	Elizabethtown
Tapscott, Edward Terrill	(Agr. 1)	Owensboro
Tashof, Ivan Poppers	(Law 4)	Lexington
Taylor, Alexander	(Prac. Min.)	Hazard
Taylor, Charles Leland	(Agr. 3)	Prentiss
Taylor, Eugene Avery	(A. & S. 3)	Louisville
Taylor, James H.	(Agr. 2)	Henderson
Taylor, Leonard De	(Agr. 2)	Louisville
Taylor, Lucien Wilbur	(A. & S. 2)	Ewing
Taylor, Mildred	(A. & S. 2)	Lexington
Taylor, Otis Boyd	(Agr. 3)	Prentiss
Taylor, Thomas Conway	(M. & E. 4)	Greenville
Taylor, William Parke	(Law 2)	Hartford

Taylor, Willie Wood	(A. & S. 2)	Kuttawa
Templin, Charles Landen	(M. & E. 1)	Paris
Terrell, Horace White	(A. & S. 1)	Barlow
Terry, Norman N.	(Agr. 4)	Fulton
Thayer, Grace Brown Robbins T.	(Sp. A. & S.)	New York, N. Y.
Thomas, Ad	(Agr. 3)	Liberty
Thomas, Anna Mary	(Sp. Agr.)	Philadelphia, Pa.
Thomas, Frank Randal	(Sh. Agr.)	Sacramento
Thomas, Mary Etta	(A. & S. 2)	Owensboro
Thomas, Mary Josephine	(A. & S. 2)	Mt. Sterling
Thomas, Richard Stokes	(Agr. 4)	Falmouth
Thomas, Robert	(Prac. Min.)	Packard
Thompson, Franklin	(M. & E. 1)	Louisville
Thompson, Howard Neale	(Sp. Agr.)	R. R. 4, Richmond
Thompson, James William	(M. & E. 4)	Falmouth
Thompson, Layton	(Sp. A. & S.)	Lexington
Threlkeld, Elizabeth Scott	(Sh. H. E.)	Lexington
Tigert, John James	(Law 2)	Lexington
Timmer, Carl Albert	(M. & E. 2)	Louisville
Tipton, Presley H.	(A. & S. 4)	London
Tomlinson, Robert Hugh	(A. & S. 2)	Lancaster
Torrence, Joseph Edmund	(Law 4)	Cynthiana
Townes, Fay Overton	(Agr. 4)	Madisonville
Townsend, Aubia H.	(Agr. 1)	R. R. 1, Hickman
Travis, Russell Errington	(Min. 1)	Fulton
Treadway, Adli Stephen	(A. & S. 1)	Tanksley
Troutman, George Jacob	(Sh. Agr.)	R. R. 4, Nicholasville
Turley, Edwin Phelps	(Agr. 2)	R. R. 1, Richmond
Turner, Dillard Hazelrigg	(A. & S. 2)	Frankfort
Turner, Henry	(10 wks. Agr.)	Louisville
Turner, Louise	(Agr. 1)	Lexington
Turner, Mary Frances	(Agr. 1)	Louisville
Tuttle, Margaret Helmsing	(A. & S. 1)	Lexington
Underwood, Thomas Rust	(A. & S. 1)	Hopkinsville
Utterback, Emma Pruett	(A. & S. 1)	Frankfort
Utterback, Mary Hewitt	(A. & S. 1)	Frankfort
Van Arsdall, Emily Jane	(A. & S. 1)	Lexington
Van Arsdell, Julia Lashbrooke	(Agr. 4)	Flemingsburg
Van Deren, Daisy J.	(Sp. A. & S.)	Cynthiana
Van Deren, James William	(Agr. 1)	Cynthiana

Velez, Jose Ramon	(M. & E. 1)	Ponce, Porto Rico
Vonderhite, Norvin Tilden	(Sp. Agr.)	Louisville
Voorhies, Margaret	(Sh. H. E.)	Portland, Ore.
Walker, Mary Elizabeth	(Agr. 2)	R. R. 3, Lexington
Walker, Orin Coomes	(Agr. 1)	R. R., Stithton
Wallace, Ike Bourne	(Sp. Law)	Nicholasville
Wallace, Roy Alexander	(Agr. 4)	Cerulean
Wallen, Ishmael H.	(Civ. 3)	Lackey
Wallingford, Joseph Keevil	(Min. 1)	Cynthiana
Wallingford, James Stuart	(M. & E. 1)	Paris
Walters, William Phillip	(Sp. Civ.)	Buffalo, N. Y.
Walton, William Pulaski, Jr.	(A. & S. 1)	Lexington
Ware, Sim Louis	(Min. 3)	Somerset
Ware, William Wallace	(Sp. Law)	Hopkinsville
Warwick, George Withrow	(M. & E. 4)	Frankfort
Wash, Beagle	(Agr. 1)	Lexington
Wash, Ruth	(A. & S. 1)	Lexington
Waterfill, Robert William	(M. & E. 2)	Lawrenceburg
Waters, John Newland	(M. & E. 3)	Middletown
Watkins, Allen Raymond	(Law 2)	Henderson
Watkins, James Stephen	(Sp. Civ.)	London
Watson, Claude Columbus	(M. & E. 4)	Georgetown
Watson, Earl Edward	(Sh. Agr.)	Georgetown
Watson, Mervin Lytle	(M. & E. 2)	Brooksville
Weathers, Laura Ruth	(A. & S. 1)	Hutchi on
Webb, John Hal	(Law 3)	Williamstown
Welch, James Whitcomb	(A. & S. 2)	Nicholasville
Weldon, Elmer	(A. & S. 2)	Sanders
Wesson, James Wright	(Agr. 3)	Wingo
Wesson, Joe Alexander	(Agr. 1)	Wingo
Westerfield, Paul	(A. & S. 1)	Frankfort Heights, Ill.
Whalen, Lela Elizabeth	(A. & S. 1)	Lexington
Whaley, Harry Wilbur	(Civ. 1)	Covington
Whaley, James Saunders	(M. & E. 1)	Cynthiana
Wheeler, Lloyd T.	(Civ. 2)	Louisville
Whitcomb, Calvin D.	(Min. 1)	Covington
White, Thomas B.	(Prac. Min.)	Lennut
Whiteley, Fred	(M. & E. 4)	Owensboro
Whittinghill, Sudie Floris	(A. & S. 1)	Glen Dean
Whitworth, Annie Lewis	(A. & S. 4)	Hardinsburg

