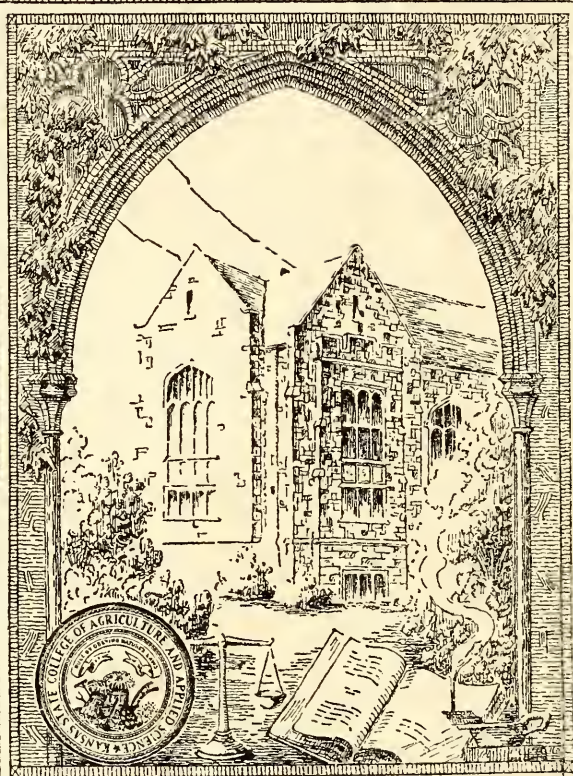


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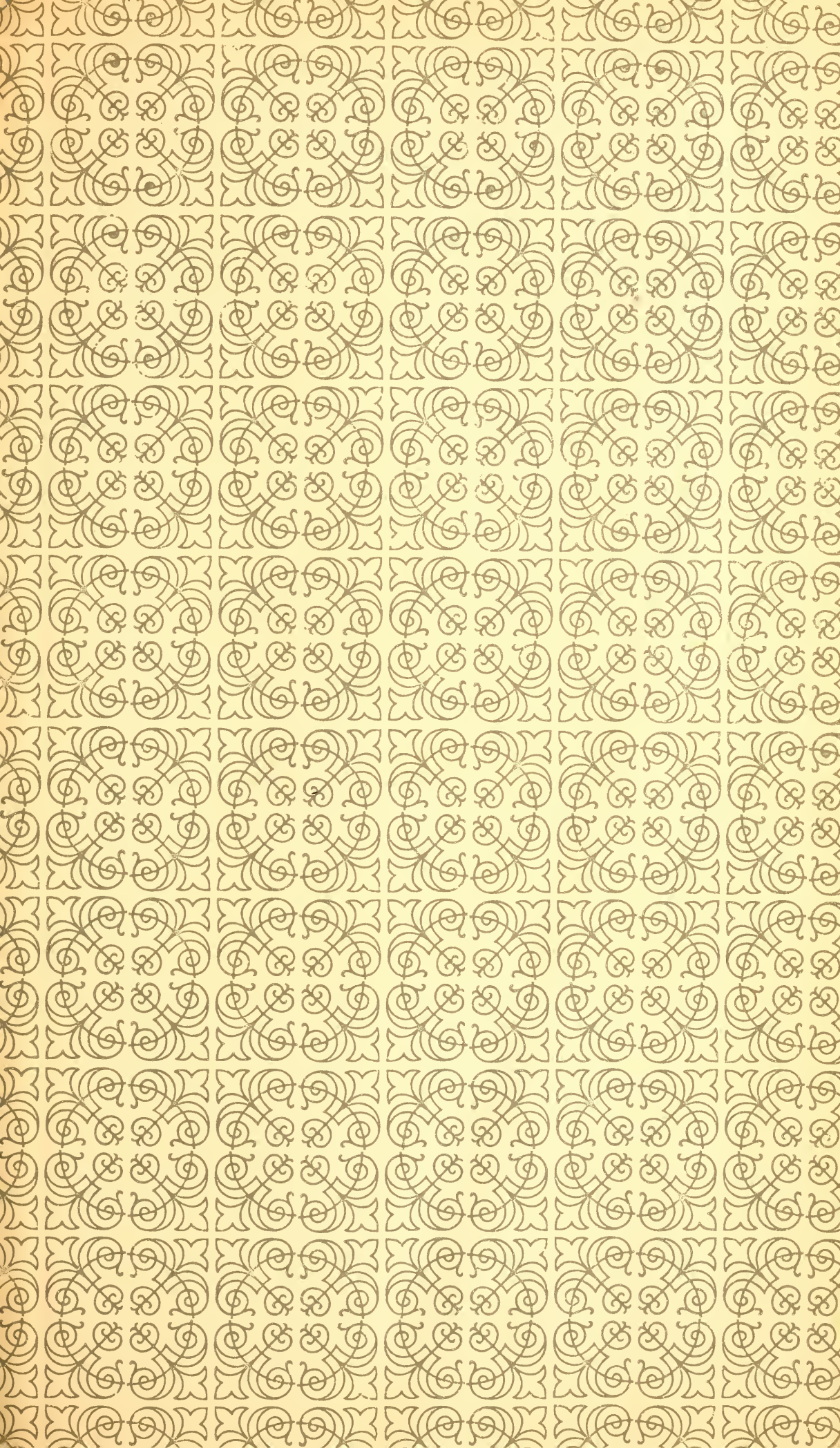
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OF AGRICULTURE AND
APPLIED SCIENCE



KANSAS STATE COLLEGE BULLETIN

VOLUME XIX

JULY 1, 1935

NUMBER 5

COMPLETE CATALOGUE NUMBER

SEVENTY-SECOND SESSION, 1934-'35

ANNOUNCEMENTS FOR THE SESSION OF 1935-'36

STUDENT LISTS FOR THE SESSION OF 1934-'35



KANSAS STATE COLLEGE
OF AGRICULTURE AND APPLIED SCIENCE

MANHATTAN, KANSAS

Published by the College

The Kansas State College Bulletin is published on the first and fifteenth of each month by the Kansas State College of Agriculture and Applied Science, Manhattan, Kan., to which requests for copies of the publication should be addressed. Entered as second-class matter November 6, 1916, at the post office at Manhattan, Kan., under the Act of August 24, 1912.

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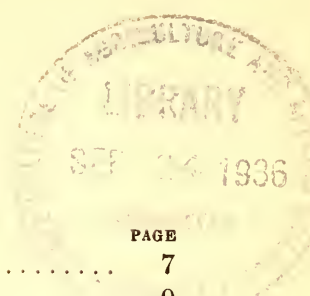


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CALENDAR

| 1935 | | | | | | | | | | | | | | 1936 | | | | | | | | | | | | | |
|----------|----|----|----|----|----|----|-----------|----|----|----|----|----|----|----------|----|----|----|----|----|----|-----------|----|----|----|----|----|----|
| JANUARY | | | | | | | JULY | | | | | | | JANUARY | | | | | | | JULY | | | | | | |
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S |
| .. | .. | 1 | 2 | 3 | 4 | 5 | .. | 1 | 2 | 3 | 4 | 5 | 6 | .. | .. | .. | 1 | 2 | 3 | 4 | .. | .. | .. | 1 | 2 | 3 | 4 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 27 | 28 | 29 | 30 | 31 | .. | .. | 28 | 29 | 30 | 31 | .. | .. | .. | 26 | 27 | 28 | 29 | 30 | 31 | .. | 26 | 27 | 28 | 29 | 30 | 31 | .. |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| FEBRUARY | | | | | | | AUGUST | | | | | | | FEBRUARY | | | | | | | AUGUST | | | | | | |
| .. | .. | .. | .. | .. | 1 | 2 | .. | .. | .. | .. | 1 | 2 | 3 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 24 | 25 | 26 | 27 | 28 | .. | .. | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 30 | 31 | .. | .. | .. | .. | .. |
| MARCH | | | | | | | SEPTEMBER | | | | | | | MARCH | | | | | | | SEPTEMBER | | | | | | |
| .. | .. | .. | .. | .. | 1 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | .. | .. | 1 | 2 | 3 | 4 | 5 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 | 29 | 30 | .. | .. | .. | .. | .. | 29 | 30 | 31 | .. | .. | .. | .. | 27 | 28 | 29 | 30 | .. | .. | .. |
| 31 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| APRIL | | | | | | | OCTOBER | | | | | | | APRIL | | | | | | | OCTOBER | | | | | | |
| .. | 1 | 2 | 3 | 4 | 5 | 6 | .. | .. | 1 | 2 | 3 | 4 | 5 | .. | .. | .. | 1 | 2 | 3 | 4 | .. | .. | .. | .. | 1 | 2 | 3 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 28 | 29 | 30 | .. | .. | .. | .. | 27 | 28 | 29 | 30 | 31 | .. | .. | 26 | 27 | 28 | 29 | 30 | .. | .. | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| MAY | | | | | | | NOVEMBER | | | | | | | MAY | | | | | | | NOVEMBER | | | | | | |
| .. | .. | .. | 1 | 2 | 3 | 4 | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | .. | .. | .. | 1 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 8 | 9 | 10 | 11 | 12 | 13 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 15 | 16 | 17 | 18 | 19 | 20 | 28 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 22 | 23 | 24 | 25 | 26 | 27 | 27 |
| 26 | 27 | 28 | 29 | 30 | 31 | .. | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 29 | 30 | .. | .. | .. | .. | .. |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 31 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| JUNE | | | | | | | DECEMBER | | | | | | | JUNE | | | | | | | DECEMBER | | | | | | |
| .. | .. | .. | .. | .. | .. | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | .. | 1 | 2 | 3 | 4 | 5 | 6 | .. | .. | 1 | 2 | 3 | 4 | 5 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 29 | 30 | 31 | .. | .. | .. | .. | 28 | 29 | 30 | .. | .. | .. | .. | 27 | 28 | 29 | 30 | 31 | .. | .. |
| 30 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

THE COLLEGE CALENDAR

SUMMER SCHOOL, 1935

May 28, Tuesday.—Registration of students for nine-week Summer School begins at 8 a. m.
May 28, Tuesday.—Examinations for students deficient in entrance subjects, 8 a. m. to 5 p. m.
May 28 to July 27, Tuesday to Saturday.—Nine-week Summer School in session.
May 30, Thursday.—Memorial Day, holiday.
June 3 to 7, Monday to Friday.—4-H Club Round-up.
June 8, Saturday.—Preliminary reports on masters' theses are due.
July 1 to July 27, Monday to Saturday.—Four-week Summer School in session.
July 4, Thursday.—Independence Day, holiday.
July 6, Saturday.—Abstracts of masters' theses are due.
July 20, Saturday.—Masters' theses are due.
July 26, Friday.—Graduation exercises at 8 p. m. for those receiving degrees at end of Summer School.
July 27, Saturday.—Summer School closes at 5 p. m.
August 3, Saturday.—Reports of all grades for Summer School are due in registrar's office.

FIRST SEMESTER, 1935-1936

Sept. 6, Friday.—All members of the instructional force on duty.
Sept. 7, Saturday.—Meeting of assigners with committee on schedule at 2 p. m.
Sept. 7, Saturday.—Meeting of assigners with deans at 3 p. m.
Sept. 9, Monday.—Admission and registration of students begin at 7:45 a. m.
Sept. 9, Monday.—Examinations for students deficient in entrance subjects, 8 a. m. to 5 p. m.
Sept. 10, Tuesday.—Registration of students closes at 4 p. m.
Sept. 11, Wednesday.—*Classes meet according to schedule, beginning at 8 a. m.
Sept. 11, Wednesday.—Opening convocation at 11 a. m.
Sept. 13, Friday.—† All freshman students meet at 10 a. m.
Sept. 13, Wednesday.—† All freshman students meet at 9 a. m.
Sept. 19, Thursday.—† Aptitude tests for freshmen, 8 a. m. to 12 m.
Sept. 20, Friday.—Annual student-faculty informal reception at 8 p. m.
Oct. 5, Saturday.—Examinations to remove conditions.
Oct. 12, Saturday.—Scholarship deficiency reports to students and deans are due.
Nov. 9, Saturday.—Midsemester scholarship deficiency reports to students and deans are due.
Nov. 14, Thursday.—Preliminary reports on masters' theses are due.
Nov. 27, Wednesday.—Thanksgiving vacation begins at 12 m.
Nov. 30, Saturday.—Thanksgiving vacation closes at 6 p. m.
Dec. 14, Saturday.—Programs of study due from candidates for the master's degree in 1936.
Dec. 21, Saturday.—Christmas vacation begins at 6 p. m.
Jan. 4, 1936, Saturday.—Christmas vacation closes at 6 p. m.
Jan. 6, Monday.—Abstracts of masters' theses are due.
Jan. 17, Friday.—Masters' theses are due.
Jan. 21 to 25, Tuesday, 1 p. m. to Saturday, 12 m.—Examinations at close of semester.
Jan. 25, Saturday.—First semester closes at 12 m.
Jan. 25, Saturday.—Semester scholarship deficiency reports to students and deans are due not later than 6 p. m.

SECOND SEMESTER, 1935-1936

Jan. 27, Monday.—Meeting of assigners with committee on schedule at 2 p. m.
Jan. 27, Monday.—Examinations for students deficient in entrance subjects, 8 a. m. to 5 p. m.
Jan. 28, Tuesday.—Admission and registration of students begin at 7:45 a. m.
Jan. 29, Wednesday.—Registration closes at 4 p. m.
Jan. 30, Thursday.—* All classes meet according to schedule, beginning at 8 a. m.
Feb. 4 to 7, Tuesday to Friday.—Farm and Home Week.
Feb. 8, Saturday.—Reports of all grades for first semester due in registrar's office.
Feb. 16, Sunday.—Founders' Day. The College was located at Manhattan on Feb. 16, 1863.
Feb. 21, Friday.—Examinations to remove conditions.
Feb. 22, Saturday.—Washington's Birthday, holiday.
Feb. 29, Saturday.—Scholarship deficiency reports to students and deans are due.
Mar. 13, Friday.—Preliminary reports on masters' theses are due.
Mar. 28, Saturday.—Midsemester scholarship deficiency reports to students and deans are due.

* Students must be present at the first meeting of each class or render a reasonable excuse. Failure to take out an assignment is not accepted as an excuse for absence from classes. A fee of five dollars is charged those who are assigned after the time set for close of registration.

† Attendance of all freshmen required on each of the three days.

SUMMER SCHOOL, 1936

FIRST SEMESTER, 1936-1937

Sept. 14, Monday.—Admission and registration of students begin at 7:45 a. m.
 Sept. 14, Monday.—Examinations for students deficient in entrance subjects, 8 a. m. to 5 p. m.
 Sept. 15, Tuesday.—Registration of students closes at 4 p. m.

REGISTRATION AND ASSIGNMENT SCHEDULE

The following tabulation shows the schedule of hours for registration and assignment of students for the college year 1935-1936 arranged according to the initial letters of their last names:

FIRST SEMESTER

MONDAY, SEPTEMBER 9, 1935

| <i>Hours</i> | <i>Initial letters</i> |
|---------------------|---------------------------------------------------------------------------------|
| 7:45 to 9:30..... | C I G R |
| 10:00 to 11:15..... | A D H Y |
| 1:00 to 2:30..... | B F T V and any who failed to report during the two pre- vious periods |

TUESDAY, SEPTEMBER 10, 1935

| | |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7:45 to 9:30..... | K N Q S Z |
| 10:00 to 11:15..... | E P O U W |
| 1:00 to 2:30..... | J L M X |
| 2:30 to 4:00..... | Special students and any students who failed to report during the period provided for their group. Late-assignment fee of \$5 in effect after this period. |

SECOND SEMESTER

TUESDAY, JANUARY 28, 1936

| | |
|---------------------|-----------------------------------------------------------------------------------|
| 7:45 to 9:30..... | J L M X |
| 10:00 to 11:15..... | K N Q S Z |
| 1:00 to 2:30..... | E P O U W and any who failed to report during the two pre- vious periods |

WEDNESDAY, JANUARY 29, 1936

| | |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7:45 to 9:30..... | B F T V |
| 10:00 to 11:15..... | A D H Y |
| 1:00 to 2:30..... | C I G R |
| 2:30 to 4:00..... | Special students and any students who failed to report during the period provided for their group. Late-assignment fee of \$5 in effect after this period. |

The State Board of Regents

| Name and address | Term expires |
|----------------------------------------------|---------------|
| C. M. HARGER, <i>Chairman</i> , Abilene..... | June 30, 1938 |
| DUDLEY DOOLITTLE, Strong City..... | June 30, 1936 |
| W. D. FERGUSON, Colby..... | June 30, 1937 |
| FRED M. HARRIS, Ottawa..... | June 30, 1938 |
| DREW McLAUGHLIN, Paola..... | June 30, 1938 |
| RALPH T. O'NEIL, Topeka..... | June 30, 1935 |
| OSCAR STAUFFER, Arkansas City..... | June 30, 1937 |
| BALIE P. WAGGENER, Atchison..... | June 30, 1936 |
| LESLIE WALLACE, Larned | June 30, 1935 |

BENJAMIN FRANKLIN, *Business Manager*
C. W. MYERS, *Assistant Business Manager*

Administrative Officers* of the College

| | |
|------------------------------------------------------------------------------------------------------------------|--------------------|
| President | F. D. FARRELL |
| Vice President | J. T. WILLARD |
| Dean of the Division of Agriculture, and Director of the Agricultural Experiment Station..... | L. E. CALL |
| Dean of the Division of Engineering, and Director of the Engineering Experiment Station | R. A. SEATON |
| Dean of the Division of General Science | R. W. BABCOCK |
| Dean of the Division of Home Economics, and Direc- tor of the Bureau of Research in Home Econom- ics | MARGARET M. JUSTIN |
| Dean of the Division of Veterinary Medicine..... | R. R. DYKSTRA |
| Dean of the Division of College Extension..... | H. J. UMBERGER |
| Dean of the Division of Graduate Study..... | J. E. ACKERT |
| Dean of Women..... | MARY P. VAN ZILE |
| Dean of the Summer School..... | E. L. HOLTON |
| Registrar | JESSIE McD. MACHIR |
| Librarian | ARTHUR B. SMITH |
| Superintendent of Maintenance..... | G. R. PAULING |

* Also included in the general alphabetical list.

Officers of Administration, Instruction and Research*

NELLIE ABERLE, Instructor in English (1921).‡

B. S., K. S. C., 1912; M. S., *ibid.*, 1914.

† A 53; 1442 Fairchild.

ERWIN ABMEYER, (Temporary) Assistant Professor of Horticulture in Charge of Northeastern Kansas Experimental Fields (1934; Jan. 1, 1935).

B. S., K. S. C., 1933.

Atchison, Kan.

FULTON GEORGE ACKERMAN,¹ Soil Erosion Investigations, Fort Hays Branch Agricultural Experiment Station (1933, 1934).

B. S., K. S. C., 1931.

Hays, Kan.

JAMES EDWARD ACKERT, Dean of the Division of Graduate Study (1931); Professor of Zoölogy (1913, 1918); Parasitologist, Agricultural Experiment Station (1913).

A. B., University of Illinois, 1909; A. M., *ibid.*, 1911; Ph. D., *ibid.*, 1918.

F 26; 1923 Leavenworth.

ANNA TESSIE AGAN, Instructor in Household Economics (1930).

B. S., University of Nebraska, 1927; M. S., K. S. C., 1930.

L 64; 1201 Bertrand.

MICHAEL FRANCIS AHEARN, Professor and Head of Department of Physical Education, and Director of Athletics (1904, 1920).

B. S., Massachusetts Agricultural College, 1904; M. S., K. S. C., 1913.

N 35; 104 N. Juliette.

MARGARET AHLBORN, Professor of Food Economics and Nutrition (1923, 1933); Assistant Dean of Division of Home Economics (1923, 1929).

A. B., University of Kansas, 1906; M. S., K. S. C., 1924.

L 38; 1503 Leavenworth.

LOUIS C. AICHER, Superintendent, Fort Hays Branch Agricultural Experiment Station (1921).

B. S. in Agr., K. S. C., 1910.

Hays, Kan.

HARRY WORKMAN AIMAN, Assistant Professor of Woodwork (1918, 1925)

A. B., Oskaloosa College, 1921.

S 27A; 521 Osage.

ALFRED EVAN ALDOUS, Professor of Pasture Improvement (1926).

B. S., Utah Agricultural College, 1910; Ph. D., University of Nebraska, 1934.

E. Ag 216; 200 N. 16th.

* The staff of a department is listed under the department heading in the body of the Catalogue. See Table of Contents, page 3, *ante*, or Index at end of volume.

† The College buildings are designated by letters, as follows:

A—Anderson Hall (Administration)
Ag—Waters Hall (Agr., Chem., Physics)
Bks—Barracks
CH—College Hospital
D—Chemistry Annex No. 2
E—Engineering Hall
F—Fairchild Hall (Hist., Zoöl., Ent.)
G—Education Hall (Educ., Publ. Spkg.)
H—Dickens Hall (Hort., Botany)
I—Illustrations Hall
K—Kedzie Hall (Printing)
L—Calvin Hall (Home Ec.)
Li—Library

M—Auditorium
N—Nichols Gymnasium
(Phys. Ed., Mil. Sci., Music)
P—Stock Judging Pavilion
PP—Power, Heat and Service Building
R—Farm Machinery Hall
S—Engineering Shops
T—Thompson Hall (Cafeteria)
V—Veterinary Hall (Vet. Med., Bact.)
VH—Veterinary Hospital
VZ—Van Zile Hall (Girls' Dormitory)
W—Chemistry Annex No. 1

‡ One date standing after the title shows when the office was assumed. In the case of two dates separated by a comma or semicolon, the first date indicates when services with the College began, the second when present office was assumed. Dates separated by a dash indicate time of assumption and termination, respectively, of the duties indicated in the title.

1. In coöperation with the U. S. Department of Agriculture.

OSCAR WILLIAM ALM, Professor of Psychology (1929, 1933).

A. B., University of Nebraska, 1917; A. M., Columbia University, 1918; Ph. D., University of Minnesota, 1920. G 30; 1615 Fairchild.

INEZ GERTRUDE ALSOP, Assistant Professor of History and Government (1923, 1927).

B. S., K. S. T. C., Emporia, 1916; M. S., University of Kansas, 1920. F 63; 1429 Laramie.

EDGAR MCCALL AMOS, Assistant Professor of Industrial Journalism and Printing (1920, 1924).

B. S., K. S. C., 1902. K 29; 1015 Leavenworth.

GLYDE ESTELLA ANDERSON, (Temporary) Instructor in Foods and Nutrition, Division of College Extension (1931; July 16, 1934).

B. S., K. S. C., 1926. A 62A; 1031 Fremont.

JOHN EDMOND ANDERSON, Assistant in Milling Industry (1932, 1933).

B. S., K. S. C., 1932; M. S., *ibid.*, 1933. E. Ag 152A; 518 Fremont.

ARTHUR CLINTON ANDREWS, Instructor in Chemistry (1926).

B. S., University of Wisconsin, 1924; M. S., K. S. C., 1929. D 28; 1017 Bertrand.

FLOYD WARNICK ATKESON, Professor and Head of Department of Dairy Husbandry (April 1, 1935); Dairy Husbandman, Agricultural Experiment Station (April 1, 1935).

B. S., University of Missouri, 1918; M. S., K. S. C., 1929. W. Ag. 128.

CLIFF ERRETT AUBEL, Associate Professor of Animal Husbandry (1919, 1928).