Whitworth, Clara Donald	(A. & S. 2)	Hardinsburg
Wickland, Carl A.	(Agr. 3)	Central City
Wieland, Charles Harry	(10 wks. Agr.)	Georgetown
Wieman, Blanche Annette	(A. & S. 3)	Lexington
Wilder, Edward Daniel	(Sh. Agr.)	Louisville
Wilkerson, Eugene Payne	(A. & S. 4)	Lexington
Wilkirson, Linnie Kate	(Sp. H. E.)	R. R. 8, Lexington
Wilkey, Clovis Ray	(Sp. Agr.)	Dixon
Williams, Buford	(Law 3)	R. R. 6, Lexington
Williams, Burton Foree	(Civ. 4)	Lexington
Williams, Estill Daniel	(M. & E. 1)	Cannel City
Williams, Howard	(Min. 1)	Coxton
Williams, John Henry	(Law 4)	West Liberty
Williams, James H.	(Agr. 2)	R. R. 1, Spottsville
Williams, Mary Sayre	(Sp. A. & S.)	Lexington
Willis, Mary Charlotte	(A. & S. 1)	Shelbyville
Wilson, Coy Virginia	(A. & S. 1)	Providence
Wilson, Grover Cleveland	(A. & S. 4)	Paint Lick
Wilson, Hume	(A. & S. 1)	Paint Lick
Wilson, Lillie Margaret	(A. & S. 1)	R. R. 1, Sullivan
Wilson, Robbie Douglas	(Agr. 1)	Cadiz
Wilson, Tilford Lamer	(Agr. 2)	R. R., Lexington
Wolf, Julius	(M. & E. 4)	Lexington
Woll, Margaret	(A. & S. 1)	Hawesville
Wood, Alfred McCreary	(A. & S. 1)	Wildie
Woodruff, Nata Lee	(A. & S. 4)	Eminence
Woods, Estill Dale	(A. & S. 3)	R. R., Nicholasville
Woodson, William T.	(Law 4)	Kuttawa
Wooton, Noel Combes	(A. & S. 2)	Hanson
Worick, William Rees	(Sh. Agr.)	Lebanon
Worsham, Herman	(M. & E. 4)	Corbin
Wright, Robert B.	(A. & S. 2)	Springfield
Wright, Sidney Arthur	(M. & E. 2)	Owensboro
Wright, Walter Lee	(A. & S. 2)	Campbellsburg
Wroten, Walter	(Prac. Min.)	Vulcan, W. Va.
Wyatt, Clinton P.	(A. & S. 2)	Benton
Wyatt, George	(Prac. Min.)	Hazard
Yonts, Joseph Eggleston J.	(A. & S. 1)	Central City
Young, Leving Perry	(Law 2)	Lexington

Young, Marie Eugenia	(Agr. 1)	Lexington
Zerfoss, George Ernest	(A. & S. 1)	Ashland
Zerfoss, Karl Peak	(A. & S. 4)	Ashland
Zimmerman, Alex Julius	(A. & S. 2)	Louisville
Zimmerman, Lenore Catherine	(Agr. 2)	Louisville

SUMMER SCHOOL STUDENTS, 1915.

Aaron, George Doan	Liberty
Adams, Algenon Walter	Pleasureville
Allegood, Heber Robert	Washington, N. C.
Allen, Elma	Lexington
Amburgey, Lawrence M.	Hindman
Amburgey, Maryland D.	Hindman
Babb, Harvey Arthur	Henderson
Bailey, Chesley W.	Madisonville
Bauer, Bessie	Maysville
Bauer, Katie Mae	Maysville
Biser, Roy Hamilton	Lexington
Boone, John Gross	Tallahassee, Florida.
Bottom, Charles Barnster	Mackville
Bradley, H. C.	Olive Hill
Brown, Hazel	Lexington
Bush, Chilton Rowlette	Pleasureville
Carter, Joseph Carlyle	Mayfield
Cassity, Alice Albeo	Mt. Sterling
Castro, Idalina Oliveria	Lexington
Caudill, Samuel Jefferson	Cannel City
Caywood, James Alexander	Burlington
Clark, Clarence O.	Owensboro
Clark, Ernest Harold	Lexington
Clayton, Robert Shirley	Murray
Clugston, Mary Jane	Lexington
Cody, Tom Henry	Hindman
Collis, Benjamin Coleman	Lexington
Combs, Sewell Stanley	Chavies
Coons, Bettie Louise	Lexington
Cox, Henry Clay	West Liberty
Cox, Jessie	Lexington
Cox, Winfred White	West Liberty

Cramer, Clark	Lexington
Creekmore, Thomas Lindsay	Lexington
Crutcher, Jess	Crittenden
Cullen, Robert Emmet	Flemingsburg
Dale, Charles Sherman	Maysville
Darwin, Adelia Caroline	Evansville, Tenn.
Davis, John C.	Benton
Deering, John Stratton	Nicholasville
Diffenderfer, Adele H.	Mt. Sterling
Dix, William Hewitt	Stephensport
Donohoo, David Dallas	Lexington
Donohoo, Olivia Wisby	Lexington
Draffen, Errol Wallace	Lawrenceburg
Drake, William Perry	Bowling Green
Edwards, Ordie Morton	Caneyville
Eubank, Warren Lyddane	Lexington
Felix, Herbert Franklin	Hartford
Fenley, Richard Boggess	Valley Station
Fish, John Shuff	Georgetown
Fithian, George White	Paris
Foster, Richard Allen	Marion
Fried, Hyman	Flemingsburg
Gastineau, Lucile Adair	Middlesboro
Gillespie, Orie	Lexington
Glenn, William Meade	Georgetown
Goff, Mary Young	Lexington
Gordon, Frances Jean	Lexington
Graddy, Ivan Clay	Utica
Gumbert, George M.	Richmond
Haffler, Whayne Wilson	La Grange
Hall, Jacqueline Thomas	Wickliffe
Hamlett, Percival L.	Erlanger
Harris, William Jefferson	Nolan, W. Va.
Henry, Elizabeth Beatrice	Lexington
Hogrefe, John H.	Independence
Howard, Leah Kathleen	Owensboro
Howe, Benjamin David	Elizaville
Huff, Aaron Baron	Berea
Hutchison, Frank Young	Nicholasville
Iler, Wayne Dickerson	Covington

Johnson, Mary Belle	Tallega
Kastle, Elizabeth Thane	Lexington
Kelley, Arthur Sewall	Whitesville
Kie, Choa Chie	Nanyangfer Honan, China
King, Effie	Lexington
Kingsbury, Horace	Sidney, Australia
Lambert, Elmer Lee	Lexington
Lawson, Clyde	Cornishville
Lee, Owen Scott	Sadieville
Leonian, Leon	Van, Armenia
Likens, Everett Ray	Beaver Dam
Lisanby, Cornelius Rufus	Dawson Springs
Lovell, Ormond Esh	Johnannesburg, South Africa.
Maguire, Mary J.	Lexington
Martin, William Curry	Lexington
Mastin, John Leslie	Germantown
Matherly, C. Hartford	Mackville
Mathews, G. F.	Lexington
McAdams, William M.	Lexington
McCann, Mamie	Flemingsburg
McClain, Lee	Bardstown
McClure, Eugene Thomas	Gallup
McGuire, Samuel H.	Ebon
McKee, Walter Lindsay	Centreville, Miss
McNeill, Dee	Hickman
Mills, Howard H.	Covington
Mills, Vaught	Kenton
Mitchell, Benjamin H.	Eli
Mitchell, Edward Wilson	Detroit, Mich.
Mitchell, William C.	Bremen
Messman, Margaret Clara	Dayton
Moore, Lee Stephens	Central City
Moore, William Schultz	Hartford
Morris, James Monroe	Pembroke
Nichols, Jesse Bell	Lexington
Nicholson, Christopher Pittman	Fagertown
Noel, Henry L.	Bellevue
O'Dell, James William	Lewisburg
Orme, George Rankin	Marion
Owens, John Stiles	Calhoun

Page, George Vernon	Lynnville
Patterson, Ilemma Vaught	Millersburg
Payne, Lena Mae	Georgetown
Penn, Everett Sleet	Georgetown
Phelps, David McChord, Jr.	Richmond
Pickerill, Harry Lynn	Ripley, Ohio
Pindell, Isaac	New Albany, Ind.
Pogue, Tom	Lexington
Powell, Tommie Alexander	Sebree
Power, Douglas Robinson	Flemingsburg
Qualls, David Webster	Olive Hill
Quinn, Jennie	Georgetown
Records, Charles Ellsworth	Edinburg, Ind.
Reid, Homer Lloyd	Lexington
Reid, Walter Albert	Lexington
Rhoton, Paul	Georgetown
Rice, Than Givens	Providence
Robertson, Charlie Edward	Lexington
Robertson, J. Barbee	Centralia, Ill.
Robertson, Robert McGarvey	Centralia, Ill.
Robinson, Bessie	Mt. Sterling
Robinson, Thomas Hart	Winchester
Russell, Hobart Stitzel	Louisville
Schaber, Herbert	Alexandria
Shouse, Gilbert Berry	Salt Lick
Skelley, Louise Oakley	Columbia, Tenn.
Skinner, Thomas William	Harrodsburg
Slinkard, W. R.	Lexington
Smiser, H. Courtney	Cynthiana
Smith, Henry Lee	Upton
Smith, Newell Pemberton	Henderson
Smith, Paul Slemmons	Pleasureville
Smith, Virginia Alma	Henderson
Snyder, Jacob William	Livermore
Springer, David Sumner	Corydon
Starns, Dudley	Lexington
Stedman, Harvey Worley	Versailles
Sund, Aaron Walter	Lexington
Swope, King	Lexington
Tabor, George Leroy	Rosman, N. C.

Taber, John Branch	Elizabethtown
Taylor, Clyde Purcell	Whitesville
Tharp, Louis Clay	English
Thomas, Eula Claxonne	Wilmore
Tinsley, John Alex	Barbourville
Tomlinson, Robert Hugh	Lancaster
Trapp, Francis Joseph	Lexington
Turner, Ervin	Jackson
Vogelbach, Alice Gertrude	Dayton
Walker, Orin Coomes	Stithton
Wallace, Ike B.	Nicholasville
Waller, J. C.	Georgetown
Ware, Effie H.	Stanford
Warwick, George W.	Frankfort
Watson, Claude Columbus	Georgetown
Wesson, James Wright	Wingo
Whitely, Fred	Owensboro
Wilhite, James Gilbert	Pecos, Texas
Willett, Orville Roberts	Elizabethtown
Williams, John Henry	Cannel City
Wilson, Hume	Paint Lick
Wilson, William Claude	Stanford
Wood, Edith Browning	Mayslick
Wood, Margaret Lucile	Mayslick
Woodson, Harry N.	Kuttawa
Woodson, William T.	Kuttawa
Wyatt, Clinton P.	Benton

SUMMARY.

OFFICERS OF INSTRUCTION.

Professors	40
Associate Professors	19
Assistant Professors	16
Assistants and Instructors	25
University Officers of Instruction	100

STUDENTS.