B. S., Pennsylvania State College, 1915; M. S., K. S. C., 1917. E. Ag 24; 323 N. 15th.

MADALYN AVERY, Assistant Professor of Physics (1928).

B. S., K. S. C., 1924; M. S., *ibid.*, 1932. W. Ag 134; 1031 Fremont.

RODNEY WHITEMORE BABCOCK, Dean of the Division of General Science (1930).

A. B., University of Missouri, 1912; A. M., University of Wisconsin, 1915; Ph. D., *ibid.*, 1924. A 47; 1928 Leavenworth.

HARRY CHARLES BAIRD, Assistant Professor of Agricultural Extension, District Supervisor, Division of College Extension (1920; Jan. 1, 1934).

B. S., K. S. C., 1914. A 60; 1011 Houston.

BURTON LOWELL BAKER, Graduate, Research Assistant in Zoölogy (1933).

A. B., Kalamazoo College, 1933. F 5; 1503 Fairchild.

WALTER BUSWELL BALCH, Associate Professor of Horticulture (1921, 1931); Greenhouse Foreman (1921).

B. S., Cornell University, 1919; M. S., K. S. C., 1925. H 34; 1734 Fairchild.

DOROTHY BARFOOT, Associate Professor and Acting Head of Department of Art (1930, 1931).

A. B., State University of Iowa, 1922; A. M., Columbia University, 1928. A 68A; 1704 Fairview.

EDGAR LEE BARGER, Instructor in Agricultural Engineering (1930).

B. S., K. S. C., 1930; M. S., *ibid.*, 1934. E 216; 915 N. Juliette.

HAROLD NATHAN BARHAM, Associate Professor of Chemistry (1929, 1932).

A. B., Bethany College, 1921; M. S., Ohio State University, 1922; Ph. D., University of Kansas, 1928. C 52; 820 Bluemont.

JANE WILSON BARNES, Secretary to the Dean, Division of Home Economics (1928).

B. S., K. S. C., 1912; M. S., *ibid.*, 1932. L 29; 1211 Kearney.

ROBERT JOHN BARNETT, Professor and Head of Department of Horticulture (1920, 1930); Horticulturist, Agricultural Experiment Station (1920, 1930).
B. S., K. S. C., 1895; M. S., *ibid.*, 1911. H 29; 1203 Thurston.

ELLEN MARGARET BATCHELOR, Instructor and District Home Demonstration Agent Leader, Division of College Extension (1917, 1921).
B. S., K. S. C., 1911 A 63D; 1722 Humboldt.

LAURA FALKENRICH BAXTER, Assistant Professor of Home Economics Education (1927; Sept. 1, 1934).
B. S., K. S. C., 1915; M. S., *ibid.*, 1930. G 28; 601 Vattier.

MABEL GERTRUDE BAXTER, Assistant in Charge of Continuations, College Library (1916, 1918).
Li 26; 1620 Fairchild.

WENDELL EVERETT BEALS, Assistant Professor of Accounting (1931, 1933).
B. S., University of Kentucky, 1930; M. B. A., Northwestern University, 1931.
Certified Public Accountant (Kansas), 1934. A 74; 1622 Leavenworth.

FLOYD WAYNE BELL, Professor of Animal Husbandry, in Charge of Advanced Judging (1918, 1921).
B. S., Cornell University, 1911. E. Ag 12; 1736 Fairview.

ERWIN JOHN BENNE, Instructor in Chemistry (1930).
B. S., K. S. C., 1928; M. S., *ibid.*, 1931. W 30; 902 Ratone.

ADA GRACE BILLINGS, Associate Professor of History and Government Home Study Service, Division of College Extension (1921, 1927).
B. S., K. S. C., 1916; M. S., *ibid.*, 1927. A 5; 714 Moro.

FRANK OTTO BLECHA, Assistant Professor of Agricultural Extension; District Agricultural Agent, Division of College Extension (1919, 1923); Rural Organization and Farm Finance,¹ Division of College Extension, Feb. 1, 1934, to Jan. 31, 1935.
B. S., K. S. C., 1918; M. S., *ibid.*, 1926. A 60; 1507 Leavenworth.

RALPH BOGART, Graduate Research Assistant in Genetics (July 14, 1934).
B. S. in Agr., University of Missouri, 1934. E. Ag 58; 1127 Vattier.

DONALD HOUTS BOWMAN, Graduate Assistant in Botany (1933).
B. S., K. S. C., 1933. H 56; 1206 Vattier.

WILLIAM RAYMOND BRACKETT, Associate Professor of Physics (1919, 1923).
A. B., University of Colorado, 1905. W. Ag 31; 1824 Humboldt.

BOYD BERTRAND BRAINARD, Associate Professor of Mechanical Engineering (1923, 1929).
B. S. in M. E., University of Colorado, 1922; S. M., Massachusetts Institute of Technology, 1931. E 109; 1209 Vattier.

CARL ALFRED BRANDLY, Assistant Professor of Bacteriology (1927).
D. V. M., K. S. C., 1923; M. S., *ibid.*, 1930. V 53; 922 Bertrand.

GEORGE FRANCIS BRANIGAN, Instructor in Engineering Drawing and Descriptive Geometry (1927).
B. S. in C. E., University of Nebraska, 1927; M. S., K. S. C., 1933.
E 209; 1631 Humboldt.

AUGUSTIN WILBER BREEDEN, Associate Professor of English (1926).
Ph. B., University of Chicago, 1924; A. M., *ibid.*, 1925. K 52; 1728 Laramie.

JESSE LAMAR BRENNEMAN, Professor of Electrical Engineering (1920, 1928).
B. S., University of Chicago, 1908; E. E., University of Wisconsin, 1913.
E 120; 820 Laramie.

1. In coöperation with the U. S. Department of Agriculture.

- HELEN VIRGINIA BREWER, Instructor in Foods and Nutrition, Division of College Extension (1932; July 1, 1934).
B. S., K. S. C., 1929; M. S., *ibid.*, 1932. A 62A; 800 N. Manhattan.
- KATHLEEN BROPHY, Assistant in Physical Education for Women (Sept. 1, 1934).
B. S., University of Wisconsin, 1932; M. S., *ibid.*, 1933. N 4; 315 N. 14th.
- NINA MYRTLE BROWNING, Instructor in Food Economics and Nutrition (1930).
B. S., K. S. C., 1923; M. S., *ibid.*, 1927. L 64; 908 Laramie.
- HOWARD W. BRUBAKER, Professor of Chemistry (1913, 1922).
B. S., Carleton College, 1899; Ph. D., University of Pennsylvania, 1904.
D 3C; 1929 Leavenworth.
- ESTHER BRUNER, Assistant Professor of Clothing and Textiles (1920, 1927).
B. S., K. S. C., 1920; M. S., *ibid.*, 1921. L 68; 311 Denison.
- ARTHUR MAXWELL BRUNSON,¹ Agronomist, U. S. D. A.; Corn Breeding, Agricultural Experiment Station (1923).
B. S., University of Illinois, 1913; M. S., *ibid.*, 1919; Ph. D., Cornell University, 1923.
E. Ag 301; 1730 Fairview.
- HARRY RAY BRYSON, Assistant Professor of Entomology (1924, 1929).
B. S., K. S. C., 1917; M. S., *ibid.*, 1924. F 54; 1821 Leavenworth.
- JAMES HENRY BURT, Professor and Head of Department of Anatomy and Physiology (1909, 1919).
V. S., Ontario Veterinary College, 1895; D. V. M., Ohio State University, 1905.
V 31; 800 Poyntz.
- LELAND DAVID BUSHNELL, Professor and Head of Department of Bacteriology (1908, 1912); Bacteriologist, Agricultural Experiment Station (1908, 1912).
B. S., Michigan Agricultural College, 1905; M. S., University of Kansas, 1915; Ph. D., Harvard University, 1921.
V 54; 801 Osage.
- FRANK BYRNE, Instructor in Geology (1930).
B. S., University of Chicago, 1927. F 1A; 1116 Bluemont.
- JAMES PARK CALDERWOOD, Professor and Head of Department of Mechanical Engineering (1918, 1922); Mechanical Engineer, Engineering Experiment Station (1918); deceased, Aug. 9, 1934.
M. E., Ohio State University, 1908; M. S., Pennsylvania State College, 1916.
E 108; 321 N. 14th.
- MARION JOHN CALDWELL, Instructor in Chemistry (1932; Sept. 1, 1934).
B. S., K. S. C., 1931; M. S., *ibid.*, 1933. D 8; 615 N. 11th.
- LELAND EVERETT CALL, Dean of Division of Agriculture (1907, 1925); Director of Agricultural Experiment Station (1907, 1925); on leave, Jan. 1, 1934, to Jan. 31, 1935.
B. S. in Agr., Ohio State University, 1906; M. S., *ibid.*, 1912. E. Ag 112; 223 N. 14th.
- JAMES PHILLIP CALLAHAN, Associate Professor of English (1924, 1930).
B. S., Kansas State Teachers College, Hays, 1919; A. M., University of Kansas, 1926.
K 56; 1601 Pierre.
- MILDRED CAMP, Head of Circulation Department, College Library (1927).
A. B., Eureka College, 1912; B. L. S., University of Illinois, 1924. Li; 1213 Kearney.
- WALTER WILLIAM CARLSON, Professor and Head of Department of Shop Practice (1910, 1917); Superintendent of Shops (1910, 1912); Industrial Engineer, Engineering Experiment Station (1913).
B. S., K. S. C., 1908; M. E., *ibid.*, 1916. S 62; 1722 Laramie.

1. In coöperation with the U. S. Department of Agriculture.

WILBUR JOHN CAULFIELD, Assistant Professor of Dairy Husbandry (1927, 1930).
B. S., University of Minnesota, 1924; M. S., Pennsylvania State College, 1926.
W. Ag 147; 1011 Moro.

HARRY WINFIELD CAVE, Professor of Dairy Husbandry (1918, 1926); Acting
Head of Department, Jan. 1, to March 31, 1935.
B. S. A., Iowa State College, 1914; M. S., K. S. C., 1916. W. Ag 128; 1638 Osage.

ERNEST KNIGHT CHAPIN, Associate Professor of Physics (1923, 1932).
A. B., University of Michigan, 1918; M. S., *ibid.*, 1923. W. Ag 134A; 1119 Laramie.

IRA NICHOLS CHAPMAN, Associate Professor of Agricultural Economics, Divi-
sion of College Extension (1916, 1925).
B. S., K. S. C., 1916; M. S., *ibid.*, 1926. W. Ag 327; 1210 Thurston.

FRANCIS EUGENE CHARLES, Associate Professor of Industrial Journalism (1931).
B. S., K. S. C., 1924; M. S., *ibid.*, 1929. K 27; 1819 Leavenworth.

FRANK JACOBS CHEEK, JR., Associate Professor of Structural Design (1923,
1928).
A. B., Centre College, 1914; C. E., Rensselaer Polytechnic Institute, 1919; S. M., Massa-
chusetts Institute of Technology, 1933. E 223; 1109 Thurston.

ROBERT FREDERICK CHILDS,² Road Materials, Engineering Experiment Station
(1931).
B. S., K. S. C., 1929. E 204; 1618 Houston.

EDWARD L. CLAEREN, Major, U. S. A., Retired; Military Property Custodian,
Department of Military Science and Tactics (1910, 1919).
N 29; 900 Pierre.

ALFRED LESTER CLAPP, Associate Professor of Agronomy, in Charge of Cöoper-
ative Experiments (1920; July 1, 1934).
B. S., K. S. C., 1914. E. Ag 201; 1109 Kearney.

EUGENE ARTHUR CLEAVINGER, Assistant Professor of Farm Crops, Division of
College Extension (1926, 1931); Assistant Professor of Agricultural Exten-
sion, District Agricultural Agent, Division of College Extension, July 1,
1934, to Jan. 31, 1935.
B. S., K. S. C., 1925. A 60; 345 N. 15th.

HARRY J. CLEMMER,¹ Associate Agronomist, U. S. D. A.; Dry-land Agricultural
Investigations, Garden City Branch Agricultural Experiment Station (April
2, 1934); resigned, Jan. 31, 1935.
B. S., Oklahoma A. & M. College, 1915. Garden City, Kan.

MAYNARD HENRY COE, Professor, State Club Leader, Division of College Ex-
tension (1922, 1927).
B. S., University of Minnesota, 1917. A 35B; 336 N. 16th.

EMBERT HARVEY COLES,¹ Superintendent, Colby Branch Agricultural Experiment
Station (1922, 1929).
B. S. in Agr., K. S. C., 1922. Colby, Kan.

CHARLES WILLIAM COLVER, Professor of Organic Chemistry (1919, 1925).
B. S., University of Idaho, 1909; M. S., *ibid.*, 1911; Ph. D., University of Illinois, 1919.
D 28; 1635 Fairchild.

WILLIAM EUGENE CONNELL, Instructor in Animal Husbandry (1930).
B. S., Oklahoma A. and M. College, 1928; M. S., K. S. C., 1929.
E. Ag 6A; 1126 Thurston.

ROBERT WARREN CONOVER, Professor of English (1915, 1920).
A. B., Wesleyan University, 1911; A. M., *ibid.*, 1914. K 53; 800 N. Manhattan.

1. In cöoperation with the U. S. Department of Agriculture.
2. In cöoperation with the Kansas State Highway Department.

LOWELL EDWIN CONRAD, Professor and Head of Department of Civil Engineering (1908, 1909); Civil Engineer, Engineering Experiment Station (1913).

B. S., Cornell College, 1904; C. E., *ibid.*, 1906; M. S., Lehigh University, 1908.
E 124; 317 N. 17th.

JOHN HERBERT COOLIDGE, Assistant Professor of Agricultural Economics, Division of College Extension (1931).

B. S., K. S. C., 1925; M. S., *ibid.*, 1932. 246 Ave. E East, Kingman, Kan.

CHARLES MECLAIN CORRELL, Professor of History and Government (1922; July 1, 1934). Assistant Dean, Division of General Science (1927).

B. S., K. S. C., 1900; Ph. B., University of Chicago, 1907; Ph. M., *ibid.*, 1908.
F 61 and A 47A; 1621 Fairchild.

INA FOOTE COWLES, Associate Professor of Clothing and Textiles (1902, 1918).

B. S., K. S. C., 1901; M. S., University of Wisconsin, 1931. L 55; 513 N. 16th.

RUFUS FRANCIS COX, Assistant Professor of Animal Husbandry (1930).

B. S., Oklahoma A. and M. College, 1923; M. S., Iowa State College, 1925.
E. Ag 8A; 1005 Thurston.

WILLIAM WESLEY CRAWFORD, Assistant Professor of Civil Engineering (1923; Sept. 1, 1934).

A. B., State University of Iowa, 1912; B. S. in C. E., Iowa State College, 1917; M. Di., Iowa State Teachers College, 1908. E 220; 721 Kearney.

CLARENCE EDWARD CREWS, Assistant Professor of Agronomy (1928, 1932).

B. S. in Agr., K. S. C., 1928; M. S., *ibid.*, 1930. 300 Ave. A West, Kingman, Kan.

LEONARD ROSCOE CREWS, Capt., C. A. C.; Assistant Professor of Military Science and Tactics (June 4, 1934).

N 26; 815 Houston.

CORNELIA WILLIAMS CRITTENDEN, Associate Professor of Modern Languages (1926, 1929).

A. B., University of Nebraska, 1918; A. M., *ibid.*, 1926. A 71; 1000 Moro.

MARTHA REBECCA CULLIPHER, Assistant Loan Librarian (1928).

A. B., Indiana University, 1926; B. S. in L. S., University of Illinois, 1928.
Li 51; 312 N. 15th.

GORDON DANKS, Assistant Professor of Surgery and Medicine (Sept. 1, 1934).

B. S., Pennsylvania State College, 1929; D. V. M., Cornell University, 1933.
52 VH; Veterinary Hospital.

ROSE MARIE DARST, Assistant in Art (1933).

B. S., Ohio University, 1926; A. M., Columbia University, 1927.
A 68B; 1704 Fairview.

ROBERT DODDS DAUGHERTY, Assistant Professor of Mathematics (1930, 1932).

Ph. B., Iowa Wesleyan College, 1910; M. S., State University of Iowa, 1930.
S 52; 615 Humboldt.

ALLAN PARK DAVIDSON, Professor of Vocational Education (1919, 1930).

B. S., K. S. C., 1914; M. S., *ibid.*, 1925. G 29; 1600 Humboldt.

FLOYD EWING DAVIDSON, Assistant in Agronomy (Feb. 1, 1934).

B. S., K. S. C., 1933. 803 S. 32nd, Parsons, Kan.

CHARLES DEFOREST DAVIS, Assistant Professor of Farm Crops (1921).

B. S., K. S. C., 1921; M. S., *ibid.*, 1926. E. Ag 305A; 1013 Laramie.

ELIZABETH HAMILTON DAVIS, Reference Librarian (1920).

A. B., MacMurray College for Women, 1909; B. L. S., University of Illinois, 1914.
Li 51; 1224A Moro.

- HALLAM WALKER DAVIS, Professor of English (1913, 1918); Head of Department of English (1913, 1921).
A. B., Indiana University, 1909; A. M., Columbia University, 1913.
K 54; 1727 Fairview.
- WILMER ESLA DAVIS, Professor of Plant Physiology (1909, 1927).
Graduate, Ohio Normal University, 1894; A. B., University of Illinois, 1903.
H 32; 1123 Thurston.
- EARLE REED DAWLEY, Professor of Engineering Materials (1920; 1933); Assistant Engineer of Tests (1920).
B. S., University of Illinois, 1919; M. S., K. S. C., 1927. E 135; 1200 Kearney.
- GEORGE ADAM DEAN, Professor and Head of Department of Entomology (1902, 1913); Entomologist, Agricultural Experiment Station (1902, 1913).
B. S., K. S. C., 1895; M. S., *ibid.*, 1905. F 51; 1725 Poyntz.
- MAUDE ELIZABETH DEELY, Instructor and District Home Demonstration Agent Leader, Division of College Extension (1923; Dec. 15, 1934).
B. S., K. S. C., 1923; A. M., Columbia University, 1932. A 62; 1649 Fairchild.
- GRACE EMILY DERBY, Associate Librarian (1911, 1918).
A. B., Western College for Women, 1905. Li 55; 1825 Leavenworth.
- OSEE MAY DILL, Assistant College Physician (Jan. 3, 1935).
B. S., Indiana University, 1913; M. D., *ibid.*, 1915. A 58; 1732 Laramie.
- CHARLES GEORGE DOBROVOLNY, Technician and Instructor in Zoölogy (1929); on leave, July 1 to Aug. 15, 1934.
A. B., University of Montana, 1928. F 30; 1429 Laramie.
- CARL ALFRED DORF, Graduate Assistant in Chemistry (1931).
A. B., Bethany College, 1920; M. S., K. S. C., 1932. W 26; 1011 Bluemont.
- LYLE WAYNE DOWNEY, Assistant Professor of Music (1928); Director of College Band, and Instructor in Band Instruments (1928, 1929); on sabbatic leave, year 1934-1935.
A. B., James Milliken University, 1923; B. Mus., American Conservatory, 1928; M. S., K. S. C., 1932. M 31; 1840 Anderson.
- RAYMOND RODNEY DRAKE,¹ Associate Agricultural Engineer, U. S. D. A.; Soil Erosion Investigations, Fort Hays Branch Agricultural Experiment Station (1929).
B. S. in A. E., K. S. C., 1929. Hays, Kan.
- OSWALD BENTON DRYDEN, Assistant Extension Editor, Division of College Extension (Jan. 15, 1934); resigned, Feb. 16, 1935.
A 4; 1708 Humboldt.
- LESTER HENRY DRAYER, Chief Engineer, Heat and Power Department (1916, 1927).
E 3; 531 Moro.
- FRANK LESLIE DULEY, Professor of Soils (1925, 1928); on indefinite leave, July 1, 1934.
B. S., University of Missouri, 1914; A. M., *ibid.*, 1915; Ph. D., University of Wisconsin, 1923. E. Ag 207; 1814 Laramie.
- MAURICE LELAND DUMARS, Assistant Extension Editor, Division of College Extension (Feb. 17, 1935).
B. S., K. S. C., 1933. A 4; 1000 Kearney.
- HUGH DURHAM, Assistant Dean, Division of Agriculture (1915, 1927); Assistant to Director, Agricultural Experiment Station (1915, 1927); Associate Professor of Agricultural Education (1927).
Graduate, Kansas State Teachers College, Emporia, 1901; A. B., University of Kansas, 1909; A. M., *ibid.*, 1915. E. Ag 105; 730 Osage.

1. In coöperation with the U. S. Department of Agriculture.

- MERRILL AUGUSTUS DURLAND, Professor of Machine Design (1919, 1928); Assistant Dean of Division of Engineering (1919, 1926).
B. S., K. S. C., 1918; M. E., *ibid.*, 1922. M. S., *ibid.*, 1923. E 116; 1715 Houston.
- EVELYN FLORENCE DUTTON, Instructor in Art (1932).
B. S., University of New Hampshire, 1922; A. M., Columbia University, 1932.
A 68B; 924 Moro.
- RALPH R. DYKSTRA, Dean of Division of Veterinary Medicine (1911, 1919; Professor of Surgery and Head of Department of Surgery and Medicine (1911, 1913).
D. V. M., Iowa State College, 1905. V 30; 607 Houston.
- MARJORIE GRAHAM EBERHART, Assistant Physician, Department of Student Health (1932); resigned, Nov. 15, 1934.
B. S., Southern Methodist University, 1926; M. D., University of Oklahoma, 1930.
A 58; 1429 Laramie.
- HAL F. EIER, (Temporary) Instructor in Rural Engineering, Division of College Extension (Feb. 1, 1934).
E 131; 1001 Osage.
- OSCAR S. EKDAHL, (Temporary) Instructor in Architecture (Jan. 15, 1935).
B. S., K. S. C., 1933. E 224; R. F. D. 1.
- HELEN ELIZABETH ELCOCK, Associate Professor of English (1920, 1926).
A. B., College of Emporia, 1907; A. M., University of Chicago, 1921.
A 52; 426 N. 17th.
- CARL G. ELLING, Associate Professor of Animal Husbandry, Division of College Extension (1918, 1921).
B. S., K. S. C., 1904. A 34; R. F. D. 1.
- OTTO HERMAN ELMER, Assistant Professor of Botany and Plant Pathology (1927).
B. S., Oregon Agricultural College, 1911; M. S., *ibid.*, 1916; Ph. D., Iowa State College, 1924.
H 56; 354 N. 15th.
- FRED P. ESHBAUGH, Forest Nurseryman, Fort Hays Branch Agricultural Experiment Station (July 1, 1934).
B. S., K. S. C., 1926; M. S., Purdue University, 1928. Hays, Kan.
- MORRIS EVANS, Associate Professor of Agricultural Economics (1920, 1926).
B. S. in Agr., K. S. C., 1920; M. S., *ibid.*, 1925. W. Ag 328; 1601 Poyntz.
- LOUISE HELEN EVERHARDY, Associate Professor of Art (1919, 1920).
Graduate, New York School of Fine and Applied Art, 1916; B. S., Columbia University, 1925; A. M., *ibid.*, 1926. A 55A; 1104 Vattier.
- WILLIAM LAWRENCE FAITH, Assistant Professor of Industrial Chemistry (1933).
B. S., University of Maryland, 1928; M. S., University of Illinois, 1929; Ph. D., *ibid.*, 1932.
D 3; 1447 Anderson Ave.
- HERMAN FARLEY, Assistant Professor of Pathology (1929).
D. V. M., K. S. C., 1926; M. S., *ibid.*, 1934. V 2; 1407 Laramie.
- FRANCIS DAVID FARRELL, President of the College (1918, 1925).
B. S., Utah Agricultural College, 1907; Agr. D., University of Nebraska, 1925.
A 30; President's House, College Campus.
- JACOB OLIN FAULKNER, Professor of English (1922, 1927).
A. B., Washington and Lee University, 1907; A. M., Pennsylvania State College, 1920.
K 62; 1720 Fairview.
- ARTHUR CECIL FAY, Professor of Bacteriology (1921; July 1, 1934).
B. S., University of Missouri, 1920; M. S., University of Wisconsin, 1921; Ph. D., Iowa State College, 1933. V 28; 1621 Leavenworth.