Candidates for Degrees.	Arts and Science	Agriculture.	Civil Eng.	Mech. Eng.	Mining Eng.	Law.	Total.
Graduate Students	37	11	8	20	2	5	83
Seniors	56	37	12	23	1	30	159
Juniors	44	50	18	27	6	25	170
Sophomores	72	71	16	65	6	41	271
Freshmen	116	93	17	63	13	1	303
	325	262	71	198	28	102	986
Not Candidates for Degrees.							
Special Students	30	35	3	7		22	97
Two Year Agriculture		44					44
Ten Wks. in Agriculture		10					10
Six Days Crs. in Hgwy. Eng.			159				159
Short Civil Engineering			3				3
Short Mechanical Engineering				8			8
Short Mining Engineering					3		3
Short Home Economics		13					13
Six Weeks Home Economics		1					1
Eight Wks. Crs. in Mining					25		25
Summer School							179
	30	103	165	15	28	22	542
Totals	355	365	236	213	56	124	1528
Less Names Counted Twice							83
							1445

SUMMARY BY COUNTIES IN KENTUCKY.

Adair County	5	Grayson County	3
Anderson County	9	Green County	1
Ballard County	6	Greenup County	1
Barren County	2	Hancock County	3
Bath County	3	Hardin County	9
Bell County	12	Harlan County	5
Boone County	9	Harrison County	21
Bourbon County	17	Hart County	3
Boyd County	9	Henderson County	17
Boyle County	4	Henry County	18
Bracken County	5	Hickman County	1
Breathitt County	4	Hopkins County	15
Breckinridge County	9	Jackson County	2
Bullitt County	1	Jefferson County	72
Butler County	2	Jessamine County	26
Caldwell County	2	Johnson County	3
Calloway County	4	Kenton County	18
Campbell County	25	Knott County	3
Carlisle County	2	Knox County	8
Carter County	3	Laurel County	9
Carroll County	6	Lawrence County	7
Casey County	2	Lee County	4
Christian County	10	Letcher County	2
Clark County	6	Leslie County	1
Clay County	4	Lewis County	5
Crittenden County	10	Lincoln County	5
Cumberland County	1	Livingston County	5
Daviess County	39	Logan County	12
Edmonson County	2	Lyon County	5
Elliott County	3	Madison County	27
Fayette County	260	Magoffin County	1
Fleming County	13	Marion County	7
Floyd County	6	Marshall County	6
Franklin County	21	Martin County	3
Fulton County	10	Mason County	21
Gallatin County	1	McCracken County	8
Garrard County	7	McCreary County	2
Grant County	9	McLean County	4
Graves County	17	Meade County	1

Mercer County	7	Russell County	1
Metcalfe County	2	Scott County	19
Monroe County	2	Shelby County	18
Montgomery County	12	Simpson County	4
Morgan County	12	Spencer County	1
Muhlenberg County	14	Todd County	5
Nelson County	4	Trigg County	3
Nicholas County	3	Trimble County	4
Ohio County	15	Union County	13
Oldham County	8	Warren County	9
Owen County	4	Washington County	13
Pendleton County	8	Wayne County	4
Perry County	5	Webster County	17
Pike County	2	Whitley County	5
Powell County	1	Woodford County	21
Pulaski County	16	Wolfe County	1
Rockcastle County	5		
			1182

SUMMARY BY OTHER STATES AND COUNTRIES.

Alabama	1	Mississippi	2
Armenia	2	Montana	1
Australia	1	New York	10
Austria	1	North Carolina	2
Bulgaria	2	Ohio	5
California	1	Pennsylvania	8
China	1	Phillipine Islands	3
Colorado	1	Porto Rico	1
England	1	Portugal	1
Florida	4	Russia	3
Illinois	13	South Africa	2
Indiana	3	Tennessee	9
Iowa	1	Texas	3
Japan	1	Virginia	4
Kansas	1	Washington	1
Louisiana	2	West Virginia	6
Maryland	2	Wisconsin	1
Minnesota	1	Wyoming	1
Michigan	2		
			104

Highway Engineers not included in Summary 159

DIRECTORY OF OFFICERS.

Numbers in Parentheses are Telephone Numbers.

ADAMS, CARROLL SIDNEY, Asst. Prof.
Experiment Station Greenhouse (2817).
ALLEN, J. EMBRY, Associate Professor.
365 Aylesford Place (472)
ALLEN, ROBERT McDOWELL, Professor.
423 W. Third St. (2267)
ANDERSON, FREDERICK PAUL, Dean.
147 Kentucky Ave., (941)
ANDERSON, WALTER S., Asst. Professor.
Experiment Station.
149 Washington Ave., (1563-X)
AVERITT, SAXE DABNEY, Chemist.
Experiment Station.
304 East Maxwell Street.
BACON, PHILIP E., Tester of Dairy Herds.
Experiment Station.
Elmendorf Farm.
BAKER, GEORGE M., Associate Prof.
701 South Limestone.
BARKER, HENRY STITES, President.
Patterson Hall, (1239)
BARR, THOMAS JAMES, Professor.
454 Rose Lane, (2194-X)
BEDFORD, M. HUME, Instructor.
Paris, Ky.
BITNER, RALPH EMERSON, Instructor.
330 S. Mill Street.
BLESSING, PAUL J. N., Instructor.
Y. M. C. A.
BLUMENTHAL, PHILIP LEE, Chemist.
Phoenix Hotel, (1900)
BOHANNON, CHARLES D., Assoc. Prof.
173 N. Ashland Ave., (2991-X)
BOYD, PAUL PRENTICE, Professor.
Waller Ave., Rodes Place, (2582-Y)
BROWN, LINWOOD ARNOLD, Chemist.
Experiment Station.
425 Transylvania Park, (1356-X)
BRUECKNER, ARTHUR LOUIS, Asst.
Experiment Station.
Henderson, Ky.
BRYANT, THOMPSON RIPLEY, Professor.
239 Clay Avenue, (1612)
BUCKMAN, RUBY, Assistant Professor.
267 South 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., Assistant Prof.
412 Woodland Ave.
CANNON, HARRY S., Assistant.
124 East Maxwell, (1967-Y)
CASSIDY, PERRY ROGAN, Asst. Prof.
169 Kentucky Ave., (914)

CARREL, WILLIAM JOSEPH, Assoc. Prof.
371 Linden Walk.
CHALKLEY, LYMAN, Professor.
146 East Fifth Street, (2338-Y)
CHAPIN, ARTHUR STERLING, Agent.
Agricultural Extension.
327 S. Upper St., (655)
CHINN, AUBYN, Assistant Professor.
355 N. Broadway, (1097)
CHORN, SARAH, Instructor.
Nicholasville Pike, (367)
CRISLER, OTTO S., Assoc. Prof.
Experiment Station.
239 S. Limestone, (3219)
CURTIS, HENRY ERNEST, Professor.
355 Linden Walk (2908)
CURTIS, JOHN JAMES, Assistant Prof.
362 Transylvania Park, (2444-X)
DABNEY, ROBERT CORNELIUS.
Experimental Bakery, Experiment Sta.
119 Bassett Court (2225-X)
DANIELS, LLOYD CADIE, Asst. Prof.
410 West Second Street, (1069-X)
DANTZLER, LEHRE LIVINGSTON, Prof.
259 Rodes Avenue (1741-Y)
DAVIS, JOSEPH MORTON, Professor.
340 Madison Place (1483-Y)
DICKER, JOHN BORN, Instructor.
122 Graham Avenue.
DICKER, JOSEPH, Supt. of Shops.
159 Virginia Avenue.
DIDLAKE, MARY LEGRANDE, Asst. Prof.
431 East Main Street (234-Y)
DOWNING, HARRY HARDESTY, Assistant Professor.
158 North Ashland Avenue, (820)
DUNCAN, JAMES RAY, Instructor.
429 Maple Avenue, (2348-X)
*EGBERT, CLARENCE, Supervisor Printing Department.
614 Central Avenue, (1784-Y)
ELLIOTT, NORRIS RAYMOND, Asst. Professor of Horticulture.
Experiment Station.
239 South Limestone Street, (3219)
EWAN, AVERY EARLY, Supt. of Exp. Field, Experiment Station.
315 East Maxwell Street, (1604)
FARQUHAR, EDWARD FRANKLIN, Prof.
629 Sayre Avenue, (2079-Y)
FRANKEL, LEON KAUFMAN, Professor.
324 Aylesford Place, (1891).
FREEMAN, WILLIAM EDWIN, Professor.
Waverly Apt., Hampton Court (2571)
GARMAN, HARRISON, Professor.
638 South Limestone Street, (2551)

*Died April 29, 1916.

GILBERT, ALFRED HOLLEY, Assoc. Prof.
609 South Limestone Street, (582)
GILLIS, EZRA L., Registrar.
237 South Limestone Street, (2307-Y)
GOOD, EDWIN STANTON, Professor.
Experiment Station Farm, (1659-Y)
GOTT, EDWIN JOSEPH, Asst. Exp. Sta.
819 South Limestone Street.
GRADDY, LIZZIE LEE, Asst. Registrar.
215 East High Street, (2077-X)
GRAHAM, ROBERT, Professor.
239 South Limestone Street, (3219)
GREHAN, ENOCH, Professor.
702 East Main Street, (1124)
HAMILTON, ANNA J., Associate Professor and Dean of Women.
Patterson Hall, (24)
HEALY, DANIEL JOSEPH, Professor
530 Sayre Avenue, (969)
HIMMELBERGER, LEO RANSOM, Asst. Experiment Station.
217 Arlington Avenue.
HOOPER, JOHN JULIAN, Professor.
609 South Limestone Street, (582)
HORINE, JOHN SHERMAN, Asst. Prof.
414 Rose Lane, (2673)
HUSTON, ED., Asst., Experiment Station.
149 Virginia Avenue, (2200)
HUTCHCRAFT, REUBEN BRENT, Professor of Law.
Paris, Kentucky.
INGRAM, ELMER, Chief Insp., Exp. Sta.
Experiment Station.
JEWETT, HOWARD HERMAN, Research Asst., Experiment Station.
424 Linden Walk (1354)
JONES, ROGER WALTER, Inspector, Experiment Station.
216 Bell Court, (3487-X)
JONES, THEODORE TOLMAN, Professor.
318 Aylesford Place, (1812)
JOYEUX, LILA.
R. R. 2, Georgetown, Ky. (236)
KARRAKER, PERRY ELMER, Asst. Prof.
327 South Upper Street, (655)
KASTLE, JOSEPH HOEING, Dean.
238 East Maxwell Street, (2282)
KELLY, MERVIN JOE, Instructor.
259 East High Street, (226)
KERCHER, OTIS, Asst. in Animal Husbandry, Dept, of Agricultural Extension.
151 East High Street, (3265-Y)
KERR, CHARLES, Professor.
659 North Broadway, (431-X)
KILLEBREW, CINCINNATUS DECATUR, Associate Professor.
287 South Limestone Street, (2307-Y)
KING, MARGARET I., Librarian.
225 South Limestone, (1827-X)
KINNEY, EDMUND J., Associate Professor.
4612 Woodland Avenue, (1542-Y)
LABACH, JAMES OSCAR, Professor.
Preston Inn, (1192)
LAFFERTY, WILLIAM THORNTON, Dean.
418 East Maxwell, (1080)
LEE, OWEN SCOTT, Asst. Experiment Sta.
350 Aylesford Place, (1824-Y)
LYONS, JAMES B., Cashier.
507 Maryland Avenue, (1234)
MACKENZIE, ALEXANDER ST. CLAIR, Dean.
463 West Sixth Street, (1049-Y)
MATHEWS, CLARENCE WENTWORTH, Professor.
660 South Limestone, (895-Y)
MAXSON, RALPH NELSON, Professor.
366 Transylvania Park, (1813-Y)
MELCHER, COLUMBUS RUDOLPH, Professor and Dean of Men.
258 Market Street, (1760)
MILLER, ARTHUR McQUISTON, Dean.
609 South Limestone, (582)
McFARLAND, FRANK THEODORE, Asst. Professor, Experiment Station.
703 South Limestone, (3277)
McFARLIN, JOHN WILLIAM, Chief Food Inspector, Experiment Station.
Franklin, Kentucky.
McHARGUE, JAMES SPENCER, Assistant Chemist, Experiment Station.
411 Transylvania Park.
McLAUGHLIN, MARGARET, Instructor.
226 East Maxwell, (3032)
McPHERSON, MARY, Instructor.
412 Linden Walk.
MITCHELL, JOHN RICHARD, Instructor in Chemistry.
259 Rodes Avenue, (1741-Y)
MUTCHLER, FRED, Professor.
247 Rodes Avenue, (2296-X)
MYER, DILLON SEYMOUR, Instructor.
NICHOLLS, WILLIAM DURETT, Associate Professor.
19 University Avenue, (2570-X)
NISWONGER, HOLLY RAY, Asst. Field Work, Experiment Station.
550 East Main Street, (849)
NOE, JAMES THOMAS COTTON, Professor.
725 Rose Street, (2662)
NOLLAU, JAMES EDWARD, Professor.
311 East Maxwell, (3428-X)
NORWOOD, CHARLES JOSEPH, Dean.
339 Aylesford Place, (1540)
NUTTER, JOHN WILLIAM, Supt. Dairy Farm, Experiment Station.
149 Virginia Avenue, (2200)
OWENS, KATHERINE W., Secretary.
157 Forest Avenue, (1466-Y)
PENCE, MERRY LEWIS, Professor.
364 Merino Street, (1560)
PETER, ALFRED MEREDITH, Professor.
268 East Maxwell Street, (2549)
PINNELL, WALTER REDMON, Bacteriologist, Experiment Station.
Scovell Place, Station Farm, (1462-X)
PONTIUS, ROBERT LORING, Asst. Experiment Station.
239 South Limestone, (3219)
PORTER, CHILTON SCOTT, Drug Inspector, Experiment Station.
430 East Maxwell Street, (2125-X)
PRYOR, JOSEPH WILLIAM, Professor.
261 North Broadway, (796)