FRANK JOSEPH FEIGHT, Superintendent of Poultry Farm (1930); resigned, July 6, 1934.

Poultry Farm; R. F. D. 1.

HURLEY FELLOWS,¹ Associate Pathologist, U. S. D. A.; Cereal Investigations, Agricultural Experiment Station (1925).

B. S., Oregon State College, 1920; M. S., University of Wisconsin, 1921; Ph. D., *ibid.*, 1923. H 2; 122 S. Juliette.

FREDERICK CHARLES FENTON, Professor and Head of Department of Agricultural Engineering (1928).

B. S., Iowa State College, 1914; M. S., *ibid.*, 1930. E 214; 322 N. 17th.

CHRIS HENRY FICKE,¹ Junior Pathologist, U. S. D. A.; Cereal Investigations, Agricultural Experiment Station (1930).

B. S., Iowa State College, 1925; M. S., K. S. C., 1927. H 2; 1500 N. 9th.

GEORGE ALBERT FILINGER, Assistant Professor of Pomology (1931); Assistant Pomologist, Agricultural Experiment Station (1931).

B. S., K. S. C., 1924; M. S., *ibid.*, 1925; Ph. D., Ohio State University, 1931. H 35; 209 N. Delaware.

HELEN BERNICE FISHER, Assistant in Child Welfare and Euthenics (1932, 1933).

A. B., DePauw University, 1932; M. S., K. S. C., 1933. L 32B; 900 Bluemont.

JAMES BURGESS FITCH, Professor and Head of Department of Dairy Husbandry (1910, 1918); Dairy Husbandman, Agricultural Experiment Station (1910, 1918); resigned, Dec. 31, 1934.

B. S., Purdue University, 1910. W. Ag 128; 321 N. 16th.

BEATTY HOPE FLEENOR, Professor of Education, Home Study Service, Division of College Extension (1923, 1927).

B. S., K. S. C., 1919; M. S., *ibid.*, 1923; Ph. D., University of Missouri, 1931. A 5; 1635 Osage.

ARTHUR ORAN FLINNER, Assistant Professor of Mechanical Engineering (1929; Sept. 1, 1934).

B. S. in M. E., K. S. C., 1929; M. S., *ibid.*; 1933. E 109; 1006 Vattier.

EUSTACE VIVIAN FLOYD, Professor of Physics (1911, 1921).

B. S., Earlham College, 1903. W. Ag 228; 1541 Laramie.

VERNON DANIEL FOLTZ, Assistant Professor of Bacteriology (1927, 1932).

B. S., K. S. C., 1927; M. S., *ibid.*, 1929. V 52; 1531 Leavenworth.

CONIE CAROLINE FOOTE, Assistant Professor and Specialist in Foods and Nutrition, Division of College Extension (1924, 1932); on indefinite leave, July 1, 1934.

B. S., K. S. C., 1921; A. M., Columbia University, 1931. A 62; 1429 Laramie.

HELEN WHEELER FORD, Professor and Head of Department of Child Welfare and Euthenics (1926, 1928).

B. S., Rhode Island State College, 1914; Ph. D., Yale University, 1925. L 62; 1115 Bertrand.

KENNEY LEE FORD, Alumni Secretary (1928).

B. S., K. S. C., 1924; M. S., *ibid.*, 1932. A 38A; 1516 Leavenworth.

GLENN SYLVESTER FOX, Assistant Professor of Agricultural Economics, Division of College Extension (1933; July 1, 1934).

B. S., K. S. C., 1933. A 34; 1116 Bluemont.

EDWARD RAYMOND FRANK, Assistant Professor of Surgery and Medicine (1926, 1928).

B. S., K. S. C., 1918; D. V. M., *ibid.*, 1924; M. S., *ibid.*, 1929. VH 53; 1837 Anderson.

1. In coöperation with the U. S. Department of Agriculture.

- FORREST FAYE FRAZIER, Professor of Civil Engineering (1911, 1922).
C. E., Ohio State University, 1910. E 123; 1815 Leavenworth.
- EDWIN JACOB FRICK, Professor of Medicine (1919, 1926).
D. V. M., Cornell University, 1918. VH 54; 319 N. 16th.
- WESLEY LEONARD FRY, Instructor in Physical Education (Sept. 1, 1934).
LL. B., State University of Iowa, 1926. N 35; 1520 Leavenworth.
- MANFORD W. FURR, Professor of Civil Engineering (1917, 1927).
B. S., Purdue University, 1913; C. E., *ibid.*, 1925; M. S., K. S. C., 1926.
E 122; 1426 Humboldt.
- PERCY LEIGH GAINES, Professor of Bacteriology (1914, 1922); Soil Bacteriologist, Agricultural Experiment Station (1914).
B. Agr., North Carolina A. and M. College, 1908; M. S., *ibid.*, 1910; A. M., Washington University, 1911; Ph. D., *ibid.*, 1927. V 26; 1123 Houston.
- ANNABEL ALEXANDER GARVEY, Assistant Professor of English (1920, 1927).
A. B., Wellesley College, 1912; A. M., University of Kansas, 1914.
A 54; 1601 Fairchild.
- FRANK CALEB GATES, Professor of Plant Taxonomy and Ecology (1919, 1928).
A. B., University of Illinois, 1910; Ph. D., University of Michigan, 1912.
H 76A; 1515 Humboldt.
- STEPHEN ARNOLD GEAUQUE, Custodian (1918, 1926).
PP 35; 1014 Laramie.
- GEORGE ALBERT GEMMELL, Professor of Education, in charge of Department of Home Study Service, Division of College Extension (1918, 1922).
B. S., Kansas State Teachers College, Pittsburg, 1917; B. S., K. S. C., 1920; M. S., *ibid.*, 1922; Ph. D., University of Missouri, 1930. A 5; 411 N. 16th.
- ANNA GEORGE, Housekeeper in College Hospital, Department of Student Health (Sept. 1, 1934).
College Hospital.
- KATHERINE GEYER, Instructor in Physical Education for Women (1927).
Diploma, Sargent School of Boston University, 1925; B. S., Ohio State University, 1927; A. M., Columbia University, 1934. N 3; 1531 Leavenworth.
- WILLIAM EVERETT GIBSON,² Engineer of Tests, Kansas State Highway Commission; Road Materials, Engineering Experiment Station (1930).
B. S., K. S. C., 1927; M. S., *ibid.*, 1933; C. E., *ibid.*, 1933. E 17; 219 N. 6th.
- RANDOLPH FORNEY GINGRICH, Associate Professor of Engineering Drawing and Descriptive Geometry (1923, 1931); Assistant Superintendent of Maintenance (July 1, 1933).
B. S. in C. E., University of Nebraska, 1923; M. S., K. S. C., 1929.
S 51; 1731 Humboldt.
- CLARENCE LEE GISH, Superintendent of Poultry Farm (July 7, 1934).
B. S., K. S. C., 1934. Poultry Farm; R. F. D. 1.
- KINGSLEY WALTON GIVEN, Associate Professor of Public Speaking (1930).
A. B., Park College, 1926; A. M., State University of Iowa, 1928.
G 55; 1740 Fairview.
- JOHN SNELL GLASS, Assistant Professor of Rural Engineering, Division of College Extension (1928); on leave, Jan. 1, 1934, to Feb. 24, 1935; in Charge of Rural Engineering,¹ Division of College Extension, Feb. 25, to June 30, 1935.
B. S., Iowa State College, 1917. E 131; R. F. D. 1.
- OTIS BENTON GLOVER, Assistant Professor of Agricultural Extension, District Supervisor, Division of College Extension (1929; July 16, 1934).
B. S., K. S. C., 1915. A 62; 1031 Kearney.

1. In coöperation with the U. S. Department of Agriculture.

2. In coöperation with the Kansas State Highway Department.

MINA FLORENCE GOEHRING, Research Assistant in Clothing and Textiles (1933); resigned, Aug. 31, 1934.

B. S., University of Nebraska, 1928; M. S., State University of Iowa, 1929; Ph. D., *ibid.*, 1931. L 51; 1931 Leavenworth.

BONNIE VIRGINIA GOODMAN, Instructor in Household Management, Division of College Extension (Oct. 1, 1934).

B. S., Southwestern Texas State Teachers College, 1926; M. S., K. S. C., 1932. A 62A; 1409 Laramie.

ARTHUR LEONARD GOODRICH, JR., Instructor in Zoölogy (1929).

B. S., College of Idaho, 1928; M. S., University of Idaho, 1929. F 78; 1642 Laramie.

EUGENE CLAYTON GRAHAM, Associate Professor of Farm Shop Practice (1922, 1926).

B. S., Carleton College, 1898; B. S., in M. E., University of Minnesota, 1902. S 37; 501 Sunset.

CLARENCE OWEN GRANDFIELD,¹ Assistant Agronomist, U. S. D. A.; Forage Crops, Agricultural Experiment Station (1927, 1929).

B. S., K. S. C., 1917; M. S., *ibid.*, 1929. E. Ag 206A; 1634 Laramie.

EDWARD GRANT, Instructor in Foundry (1913); Foreman of Foundry (1913).

S 45; 1733 Laramie.

ROY MONROE GREEN, Professor of Agricultural Economics (1920, 1923); on leave, Jan. 10, 1934 to June 30, 1935.

B. S., in Agr., University of Missouri, 1914; M. S., K. S. C., 1922. W. Ag 330B; 1855 Anderson.

WALDO ERNEST GRIMES, Professor and Head of Department of Agricultural Economics (1913, 1921); Acting Dean of the Division of Agriculture and Acting Director of the Agricultural Experiment Station, Jan. 1, 1934, to Jan. 31, 1935.

B. S., K. S. C., 1913; Ph. D., University of Wisconsin, 1923. W. Ag 330A; 203 N. Delaware.

HAZLEY THOMAS GROODY, Assistant Physician, Department of Student Health (1925).

B. S., Valparaiso University, 1909; M. D., Chicago College of Medicine and Surgery, 1913. A 59; 514 N. Juliette.

HILDA ROSE GROSSMANN, Assistant Professor of Voice (1927, 1932).

B. Mus., Chicago Musical College, 1925; B. S. in Music Ed., K. S. C., 1932. N 76B; 1425 Laramie.

JESSIE GULICK, Acting Cataloguer in Library (1907, 1923).

Li 52; 335 N. 15th.

MYRTLE ANNICE GUNSELMAN, Assistant Professor of Household Economics (1926, 1927).

B. S., K. S. C., 1919; A. M., University of Chicago, 1926. L 65; 324 N. 15th.

RUTH HAINES, Secretary of the Young Women's Christian Association (Sept. 1, 1934).

A. B., University of Denver, 1931; A. M., *ibid.*, 1933. A 36; 222 S. 17th.

EVERETT RAYMOND HALBROOK, Assistant Professor of Poultry Husbandry, Division of College Extension (Dec. 19, 1934).

B. S. in Agr., University of Missouri, 1930. 230 W. Ag; 514 N. 17th.

JOSEPH LOWE HALL, Assistant Professor of Chemistry (1922, 1923).

B. S., University of Illinois, 1919; M. S., *ibid.*, 1921; Ph. D., *ibid.*, 1922. D 27A; 800 N. Manhattan.

1. In coöperation with the U. S. Department of Agriculture.
2. In coöperation with the Kansas State Highway Department.

- LAWRENCE FENER HALL, Assistant Professor of Vocational Education (1929, 1931).
B. S., K. S. C., 1923; M. S., *ibid.*, 1927. G 28; 116 N. Delaware.
- ALANSON LOLA HALLSTED,¹ Assistant in Dry Farming, Fort Hays Branch Agricultural Experiment Station (1910).
B. S., K. S. C., 1903 Hays, Kan.
- JOHN ORR HAMILTON, Professor and Head of Department of Physics (1901, 1908); Physicist, Engineering Experiment Station (1913).
B. S., University of Chicago, 1900. W. Ag 225; 331 N. 14th.
- FLOYD JOSEPH HANNA, College Photographer (1922, 1930).
I; 1612 Leavenworth.
- MURVILLE JENNINGS HARBAUGH, Assistant Professor of Zoölogy (1929, 1930).
A. B., University of Montana, 1926; A. M., *ibid.*, 1930. F 37; 904 Bertrand.
- ELISABETH PERRY HARLING, Seed Analyst, Department of Agronomy (1912, 1917).
A 77; 628 Fremont.
- MARY THERESA HARMAN, Professor of Zoölogy (1912, 1921).
A. B., Indiana University, 1907; A. M., *ibid.*, 1909; Ph. D., *ibid.*, 1912.
F 39; 1821 Poyntz.
- MARGUERITE VELMA HARPER, Instructor in Household Management, Division of College Extension (1928); resigned, Sept. 15, 1934.
B. S., K. S. C., 1928. A 62A; 1429 Laramie.
- VIDA AGNES HARRIS, Assistant Professor of Art (1927, 1931).
B. S., K. S. C., 1914; A. M., University of Chicago, 1927. A 55A; 1645 Fairchild.
- STELLA MAUDE HARRISS, Assistant Professor of Chemistry (1917, 1927).
Graduate, (Peru) Nebraska State Normal School, 1908; B. S., K. S. C., 1917; M. S., *ibid.*, 1919. W 26; 311 Denison.
- LAWRENCE WILLIAM HARTEL, Assistant Professor of Physics (1920); on leave, year 1934-1935.
A. B., Central Wesleyan College, 1911; B. S., *ibid.*, 1912; B. S., in Ed., University of Missouri, 1915; M. S., K. S. C., 1924. 1010 Vattier.
- RUTH HARTMAN, Assistant Professor of Music (1924).
Graduate in Public School Music, Iowa State Teachers College, 1912; Two-year Certificate, Northwestern University, 1923. M 56; 1519 Fairchild.
- EFFIE LoVISA HASTINGS, Second Assistant to the Registrar (1927, 1928).
A 29; 122 S. Manhattan.
- WARD HILLMAN HAYLETT, Instructor in Physical Education for Men (1928, 1931).
A. B., Doane College, 1926. N 33; 1414 Humboldt.
- HERBERT HENLEY HAYMAKER, Professor of Plant Pathology (1917, 1927).
B. S., K. S. C., 1915; M. S., University of Wisconsin, 1916; Ph. D., *ibid.*, 1927.
H 54; 315 N. 16th.
- DELFA MARY HAZELTINE, Assistant to the Dean, Division of College Extension (1920); resigned, Dec. 31, 1934.
Graduate, Lawrence Business College. A 33; 1131 Bluemont.
- HENRY MILES HEBERER, Associate Professor of Public Speaking (1925, 1930).
A. B., University of Illinois, 1922. G 55; 1715 Laramie.
- RUTH DILLON HECKLER, Assistant in Institutional Economics (1933); resigned, August 31, 1934.
A. B., University of California, 1924. T 28; 818 Bluemont.

1. In coöperation with the U. S. Department of Agriculture.

LINN HELANDER, Professor and Head of Department of Mechanical Engineering (Jan. 1, 1935); Mechanical Engineering, Engineering Experiment Station (Jan. 1, 1935).

B. S. in M. E., University of Illinois, 1915.

E 109; 1512 Leavenworth.

JOHN FREDERICK HELM, JR., Associate Professor of Free-Hand Drawing and Painting (1924, 1931).

B. D., Syracuse University, 1924.

E 305; 1508 Humboldt.

HOMER JAY HENNEY, Assistant Professor of Agricultural Economics (1927, 1928).

B. S., K. S. C., 1921; M. S., *ibid.*, 1928.

W. Ag 330B; 1723 Leavenworth.

GEORGE EDWIN HENRY, (Temporary) Instructor in Music (Sept. 1, 1934).

B. Mus., in Composition, American Conservatory of Music, Chicago, 1933.

M 31; 1119 Thurston.

JOHN VERN HEPLER,¹ B. S., Assistant Professor of Agricultural Extension, District Agricultural Agent, Division of College Extension (1921, 1930).

B. S., K. S. C., 1915.

A 60; 1803 Anderson.

KATHERINE JANE HESS, Associate Professor of Clothing and Textiles (1925, 1931).

B. S., K. S. C., 1900; M. S., *ibid.*, 1926.

L 53; 601 Fremont.

HOWARD TEMPLETON HILL, Professor and Head of Department of Public Speaking (1920, 1922).

B. S., Iowa State College, 1910; J. D., University of Chicago, 1917.

G 55; 1622 Leavenworth.

RANDALL CONRAD HILL, Associate Professor of Sociology (1929).

B. S., K. S. C., 1924; M. S., *ibid.*, 1927; Ph. D., University of Missouri, 1929.

A 51A; 1902 Anderson.

LORA VALENTINE HILYARD, Instructor in Junior Extension, Assistant State Club Leader, Division of College Extension (1930).

B. S., K. S. C., 1930.

A 35B; 1649 Fairchild.

JULIAN ADAIR HODGES, Assistant Professor of Agricultural Economics (1923, 1926).

B. S. in Agr., University of Kentucky, 1917; M. S. in Agr. Ec., *ibid.*, 1923.

W. Ag 328; 108 N. 17th.

MARY ELIZABETH HOFF, Head of Documents Department, College Library (1928).

A. B., Friends University, 1925; B. S. in L. S., University of Illinois, 1928.

Li 26; 511 N. 14th.

INA EMMA HOLROYD, Assistant Professor of Mathematics (1900, 1929).

B. S., K. S. C., 1915; B. S., Kansas State Teachers College, Emporia, 1916; A. M., Columbia University, 1929.

S 53; 1001 Moro.

EDWIN LEE HOLTON, Professor and Head of Department of Education (1910, 1913); Dean of Summer School (1910, 1918).

A. B., Indiana University, 1904; Ph. D., Columbia University, 1927.

G 27; 217 N. 14th.

ADRIAN AUGUSTUS HOLTZ, Men's Adviser and Secretary of Young Men's Christian Association (1919); Assistant Professor of Sociology (1929).

A. B., Colgate University, 1909; Ph. M., University of Chicago, 1910; B. D., *ibid.*, 1911; Ph. D., *ibid.*, 1914.

A 43; 419 Denison.

ABRAM ELDRED HOSTETTER, (Temporary) Instructor in Chemistry (1930; Oct. 1, 1934).

B. S., McPherson College, 1925; M. S., K. S. C., 1932.

D 28; 914 Vattier.

1. In coöperation with the U. S. Department of Agriculture.

HELEN PANSY HOSTETTER, Assistant Professor of Industrial Journalism and Printing (1932).

A. B., University of Nebraska, 1917; M. S., Northwestern University, 1926.
K 28; 426 N. 17th.

HAROLD HOWE, Professor of Agricultural Economics (1925; July 1, 1934); Acting Head of Department, Jan. 1, 1934, to Jan. 31, 1935.

B. S., K. S. C., 1922; M. S., University of Maryland, 1923.
W. Ag 325A; 1206 Thurston.

LEO EVERETT HUDIBURG, Assistant Professor of Physics (1930).

B. S., Kansas State Teachers College, Pittsburg, 1923; M. S., K. S. C., 1930.
W. Ag 130; 1624 Osage.

JOSIAH SIMSON HUGHES, Professor of Chemistry (1910, 1920).

B. S., Ohio Wesleyan University, 1908; M. S., *ibid.*, 1909; A. M., Ohio State University, 1910; Ph. D., *ibid.*, 1917.
D 28; 333 N. 15th.

WALTER CLARE HULBURT, Graduate Assistant in Agricultural Engineering (July 1, 1934).

B. S., K. S. C., 1934.
E 216; 1617 Leavenworth.

ORVILLE DON HUNT, Assistant Professor of Electrical Engineering (1923, 1926).

B. S. in E. E., Washington State College, 1923; M. S., K. S. C., 1930.
E 127; 1822 Poyntz.

EMMA HYDE, Associate Professor of Mathematics (1920, 1926).

A. B., University of Kansas, 1912; A. M., University of Chicago, 1916.
S 56; 320 N. 15th.

HEMAN LAURITZ IBSEN, Professor of Genetics (1919, 1934).

B. S., University of Wisconsin, 1912; M. S., *ibid.*, 1913; Ph. D., *ibid.*, 1916.
E. Ag. 58; 326 N. 16th.

IVOR VICTOR ILES, Professor of History and Government (1911, 1920).

A. B., University of Kansas, 1905; A. M., *ibid.*, 1905.
F 57; 325 N. 17th.

CLARENCE ROY JACCARD,¹ Assistant Professor of Agricultural Extension, District Agricultural Agent, Division of College Extension (1922, 1928).

B. S., K. S. C., 1926.
A 60; 208 S. 17th.

HOWARD CLIFFORD JACKSON, Supervisor, Agricultural Adjustment Administration, Division of College Extension (Oct. 15, 1934); resigned, Feb. 28, 1935.

B. S., Iowa State College, 1925.
A 62; 513 N. 16th.

ELDEN VALORIUS JAMES, Professor of History and Government (1912, 1924).

A. B., Marietta College, 1901; A. B., University of Michigan, 1905; A. M., Marietta College, 1908.
F 64; 1723 Fairview.

FLORENCE ELIZABETH JAMES, Director of the Cafeteria, Instructor in Institutional Economics (Sept. 1, 1934).

B. S., K. S. C., 1931; M. A., Mills College, 1932.
T 28; 1447 Anderson.

WILLIAM CHARLES JANES, Assistant Professor of Mathematics (1922, 1926).

B. S., Northwestern University, 1919; A. M., University of Nebraska, 1922.
S 52; 1115 Thurston.

ALICE CLAYPOOL JEFFERSON, Assistant Professor of Piano (1925, 1927).

Graduate, American Conservatory of Music, 1921; B. Mus., *ibid.*, 1929.
N 76D; 1601 Fairchild.

WILLIAM EDWIN JENNINGS, Instructor in Surgery and Medicine (1931); resigned, Aug. 31, 1934.

D. V. M., Cornell University, 1931.
VH 53; Vet. Hospital.

RICHARD ROSLYN JESSON, Assistant Professor of Piano (1929, 1931).

B. Mus., Oberlin College, 1929.
M 54; 1116 Bluemont.

1. In coöperation with the U. S. Department of Agriculture.

GEORGE EDWIN JOHNSON, Professor of Zoölogy (1924, 1931); Mammalogist, Agricultural Experiment Station (1924).

B. S., Dakota Wesleyan University, 1913; M. S., University of Chicago, 1916; Ph. D., Harvard University, 1923. F 5; 1614 Humboldt.

CHARLES OTIS JOHNSTON,¹ Associate Pathologist, U.S.D.A.; Cereal Investigations, Agricultural Experiment Station (1919).

B. S., K. S. C., 1918; M. S., *ibid.*, 1924. H 53; 1323 Laramie.

EDWARD C. JONES, Assistant Professor of Machine Tool Work (1916, 1920).