REED, JOSEPH WALKER, Asst. Inspector of Mines.
452 Rose Lane, (2523)
REES, ELIJAH LAYTHAM, Associate Prof.
726 East Main Street, (2118-Y)
REYNOLDS, ELLEN ANN, Asst. Professor.
319 Linden Walk, (787-Y)
RHOADS, McHENRY, Professor.
Nicholasville Pike, (2354)
ROBERTS, GEORGE, Professor.
340 Transylvania Park, (2025-Y)
RODES, WILLIAM, Chemist.
226 Rodes Avenue, (2576)
ROWE, WALTER ELLSWORTH, Dean.
347 Transylvania Park, (795-Y)
SHEDD, OLIVER MARCH, Chemist.
Experiment Station.
348 Linden Walk, (2004-X)
SIMMONS, WILLIAM HERBERT, Asst. Experiment Station.
Louisville, Kentucky.
SLADE, D. D., Supt. Poultry Farm, Experiment Station.
354 Linden Walk, (2004-Y)
SMITH, MARQUIS JOSEPH, Asst. Experiment Station.
212 East Maxwell, (1244-Y)
SMITH, WALLACE VANDERPOOL, Asst., Experiment Station.
337 Grosvenor Avenue, (649-X)
SPEARS, HOWELL DAVIS, Chemist, Experiment Station.
703 Rose Street, (1563-Y)
STACK, HAROLD GEORGE, Physical Instructor for Men.
424 East Maxwell Street, (1733)
STAEBNER, WILLIAM HALE, Instructor.
259 Rodes Avenue, (1741-Y)
STILES, CHARLES FRANCIS, Assistant.
242 Rodes Avenue, (3265-X)
STOUT, MRS. ROBERT LEE, Professor.
Frankfort, Kentucky.
SWEENY, MARY E., Associate Professor.
Pine Grove, Kentucky, (5963)
TASHOF, IVAN POPPERS, Instructor.
242 Rodes Avenue, (3265-X)
TAYLOR, REUBEN THORNTON, Instructor
305 Grosvenor Avenue, (2292-X)
TAYLOR, ROBERT BROOKS, Asst. Chemist, Experiment Station.
R. F. D. No. 5, (4566)
TERRELL, DANIEL VOIERS, Professor.
562 West Short Street, (898)
TERRELL, GLANVILLE, Professor.
609 South Limestone, (582)
TERRELL, WILLIS GRANVILLE, Inspector, Experiment Station.
137 East Second Street, (1838-X)
THURMAN, GORDON, Assistant.
131 Virginia Avenue.
TIGERT, JOHN JAMES, Professor.
119 Bassett Court, (2225-X)
TURNER, JOB DARBIN, Professor.
135 Washington Avenue, (2175-Y)
TUTHILL, JAMES EDWARD, Professor.
253 South Limestone, (2141-X)
TUTTLE, FRANKLIN ELLIOTT, Professor.
125 East Maxwell Street, (1477-X)
VANSELL, GEORGE HAYMAKER, Asst. Professor.
327 South Upper Street, (655)
VAUGHN, ERLE CLEVELAND, Asst. Prof. Experiment Station.
304 South Limestone, (3374)
VAUGHN, GEORGE W., Assoc. Professor.
111 North Ashland Avenue, (1182-X)
WAITT, ALDEN HARRY, Instructor.
365 Transylvania Park.
WEAVER, CHARLES PRESTON, Professor.
720 East High Street, (1034-Y)
WEBB, WILLIAM SNYDER, Professor.
363 Transylvania Park, (1750-X)
WHITE, CLARA WARLAND, Instructor.
158 East Maxwell Street, (1236-Y)
WILHOITE, ARZA LYTLE, Asst. Professor.
412 Rose Street, (2656-X)
WILKINS, RAYMOND HARVEY, Research Asst. in Poultry. Experiment Station.
239 South Limestone Street, (3219)
WRIGHT, HARMON KLINE, Extension Agent in Hog Cholera Serum Work. Experiment Station.
239 South Limestone Street, (3219)
ZEMBROD, ALFRED CHARLES, Professor
456 West Fourth Street, (1404-X)

INDEX.