B. M. E., Iowa State College, 1905; M. E., *ibid.*, 1922; M. S., K. S. C., 1934. S 32; R. F. D. 1.

LOUIS MARK JORGENSEN, Assistant Professor of Electrical Engineering (1925, 1926).

B. S., K. S. C., 1907; M. S., *ibid.*, 1930. E 127; 730 Laramie.

MARGARET M. JUSTIN, Dean of Division of Home Economics (1923).

B. S. in H. E., K. S. C., 1909; B. S. in Educ., Teachers College, Columbia University, 1915; Ph. D., Yale University, 1923. L 29; 531 N. Manhattan.

JULIUS ERNEST KAMMEYER, Professor and Head of Department of Economics (1903, 1904).

A. B., Central Wesleyan College, 1886; A. M., *ibid.*, 1889; LL. D., Kansas City University, 1912. A 75A; 1212 Thurston.

EDGAR TALBERT KEITH, Professor of Industrial Journalism and Printing (1912, 1925); Acting Head of Department, Aug. 1, 1934, to June 30, 1935.

B. S., K. S. C., 1912. K 26A; 1714 Fairview.

ERNEST BAKER KEITH, Associate Professor of Chemistry (1918, 1927).

B. S., K. S. C., 1913; Ph. D., University of Chicago, 1924. W 27; 1719 Fairchild.

LEONE BOWER KELL, Instructor in Child Welfare and Euthenics (1927, 1929).

B. S., K. S. C., 1923; M. S., *ibid.*, 1928. L 33A; 727 Leavenworth.

AMY KELLY, Professor, State Home Demonstration Leader, Division of College Extension (1923).

B. S., South Dakota State College, 1908. A 63A; 1031 Fremont.

EDWARD GUERRANT KELLY, Professor of Entomology, Division of College Extension (1918, 1922).

B. S., University of Kentucky, 1903; M. S., *ibid.*, 1904; Ph. D., Iowa State College, 1927. F 69; 1621 Humboldt.

SAMUEL GREENBERG KELLY,³ Agent for Xanthium Research for the Commonwealth of Australia, Division of Economic Entomology; Cocklebur Control Investigations, Agricultural Experiment Station (1929).

B. S., K. S. C., 1929; M. S., *ibid.*, 1930. F 80; 1026 Bertrand.

RUSSELL MARION KERCHNER, Professor of Electrical Engineering (1922, Sept. 1, 1934).

B. S., University of Illinois, 1922; M. S., K. S. C., 1927. E 121; 1730 Poyntz.

MARY KIMBALL, First Assistant to the Registrar (1918).

B. S., K. S. C., 1907. A 29; 1311 Fremont.

HERBERT HIRAM KING, Professor and Head of Department of Chemistry (1906, 1918); Chemist, Agricultural Experiment Station (1918); Chemist, Engineering Experiment Station (1909, 1918).

B. S., Ewing College, 1904; A. M., *ibid.*, 1906; M. S., K. S. C., 1915; Ph. D., University of Chicago, 1918. D 29; 1711 Fairchild.

1. In coöperation with the U. S. Department of Agriculture.

3. In coöperation with the Division of Economic Entomology, Commonwealth of Australia.

- CHARLES HOWARD KITSELMAN, Professor of Pathology (1919, 1933).
V. M. D., University of Pennsylvania, 1918; M. S., K. S. C., 1927.
VH 71; 1810 Laramie.
- GAY TETLEY KLEIN, Assistant Professor of Poultry Husbandry, Division of College Extension (1925, 1926); resigned, Aug. 31, 1934.
B. S., University of Missouri, 1923; M. S., K. S. C., 1926.
W. Ag 245; 1711 Leavenworth.
- ROYCE GERALD KLOEFFLER, Professor and Head of Department of Electrical Engineering (1916, 1927).
B. S., in E. E., University of Michigan, 1913; S. M., Massachusetts Institute of Technology, 1930.
E 120; 1218 Kearney.
- LOUIS MEYERS KNIGHT, Assistant Professor of Agricultural Extension, District Supervisor, Division of College Extension (1923; July 21, 1934).
B. S., K. S. C., 1923.
A 60; 215 S. 17th.
- KATHLEEN KNITTLE, Assistant to the Dean of Women (1931).
B. S., K. S. C., 1923.
A 42; 726 Leavenworth.
- LESTER HENRY KOENITZER, Assistant Professor of Applied Mechanics (1929; Sept. 1, 1934).
B. S., Iowa State College, 1926; M. S., *ibid.*, 1929; C. E., *ibid.*, 1930.
E 14; 1802 Anderson.
- MARTHA MORRISON KRAMER, Professor of Food Economics and Nutrition (1922, 1925); on leave, July 11 to Sept. 10, 1934.
B. S., University of Chicago, 1916; A. M., Columbia University, 1920; Ph. D., *ibid.*, 1922.
L 28; 426 N. 17th.
- BERNICE LYDIA KUNERTH, Technician, Department of Food Economics and Nutrition (1932, 1933).
B. S., Iowa State College, 1932; M. S., K. S. C., 1933.
L 13; 1212 Fremont.
- JOSEPH BENJAMIN KUSKA,¹ Associate Agronomist, U. S. D. A.; Dry-land Agriculture Investigations, Colby Branch Agricultural Experiment Station (1914).
B. S., University of Nebraska, 1913.
Colby Branch Station; Colby, Kan.
- PAUL GRIFFITH LAMERSON, Assistant Entomologist, Agricultural Experiment Station (1933; July 1, 1934).
B. S. in Agr., K. S. C., 1927; M. S., *ibid.*, 1931.
Troy, Kan.
- IRA KAULL LANDON, Assistant Professor of Soils (1923); on indefinite leave July 1, 1934; resigned, Jan. 31, 1935.
B. S., in Agr., K. S. C., 1921.
3156 Belmont, Parsons, Kan.
- ROY CLINTON LANGFORD, Assistant Professor of Psychology (1925, 1933).
B. S., K. S. C., 1925; M. S., *ibid.*, 1926; Ph. D., Leland Stanford, Jr., University, 1934.
G 32D; 1200 Thurston.
- ELMER LARSON, Staff Sergt., D. E. M. L., U. S. A.; Instructor in Military Science and Tactics (1933).
N 26; 1429 Laramie.
- MENDEL ELMER LASH, Ph. D., Assistant Professor of Chemistry (1929).
A. B., Ohio State University, 1920; M. S., *ibid.*, 1922; Ph. D., *ibid.*, 1928.
W 27; 819 Kearney.
- RALPH RICHARD LASHBROOK, (Temporary) Instructor in Industrial Journalism and Printing (Sept. 1, 1934).
B. S., K. S. C., 1929.
K 30A; 1517 Leavenworth.
- JOHN RUSSELL LATTI, (Temporary) Assistant in Soils (Feb. 1, 1934).
B. S., K. S. C., 1934.
E. Ag 207A; 1030 Bluemont.

1. In coöperation with the U. S. Department of Agriculture.

- ALPHA CORINNE LATZKE, Associate Professor and Head of Department of Clothing and Textiles (1929, 1932).
B. S., K. S. C., 1919; M. S., *ibid.*, 1928. L 55; 1527 Humboldt.
- HILMER HENRY LAUDE, Professor of Farm Crops (1920, 1931).
B. S., K. S. C., 1911; M. S., Texas A. and M. College, 1918. E Ag 208; 321 Denison.
- ELDEN EMANUEL LEASURE, Assistant Professor of Pathology (1926, 1928).
D. V. M., K. S. C., 1923; M. S., *ibid.*, 1930. V 57A; 1531 Leavenworth.
- CAMILLE LEON LEFEBVRE, Assistant Professor of Botany (1932).
B. S., University of Minnesota, 1929; A. M., Harvard University, 1931; Ph. D., *ibid.*, 1932. H 54; 1116 Bluemont.
- EDWARD HENRY LEKER, Assistant Professor of Plant Pathology, Division of College Extension (1929).
B. S., University of Missouri, 1917; M. S., K. S. C., 1927. H 53; 601 N. 14th.
- CLARENCE FLAVIUS LEWIS, Associate Professor of Mathematics (1920, 1926).
A. B., University of Denver, 1913; M. S., K. S. C., 1925. S 53; 1615 Humboldt.
- HERBERT FREDERICK LIENHARDT, Professor and Head of Department of Pathology (1917, 1920).
V. M. D., University of Pennsylvania, 1916. V 60; 1118 Bertrand.
- LOUIS HENRY LIMPER, Professor of Modern Languages (1914, 1926).
A. B., Baldwin Wallace College, 1907; A. M., University of Wisconsin, 1914; Ph. D., State University of Iowa, 1931. A 71; 1324 Laramie.
- WILLIAM LINDQUIST, Professor of Voice and Head of Department of Music (1925, 1927).
B. Mus., Cosmopolitan School of Music and Dramatic Art, Chicago, 1925. N 33; 202 S. 17th.
- JAMES WALTON LINN, Associate Professor of Dairy Husbandry, Division of College Extension (1923, 1927).
B. S., K. S. C., 1915. W. Ag 125; 117 N. 14th.
- HENRY LEWIS LOBENSTEIN, Assistant Professor of Horticulture, Division of College Extension (1928, 1929).
B. S., K. S. C., 1926. A 34; 1127 Kearney.
- CHARLES ALDEN LOGAN, Assistant Professor of Agricultural Engineering (1929); on leave, Feb. 1, 1934, to July 1, 1935.
B. S., K. S. C., 1925; M. S., *ibid.*, 1932; A. E., *ibid.*, 1934. E 216; 615 N. 9th.
- LEROY HENRY LOHMANN, Major, C. A. C., U. S. A.; Associate Professor of Military Science and Tactics (1933).
Graduate, U. S. Military Academy, 1917; Graduate, Battery Officers Course, Coast Artillery School, 1924; Graduate, Command and General Staff School, 1933. N 26; 727 Humboldt.
- LISLE LESLIE LONGSDORF, Extension Editor and Radio Program Director, Division of College Extension (1927).
B. S., University of Wisconsin, 1925; M. S., *ibid.*, 1926. A 4; 825 Bertrand.
- HENRY WILBERT LOY, JR., Assistant Chemist, Agricultural Experiment Station (1930).
B. S., K. S. C., 1930; M. S., *ibid.*, 1933. E. Ag 204A; 1426 Laramie.
- JOHN WALLACE LUMB, Associate Professor of Veterinary Medicine, Division of College Extension (1924, 1931).
D. V. M., K. S. C., 1910; M. S., *ibid.*, 1930. V 32; 1631 Leavenworth.
- JACOB LUND, Superintendent of Heat and Power, Emeritus (1883, 1925); Custodian of Buildings and Grounds, Emeritus (1883, 1925).
B. S., K. S. C., 1883; M. S., *ibid.*, 1886. E 26B; 1414 Fairchild.

DANIEL EMMETT LYNCH, Assistant Professor of Forging (1914, 1920); Foreman of Blacksmith Shop (1914).

S 41; 1528 Pierre.

HAZEL ALMA LYNESS, Instructor in Home Economics Education (1930, 1932); Itinerant Teacher of Adult Home-making Education (1930).

B. S., K. S. C., 1922; M. S., *ibid.*, 1932.

G 28.

ERIC ROSS LYON, Associate Professor of Physics (1921, 1928).

A. B., Phillips University, 1911; M. S., *ibid.*, 1923.

W. Ag 130; 1114 Bertrand.

WALDO HIRAM LYONS, Associate Professor of Mathematics (1924, 1926).

A. B., University of Denver, 1912; A. M., *ibid.*, 1916.

S 52; 816 Leavenworth.

JESSIE McDOWELL MACHIR, Registrar (1913).

A 29; 1641 Fairchild.

ALBERT JOHN MACK, Professor of Mechanical Engineering (1917, 1928).

B. S., K. S. C., 1912; M. E., *ibid.*, 1921.

E 109; 1619 Osage.

DAVID LESLIE MACKINTOSH, Assistant Professor of Animal Husbandry (1921, 1922); on leave, Aug. 15 to Sept. 10, 1934.

B. S., University of Minnesota, 1920; M. S., K. S. C., 1926.

E. Ag 9; 1425 Humboldt.

HUBERT WHATLEY MARLOW, Assistant Professor of Chemistry (1925, 1932).

B. S., North Texas Teachers College, 1925; M. S., University of Chicago, 1928; Ph. D., *ibid.*, 1931.

W 29A; 1441 Laramie.

MAX RULE MARTIN, Assistant Professor of Violin, Viola, and Reed Instruments (1929).

Graduate in Violin, William A. Bunzen; Graduate in Orchestra, Sander Harmati; Graduate in Musical Composition, R. Cuscaden.

N 76A; 1413 Laramie.

WILLARD HUNGATE MARTIN, Professor of Dairy Husbandry (1925, 1928).

B. S., Purdue University, 1918; M. S., Pennsylvania State College, 1922.

W. Ag 128C; 1615 Osage.

WILLMIMA PEARL MARTIN, Instructor in Home Health and Sanitation, Division of College Extension (1919).

R. N., Christ's Hospital, Topeka.

A 62A; 930 Osage.

CARL JESUS MARTINEZ, (Temporary) Assistant in Physics (Sept. 20, 1934).

B. S., K. S. C., 1932; M. S., *ibid.*, 1933.

Ag 31; 615 Yuma.

CHARLES WALTON MATTHEWS, Professor of English (1920, 1925).

B. S., Kansas State Teachers College, Pittsburg, 1918; A. M., University of Chicago, 1923.

K 55; 1718 Fairview.

GEORGE WILLARD MAXWELL, Assistant Professor of Physics (1927, 1928).

A. M., University of Michigan, 1920.

W. Ag 134A; 1433 Anderson.

NELLIE MAY, Postmistress (1911).

A 44; R. F. D. 2.

LORRAINE MAYTUM, Instructor in Physical Education for Women (1933).

B. S., University of Wisconsin, 1926.

N 1; 1212 Fremont.

CHARLES WILBUR McCAMPBELL, Professor and Head of Department of Animal Husbandry (1910, 1918); Animal Husbandman, Agricultural Experiment Station (1910, 1918).

B. S., K. S. C., 1906; D. V. M., *ibid.*, 1910; B. S. in Agr., *ibid.*, 1918.

E. Ag 9A; 343 N. 14th.

STERLING McCOLLUM, Instructor in Shop Practice (1930).

S 34; 905 Pierre.

CLIFFORD DALE McDONALD, Sergt., D. E. M. L., U. S. A., Instructor in Military Science and Tactics (1933).

N 26; 1201 Moro.

MAYNARD LEE McDOWELL, Instructor in Chemistry (1926).

A. B., Central College, 1924; A. M., University of Missouri, 1926; Ph. D., State University of Iowa, 1934. W 29A; 1638 Laramie.

LORETTA McELMURRY, Instructor in Clothing and Textiles, Division of College Extension (1927).

B. S., South Dakota State College, 1901.

A 62; 514 N. 17th.

HIRAM TEMPLE McGEHEE, Graduate Assistant in Chemistry (1931).

B. S., K. S. C., 1931; M. S., *ibid.*, 1932.

W 29A; 615 N. 11th.

WILLIAM MAX McLEOD, Professor of Anatomy and Physiology (1919, 1933).

D. V. M., Iowa State College, 1917.

V 33; 1016 Vattier.

EVA MYRTLE McMILLAN, Instructor in Food Economics and Nutrition (1930).

Ph. B., University of Chicago, 1918; M. S., *ibid.*, 1929.

L 28; 908 Laramie.

CHARLES DEAN McNEAL, (Temporary) Assistant in Agricultural Economics (July 1, 1934).

B. S., K. S. C., 1934.

W. Ag 330B; 1116 Bluemont.

LEO EDWARD MELCHERS, Professor and Head of Department of Botany and Plant Pathology (1913, 1919); Plant Pathologist, Agricultural Experiment Station (1913).

B. S., Ohio State University, 1912; M. S., *ibid.*, 1913.

H 58; 1631 Osage.

NORMAN JOHN MELLIES, Graduate Research Assistant in Electrical Engineering (Sept. 1, 1934).

B. S., K. S. C., 1933.

E 24; 513 N. 16th.

ALICE MAUDE MELTON, Assistant to the Dean, Division of General Science (1909, 1919).

B. S., K. S. C., 1898.

A 47; 804 Moro.

JOSEPH FARRINGTON MERRILL, Assistant Chemist, Agricultural Experiment Station (1921).

B. S., University of Maine, 1907.

E. Ag 204A; 318 N. 16th.

WILLIAM HAROLD METZGER, Assistant Professor of Soils (1932).

B. S., Purdue University, 1922; M. S., K. S. C., 1927; Ph. D., Ohio State University, 1931.

E. Ag 207A; 809 N. 11th.

ARTHUR MEYER, (Temporary) Instructor in Horticulture, Division of College Extension (1930; Feb. 9, 1934); resigned, Nov. 14, 1934.

MAY MILES, Instructor and District Home Demonstration Agent Leader, Division of College Extension (1926, 1928); resigned, Aug. 31, 1934.

B. S., University of Illinois, 1926.

A 63C; 1519 Fairchild.

EDWIN CYRUS MILLER, Professor of Plant Physiology (1910, 1919).

A. B., Lebanon College, 1906; A. B., Yale University, 1907; Ph. D., *ibid.*, 1910.

H 27; 211 N. 18th.

LEWIS EARL MILLER, (Temporary) Instructor in Chemistry (Oct. 8, 1934).

B. A., Ohio State University, 1917; M. S., *ibid.*, 1925; Ph. D., University of Pittsburgh, 1928.

W. 26; 1116 Bluemont.

MAURICE CHARLES MOGGIE, Instructor in Education (1933).

B. S., K. S. C., 1929; M. S., *ibid.*, 1931.

G 27; 1429 Laramie.

CONRAD STEPHEN MOLL, Instructor in Physical Education for Men (1929).

Graduate, Concordia College, Fort Wayne, Ind., 1918; B. P. E., George Williams College, 1925; M. S., K. S. C., 1933.

N 31A; College Heights.

GEORGE MONTGOMERY, Assistant Professor of Agricultural Economics (1925, 1930), on leave, Oct. 1, 1934, to June 30, 1935.

B. S., K. S. C., 1925; M. S., *ibid.*, 1927.

W. Ag 330B; 1116 Bluemont.

FRITZ MOORE, Professor and Head of Department of Modern Languages (Sept. 1, 1934).

B. A., University of Akron, 1927; M. A. University of Illinois, 1930; Ph. D., *ibid.*, 1932.
A 69; 1522 Houston.

CHARLES L. MORGAN, Associate Professor of Architecture (Sept. 1, 1934).

B. S. in Arch., University of Illinois, 1914. E 223; 318 S. 17th.

MARIA MORRIS, Assistant Professor of Art (1925, 1932).

B. S., K. S. C., 1911; Graduate, New York School of Fine and Applied Art, 1924; M. S., K. S. C., 1927. A 68A; 816 N. Juliette.

REED FRANKLIN MORSE, Assistant Professor of Civil Engineering (1929; Sept. 1, 1934).

A. B., Cornell College, 1921; B. S., Iowa State College, 1923; M. S., K. S. C., 1933.
E 220; 930 Laramie.

THIRZA ADALINE MOSSMAN, Assistant Professor of Mathematics (1922, 1926).

A. B., University of Nebraska, 1916; A. M., University of Chicago, 1922.
S 53; 1601 Fairchild.

JEPHTHA JERRY MOXLEY, Assistant Professor of Animal Husbandry, Division of College Extension (1925, 1927).

B. S. in Agr., K. S. C., 1922. A 34; 1030 Thurston.

ANNA NEAL MULLER, Class Reserves Assistant in Library (1929).

B. S., K. S. C., 1921. Li 1; 1218 Bertrand.

WILLIAM A. MURPHY, Assistant Professor of Economics (1933; March 1, 1934).

B. S., University of Kansas, 1928; M. B. A., *ibid.*, 1930. A 74; 1210 Vattier.

FRANK LEWIS MYERS, Assistant to the Director of Physical Education (1926).

B. Mus., K. S. C., 1925. N 35; 1715 Poyntz.

HAROLD EDWIN MYERS, Assistant Professor of Soils (1929, 1931).

B. S., K. S. C., 1928; M. S., University of Illinois, 1929. E. Ag 207; 800 Vattier.

HALVOR H. MYRAH, First Lieut., C. A. C., U. S. A.; Assistant Professor of Military Science and Tactics (1930).

Graduate, U. S. Military Academy, 1918; Graduate, Artillery School, 1920; Graduate, Coast Artillery Battery Officers Course, 1927. N 26; 357 N. 14th.

ROBERT KIRKLAND NABOURS, Professor and Head of Department of Zoölogy (1910, 1913); Zoölogist, Agricultural Experiment Station (1910, 1913); Curator of Natural History Museum (1910).

Ed. B., University of Chicago, 1905; Ph. D., *ibid.*, 1911. F 29; 401 Denison.

MARGARET ALICE NEWCOMB, Instructor in Botany (1925, 1928).

B. S., K. S. C., 1925; M. S., *ibid.*, 1927. H 32; 1227 Bluemont.

MYRA JANE NEWTON, Graduate Assistant in Institutional Economics (Sept. 1, 1934).

B. S., Washington State College, 1930. T 51; 900 Bluemont.

JOHN CARL OLSEN, Instructor in Machine Drawing and Design (1927).

B. S., Colorado Agricultural College, 1925; M. S., K. S. C., 1931.
E 209; 431 Bluemont.

MARTHA LUELLA O'NEILL, Graduate Assistant in Institutional Economics (Sept. 1, 1934).

B. S., K. S. C., 1930. Van Zile Hall.

CLARICE MARIE PAINTER, Assistant Professor of Piano (1924).

Diploma in Piano, Hardin College, 1919; Diploma, New England Conservatory of Music, 1932. M 51; 1649 Fairchild.

REGINALD HENRY PAINTER, Associate Professor of Entomology (1926, 1930).

A. B., University of Texas, 1922; A. M., *ibid.*, 1924; Ph. D., Ohio State University, 1926. F 77; 903 Thurston.

HARRIET SHIPLEY PARKER, Assistant Professor of English (1924, 1927).

A. B., University of Kansas, 1909; A. M., Washington University, 1912.
A 52; 1615 Fairchild.

JOHN HUNTINGTON PARKER,¹ Professor of Crop Improvement (1917, 1921);
Agronomist, U. S. D. A.; Plant Breeding, Agricultural Experiment Station
(1917).

B. S. in Agr., University of Minnesota, 1913; M. S. in Agr., Cornell University, 1913;
Ph. D., Cambridge University, 1928. E. Ag 304A; 1728 Fairview.

RALPH LANGLEY PARKER, Professor of Apiculture and Entomology (1925,
1930); State Apiarist (1925).

B. S., Rhode Island State College, 1915; Sc. M., Brown University, 1917; M. S., Iowa
State College, 1922; Ph. D., Cornell University, 1925. F 82; 1809 Leavenworth.

FRED LOUIS PARRISH, Associate Professor of History and Government (1927,
1928).

A. B., Northwestern University, 1917; B. D., Garrett Biblical Institute, 1920; A. M.,
Northwestern University, 1922. F 61; 727 Sunset.

FRANK GEORGE PARSONS, (Temporary) Assistant in Agronomy (Feb. 1, 1935).

B. S., K. S. C., 1935. E Ag 201; 1425 Laramie.

LEROY CLAY PASLAY, Instructor in Electrical Engineering (1931).

B. S., K. S. C., 1930; M. S., *ibid.*, 1934. E 24; 1641 Anderson.

BUEL ROREX PATTERSON, Assistant in Physical Education (1933).