A.

Accredited Schools 66
Accredited Schools, Growth of 73
Administrative Officers 14
Admission and Classification 54
  Admission by Certificate 66
  Admission by Examination 55
  Admission to Freshman Class 54
  Admission to Advanced Standing 73
  Admission as Special Students 73
  Admission as Graduate Students 73
  Entrance Subjects 54
  Entrance Units 55
  High Schools 67
  Private Institutions 71
Agriculture, College of 152
Agricultural Experiment Station 153
Agriculture, Graduate School 290
Agriculture, School of 155
Agriculture, Summer School 309
Agriculture, Two Years' Course 200
Agricultural Education 187
Agricultural Economics 185
Agricultural Society 93
Agronomy 162
Alpha Zeta 95
Alumni Association 333
American Law Book Co. Prize 86, 272
Anatomy and Physiology 108
Animal Husbandry 165
Apple Judging Prize 87
Applied Elec., Mines and Metallurgy 223, 255
Applied Mechanics 217
Arts and Science, College of 103
Arts—Law Course 108
A. S. H. B. Association Trophy 87
Assistant Professors 25
Associate Professors 22
Astronomy 141
Athletics 98
Athletic Field 53
Athletic Teams, Rules Governing 77

B.

Bacteriology 168
Barker Prize, Horace Mann Society 85
  Patterson Society 85
  Philosophian Society 85

B.—Continued.

  Union Literary Society 85
Barker Trophy 85
Battalion of Cadets 301
Bennett Prize 85
Biology Club 93
Board of Trustees 15
Bookkeeping, Entrance 65
Botany 169
  Entrance 65
Bowles Prize 88
Boys' Course, Agriculture 203
Bridge Engineering 218, 225
Brooks Civil Engineering Society 93,213
Buildings 39

C.

Calendar 10
Callaghan & Co. Prize 87, 272
Canterbury Club 92
Cement and Its Uses 225
Certificate of Admission 66
Changes in Registration 74
Chemistry, Arts and Science 110
  Entrance 64
  Graduate School 284
  Mines and Metallurgy 252
  Summer School 304
Churches in Lexington 80
Civil Engineering, College of 213
  Graduate School 291
  Summer School 309
Classification, Senior 82
Collateral Activities, Mech. & Elec. Eng. 246
Colleges and Schools 99
  Agriculture 152
  Civil Engineering 213
  Law 267
  Graduate School 280
  Mechanical and Electrical Engineering 228
  Mines and Metallurgy 248
  Summer School 304
Commencement Exercises, 1915 319
Commencement Honors 82
Commissioner of Agriculture Prize 87
Committees of the Faculty 32
Conditions and Failures 76
Construction 219

C.—Continued.

Contents 7
Contracts, Civil Engineering 219
Convocation 80
Credits 75
County Appointees 84, 206
Crum Prize 85

D.

Debating Teams 97
Declamation Prize 86
Degrees, Agriculture 82, 157
Arts and Science 82, 104
Civil Engineering 82, 214
Commencement, 1915 320
Graduate School 83, 282
Law 82, 270
List of 82
Mechanical and Electrical Engineering 235
Mines and Metallurgy 82, 251
Residence Req. for Bach. Degree 82
Degrees and Honors, 1914-15 317
Descriptive Geometry, Civil Engineering 220
Directory of Officers 382
Dormitories for Men 79
Dormitory for Women 79
Drawing, Civil Engineering 220, 226
Entrance 65
Mechanical and Electrical Eng. 238, 310
Mines and Metallurgy 253
Drawing Rooms 52
Dropping of Delinquent Students 76

E.

Education, Arts and Science 117
Agriculture 181
Graduate School 284
Summer School 305
Economics, Agricultural 185
Electrical Engineering 239
Electrical Laboratory 231
Employment Bureau 79
English, Arts and Science 120
Entrance 55
Graduate School 284
Summer School 305
Rule Relating to Deficiencies in 77
English Club 93
Entomology and Zoology 172
Special Course 175
Entrance, Basic Units for 55
Entrance Examinations, Schedule of 12
Entrance Subjects 54

E.—Continued.

Entrance Units 55
Ewing Prize 88
Examinations, Entrance 74
Removal of Conditions 12, 76
Schedule of 12
Expenses 78
Experiment Station 36, 153
Bulletins 96
Extension, Mines and Metallurgy 266

F.

Faculty Committees 32
Failures 67
Farmers' Short Course 203
Farmers' Week 202
Farm Management 180
Fees 74
Fellowships 292
Foundry, Mines and Metallurgy 254
French, Arts and Science 143
Entrance 62
Graduate School 289
Summer School 309

G.

General Administrative Officers 17
General Conduct 78
General Information 33
General University Departments 294
Geodesy 222
Geology, Arts and Science 125
Entrance 65
Graduate School 285
Mines and Metallurgy 254
German, Arts and Science 142
Entrance 62
Graduate School 289
Summer School 308
Graduate Club 292
Graduate School 280
Graduate Students 341
Greek, Arts and Science 127
Entrance 61
Graduate School 285
Grounds 38
Gymnasium 52

H.

Hazing 78
Heat Engineering 241
Henry Clay Law Society 94, 272
History and Equipment 35
History, Arts and Science 128

H.—Continued.

Entrance 64
Graduate School 286
Summer School 306
Club 93
Highway Engineering 208, 220, 223, 226
Short Winter Course 227
Home Economics, School of 188
Summer School 307
Honors, Commencement 82
1915-16 325
Horace Mann Literary Society 92
Horticulture 181
Horticultural Society Prize 87
Hydraulics, Civil Engineering 217
Mines and Metallurgy 253

I.