B. S., Oklahoma A. & M. College, 1934. N 32; 1429 Laramie.

FLOYD PATTISON, Professor of Mechanical Engineering, Home-Study Service,
Division of College Extension (1919, 1927).

B. S., K. S. C., 1912; M. S., Massachusetts Institute of Technology, 1929.
A 5; 805 Kearney.

LEONARD WILLIAM PATTON, (Temporary) Instructor in Horticulture, Division of
College Extension (1933; Feb. 1, 1934).

B. S., K. S. C., 1933. A 34; 1214 Vattier.

GEORGE RICHARD PAULING, Superintendent of Maintenance, in Charge of Build-
ings and Repairs, Custodian, and Heat and Power Departments (1913, 1925).

PP 28; 1015 Humboldt.

LOYAL FREDERICK PAYNE, Professor and Head of Department of Poultry Hus-
bandry (1921, 1922); Poultry Husbandman, Agricultural Experiment Sta-
tion (1921, 1922).

B. S., Oklahoma A. & M. College, 1912; M. S., K. S. C., 1925.
W. Ag 227A; 4 College Heights Road.

CLINTON ELLICOTT PEARCE, Professor and Head of Department of Machine
Design (1917, 1922).

S. B., Massachusetts Institute of Technology, 1913. E 210; 316 Denison.

RUTH JEANETTE PECK, Instructor in Home Furnishings, Division of College
Extension (1928; Dec. 24, 1934).

B. S., K. S. C., 1928.

MART G. PEDERSON, (Temporary) Assistant in Dairy Husbandry (Feb. 1, 1935).

B. S., Texas Technological College, 1932. Ag 125; 1116 Bluemont.

WALTER EUGENE PEERY, Radio Operator, Division of College Extension (1933).

N 79; 805 Poyntz.

MARION HERFORT PELTON, Assistant Professor of Piano (1928, 1931).

B. Mus., University of Wisconsin, 1927; B. S., K. S. C., 1932.
N 76E; 1649 Fairchild.

1. In coöperation with the U. S. Department of Agriculture.

ROYCE OWEN PENCE, Instructor in Milling Industry (1927).

B. S. in F. M. E., K. S. C., 1924; M. S., *ibid.*, 1930. E. Ag 111; 917 Kearney.

ALFRED THOMAS PERKINS, Associate Professor of Chemistry (1925, 1933).

B. S., Pennsylvania State College, 1920; M. S., Rutgers College, 1922; Ph. D., *ibid.*, 1923.
W. Ag 204; 1616 Humboldt.

JOHN CHRISTIAN PETERSON, Professor of Psychology (1917, 1926).

A. B., University of Utah, 1913; Ph. D., University of Chicago, 1917.
G 30; 1330 Laramie.

DOROTHY BRANFORD PETTIS, Assistant Professor of Modern Languages (1927, 1928).

A. B., University of Nebraska, 1919; A. M., *ibid.*, 1924. A 70; 1212 Fremont.

HAZEL ELIZABETH TAYLOR PFUETZE, Secretary, Department of Education (1925).

G 27; 1724 Fairchild.

GERALD PICKETT, Assistant Professor of Applied Mechanics (1929; Sept. 1, 1934).

B. S., Oklahoma A. and M. College, 1927; M. S., K. S. C., 1931.
E 113; 1421 Poyntz.

WILLIAM FRANCIS PICKETT, Associate Professor of Horticulture (1917, 1931).

B. S., K. S. C., 1917; M. S., *ibid.*, 1923. H 33; 1622 Osage.

MARTHA S. PITTMAN, Professor and Head of Department of Food Economics and Nutrition (1919, 1922).

B. S., K. S. C., 1906; B. S., Columbia University, 1916; A. M., *ibid.*, 1918; Ph. D., University of Chicago, 1930.
L 39; 1909 Poyntz.

IVAN PRATT, Graduate Research Assistant in Zoölogy (1933).

A. B., College of Emporia, 1932. F 36; 511 N. 14th.

CLARENCE OSBORN PRICE, Assistant to the President (1920).

A 30; 501 Bluemont.

RALPH RAY PRICE, Professor and Head of Department of History and Government (1903).

A. B., Baker University, 1896; A. M., University of Kansas, 1898.
F 56; 615 Humboldt.

CHARLES ARTHUR PYLE,¹ Assistant Professor of Veterinary Medicine (1932).

B. S., K. S. C., 1904; D. V. M., *ibid.*, 1907. Sedan, Kan.

ELIZABETH QUINLAN, Assistant Professor of Clothing and Textiles (1925, 1929).

B. S., K. S. C., 1917; M. A., Columbia University, 1924. L 53; 1519 Fairchild.

LEON REED QUINLAN, Professor of Horticulture, in Charge of Landscape Gardening (1927, 1931).

B. S., Colorado Agricultural College, 1920; M. L. A., Harvard University, 1925.
H 8; 919 Thurston.

DRYDEN MARIE QUIST, Assistant in Education and Institutional Economics (1931, 1932).

B. S., Iowa State College, 1924; M. S., K. S. C., 1932. T 51B; 1210 Thurston.

GEORGE ELLSWORTH RABURN, Professor of Physics (1910, 1920); on leave, Feb. 1, to May 31, 1935.

A. B., University of Michigan, 1907; M. S., *ibid.*, 1913. W. Ag 225; College Heights.

SARAH RATZLOFF, Nurse, Department of Student Health (Sept. 1, 1934).

R. N., Halstead Hospital, 1925. College Hospital.

GEORGE NATHAN REED, Instructor in Chemistry (1929).

B. S., Oklahoma A. and M. College, 1922; M. S., University of Oklahoma, 1924.
D 27A; 1447 Anderson.

1. In coöperation with the U. S. Department of Agriculture.

LAWRENCE REED, Assistant to the Superintendent, Fort Hays Branch Agricultural Experiment Station (1934).

B. S. in Agr., K. S. C., 1933.

Hays, Kan.

WILLIAM FRED REHM, Capt., Inf., U. S. A.; Assistant Professor of Military Science and Tactics (1932).

Graduate, Concordia College, Ft. Wayne, Ind., 1915; Graduate, Company Officers Course, Ft. Benning, 1924; Graduate, Advanced Course, Ft. Benning, 1932.

N 26; 210 S. 10th.

THOMAS RUSSELL REITZ, Assistant Professor of Horticulture in Charge of Northeastern Kansas Experimental Fields (1931, 1932); on leave, Dec. 16, 1934, to June 30, 1935.

B. S., K. S. C., 1927.

R. F. D. 5; Atchison, Kan.

BENJAMIN LUCE REMICK, Professor and Head of Department of Mathematics (1900).

Ph. B., Cornell College, 1889; Ph. M., *ibid.*, 1892.

S 54; 613 Houston.

ADA RICE, Professor of English (1899, 1927).

B. S., K. S. C., 1895; M. S., *ibid.*, 1912.

A 61; 917 Osage.

WILLIAM HUGH RIDDELL, Associate Professor of Dairy Husbandry (1929, 1931).

B. S. A., University of British Columbia, 1922; M. S., University of Minnesota, 1924; Ph. D., *ibid.*, 1932.

W. Ag 125; 514 N. Manhattan.

JULES HENRY ROBERT, Professor of Applied Mechanics and Hydraulics (1916, 1925).

B. S., University of Illinois, 1914.

E 113; 1729 Fairchild.

JOHN BISSELL ROBERTS, Assistant in Agricultural Economics (Jan. 4, 1934).

B. S., K. S. C., 1933.

Ag 330B; 1718 Fairview.

JUNE ROBERTS, Assistant in Agricultural Engineering (July 1, 1934).

B. S., K. S. C., 1933; M. S., *ibid.*, 1934.

E 216; 1331 Poyntz.

SARAH HELEN ROBERTS, Research Assistant in Home Economics, Agricultural Experiment Station (Sept. 10, 1934).

B. S., in H. E., K. S. C., 1928; M. S., *ibid.*, 1933.

L 51, T 54; 220 Vattier.

MOTT LUTHER ROBINSON, Assistant Professor of Agricultural Extension, District Supervisor, Division of College Extension (1923; July 6, 1934).

A 62; 1735 Laramie.

NOBLE WARREN ROCKEY, Professor of English (1921).

A. B., Ohio State University, 1905; A. M., *ibid.*, 1916.

K 52; 1605 Leavenworth.

CHARLES ELKINS ROGERS, Professor and Head of Department of Industrial Journalism and Printing (1919, 1926); on leave, Aug. 1, 1934, to June 30, 1935.

FRANK PLETCHER ROOT, Assistant Professor of Physical Education and Athletics (1924).

B. S., K. S. C., 1914; M. S., *ibid.*, 1924.

N 34; 314 Kearney.

VANCE MATHER RUCKER, Assistant Professor of Agricultural Economics, Division of College Extension (1928, 1930).

B. S., K. S. C., 1928.

W. Ag 363; 1519 Humboldt.

LUCILE OSBORN RUST, Professor of Home Economics Education (1924, 1929).

B. S., Kansas State Teachers College, Pittsburg, 1921; M. S., K. S. C., 1925.

G 28; Tatarra Apts.

IRA EDGAR RYDER, Capt., Inf., U. S. A.; Assistant Professor of Military Science and Tactics (1930).

A. B., St. John's College, 1913.

N 26; 1102 Houston.

HELEN G. SAUM, Professor of Physical Education for Women (1928, 1931); on sabbatic leave, year 1934-1935.

Diploma, Battle Creek School for Physical Education, 1919; B. S. in Ed., Ohio State University, 1927. N 1; 1212 Fremont.

DAVID A. SAVAGE,¹ Assistant Agronomist, U. S. D. A.; Forage Crop Investigations, Fort Hays Branch Agricultural Experiment Station (1929).

B. S., Montana State College, 1924.

Hays, Kan.

EDWIN DONALD SAYRE, Associate Professor of Voice (1925; Sept. 1, 1934).

A. B., DePauw University, 1923; B. Mus., School of Music, *ibid.*, 1925; A. M., Columbia University, 1931. N 76C; R. F. D. 1.

JESSE MCKINLEY SCHALL, Assistant Professor of English, Home Study Service, Division of College Extension (1930; July 1, 1934).

A. B., Southeast Missouri State Teachers College, 1927; A. M., University of Missouri, 1930. A 5; 1030 Kearney.

JEAN WILLARD SCHEEL, Extension Editor, Division of College Extension (1934; Feb. 17, 1935).

B. S., K. S. C., 1934.

A 4; 1116 Bluemont.

EMMA SCHELBAR, Assistant to the Dean and Director of the Division of College Extension (Jan. 1, 1935).

Lawrence Business College, 1931.

A 33; 1031 Fremont.

CHARLES HENRY SCHOLER, Professor and Head of Department of Applied Mechanics (1920, 1922); Engineer of Tests in the Road Materials Laboratory (1920).

B. S., K. S. C., 1914.

E 11; 806 Bluemont.

ALBERT JOHN SCHOTH, Assistant Professor in Junior Extension, Assistant State Club Leader, Division of College Extension (1921, 1927).

B. S., Oregon Agricultural College, 1918.

A 35A; 1116 Bluemont.

FRED SCHUMANN, Instructor in Electrical Engineering (1933).

B. S. E., University of Michigan, 1931; M. S. E., *ibid.*, 1932. E 19; 431 Leavenworth.

LOUISE SCHWENSEN, Secretary to the Dean, Division of Engineering (1915, 1918).

E 115; 1800 Leavenworth.

HAROLD MARTIN SCOTT, Associate Professor of Poultry Husbandry (1928, 1931).

B. S., Oregon Agricultural College, 1924; M. S., K. S. C., 1927.

W. Ag 230; 830 Bertrand.

JOSEPH PRESTWICH SCOTT, Professor of Pathology (1916, 1933).

B. S., Scientific Gymnasium, Lausanne, Switzerland, 1910; D. V. M., Ohio State University, 1914; M. S., K. S. C., 1924. V 2; R. F. D. 8.

MYRA EDNA SCOTT, Instructor in English (1928, 1930).

B. S., K. S. C., 1921; A. M., Stanford University, 1928.

A 53; 924 Moro.

DWIGHT M. SEATH, Assistant Professor of Dairy Husbandry, Division of College Extension (1930).

B. S., Iowa State College, 1926; M. S., K. S. C., 1930.

W. Ag 125; 1601 Humboldt.

MARTINE A. SEATON, Assistant Professor of Poultry Husbandry, Division of College Extension (1928).

B. S. in Agr., University of Missouri, 1924.

W. Ag 250; 501 Houston.

ROY ANDREW SEATON, Dean of Division of Engineering (1904, 1920); Director of the Engineering Experiment Station (1904, 1920).

B. S., K. S. C., 1904; M. S., *ibid.*, 1910; S. B., Massachusetts Institute of Technology, 1911. E 115; 722 Humboldt.

1. In coöperation with the U. S. Department of Agriculture.

GABE ALFRED SELLERS, Professor of Metallurgy and Metallography (1919, 1928).
B. S., K. S. C., 1917; M. S., *ibid.*, 1929. S 30C; 927 Moro.

FRED ALBERT SHANNON, Professor of History and Government (1926; Sept. 1, 1934).

A. B., Indiana State Teachers College, 1914; A. M., Indiana University, 1918; Ph. D., State University of Iowa, 1924. F 59; 823 Bluemont.

JOHN HENRY SHENK, Instructor in Chemistry, (1929, 1930); on leave, year 1934-1935.

B. S., K. S. C., 1929; M. S. *ibid.*, 1931; W 30; 916 Osage.

CLARA MAGDALENE SIEM, Financial Secretary, Division of College Extension (1920, 1924).

A 33; 1429 Laramie.

CHARLES MOSES SIEVER, College Physician (1916).

Ph. G., Trinity University, 1903; M. D., *ibid.*, 1903; M. D., University of Kansas, 1907. A 65; 1721 Laramie.

EARL LEROY SITZ, Instructor in Electrical Engineering (1927, 1928).

B. S., in E. E., Iowa State College, 1927; M. S., K. S. C., 1932. E 24; 1122 Bluemont.

ARTHUR BOURNE SMITH, College Librarian (1911).

Ph. B., Wesleyan University, 1900; B. L. S., University of Illinois, 1902. Li 31; 1213 Bluemont.

MABEL RACHEL SMITH, Instructor in Junior Extension, Assistant State Club Leader, Division of College Extension (1929, 1931).

B. S., K. S. C., 1926. A 35A; 1031 Fremont.

ROGER CLETUS SMITH, Professor of Entomology (1920, 1926).

A. B., Miami University, 1911; A. M., Ohio State University, 1915; Ph. D., Cornell University, 1917. F 54; 1801 Poyntz.

BENJAMIN LEVI SMITS, Assistant Professor of Chemistry (1926, 1932).

B. S., Michigan State College, 1924; M. S., *ibid.*, 1925; Ph. D., *ibid.*, 1926. W 29; 1131 Kearney.

GEORGINA SMURTHWAITE, Assistant Professor and District Home Demonstration Agent Leader, Division of College Extension (1924, 1927).

B. S., Utah Agricultural College; M. S., K. S. C., 1931. A 63B; 1531 Leavenworth.

FLOYD ALONZO SMUTZ, Professor of Engineering Drawing and Descriptive Geometry (1918; Sept. 1, 1934).

B. S. in Arch., K. S. C., 1914. E 207; 1843 Anderson.

ARTHUR BRADLEY SPERRY, Professor of Geology (1921, 1927).

B. S., University of Chicago, 1919. F 3A; 333 N. 18th.

FLORENCE MARGARET STEBBINS, Assistant in Genetics, Department of Zoölogy (1931).

B. S., K. S. C., 1923; M. S., *ibid.*, 1928. Insectary; 1425 Laramie.

NORA STEENBOCK, Head Hospital Nurse, Department of Student Health (1932).

R. N., Christ Hospital Training School, 1930; on leave, Jan. 21, to May 5, 1935. College Hospital.

HARRY MARTIN STEWART, Associate Professor of Economics (1926; Sept. 1, 1934).

A. B., University of Kansas, 1920; M. B. A., *ibid.*, 1926. A 74; 1122 Vattier.

THOMAS BRUCE STINSON, Superintendent, Tribune Branch Agricultural Experiment Station (1924).

B. S. in Agr., K. S. C., 1924. Tribune, Kan.

CHARLES WILLIAM STRATTON, Assistant Professor of Piano (1927, 1930).

B. Mus., K. S. C., 1926; M. S., *ibid.*, 1933.

M 55; 511 N. Sunset.

WILLIAM TIMOTHY STRATTON, Professor of Mathematics (1910, 1923).

A. B., Indiana University, 1906; A. M., *ibid.*, 1913; Ph. D., University of Washington, 1931.

S 53; 511 N. Sunset.

VIVIAN LEWIS STRICKLAND, Professor of Education (1917, 1922); on sabbatic leave, Feb. 1 to May 31, 1935.

A. B., University of Nebraska, 1906; A. M., *ibid.*, 1915; Ph. D., *ibid.*, 1925.

G 28; 1512 Leavenworth.

ANNA MARIE STURMER, Associate Professor of English (1920, 1926).

A. B., University of Nebraska, 1917; A. M., *ibid.*, 1920.

A 57; 1821 Laramie.

MILLO J. STUTZMAN, Instructor in Shop Practice (Sept. 1, 1934).

A. B., McPherson College, 1920; M. S., University of Nebraska, 1922; Ph. D., Iowa State College, 1927.

S 30; 1029 Bertrand.

JOHN STEPHEN SULLIVAN, Lieut. Col., Inf., U. S. A.; Professor and Head of Department of Military Science and Tactics (1931).

Graduate, U. S. Military Academy, 1907; Graduate, Infantry School, Advanced Course, 1929; Graduate, Command and General Staff School, 1931.

N 27; 909 Humboldt.

HARRISON BOYD SUMMERS, Professor of Public Speaking (1923, 1930).

A. B., Fairmount College Wichita University, 1917; A. M., University of Oklahoma, 1921; Ph. D., University of Missouri, 1931.

G 55; 1525 Humboldt.

ARTHUR FRITHIOF SWANSON, Assistant in Cereal Investigations, Fort Hays Branch Agricultural Experiment Station (1919).

B. S. in Agr., K. S. C., 1919.

Hays, Kan.

CHARLES OSCAR SWANSON,¹ Professor and Head of Department of Milling Industry (1906, 1923).

A. B., Carleton College, 1899; M. Agr., University of Minnesota, 1905; Ph. D., Cornell University, 1922.

Ag 110; 1640 Fairview.

LILLIAN JULIETTE SWENSON, Assistant Reference Librarian (1927).

A. B., Colorado College, 1924; B. S., Simmons College, 1927.

WILLIAM ARTHUR SWIFT, Captain, Inf., U. S. A., Associate Professor of Military Science and Tactics (1930).

N 26; Wareham Hotel.

MARGARET JEANNE TABOR, Graduate Research Assistant in Zoölogy (1933).

A. B., Kalamazoo College, 1933.

F 36; 1127 Vattier.

DELOS CLIFTON TAYLOR, Instructor in Applied Mechanics (1931).

B. S. in C. E., K. S. C., 1925.

E 14; 1609 Humboldt.

MARY FIDELIA TAYLOR, Assistant Professor of Household Economics (1919, 1928).

B. S., K. S. C., 1919, 1931; A. M., Teachers College, Columbia University, 1926.

T 54; 1439 Laramie.

EARL HICKS TEAGARDEN, Assistant Professor of Agricultural Extension, District Supervisor, Division of College Extension (1929; Jan. 1, 1934).

B. S., K. S. C., 1920.

A 60; 1010 Osage.

RUSSELL IRA THACKREY, Assistant Professor of Industrial Journalism (1928, 1932).

B. S., K. S. C., 1927; M. S., *ibid.*, 1932.

K 28B; 1211 Thurston.

CHARLES RAY THOMPSON, Assistant Professor of Economics and Sociology (1929, 1931).

A. B., University of Kansas, 1927; A. M., *ibid.*, 1928.

A 51A; 909 Thurston.

1. In coöperation with the U. S. Department of Agriculture.

RAY IAMS THROCKMORTON, Professor and Head of Department of Agronomy (1911, 1925); Agronomist, Agricultural Experiment Station (1911, 1925).

B. S. in Agr., Pennsylvania State College, 1911; M. S., K. S. C., 1922.

E. Ag 206B; 825 Houston.

FRANCIS LEONARD TIMMONS, Assistant Professor of Coöperative Experiments, Department of Agronomy (1928, 1929); (Temporary) Assistant Professor of Soils, Division of College Extension (Dec. 15, 1934).

B. S., K. S. C., 1928; M. S., K. S. C., 1932.

E. Ag 202; 1030 Ratone.

SUE TOWNSEND, Instructor in Modern Languages (Sept. 1, 1934).

B. S., K. S. T. C. Emporia, 1923; M. A., University of Colorado, 1927.

A 70; 1821 Laramie.

DOROTHY TRIPLETT, Associate Professor of Child Welfare and Euthenics (1930, 1931).

B. S., Kansas State Teachers College, Emporia, 1924; A. M., State University of Iowa, 1927; Ph. D., *ibid.*, 1930.

L 63; 619 N. 11th.

RUTH EMMA TUCKER, Instructor in Food Economics and Nutrition (1925, 1926).

A. B., University of Illinois, 1923; M. S., *ibid.*, 1925.

L 43; 1503 Leavenworth.

ALONZO FRANKLIN TURNER,¹ Associate Professor, Field Agent, Division of College Extension (1917, 1920).

B. S., K. S. C., 1905.

A 60; 810 Moro.

GRACE ELLEN UMBERGER, Head Nurse, Department of Student Health (1919).

B. S., K. S. C., 1905; R. N., Illinois Training School for Nurses, 1909.

A 64; 1720 Poyntz.

HARRY JOHN CHARLES UMBERGER, Dean of Division of College Extension (1911, 1919); Director of College Extension (1911, 1919).

B. S., K. S. C., 1905.

A 33; 1412 Leavenworth.

GLADYS ELLEN VAIL, Instructor in Food Economics and Nutrition (1927).

A. B., Southwestern College, 1924; M. S., University of Chicago, 1927.

L 43; 511 N. 14th.

WILLIAM ALEXANDER VAN WINKLE, Associate Professor of Chemistry (1922, 1931).

B. S., University of Michigan, 1911; M. S., University of Illinois, 1917; Ph. D., *ibid.*, 1920.

D 28; 1110 Thurston.

MARY PIERCE VAN ZILE, Dean of Women (1908, 1918).

Diploma, Iowa State College, 1904; B. S., K. S. C., 1929.

A 42; 800 Houston.

FAY ARTHUR WAGNER, Superintendent, Garden City Branch Agricultural Experiment Station (1919).

B. S. in Agr., New Mexico Agricultural College, 1916.

Garden City, Kan.

LYNN O. WALDORF, Professor of Physical Education and Athletics (July 1, 1934).

A. B., Syracuse University, 1925.

N 33; 321 N. Delaware.

WALTER GILLING WARD, Professor in Charge of Rural Engineering, Division of College Extension (1920, 1925); on leave, Dec. 15, 1934, to June 30, 1935.

B. S. in Arch., K. S. C., 1912; Architect, *ibid.*, 1922; M. S., Iowa State College, 1931.

E 131; 519 N. Manhattan.

JOSEPH THOMAS WARE, Instructor in Architecture (1929).

B. S., Georgia School of Technology, 1929.

E 223; 1116 Bluemont.

EUGENE D. WARNER, (Temporary) Instructor in Architecture, Division of College Extension (Feb. 15, 1935).

B. S. in Arch., K. S. C., 1934.

A 4; 1718 Fairview.

1. In coöperation with the U. S. Department of Agriculture.

- PAUL F. WARNER, Graduate Assistant in Chemistry (Sept. 1, 1934).
B. S., K. S. C., 1934. W 29A; 1126 Bluemont.
- DON CAMERON WARREN, Professor of Poultry Husbandry (1923, 1929).
A. B., Indiana University, 1914; A. M., *ibid.*, 1917; Ph. D., Columbia University, 1923.
W. Ag 229; 1616 Osage.
- LOUIS PIERCE WASHBURN, Professor of Physical Education for Men (1926, 1931).
B. S., Carleton College, 1907; B. P. E., Springfield Y. M. C. A. College, 1911; M. P. E., *ibid.*, 1926. N 35; 1809 Poyntz.
- ARTHUR D. WEBER, Professor of Animal Husbandry (1931).
B. S., K. S. C., 1922; M. S., *ibid.*, 1926. E. Ag 13; 359 N. 15th.
- PAUL WEIGEL, Professor and Head of Department of Architecture (1921, 1924).
B. Arch., Cornell University, 1912; Architect, University of State of New York, 1920; Graduate, Buffalo Normal School, 1921. E 305; 1918 Leavenworth.
- ERNEST BLAINE WELLS, Associate Professor of Soils, Division of College Extension (1920, 1924); on indefinite leave, Aug. 1, 1934.
B. S. A., West Virginia University, 1917; M. S., K. S. C., 1922.
E. Ag 202; 1615 Leavenworth.
- BESSIE BROOKS WEST, Professor and Head of Department of Institutional Economics (1928); Manager of Cafeteria (1928).
A. B., University of California, 1924; A. M., *ibid.*, 1928. T 52; 1617 Leavenworth.
- ALFRED EVERETT WHITE, Professor of Mathematics (1909, 1918).
B. S., Purdue University, 1904; M. S., *ibid.*, 1909. A 72; 1743 Fairchild.
- EDITH ZERILLA WHITE, Nurse, Department of Student Health (1932).
R. N., Christ Hospital Training School, 1918. College Hospital.
- HATTIE HELEN WHITE, Secretary and Treasurer, Business Office (1912, 1925).
A 27; 717 Laramie.
- LEON VINCENT WHITE, Associate Professor of Civil Engineering (1918, 1927).
B. S., K. S. C., 1903; C. E., *ibid.*, 1918; M. S., *ibid.*, 1927. E 122; 1832 Anderson.
- JOHN HENDRICK WHITLOCK, Graduate Research Assistant in Zoölogy (Sept. 1, 1934).
D. V. M., Iowa State College, 1934. F 36; 325 N. 17th.
- CARRELL HENRY WHITNAH, Assistant Professor of Chemistry and Associate Food Analyst (1929).
A. B., University of Nebraska, 1913; M. S., University of Chicago, 1917; Ph. D., University of Nebraska, 1925. W. Ag 127; 1931 Leavenworth.
- HENRY EVERT WICHES, Associate Professor of Rural Architecture (1924; July 1, 1934); on leave Jan. 15, to April 15, 1935.
B. S. in Arch., K. S. C., 1924; M. S., *ibid.*, 1925; Architect, *ibid.*, 1930.
E 224; R. F. D. 1.
- MARY CHRISTINE WIGGINS, Instructor in Clothing and Textiles, Division of College Extension (1931; Aug. 5, 1934).
B. S., K. S. C., 1929. A 62A; 326 N. 16th.
- DONALD ALDEN WILBUR, Assistant Professor of Entomology (1928).
B. S., Oregon State College, 1925; A. M., Ohio State University, 1927.
F 83; 1100 Kearney.
- JULIUS TERRASS WILLARD, Vice President of the College (1883, 1918); Dean of Division of General Science (1909-1930); Professor of Chemistry (1901-1918).
B. S., K. S. C., 1883; M. S., *ibid.*, 1886; Sc. D., *ibid.*, 1908. A 46B; 1207 Houston.
- CYRUS VANCE WILLIAMS, Professor of Vocational Education (1920).
B. Ed., (Peru) Nebraska State Teachers College, 1909; A. M., University of Nebraska, 1910; B. S. in Agr., *ibid.*, 1919; Ph. D., *ibid.*, 1925. G 28; 1735 Fairview.

DWIGHT WILLIAMS, Associate Professor of History and Government (1926).

A. B., University of Minnesota, 1916; LL. B., *ibid.*, 1918; A. M., *ibid.*, 1926.
F 60; 1803 Anderson.

HARVEY O. WILLIAMS, Staff Sergt., D. E. M. L., U. S. A., Instructor in Military Science and Tactics (1932).

N 26; 1010 Fremont.

JENNIE WILLIAMS, Instructor in Child Welfare and Euthenics (1932).

B. S., K. S. C., 1910; R. N., University of Michigan Hospital, 1924; M. S., K. S. C., 1933.
L 63; 1212 Fremont.

LOUIS COLEMAN WILLIAMS, Professor of Horticulture, Division of College Extension (1915, 1926).

B. S., K. S. C., 1912; B. S., *ibid.*, 1922.
A 34; 520 N. 11th.

LUTHER EARL WILLOUGHBY, Associate Professor of Farm Crops, Division of College Extension (1917, 1926); in Coöperation with U. S. D. A., Mar. 1, 1935.

B. S., K. S. C., 1912; B. S. in Agr., *ibid.*, 1916.
Ag 250; 918 Thurston.

ROY ELMER WILSON, Sergt., D. E. M. L., U. S. A., Instructor in Military Science and Tactics (1921).

N 26; 517 S. Manhattan.

EDWARD JOSEPH WIMMER, Assistant Professor of Zoölogy (1928).

A. B., University of Wisconsin, 1925; A. M., *ibid.*, 1927; Ph. D., *ibid.*, 1928.
F 38; 1116 Bluemont.

JANET ISABEL WOOD, Assistant in Physical Education for Women (1933).

A. B., University of Oregon, 1926; M. S., University of Wisconsin, 1933.
N 4; 1212 Fremont.

LEVELLE WOOD, Assistant Professor of Institutional Economics (1928).

B. S., Oregon State College, 1921; M. S., Columbia University, 1928.
Van Zile Hall.

GENE NEILL WOODRUFF, Graduate Assistant in Chemistry (Oct. 1, 1934).

B. S., K. S. C., 1934.
W 29A; 902 Ratone.

EARL BOOTH WORKING, Associate Professor of Milling Industry (1923).

A. B., University of Denver, 1917; A. M., *ibid.*, 1919; Ph. D., University of Arizona, 1922.
E. Ag 111; 918 N. 10th.

BERNIE WILLIAM WRIGHT, Assistant Professor of Agricultural Economics, Division of College Extension (1929; Feb. 15, 1934).

B. S., K. S. C., 1924.
A 34; 1223 Poyntz.

JAMES WALTER ZAHNLEY, Associate Professor of Farm Crops (1915, 1921).

B. S., K. S. C., 1909; M. S., *ibid.*, 1926.
E. Ag 308; R. F. D. 1.

MYRTLE EVELYN ZENER, Secretary to the Vice President (1918).

A 46; 1104 Vattier.

FRANKLIN JESSE ZINK, Associate Professor of Agricultural Engineering (1930).

B. S. in A. E., Iowa State College, 1924.
E 216; 332 N. 15th.

COUNTY AGRICULTURAL AGENTS^{1*}

ERWIN ABMEYER, Douglas County Agricultural Agent, Division of College Extension (Feb. 19, 1934); resigned, Dec. 31, 1934.

B. S., K. S. C., 1933.
Lawrence, Kan.

HENRY J. ADAMS, Republic County Agricultural Agent, Division of College Extension (May 5, 1934).

B. S., K. S. C., 1917.
Belleville, Kan.

ALBERT WILLIAM AICHER, Meade County Agricultural Agent, Division of College Extension (July 23, 1934).

B. S., K. S. C., 1915.
Meade, Kan.

1. In coöperation with the U. S. Department of Agriculture.

* Listed alphabetically by counties under heading, County Agent Work.

- GEORGE SMITH ATWOOD, Hodgeman County Agricultural Agent, Division of College Extension (1926).
B. S., K. S. C., 1924. Jetmore, Kan.
- CLEMENT HENRY AULT, Kingman County Agricultural Agent, Division of College Extension (July 17, 1934).
B. S., University of Idaho, 1930; M. S., K. S. C., 1932. Kingman, Kan.
- MILBURNE CLINTON AXELTON, Woodson County Agricultural Agent, Division of College Extension (1929).
B. S., K. S. C., 1928. Yates Center, Kan.
- KIMBALL LINCOLN BACKUS, Wyandotte County Agricultural Agent, Division of College Extension (1932).
B. S., K. S. C., 1931. Kansas City, Kan.
- JOHN GREGORY BELL, Sheridan County Agricultural Agent, Division of College Extension (1933).
B. S., K. S. C., 1932. Hoxie, Kan.
- HERMAN ALBERT BISKIE, Franklin County Agricultural Agent, Division of College Extension (1928).
B. S., University of Nebraska, 1917. Ottawa, Kan.
- DANIEL MATTHEW BRAUM, Allen County Agricultural Agent, Division of College Extension (1930).
B. S., K. S. C., 1924. Iola, Kan.
- ALBERT BROWN, Bourbon County Agricultural Agent, Division of College Extension (Feb. 1, 1934).
B. S., K. S. C., 1929. Fort Scott, Kan.
- JOHN MILES BUOY, Thomas County Agricultural Agent, Division of College Extension (1932); resigned, Dec. 22, 1934.
B. S., Iowa State College, 1917. Colby, Kan.
- SYLVESTER ULRIC CASE, Crawford County Agricultural Agent, Division of College Extension (May 1, 1934).
B. S., K. S. C., 1923. Girard, Kan.
- TUDOR J. CHARLES, JR., Rooks County Agricultural Agent, Division of College Extension (May 1, 1934); resigned, Nov. 30, 1934.
B. S., K. S. C., 1929. Stockton, Kan.
- LAWRENCE LARUE COMPTON, Butler County Agricultural Agent, Division of College Extension (1930).
B. S., K. S. C., 1930. El Dorado, Kan.
- CARL CLARENCE CONGER, Kearny County Agricultural Agent, Division of College Extension (Mar. 15, 1934).
B. S., K. S. C., 1933. Lakin, Kan.
- WILLIAM JOSEPH CONOVER, Ellis County Agricultural Agent, Division of College Extension (Sept. 1, 1934).
B. S., K. S. C., 1932. Hays, Kan.
- VERNON SIMPSON CRIPPEN, Logan County Agricultural Agent, Division of College Extension (Feb. 1, 1934).
B. S., K. S. C., 1920. Oakley, Kan.
- WALTER JONES DALY, Linn County Agricultural Agent, Division of College Extension (1925, 1927).
B. S., in Agr., K. S. C., 1925. Mound City, Kan.

- LAURENCE R. DANIELS, Rooks County Agricultural Agent, Division of College Extension (1934; Dec. 1, 1934).
B. S., K. S. C., 1933. Stockton, Kan.
- TOM DAVID DICKEN, Pawnee County Agricultural Agent, Division of College Extension (1933).
B. S., K. S. C., 1932. Larned, Kan.
- KEITH BARBER DUSENBURY, Stanton County Agricultural Agent, Division of College Extension (Feb. 15, 1934).
B. S., K. S. C., 1932. Johnson, Kan.
- CARL EMMERT ELLING, Scott County Agricultural Agent, Division of College Extension (Mar. 15, 1934).
B. S., K. S. C., 1932. Scott City, Kan.
- ANDREW BRIAN ERHART, Hamilton County Agricultural Agent, Division of College Extension (Aug. 1, 1934).
B. S., K. S. C., 1933. Syracuse, Kan.
- PAUL EVANS, Ottawa County Agricultural Agent, Division of College Extension (1930).
B. S., K. S. C., 1923. Minneapolis, Kan.
- WAYNE EWING, Osborne County Agricultural Agent, Division of College Extension (Feb. 25, 1935).
B. S., K. S. C., 1932. Osborne, Kan.
- JUNIUS WARREN FARMER, Greenwood County Agricultural Agent, Division of College Extension (1923).
B. S., K. S. C., 1923. Eureka, Kan.
- JOE MYRON GOODWIN, Lyon County Agricultural Agent, Division of College Extension (1919; Aug. 1, 1934).
Emporia, Kan.
- ELMER OSCAR GRAPER, Smith County Agricultural Agent, Division of College Extension (1929).
B. S., K. S. C., 1913. Smith Center, Kan.
- RAY LEIGHTON GRAVES, Saline County Agricultural Agent, Division of College Extension (1923, 1930).
B. S., K. S. C., 1912. Salina, Kan.
- ODGEN WORLEY GREENE, Dickinson County Agricultural Agent, Division of College Extension (1929, 1932).
B. S., K. S. C., 1929. Abilene, Kan.
- WILLIAM ELLSWORTH GREGORY, Gray County Agricultural Agent, Division of College Extension (Feb. 24, 1934).
B. S., K. S. C., 1929. Cimarron, Kan.
- PAUL BERNARD GWIN, Geary County Agricultural Agent, Division of College Extension (1921, 1925).
B. S., K. S. C., 1916. Junction City, Kan.
- ROY ELMER GWIN, Wichita County Agricultural Agent, Division of College Extension (1921; May 1, 1934).
B. S., K. S. C., 1914. Leoti, Kan.
- FRANK ALEXANDER HAGANS, Marion County Agricultural Agent, Division of College Extension (1930).
B. S., K. S. C., 1925. Marion, Kan.
- PRESTON ORIN HALE, Shawnee County Agricultural Agent, Division of College Extension (1929; July 8, 1934).
B. S., K. S. C., 1916. Topeka, Kan.

- CHARLES TOMAS HALL, Jefferson County Agricultural Agent, Division of College Extension (Jan. 10, 1934).
B. S., K. S. C., 1932. Oskaloosa, Kan.
- THOMAS ELLIOT HALL, Seward County Agricultural Agent, Division of College Extension (Jan. 20, 1934).
B. S., K. S. C., 1932. Liberal, Kan.
- JOHN HAMON, Wilson County Agricultural Agent, Division of College Extension (Jan. 1, 1934).
B. S., K. S. C., 1933. Fredonia, Kan.
- LEONARD BEATH HARDEN, Johnson County Agricultural Agent, Division of College Extension (1928; Sept. 15, 1934).
B. S., K. S. C., 1926. Olathe, Kan.
- HAROLD BYRON HARPER, Harvey County Agricultural Agent, Division of College Extension (1932, 1933).
B. S., K. S. C., 1932. Newton, Kan.
- JOHN ALBERT HENDRICKS, Anderson County Agricultural Agent, Division of College Extension (1920, 1924).
B. S. A., Iowa State College, 1913. Garnett, Kan.
- SHERMAN STANLEY HOAR, Barton County Agricultural Agent, Division of College Extension (1929).
B. S., K. S. C., 1928. Great Bend, Kan.
- CARL LEWIS HOWARD, Lyon County Agricultural Agent, Division of College Extension (1920, 1926; on leave, 1934-1935).
B. S., K. S. C., 1920. Emporia, Kan.
- DONALD WALTER INGLE, Reno County Agricultural Agent, Division of College Extension (1930; Feb. 1, 1934).
B. S., University of Missouri, 1929. Hutchinson, Kan.
- GLENN CHARLES ISAAC, Miami County Agricultural Agent, Division of College Extension (1930).
B. S., K. S. C., 1930. Paola, Kan.
- JOHN HAROLD JOHNSON, Sedgwick County Club Agent, Division of College Extension (1927).
B. S., K. S. C., 1927. Wichita, Kan.
- CHARLES ARCHER JONES, Johnson County Agricultural Agent, Division of College Extension (1927); resigned Aug. 31, 1934.
B. S., K. S. C., 1924; A. M., University of Maryland, 1927. Olathe, Kan.
- CLAUDE LEWIS KING, Haskell County Agricultural Agent, Division of College Extension (Feb. 24, 1934).
B. S., K. S. C., 1932. Sublette, Kan.
- TERRELL WEAVER KIRTON, Sumner County Agricultural Agent, Division of College Extension (1931; July 21, 1934).
B. S., K. S. C., 1929. Wellington, Kan.
- ARTHUR WILLIAM KNOTT, Montgomery County Agricultural Agent, Division of College Extension (1927).
B. S., University of Wisconsin, 1917. Independence, Kan.
- RALPH OSCAR LEWIS, Ellsworth County Agricultural Agent, Division of College Extension (1932).
B. S., K. S. C., 1929. Ellsworth, Kan.
- REUBEN CARL LIND, Lincoln County Agricultural Agent, Division of College Extension (1933).
B. S., K. S. C., 1923. Lincoln, Kan.

JAMES NOEL LOWE, Harper County Agricultural Agent, Division of College Extension (1930).

B. S., Oklahoma A. and M. College, 1924.

Anthony, Kan.

CHARLES ENOCH LYNESS, Doniphan County Agricultural Agent, Division of College Extension (1923).

B. S., K. S. C., 1912.

Troy, Kan.

WILLIAM JOSEPH MATTHIAS, Lane County Agricultural Agent, Division of College Extension (Jan. 3, 1934).

B. S., K. S. C., 1925.

Dighton, Kan.

LYLE MAYFIELD, Clark County Agricultural Agent, Division of College Extension (1928).

B. S., K. S. C., 1928.

Ashland, Kan.

VERL EPHRIAM McADAMS, Barber County Agricultural Agent, Division of College Extension (Mar. 12, 1934).

B. S., K. S. C., 1928.

Medicine Lodge, Kan.

RALPH WALDO McBURNEY, Mitchell County Agricultural Agent, Division of College Extension (1930).

B. S., K. S. C., 1927.

Beloit, Kan.

FRANCIS DEAN McCAMMON, Chase County Agricultural Agent, Division of College Extension (Mar. 1, 1934).

B. S., K. S. C., 1932.

Cottonwood Falls, Kan.

DEWEY ZOLLIE McCORMICK, Morris County Agricultural Agent, Division of College Extension (1925).

B. S., K. S. C., 1921.

Council Grove, Kan.

ERNEST LEE McINTOSH, Osage County Agricultural Agent, Division of College Extension (1920, 1923).

B. S., K. S. C., 1920.

Lyndon, Kan.

WILLIAM HENRY MEISSINGER, Rawlins County Agricultural Agent, Division of College Extension (Jan. 15, 1934).

B. S., K. S. C., 1931.

Atwood, Kan.

WILMER ABELE MEYLE, Atchison County Agricultural Agent, Division of College Extension (Aug. 1, 1934).

B. S., K. S. C., 1931.

Effingham, Kan.

JOHN DELMONT MONTAGUE, Sedgwick County Agricultural Agent, Division of College Extension (1926, 1930).

B. S., K. S. C., 1920.

Wichita, Kan.

LAWRENCE DALE MORGAN, Sherman County Agricultural Agent, Division of College Extension (1933).

Goodland, Kan.

CLAIRE W. MUNGER, Wallace County Agricultural Agent, Division of College Extension (Mar. 15, 1934).

B. S., K. S. C., 1932.

Sharon Springs, Kan.

HAROLD LEWIS MURPHEY, Greeley County Agricultural Agent, Division of College Extension (1930).

B. S., K. S. C., 1928.

Tribune, Kan.

LEONARD NEFF, Washington County Agricultural Agent, Division of College Extension (1925, 1930).

B. S. A., Purdue University, 1922.

Washington, Kan.

WILLIAM O'CONNELL, Marshall County Agricultural Agent, Division of College Extension (1924).

B. S., K. S. C., 1916.

Marysville, Kan.

- MERTON LOUIS OTTO, Leavenworth County Agricultural Agent, Division of College Extension (July 23, 1934).
B. S., K. S. C., 1921. Leavenworth, Kan.
- ROBERT THOMAS PATTERSON, Cherokee County Agricultural Agent, Division of College Extension (1928).
B. S., K. S. C., 1924. Columbus, Kan.
- WILFRED HAROLD PINE, Labette County Agricultural Agent, Division of College Extension (Sept. 15, 1934).
B. S., K. S. C., 1934. Altamont, Kan.
- GLLEN BRADSHAW RAILSBACK, Kiowa County Agricultural Agent, Division of College Extension (1933).
B. S., K. S. C., 1925. Greensburg, Kan.
- ROBERT LOUIS RAWLINS, Nemaha County Agricultural Agent, Division of College Extension (1931).
B. S., K. S. C., 1929. Seneca, Kan.
- OSCAR EARL REECE, Rice County Agricultural Agent, Division of College Extension (Jan. 28, 1935).
B. S., K. S. C., 1931. Lyons, Kan.
- ROGER E. REGNIER, Russell County Agricultural Agent, Division of College Extension (Mar. 1, 1934).
B. S., K. S. C., 1924; M. S., *ibid.*, 1932. Russell, Kan.
- LUKE MICHAEL SCHRUBEN, Riley County Agricultural Agent, Division of College Extension (1933).
B. S., K. S. C., 1933. Manhattan, Kan.
- LESTER SHEPARD, Neosho County Agricultural Agent, Division of College Extension (1928).
A. B., University of Iowa, 1913; B. S., Iowa State College, 1916. Erie, Kan.
- JOHN HENRY SHIRKEY, Meade County Agricultural Agent, Division of College Extension (1926); resigned July 22, 1934.
B. S., K. S. C., 1926. Meade, Kan.
- GEORGE W. SIDWELL, Edwards County Agricultural Agent, Division of College Extension (1913, 1928).
A. B. Fairmount College, 1915. Kinsley, Kan.
- DEAL D. SIX, Douglas County Agricultural Agent, Division of College Extension (Feb. 11, 1935).
B. S., K. S. C., 1922. Lawrence, Kan.
- LELAND MILTON SLOAN, Finney County Agricultural Agent, Division of College Extension (1932; Jan. 24, 1934).
B. S., K. S. C., 1932. Garden City, Kan.
- JOSEPH DANIEL SMERCHEK, Pratt County Agricultural Agent, Division of College Extension (1933).
B. S., K. S. C., 1932. Pratt, Kan.
- HARVEY J. STEWART, Cheyenne County Agricultural Agent, Division of College Extension (1929).
B. S., K. S. C., 1928. St. Francis, Kan.
- SAMUEL ROGER STEWART, Stevens County Agricultural Agent, Division of College Extension (Mar. 1, 1934).
B. S., K. S. C., 1930. Hugoton, Kan.
- RAYMOND LUTHER STOVER, Brown County Agricultural Agent, Division of College Extension (1927, 1930).
B. S., K. S. C., 1924; M. S., Oregon Agricultural College, 1927. Hiawatha, Kan.