Industrial Chemistry 107, 114
Instructors and Assistants 27
Italian, Arts and Science 134
Interscholastic Tournament 98
Interscholastic Tournament Prizes 89
International Live Stock Exp. Prize 88
Irregular Class Attendance 77

J.

Journalism, Arts and Science 133
Journalism Prizes 86

K.

Kentucky High School Quarterly 97
Kentucky Kernel 96
Kentucky Law Journal 96

L.

Laboratories 43
Late Registration 74
Latin, Arts and Science 137
Entrance 61
Graduate School 288
Summer School 307
Law, College of 267
Summer School 278, 315
Location 37
Library 42, 81
Lyceum Course 81

M.

Mathematics, Arts and Science 139
Entrance 60
Graduate School 287
Summer School 308
Club 93
Mechanical and Electrical Engineering 228
Graduate School 291

M.—Continued.

Summer School 310
Mechanical Drawing, Civil Eng. 220, 226
Mechanical and Elec. Eng. Societies 94
Mechanics of Engineering 243
Mechanics, Practical 245
Mechanics, Mines and Metallurgy 253
Metallurgy 258
Military Prizes 87
Military Science 297
Mine Plant 257
Mineralogy, Mines and Metallurgy 254
Mines and Metallurgy, College of 248
Graduate School 292
Two Years' Course 263
Mine Surveying 256
Mining 254
Mining Camp 260
Mining Law 260
Mining Machinery 257
Mining Prize 86
Mining Society 94
Modern Languages, Arts and Science 142
Entrance 62, 63
Graduate School 289
Summer School 308
Moot Court 273
Municipal Engineering 221, 226
Museums 52
Musical Clubs 96

N.

National Dairy Show Prizes 88

O.

Officers, Directory of 382
Officers of Administration and Instruction 13
Officers of Instruction 18
Oratorical Contests 97
Oratorical Prize 86
Ore Deposits 254
Ore Dressing 258
Organization 101
Organizations 90
Other Officers 29
Outlines of Courses, Arts 105
Biology 178
Civil Engineering 215
Economic Entomology 176
Four Year Agriculture 158
History and Political Economy 131
Home Economics, Foods 189
Home Economics, Textiles 191

O.—Continued.

Industrial Chemistry 115
Journalism 135
Law 275
Mechanical and Electrical Engineering 235
Metallurgical Engineering 265
Military Science 299
Mining Engineering 261
Physics 149
Rural and Highway Engineering 224
Science 107
Two Year Agriculture 201
Two Year Home Economics 199
Veterinary Science 207

P.

Patterson Literary Society 92
Patterson Prize 86
Philosophian Literary Society 92
Philosophy, Arts and Science 144
Graduate School 289
Physical Education 294
Physical Geography, Entrance 64
Physics, Arts and Science 145
Entrance 64
Graduate School 290
Mines and Metallurgy 252
Summer School 309
Physiology, Arts and Science 108
Entrance 64
Political Economy, Arts and Science 130
Club 93
Graduate School 286
Political Science, Arts and Science 130
Graduate School 286
Practical Mechanics 245
Practical Miners' Course 264
Pre-Medical Course 109
Press Association 96
Practice Court 273
Printing Plant 53
Prizes 84
Professors 18
Publications 96

R.

Railway Engineering 221
Recommendation of Teachers 81
Register of Students 339
Registration 74
Changes in 74
Late 74
Removal of Conditions 76

R.—Continued.

Reports to Parents 76
Residence and Graduation 74
Residence in Sorority Buildings 78
Road Laws 226
Rural Engineering, Col. of Agriculture 185
Rural Highway Engineering 223
Rural Social Science 185

S.

Sanitary Engineering 221, 226
Scholarships 84
Scholarships, Prizes and Honors, 1914-15 328
School of Agriculture 155
School of Civil Engineering 215
School of Home Economics 188
School of Metallurgical Engineering 264
School of Mining Engineering 261
School of Rural and Highway Eng. 223
Scope of Studies 36
Seed Testing 175
Senior Classification 82
Shop Work, Mech. and Elec. Eng. 245, 310
Mines and Metallurgy 254
Short Winter Course, Agriculture 203
Highway Engineering 227
Smoking in University Buildings 78
Societies 91
Sociology 131
Summer School 306
Sociology, Agricultural 185
Southern Railway Scholarship 84
Spanish, Arts and Science 144
Entrance 63
Summer School 309
Special Tobacco Course 204
Specifications, Civil Engineering 219
Strollers 96
Steam and Gas Engineering Lab. 231, 314
Student Activities 90
Student Advisers 80
Students, Graduate 341
Register of 339
Summer School 374
Summary 379
By Counties in Kentucky 380
By other States and Countries 381
Officers of Instruction 379
Students 379
Summer Course in Law 278, 315
Summer School 304
Summer School Students 374

S.—Continued.

Surveying and Goedesy 222
Surveying, Mines and Metallurgy 256
Surveying, School of Highway Eng. 227

T.

Tau Beta Pi 85
Tau Beta Pi Scholarship 95
Tau Kappa Alpha 95
Ten Weeks Course, Agriculture 203
Testing of Materials Laboratory 234
Thesis, Agriculture 150
Civil Engineering 219
Graduate School 282
Mechanical and Electrical Eng. 246
Mines and Metallurgy 251
Tobacco Course 204
Transit 96, 213
Trustees 15
Two Years' Course, Agriculture 200
Home Economics 198
Mining 263
Rural Engineering 224

U.

Undergraduates 346

U.—Continued.

Union Literary Society 91
University Bulletin 97
University Hospital 80
University Press 53
University Sessions 74
University Woman's Club 81

V.

Veterinary Science 205, 188
Vocational Subjects, Entrance 65

W.

Water Power Engineering 221
Winter Courses, Agriculture 202, 203
Highway Engineering 227
Woman's Course, Home Economics 202
Wood and Forge Shops, Mines and Met. 254

Y.

Y. M. C. A. 90
Secretary 31
Y. W. C. A. 91

Z.

Zoology, College of Agriculture 174
Entrance 65
Special Courses 175