- VICTOR F. STUEWE, Jewell County Agricultural Agent, Division of College Extension (May 1, 1934).
B. S., K. S. C., 1915. Mankato, Kan.
- RICHARD WILLIAM STUMBO, Stafford County Agricultural Agent, Division of College Extension (1931; Jan. 15, 1934).
B. S., K. S. C., 1931. St. John, Kan.
- FRED JAMES SYKES, Norton County Agricultural Agent, Division of College Extension (1926, 1930).
B. S., K. S. C., 1926. Norton, Kan.
- HERMAN FREDERICK TAGGE, Jackson County Agricultural Agent, Division of College Extension (1920, 1923); resigned, Jan. 31, 1935.
B. S., K. S. C., 1914. Holton, Kan.
- BRUCE ROSS TAYLOR, Comanche County Agricultural Agent, Division of College Extension (Aug. 1, 1934).
B. S., K. S. C., 1931; M. S., *ibid.*, 1934. Coldwater, Kan.
- JESTER BAILEY TAYLOR, Clay County Agricultural Agent, Division of College Extension (1933).
B. S., Oklahoma A. and M. College, 1925. Clay Center, Kan.
- JOHN EDWARD TAYLOR, Grant County Agricultural Agent, Division of College Extension (1930).
B. S., K. S. C., 1930. Ulysses, Kan.
- LOT F. TAYLOR, Chautauqua County Agricultural Agent, Division of College Extension (Feb. 15, 1935).
B. S., K. S. C., 1931. Sedan, Kan.
- MERRILL MEDSGAR TAYLOR, Thomas County Agricultural Agent, Division of College Extension (1931; Jan. 21, 1935).
B. S., K. S. C., 1930. Colby, Kan.
- JOEL ALLEN TERRELL, Coffey County Agricultural Agent, Division of College Extension (1931; Feb. 19, 1934).
B. S., K. S. C., 1930. Burlington, Kan.
- PENN THOMPSON, Cloud County Agricultural Agent, Division of College Extension (Feb. 15, 1934).
B. S., K. S. C., 1933. Concordia, Kan.
- OBED LEE TOADVINE, JR., Ness County Agricultural Agent, Division of College Extension (Feb. 3, 1934).
B. S., K. S. C., 1932. Ness City, Kan.
- JAMES FREDERICK TRUE, JR., Jackson County Agricultural Agent, Division of College Extension (Feb. 8, 1935).
B. S., K. S. C., 1929. Holton, Kan.
- ROBERT SAMUEL TRUMBULL, Ford County Agricultural Agent, Division of College Extension (1929).
B. S., Nebraska Wesleyan University, 1907; A. M., University of Nebraska, 1908. Dodge City, Kan.
- HOWARD V. VERNON, Graham County Agricultural Agent, Division of College Extension (Aug. 1, 1934).
B. S., K. S. C., 1928. Hill City, Kan.
- EARL LAVERNE WIER, McPherson County Agricultural Agent, Division of College Extension (Sept. 15, 1934).
B. S., K. S. C., 1931. McPherson, Kan.
- THEODORE FRANKLIN YOST, Cowley County Agricultural Agent, Division of College Extension (1927; Jan. 15, 1934).
B. S., K. S. C., 1920. Winfield, Kan.

FRANK ZITNIK, Rush County Agricultural Agent, Division of College Extension (1931; Jan. 25, 1934).

B. S., K. S. C., 1931.

La Crosse, Kan.

HOME DEMONSTRATION AGENTS ^{1*}

GERTRUDE EDNA ALLEN, Lyon County Home Demonstration Agent, Division of College Extension (1929).

B. S., University of Minnesota, 1929.

Emporia, Kan.

NORA ELIZABETH BARE, Butler County Home Demonstration Agent, Division of College Extension (1927).

B. S., K. S. C., 1925.

El Dorado, Kan.

ELLEN BLAIR, (Temporary) Assistant Home Demonstration Agent, Division of College Extension (Feb. 1, 1935).

B. S., K. S. C., 1934.

A 63; 1212 Fremont.

MARY ELSIE BORDER, Johnson County Home Demonstration Agent, Division of College Extension (1929, 1931).

B. S., Ohio State University, 1926.

Olathe, Kan.

RUTH E. CRAWFORD, Harper County Home Demonstration Agent, Division of College Extension (July 1, 1934).

B. S., K. S. C., 1932.

Anthony, Kan.

ETHYL ADELINE DANIELSON, Barton County Home Demonstration Agent, Division of College Extension (1931; July 16, 1934).

B. S., K. S. C., 1925.

Great Bend, Kan.

VERNETTA FAIRBAIRN, Montgomery County Home Demonstration Agent, Division of College Extension (1928).

A. B., University of Kansas, 1927.

Independence, Kan.

LEOLA MAUD GASTON, Allen County Home Demonstration Agent, Division of College Extension (1933; Dec. 1, 1934).

B. S., K. S. C., 1908.

Kansas City, Kan.

IVA LUELLA HOLLADAY, Leavenworth County Home Demonstration Agent, Division of College Extension (1929).

B. S., K. S. C., 1929.

Leavenworth Kan.

RUTH KATHRINA HUFF, Pratt County Home Demonstration Agent, Division of College Extension (1931).

B. S., K. S. C., 1924.

Pratt, Kan.

OLGA CHRISTENE LARSEN, Labette County Home Demonstration Agent, Division of College Extension (Aug. 5, 1934).

B. S., K. S. C., 1934.

Altamont, Kan.

ESTHER EMMA LOBENSTEIN, Comanche County Home Demonstration Agent, Division of College Extension (July 16, 1934).

B. S., K. S. C., 1931.

Coldwater, Kan.

RACHEL MARKWELL, Crawford County Home Demonstration Agent, Division of College Extension (1929, 1932; May 21, 1934).

B. S., Oklahoma A. & M. College, 1926.

Girard, Kan.

ELLA MABEL MEYER, Rice County Home Demonstration Agent, Division of College Extension (1932).

B. S., K. S. C., 1907.

Lyons, Kan.

1. In coöperation with the U. S. Department of Agriculture.

* Listed alphabetically by counties under heading, Home Demonstration Agent Work.

GLADYS MYERS, Reno County Home Demonstration Agent, Division of College Extension (1930).

B. S., K. S. C., 1930.

Hutchinson, Kan.

EULA MAY NEAL, Franklin County Home Demonstration Agent, Division of College Extension (1930).

B. S., State Teachers College, Kirksville, Mo., 1927.

Ottawa, Kan.

LOIS MARIE OBERHELMAN, Harvey County Home Demonstration Agent, Division of College Extension (Oct. 4, 1934).

B. S., K. S. C., 1930.

Newton, Kan.

EDITH ALICE PAINTER, Smith County Home Demonstration Agent, Division of College Extension (1933).

B. S., K. S. C., 1931.

Smith Center, Kan.

SARA JANE PATTON, Neosho County Home Demonstration Agent, Division of College Extension (1928).

B. S., K. S. C., 1915.

Erie, Kan.

MINNIE BELLE PEEBLER, Ford County Home Demonstration Agent, Division of College Extension (1932; Sept. 19, 1934).

B. S., University of Oklahoma, 1924; M. S., University of Colorado, 1929.

Dodge City, Kan.

NANNIE CLYTICE ROSS, Rawlins County Home Demonstration Agent, Division of College Extension (1932); resigned, Feb. 28, 1935.

B. S., K. S. C., 1916; M. S., *ibid.*, 1924.

Atwood, Kan.

MAMIE MAY SEARLES, Ford County Home Demonstration Agent, Division of College Extension (1932); resigned, Aug. 31, 1934.

B. S., University of Kansas, 1926.

Dodge City, Kan.

ALBERTA PAULINE SHERROD, Harvey County Home Demonstration Agent, Division of College Extension (1933); resigned, Sept. 22, 1934.

B. S., Oklahoma A. and M. College, 1926.

Newton, Kan.

CHRISTIANA MARIE SHIELDS, Miami County Home Demonstration Agent, Division of College Extension (1931; March 19, 1934).

B. S., K. S. C., 1929

Paola, Kan.

BLANCHE LOUISE TOMSON, Greenwood County Home Demonstration Agent, Division of College Extension (Apr. 1, 1934).

B. S., K. S. C., 1933.

Eureka, Kan.

LAURA WINTER, Sedgwick County Home Demonstration Agent, Division of College Extension (1925).

Wichita, Kan.

MARY DUNLAP ZIEGLER, Shawnee County Home Demonstration Agent, Division of College Extension (1928, 1930).

B. S., K. S. C., 1916.

Topeka, Kan.

Standing Committees of the Faculty

ADMISSION: Jessie McD. Machir, B. L. Remick, Ina Holroyd, J. O. Hamilton, H. L. Ibsen, Geo. A. Dean, W. T. Stratton.

ADVANCED CREDIT: L. D. Bushnell, R. R. Price, H. H. King, J. T. Willard, H. W. Davis, R. R. Dykstra, Martha Pittman, L. F. Payne, M. A. Durland.

ASSIGNMENT: Jessie McD. Machir, A. E. White, C. H. Scholer, W. E. Grimes, J. H. Robert, C. V. Williams, Katherine J. Hess.

ATHLETIC COUNCIL: H. H. King, F. D. Farrell, M. F. Ahearn, E. L. Holton, R. A. Seaton, R. I. Throckmorton, G. A. Dean, R. W. Babcock.

CALENDAR: Mary P. Van Zile, J. C. Peterson, M. F. Ahearn, H. T. Hill, J. T. Willard, Ina Holroyd, William Lindquist, F. E. Charles.

CATALOGUE: I. V. Iles, J. T. Willard, J. O. Faulkner.

COMMUNITY CHEST EXECUTIVE: F. L. Parrish, H. T. Hill, Mary P. Van Zile, F. D. Farrell, A. A. Holtz, Jessie McD. Machir, Ruth Haines.

CONTROL: I. V. Iles, Margaret M. Justin, R. A. Seaton, R. R. Dykstra, Mary P. Van Zile, R. J. Barnett.

EXAMINATIONS: A. E. White, C. W. Colver, R. A. Seaton.

FACULTY LOAN FUND: R. R. Dykstra, Mary P. Van Zile, L. E. Call, R. A. Seaton, Jessie McD. Machir.

GRADUATE COUNCIL: J. E. Ackert, L. E. Conrad, L. E. Call, H. H. King, L. D. Bushnell, J. H. Burt, Martha M. Kramer.

HONORARY DEGREES: R. W. Babcock, Margaret M. Justin, L. E. Call.

MAJOR MUSICAL AND DRAMATIC ENTERTAINMENTS: J. C. Peterson, William Lindquist, H. T. Hill, H. W. Bouck, R. H. Brown, Mrs. E. L. Holton.

PUBLIC EXERCISES: H. W. Davis, E. L. Holton, William Lindquist, A. C. Fay, C. H. Scholer.

REINSTATEMENT: R. I. Throckmorton, Elizabeth Quinlan, W. M. McLeod, J. H. Robert, E. C. Miller.

RELATIONS WITH JUNIOR COLLEGES AND ARTS COLLEGES: George Gemmell, R. R. Dykstra, M. A. Durland, F. L. Parrish, Margaret Ahlborn, G. A. Flinger.

SCHEDULE OF CLASSES: A. E. White, W. T. Stratton, L. E. Conrad, W. E. Grimes, Martha Pittman, R. W. Babcock.

STUDENT AFFAIRS: Mary P. Van Zile, A. A. Holtz, L. E. Conrad, R. I. Throckmorton, Grace E. Derby, Harold Howe, F. P. Root, LeVelle Wood.

STUDENT HEALTH: L. E. Conrad, L. D. Bushnell, Mary P. Van Zile, C. M. Siever, M. F. Ahearn.

STUDENT HONORS: J. O. Hamilton, R. W. Conover, B. L. Remick, M. W. Furr, L. E. Conrad.

VOCATIONAL GUIDANCE: Mary P. Van Zile, R. A. Seaton, R. R. Dykstra, E. L. Holton, Margaret M. Justin, L. E. Call, R. W. Babcock.

The Kansas State College of Agriculture and Applied Science

HISTORY AND LOCATION

The Kansas State Agricultural College was established under the authorization of an act of congress, approved by Abraham Lincoln, July 2, 1862, the provisions of which were accepted by the state February 3, 1863. By act of the legislature, effective March 9, 1931, the name was changed to Kansas State College of Agriculture and Applied Science.

Under the enabling act the College received an endowment of 90,000 acres of land, and its leading object as stated by law is—

“Without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.”

The College was located at Manhattan February 16, 1863, partly in order to receive as a gift the land, building, library and equipment of Bluemont Central College, an institution that was chartered by a group of cultured pioneers February 9, 1858. The Bluemont College building was erected in 1859.

The Agricultural College opened September 1, 1863, in the Bluemont College building. Most of the work of the College was moved to the present site in 1875. This location is adjacent to Manhattan, a city which has a residential population of ten thousand, and is unsurpassed for wholesomeness of influence by any city in the state.

The fertile valleys of the Kansas and the Blue rivers meet here, and these, with their borders of hilly upland drained by many small wooded streams, create a natural environment which is unusually attractive.

Manhattan is reached by the Union Pacific and Rock Island railways, by U. S. highways 40, 40N, and 40S, with frequent motor-bus service, and by state highways 13 and 29. There is taxi service between railway stations and the College. Practically all of the streets are paved, and an ample supply of pure water is provided.

The residents of Manhattan give most cordial support to the College and do all that could be desired to make students feel welcome, and to support them in their legitimate undertakings. The members of the student body respond by conducting themselves habitually in an orderly and law-abiding manner.

AIMS AND PURPOSES

The Kansas State College has three chief aims: To give to the young men and women of Kansas a high standard of collegiate training in agriculture, engineering, home economics, general science, and veterinary medicine; to investigate, through its experiment stations, the agricultural and industrial problems of Kansas; and by means of its extension division, to carry the full benefits of the College to the remotest parts of the state.

In all the collegiate curricula particular pains are taken that each student, in connection with the scientific and technical instruction necessary to his vocation, be given thorough training in fundamental cultural subjects which promote sound thinking and good citizenship. The College aims to turn back to

the state the type of citizen who is straight-thinking in all lines and a particularly valuable leader in some definite field of human activity. Its chief aim is the development of intelligent, effective leadership.

The second important aim of the Kansas State College is to serve the state by investigating in a scientific manner the state's problems in agriculture and the industries. This work is accomplished through the various agricultural and engineering experiment stations. All investigational work is directly connected with the educational work of the College, so that the students are given the widest opportunity for appreciating the true value of scientific investigation. Many opportunities in the United States Department of Agriculture and in the various experiment stations of the country are thus opened to such students as show interest and skill in investigational work.

In addition to the regular instructional work conducted on the campus, the College realizes its third important aim through the Division of College Extension. This is a highly organized system of agricultural education and service carried directly to the homes of the farmers. The work has been so highly developed within the last few years that the College has come to look upon the whole state as its campus. In addition to the regular staff of the Division of College Extension, many members of the College board of instruction and the staff of the experiment stations give several weeks of each year to this public work among the people of the state.

Buildings and Grounds

The College campus occupies a commanding and attractive site upon an elevation adjoining the western limits of the city of Manhattan. The grounds are tastefully laid out according to the designs of a landscape architect, and are extensively planted with a great variety of beautiful and interesting trees, arranged in picturesque groups, masses, and border plantings, varied by banks of shrubbery and interspersed with extensive lawns, gradens, and experimental fields. Board, well-shaped, macadamized avenues lead to all parts of the grounds. Cement walks connect the buildings with one another and with the entrances. Including the campus of 155 acres, the College owns 1,428.7 acres of land at Manhattan valued at \$415,093. Outside the campus proper, all of the land is devoted to educational and experimental work in agriculture. Within the College grounds, much of the space not occupied by buildings and needed for drives and ornamental plantings is devoted to orchards, forest and fruit nurseries, vineyards, and gardens.

The more important buildings of the College are harmoniously grouped and are constructed of a fine quality of limestone obtained in part from the College quarries. These buildings are listed below, and have a total value of \$2,894,000.

ANDERSON HALL. Erected, 1879, 1883, and 1885; cost, \$79,000; dimensions, 152 x 250 feet; two stories and basement. Contains the offices of administration of the College, a social center hall, the College post office, offices of the Division of College Extension and of the Department of Student Health, and offices and classrooms of the Departments of Applied Art, Economics, English, Mathematics, and Modern Languages. It also contains the alumni and stadium offices.

ANIMAL HUSBANDRY BARN. Erected, 1914; cost, \$25,000; dimensions, 80 x 160 feet; two stories and basement. Consists of three sections, arranged like the letter H, and a glazed tile silo of 200 tons capacity. The west wing contains nine box stalls and twenty-six single stalls, equipped with sanitary feed mangers and racks, and is designed especially for the housing of horses. The east wing contains twelve box stalls and thirty single stalls for the breeding cattle and the show herd. The central section has an office, feed rooms, a washing floor, and a basement containing the engine room. The loft, to which a driveway leads, has storage space for ten carloads of grain and 100 tons of hay and straw and contains the grinding apparatus. The barn is used by the Department of Animal Husbandry.

AUDITORIUM. Erected, 1904; cost, \$40,000; dimensions, 113 x 125 feet. Has a large stage with drop curtain and scenery. Seating capacity, 2,300. Contains also the offices and music rooms of the Department of Music.

CALVIN HALL. Erected, 1908; cost, \$70,000; dimensions, 92 x 175 feet; two stories and basement. The first floor and basement are occupied by the laboratories, classrooms, and offices of the Department of Food Economics and Nutrition, and Household Economics; the second floor is occupied by the laboratories, classrooms, and offices of the Department of Clothing and Textiles.

CHEMISTRY ANNEX No. 1. Erected, 1876; cost, \$8,000; dimensions, 35 x 110 feet and 46 x 175 feet, in the form of a cross. Originally erected as a chemical laboratory. Reconstructed at a cost of \$5,000 after fire in 1900. The building was used from 1902 to 1911 as a woman's gymnasium; since 1911, used by the Department of Chemistry.

CHEMISTRY ANNEX No. 2. Erected, 1904; cost, \$15,000; dimensions, 72 x 103 feet; one story and basement. Occupied by the Department of Dairy Husbandry from the time of its erection till the fall of 1923, since which time it has been used by the Department of Chemistry.

DAIRY BARN. Erected, 1933; cost, \$45,000; dimensions, central portion, 41 x 215 feet, and two wings, each 30 x 35 feet; two stories. Connected with the barn are a milk house, which contains, in addition to ordinary facilities for handling milk, an office, sleeping rooms for student care-takers, a milk-testing laboratory, and a locker-room with shower baths. Back of the main barn is the feed-storage room consisting of four 16 x 40 foot cement-stave silos, eleven bins for grain, and a feed elevator, grinder, and mixer. Mow space is available for 200 tons of loose hay and 100 tons of baled straw. The barn is designed to provide facilities for the College dairy herd and for experimental work with dairy cattle.

DENISON HALL. Erected, 1902; cost, \$70,000; dimensions, 96 x 166 feet; two stories and basement. While occupied throughout by the laboratories, classrooms, and offices of the Departments of Chemistry and Physics, it was destroyed by fire, August 3, 1934.

EDUCATION HALL. Erected, 1900; cost, \$25,000; dimensions, 90 x 95 feet; two stories and basement. Occupies original site of the president's house, destroyed by lightning in 1896. Formerly housed the Departments of Agronomy and Animal Husbandry, later the Vocational School. The abolition of the latter brought change of name in the summer of 1924. Contains classrooms and offices of the Departments of Education and Public Speaking.

ENGINEERING HALL. Erected, east wing, 1909; main portion, 1921. Cost \$270,000. Dimensions: Main portion 60 x 236 feet, east wing, 113 x 200 feet. Three stories in height, but much of the east wing is built on the gallery plan rather than by complete floor separation into different stories. This building contains the general offices and library of the Division of Engineering, and the offices, drafting rooms, and laboratories of the Departments of Agricultural Engineering, Applied Mechanics, Architecture, Civil Engineering, Electrical Engineering, Machine Design, and Mechanical Engineering.

ENGINEERING SHOPS. These consist of several connected structures, erected 1875, 1890, 1900, and 1905. The original building, now used as the metallographic laboratory and part of the woodworking shop, was erected in 1875; a series of additions having later been successively made, the present group is the result. Cost of the group, \$35,000. A portion of the building is two stories high. On the upper floor, which has a floor area of 9,260 square feet, are the classrooms, drafting rooms, pattern storage room and offices of the Departments of Machine Design, Shop Practice, and Mathematics. The woodworking shop (35 x 160 feet) is equipped with bench tools and woodworking machinery. The metallographic work occupies rooms on the first floor totaling 3200 square feet and has modern equipment for the study of metals. Adjoining is the machine shop (40 x 170 feet) amply equipped with modern machine tools. The blacksmith shop (50 x 100 feet) contains 20 forges of modern type, connected with power blast and down-draft exhaust. The iron foundry (27 x 100 feet) and brass foundry (24 x 34 feet) are well supplied with the necessary equipment. The wash and locker room contains 250 steel lockers. A general supply room (22 x 24 feet) is conveniently located for storing small supplies. One room is fitted up as a model farm shop and is used in the training of teachers for rural communities in accordance with the Smith-Hughes requirements.

FAIRCHILD HALL. Erected, 1894; enlarged, 1903; remodeled, 1927; cost, \$91,750; dimensions, 100 x 140 feet; two stories, basement, and attic. Occupied by offices, classrooms, and laboratories of the Departments of Entomology, Zoölogy, and History and Government. The museums of natural history also are housed here. For many years, till the fall of 1927, the major part of this building was occupied by the College library.

FARM MACHINERY HALL. Erected, 1873; cost, \$11,250; dimensions, 46 x 95 feet; two stories. This was the first building erected by the state on the present campus. It was originally erected as one wing of the College barn, and

first used for that purpose. It has been used as a general College building, and successively by the Department of Botany and the Department of Veterinary Medicine. The first floor, a large hall, was used for many years as an armory by the Department of Military Science. The entire building is now used by the Department of Agricultural Engineering, and contains modern types of farm machinery.

HEAT, POWER, AND SERVICE BUILDING. Erected, 1928; cost, with plant equipment, \$375,000; dimensions, 122 x 210 feet; three stories high. The building houses the Departments of Heat and Power, and Building and Repair, and the offices of the custodian and superintendent of maintenance. The heat and power plant furnishes steam for the heating system and power and light for the entire campus. The plant has a rated boiler capacity of 1,900 horsepower and an engine capacity of 1,125 kilowatts. A complete system of underground tunnels connects the main buildings, and through these tunnels are carried the steam and electric energy to the different parts of the campus.

HORTICULTURE BARN. Erected, 1917; cost, \$1,500; dimensions, 38 x 55 feet. Two stories, first story stone, second frame. This building is located one mile west of the College campus.

HORTICULTURE HALL. Erected, 1907; cost, \$50,000; dimensions, 72 x 116 feet; two stories and basement. This building is used by the Departments of Botany and Plant Pathology, and Horticulture. Its classrooms, laboratories, museums, and equipment are modern and ample.

ILLUSTRATIONS HALL. Erected, 1876; cost, \$4,000; dimensions, 32 x 80 feet; one story and basement. At an early period used as a horticultural hall; later the headquarters for general College repairs; since the summer of 1919 used by the Department of Illustrations. The west wing is used by the student pastors and student groups in their religious work.

INFIRMARY. Erected, previous to 1871; remodeled and enlarged, 1919; cost, \$6,500; dimensions, 34 x 34 feet; two stories. Originally a farm house, later used as dwelling by the president, the professor of agriculture, and more recently by the custodian; has served its present use since 1919. Contains separate wards for men and women; five rooms in each ward.

KEDZIE HALL. Erected, 1898; cost, \$16,000; dimensions, 70 x 84 feet; two stories and basement. Used from its erection till 1908 by the Departments of Domestic Science and Domestic Art. Basement occupied by the printing plant; first floor taken up by the Department of Industrial Journalism and Printing; second floor divided into general classrooms and offices used by the Department of English.

LIBRARY. Erected, 1927; cost, \$250,000; three stories and basement. The floor plan is of "T" shape, with dimensions of 183 x 46 feet and 107 x 64 feet. Three large reading rooms are provided, each 176 x 40 feet, the class reserve reading room being in the basement, the periodical room on the first floor, and the main reading room on the second floor, extending through the second and third stories. The remainder of the building is devoted to stack rooms, seminar rooms, offices, working quarters, and an exhibition gallery.

MEMORIAL STADIUM. West wing erected, 1922; east wing erected, 1924; back wall of the east wing built in 1928; cost of portions now completed, \$260,000; cost of entire structure when completed as planned, \$400,000. The seating decks are constructed of reinforced concrete. The end walls and the east wall are built of limestone; the south entrance and wall and the west wall will be of the same material. Capacity of the seating decks now standing, 15,000; capacity of the completed structure will be 22,500. The stadium is being built as a memorial to alumni, students, former students, and faculty of the College who participated in the World War. The cost is met entirely from funds raised by popular subscription.

NICHOLS GYMNASIUM. Erected, 1911; cost, \$122,000; dimensions, 102 x 221 feet; three stories and basement. The building consists of a main section and two wings. The main section (85 x 141 feet), consisting of two stories and a basement, is used as a men's gymnasium and armory, and contains a running track, sixteen laps to the mile. The east half of the basement of the main section contains a swimming pool, baths, rest rooms, etc., for women; the west half contains a swimming pool and baths for men. The east wing (40 x 102 feet) contains the women's gymnasium, classrooms and offices of the Department of Military Science, studios for the Department of Music, and two literary society halls. The west wing (40 x 102 feet) contains the offices of the director of athletics and physical education, a large locker room for men, literary society halls, and the radio broadcasting studio. This building is constructed on the old armory-castle type and is modern in every respect.

NURSES' QUARTERS. Erected, 1888; cost, \$5,000; dimensions, 30 x 30 feet; one story and basement. Used for years by Departments of Horticulture and Entomology, later by the state dairy commissioner and assistants, now as quarters for nurses connected with the Department of Student Health.

PRESIDENT'S RESIDENCE. Erected, 1923; cost, \$31,000; three stories and basement; built from funds bequeathed by Mehitable Calef Coppenhagen Wilson in memory of her husband, Davies Wilson.

THOMPSON HALL. Erected, 1922; cost, \$125,000; dimensions, 138 x 60 feet and 38 x 24 feet; two stories and basement. Basement occupied by receiving and storage rooms for the cafeteria, dishwashing room, refrigeration machinery room, pipe room, locker rooms, and bakery. The first floor is devoted to the cafeteria, including kitchen, dining room, two offices, and lobbies. On the second floor are a tea room, with a main dining room, kitchen, three alcoves, receiving room, serving room, lobby and coat room, an office, a classroom, and the household-management laboratory.

VAN ZILE HALL. Erected, 1927; cost, \$175,000; dimensions, 169 x 85 feet; three stories and basement. The building contains bedrooms, dining hall, kitchen facilities, and social quarters for 125 women students, besides rooms for guests, matron, and social director.

VETERINARY HALL. Erected, 1908; cost, \$70,000; dimensions, 133 x 155 feet; two stories and basement. Occupied by the laboratories, demonstration and dissecting rooms, classrooms, and offices of the Departments of Anatomy and Physiology, Bacteriology, Pathology, and Surgery and Medicine, and by the offices of the dean of the Division of Veterinary Medicine.

VETERINARY HOSPITAL. Erected, 1923. Contract price, \$118,000. The building is of stone and of fireproof construction throughout, with general dimensions of 145 x 146 feet. It consists of a central portion and two wings, and is two stories and an attic in height, with a basement under one of the wings. The building is used exclusively for the teaching of the practical phases of veterinary medicine and surgery. It is equipped for housing sick animals of all species, such as horses, cattle, sheep, swine, poultry, dogs, and cats. Its equipment includes an hydraulic elevator, large and small animal operating tables, cattle and horse stocks, dog kennels, operating rooms, laboratories for the diagnosis of animal diseases, etc. In addition there are well-equipped rooms for senior students in veterinary medicine, together with a reception room for visitors, and offices for members of the veterinary clinical teaching staff.

WATERS HALL. East wing erected, 1913; west wing erected, 1923; cost of portions now completed, \$500,000; cost of building when developed and completed as planned, \$1,000,000. Each of the wings now completed is 80 feet wide and 169 feet long and four stories high. An 80 x 50 foot one-story annex on the east wing serves as a meats laboratory, and a similar annex on the west wing serves as a creamery. A stock-judging pavilion (115 x 100 feet) is located

between the two wings and is divided into two large stock-judging rooms, each having a seating capacity of 475. The two wings and the stock-judging pavilion are used by the Departments of Agricultural Economics, Agronomy, Animal Husbandry, Dairy Husbandry, Milling Industry, and Poultry Husbandry, and the general offices of the Agricultural Experiment Station and of the Division of Agriculture. The equipment includes an electrically operated flour mill capable of manufacturing 75 barrels of flour a day, a modern creamery, a well-equipped meats laboratory, and modern laboratories for instructional and investigative work in seed testing, market milk, soils, field crops, farm organization, grain grading, etc. On account of the burning of Denison Hall, the Department of Physics and part of the Department of Chemistry are temporarily housed here.

In addition to the substantial stone buildings mentioned above, the College has a number of other buildings, among them the following:

EXPERIMENT STATION BUILDING. Erected, 1918; dimensions, 40 x 176 feet; two stories. Built as barracks No. 4 for the Students' Army Training Corps, now used by the Agricultural Experiment station.

GENERAL-PURPOSE BUILDING. Erected, 1918; dimensions, 40 x 80 feet; two stories. Built as barracks No. 6 for the Students' Army Training Corps. This building is used by the Department of Electrical Engineering and as a hospital for patients with contagious diseases. A portion of this building is used as a wash and locker room by the Department of Shop Practice.

GREENHOUSE. Erected, 1910; cost, \$10,000; dimensions, 114 x 150 feet. Contains six sections used by the various departments as follows: Horticulture, three; Botany, one; Agronomy, one; Entomology and Zoölogy, one.

NEW GREENHOUSE. Erected, 1927; cost, \$10,000; dimensions, 29 x 100 feet; occupied by the Departments of Agronomy and Botany.

PLANT MUSEUM. Erected, 1907; cost, \$2,500; dimensions, 20 x 100 feet. Used by the Department of Horticulture. Contains a large number of rare growing plants, including many subtropical species.

PUMP HOUSE. The waterworks pump house contains electric motor-driven pumps of an aggregate capacity of 600 gallons per minute. Cast-iron water mains distribute this over the campus, and a steel tank of 110,000 gallons capacity supported on a steel tower provides a reserve supply.

SERUM BARN. Erected, 1914; cost, \$3,000; dimensions, 92 x 96 feet; contains 30 pens, each 8 x 12 feet, and two feed rooms of the same dimensions. This is a frame and cement building situated three-quarters of a mile north of the College campus.

SERUM PLANT. Erected, 1914; cost, \$7,000; constructed of brick; dimensions, 20 x 60 feet; two stories.

SHEEP BARN. Erected, 1927; cost, \$10,000; dimensions: main structure, 43 x 51 feet, and wings, 32 x 90 feet. Situated north of the main campus.

SHOP WAREHOUSE. Erected, 1918; moved to present location in 1927; dimensions, 30 x 75 feet, two stories high. This building is part of the structure erected for the Students' Army Training Corps as mess hall (barracks No. 5). The building is used for storage of general shop supplies.

TRACTOR LABORATORIES. Erected, 1918. These are two frame buildings on concrete foundations, built originally as barracks Nos. 2 and 3 for the Students' Army Training Corps.

The College Library

The general College Library consists of all books belonging to the College, including the library of the Agricultural Experiment Station, which is incorporated with it. On June 30, 1934, the Library contained 105,372 bound volumes, besides much unbound material. It receives currently about 1,100 serial publications. As a depository the Library receives the documents and other publications of the United States government. The books are classified according to the Dewey system and are indexed in a dictionary card catalogue.

The Library is primarily for free reference, but the privilege of drawing books is accorded to all of those connected with the College as registered students or as members of the faculty. Books not specially reserved may be drawn for home use for two weeks. All books are subject to recall at any time.

General reference books, books reserved for classes, general periodicals, and certain other groups of books are to be consulted only in the reading rooms. They may not be loaned from the Library except when the reading rooms are closed. They must then be returned to the Library by the time it next reopens. Any violation of the regulations of the Library subjects the offender to a fine or to a withdrawal of library privileges, or to both, according to the gravity of the offense. More serious offenses, such as mutilation or theft of books or periodicals, are considered just causes for suspension or expulsion of the offender, who is also required to make good the loss incurred.

READING ROOMS. Three reading rooms are maintained in connection with the Library. The general reference room, containing encyclopedias, dictionaries, atlases, bibliographies, and general reference books; the special reference room, containing books reserved for classes; and the periodical room, containing current magazines and the important daily and weekly Kansas newspapers. These rooms are freely open to the student and to the public for purposes of reading and study.

DIVISIONAL LIBRARIES. Divisional and departmental collections are deposited in certain College buildings apart from the main Library. These collections are for the special convenience of the instructors and students of the departments concerned. They are under the direction of the librarian and are accessible to all students at regular hours.

Student Health Service

The Department of Student Health was established in order to maintain good health among the students of the College. Two doctors give their entire time, and three doctors devote part time to the service. The services of the College physicians are free, but the student may employ, at his own expense, any physician he may desire. Four nurses are employed on full time and the matron of the hospital also devotes all her time to student health needs.

The offices of the department are in Anderson Hall and are open to students each school day from 7:45 a. m. to 5 p. m. It is expected that students who have need of medical services and are able to walk will go to the office, unless there is a possibility that they have a contagious disease. Those who are unable to walk to the physician's office, or who have reason to believe that they have some contagion, should go to the hospital at once.

The College hospital is ready to receive students any hour of the day or night. Free hospital service is given for three days in each case of acute sickness except smallpox. After that period a charge of one dollar a day is made. Smallpox cases are not handled at the hospital except in cases where the disease has been contracted after proper vaccination against it. Patients are admitted to the hospital only on recommendation of the head of the College medical corps. Hospital service does not include major surgical cases, such as appendicitis, hernia, etc. If such case develops while the student is in the hospital, he will be transferred, at his own expense, to a hospital of his choice. Treatment of chronic cases by the College physicians cannot be guaranteed. However, when practicable, treatment of such cases may be undertaken on the same basis as acute cases. Fractures and dislocations of a serious nature are not treated, but minor cases may be treated at the option of the head physician. Students with fractures are admitted to the hospital.

Standard hospital nursing service is furnished free, but the student may employ, at his own expense, a private nurse at any time he desires to do so. A private nurse must obey the same rules that the College nurses are expected to follow. No ambulance service is maintained by the College, as in practically all cases of beginning sickness patients are able to ride to the hospital in an ordinary conveyance.

In order to help control contagious diseases, a student absent from classes because of illness must, before he returns to his classes, secure from the College physician a return card showing him to be free from all such diseases.

Students have the privilege of consulting any of the College physicians at any time on any question of personal hygiene of whatsoever nature.

The health office observes the same vacations and holidays as the rest of the College. Students admitted to the hospital or remaining in the hospital at a time for which the sick-benefit fee has not been paid or during Christmas holidays, will be charged the actual cost of service.

The department owns equipment valued at \$12,890.16.

The student health service is maintained by the student-health fee fund. For data concerning this fee, see the section on expenses, under General Information.

Requirements for Admission

The entrance requirements of the College are made broad and flexible, only fundamental subjects being definitely required. Those requirements are made upon the supposition that high schools are local institutions in which the courses should be adapted to the needs of the individual localities, and the College entrance requirements should be such as to take the output of the high schools, rather than to determine the nature of the work offered in them.

Any person who has completed a four-year course of study in any high school or academy accredited by the State Board of Education will be admitted to the freshman class. The student should ask his high-school principal to send, in advance, a certificate showing his high-school credits.

In order to carry the several curricula successfully the following subjects must have been completed:

- English, 3 units; Algebra, 1 unit; Geometry, 1 unit; Science, 1 unit
 - Agriculture (4 years)
 - Agricultural Administration (4 years)
 - Animal Husbandry and Veterinary Medicine (6 years)
 - Applied Music (4 years)
 - Home Economics (4 years)
 - Home Economics with special training in Art (4 years)
 - Home Economics with special training in Institutional Economics and Dietetics (4 years)
 - Home Economics with special training in Journalism (4 years)
 - Home Economics and Nursing (5 years)
 - Industrial Journalism (4 years)
 - Music Education (4 years)
 - Physical Education for Men (4 years)
 - Physical Education for Women (4 years)
 - Veterinary Medicine (5 years)
- English, 3 units; Algebra, 1½ units; Geometry, 1 unit; Science, 1 unit
 - Agriculture with special training in Landscape Gardening (4 years)
 - Commerce (4 years)
 - Commerce with special training in Accounting (4 years)
 - General Science (4 years)
 - General Science and Veterinary Medicine (6 years)
 - Pre-Medical and Pre-Pharmaceutical (2 years)
- English, 3 units; Algebra, 1½ units; Geometry, 1½ units; Science, 1 unit.
 - Agricultural Engineering (4 years)
 - Architecture (4 years)
 - Architectural Engineering (4 years)
 - Chemical Engineering (4 years)
 - Civil Engineering (4 years)
 - Electrical Engineering (4 years)
 - Industrial Chemistry (4 years)
 - Landscape Architecture (4 years)
 - Mechanical Engineering (4 years)
 - Milling Industry (4 years)

The above curricula were formulated on the assumption that high-school subjects named will be offered for admission. A graduate of an accredited high school who in accordance with a state law is admitted as a freshman without all of the high-school subjects that are prerequisite to carry the curriculum chosen will be assigned, if necessary, to a five-hour course in college algebra instead of the regular three-hour course, and to a two-hour course in solid geometry, and may be allowed College credit toward graduation for the extra hours. A student lacking the required unit of high-school science is held for four hours of college physical or biological science in addition to any science required by his college curriculum, but may be allowed elective credit toward graduation on such science.

A student without high-school credit in one unit of algebra and one unit of geometry is not permitted to register for an engineering curriculum, the curriculum in industrial chemistry, the curriculum in general science or the curriculum in milling industry, until those fixed entrance requirements are completed. Algebra, one unit, and geometry, one unit, are offered each semester in classes provided by the Department of Home Study. A student without

high-school credit in one unit of algebra is required to enroll in the algebra class mentioned above, the first semester of attendance. A student with one unit of algebra, but without one unit of geometry, should enroll in the geometry class the first semester of attendance; such a student must complete this requirement in geometry by the close of the third semester of attendance. *A student will not be advanced in classification until these required units are completed.*

A person who is not a graduate of an accredited high school or academy will be admitted to the freshman class if he has completed fifteen acceptable units of high-school work, including the fixed requirements. (A unit is defined to be the work in an accredited high school or academy in five recitation periods a week for one school year.) One who offers fourteen such units will be admitted as a freshman, but will be conditioned in one unit. Such deficiency (whether fixed or optional requirement) must be made up the first year that the student is in attendance. If the optional requirement is not made up within that time, College credits are taken in its place.

Subjects acceptable for entrance, arranged in eight groups, together with the number of units that may be offered, are shown as follows:

| | |
|------------------|-------------------------------------------------------|
| GROUP I | English, three to four units |
| ENGLISH | Journalism, one-half or one unit |
| | Public speaking, one-half or one unit |
| GROUP II | French, one to four units |
| FOREIGN | German, one to four units |
| LANGUAGES | Greek, one to four units |
| | Latin, one to four units |
| | Spanish, one to four units |
| GROUP III | Elementary algebra, one or one and one-half units |
| MATHEMATICS | Plane geometry, one unit |
| | Advanced algebra, one-half unit |
| | Solid geometry, one-half unit |
| | Plane trigonometry, one-half unit |
| GROUP IV | *Botany, one-half or one unit |
| NATURAL | *Chemistry, one unit |
| SCIENCES | *General biology, one-half or one unit |
| | *General science, one-half or one unit |
| | Physical geography, one-half or one unit |
| | *Physics, one unit |
| | *Physiology, one-half or one unit |
| | *Zoölogy, one-half or one unit |
| GROUP V | American history, one unit |
| HISTORY AND | Civics, one-half or one unit |
| SOCIAL SCIENCES | Constitution, one-half unit |
| | Economics, one-half or one unit |
| | English history, one unit |
| | Greek and Roman history, one unit |
| | Medieval and modern history, one unit |
| | Sociology, one-half unit |
| | International Relations, one-half unit |
| GROUP VI | Higher arithmetic, one-half unit |
| NORMAL TRAINING | Methods and management, one-half unit |
| SUBJECTS | *Music, one unit |
| | Psychology, one-half unit |
| | Reviews |
| | Grammar, geography, and reading } 1 unit |
| | twelve weeks each, or |
| | two of these, eighteen weeks each } |
| GROUP VII | *Agriculture, one-half to four units |
| INDUSTRIAL | *Domestic art, one-half, one, or two units |
| SUBJECTS | *Domestic science, one-half, one, or two units |
| | *Drawing, one-half or one unit |
| | *Forging, one-half or one unit |
| | *Printing, one-half, one, or two units |
| | *Woodwork, one-half, one, or two units |
| GROUP VIII | Bookkeeping, one-half or one unit |
| COMMERCIAL | Commercial geography, one-half unit |
| SUBJECTS | Commercial law, one-half unit |
| | Salesmanship, one-half unit |
| | *Shorthand and typewriting, one-half or one unit each |

* In courses consisting of laboratory work, wholly or in part, two periods of laboratory work are to be considered the equivalent of one recitation period.

ADVANCED CREDIT

Students who present certificates showing credits for college work done in other acceptable institutions are allowed hour-for-hour credit on courses in this College in so far as they may be directly applied or can be accepted as substitutes or electives. Candidates must present their high-school and college credits certified to by the proper authorities. It is requested, also, that a *college catalogue covering the period of attendance be furnished with college credentials*. In cases in which it is impossible for one to furnish an acceptable certificate concerning work upon which advanced credit is asked, examinations are given, if the subject has been studied under competent instruction.

It is strongly urged that persons entering with advanced credit send certified transcripts of their work at other colleges at least two or three weeks in advance of entrance. Transcripts received later than one week prior to enrollment cannot be acted upon completely before the opening days of College.

Matriculated students may secure advanced credit in certain subjects of freshman rank by examination on account of surplus high-school units over and above the fifteen acceptable units required for admission. The registrar, on request, will furnish a statement of such surplus units to the Committee on Advanced Credit, and that committee will conduct the examination within the first thirty days of the semester or summer session. Examinations, however, which affect the assignment of a semester or summer session will be given the first Saturday of that semester or summer session. After the expiration of the thirty-day period such examinations are authorized by the students' dean.

If the work of the student shows that advanced credits have been wrongly allowed, such credit will be revoked.

ADMISSION

ADMISSION BY EXAMINATION. Examinations for admission will be held at the College on the dates stated in the College calendar (see page 7 of this catalogue). These examinations are given for the benefit of those students who need some additional high-school credits to qualify them for admission to the freshman class. Applications for these examinations should be made in advance to the registrar.

ADMISSION BY CERTIFICATE. The applicant is required to submit to the Committee on Admission a certificate of the high-school or academy credit properly certified to by the authorities of the institution in which the work was done. Blanks will be furnished by the College for this purpose.

It is greatly to the advantage of the prospective student to see to it that this blank, properly filled out and *indicating the curriculum he wishes to take here*, be sent to the College as soon as possible after graduation. A permit to register will then be sent him by the registrar before the first of September. This permit *cannot be sent* unless the prospective student sees that the information as to curriculum is sent to the registrar. This will greatly facilitate the work of admission. The student will present this permit at the registration room in Nicholas Gymnasium, and will not be compelled to wait for his turn to meet the Committee on Admission. High-school transcripts received later than one week prior to enrollment cannot be acted upon before the opening days of College.

LATE ASSIGNMENT

A considerable amount of extra work and a great deal of confusion are caused by the neglect of students to enroll at the time set for that purpose, and a fee of \$5 will be charged those who are assigned after the time fixed for the close of registration. *There is no exception to this rule.*

A student is not admitted to the College later than ten days after the opening of a semester, except by special permission of his dean.

SPECIAL STUDENTS

In recognition of the fact that experience and maturity tend to compensate, in a measure at least, for the lack of scholastic attainment, the College admits as special students persons over twenty-one years of age who are unable to meet the regular entrance requirements. For admission as special students in Veterinary Medicine, applicants must have completed at least fifteen units of high-school work. The age limit is not applied to special students in music.

Students who are able to meet the regular entrance requirements may also be permitted for sufficient reason to register as special students for work toward definite ends not provided for by the regular curricula. This classification does not, however, include students who merely fulfill curricular requirements irregularly in respect to weight or content of assignments, or who take approved courses in addition to those provided for in their curricula.

An applicant for admission as a special student must secure a permit from the dean of the division in which the major work is to be done, and this dean approves each assignment. Such a permit is good for one semester only but may be renewed in succeeding semesters.

Special students must present certificates of their preliminary training, and must give evidence of satisfactory preparation for the courses they wish to pursue. They are subject to all the general regulations and requirements of regular students, such as assignments to physical education and military training, payment of fees, regular attendance at classes, and maintenance of satisfactory scholastic standing.

KANSAS HIGH SCHOOLS AND ACADEMIES IN ACCREDITED RELATIONS WITH THE COLLEGE

(Candidates admitted without examination)

| | | |
|---------------------------|--------------------------|----------------------|
| Abbyville | Athens | Beverly |
| Abilene | Glen Elder P. O. | Bird City |
| Ada | Athol | Bison |
| Adams | Atlanta | Blaine |
| Admire | Attica | Bloom |
| Agenda | Atwood | Blue Mound |
| Agra | Rawlins Co. Com. | Blue Rapids |
| Alden | Auburn | Bluff City |
| Alexander | Augusta | Bogue |
| Allen | Aurora | Bonner Springs |
| Alma | Axtell H. S. | Brewster |
| Almena | St. Michael's H. S. | Brewster H. S. |
| Altamont | Baldwin | Brownville H. S. |
| Labette Co. Com. | Bancroft | Bronson |
| Alta Vista | Barclay | Brookville |
| Alton | Barnard | Brookville H. S. |
| Altoona | Barnes | Glendale H. S. |
| Americus | Basehor | Brownell |
| Andale | Bavaria | Brownville |
| Andover | Baxter Springs | Brewster P. O. |
| Anthony | Bazine | Bucklin |
| Anthony H. S. | Beattie | Bucyrus |
| Spring Twp. H. S. | Beeler | Bucyrus H. S. |
| Antrim | Bellefont | Wea H. S. |
| St. John P. O. | Immaculate Heart of Mary | Buffalo |
| Appanoose | (at Windthorst) | Buhler |
| Pomona P. O. | Belle Plaine | Bunkerhill |
| Arcadia | Belleville | Burden |
| Argonia | Belmont | Burdett |
| Arkansas City | Beloit | Burdick |
| Arlington | Beloit H. S. | Diamond Valley H. S. |
| Arma | St. John's H. S. | Burlingame |
| Arnold | Belpre | Burlington |
| Asherville | Bendena | Burns |
| Ashland | Benedict | Burr Oak |
| Assaria | Bennington | Burton |
| Atchison | Bentley | Bushong |
| Atchison H. S. | Benton | Bushton |
| Mt. St. Scholastica Acad- | Bern | Byers |
| emy | Berryton | Caldwell |
| Maur Hill H. S. | Bethel | Cambridge |
| | Washington R. H. S. | Caney |

| | | |
|--------------------|------------------------|----------------------------|
| Canton | Dodge City | Glen Elder |
| Carbondale | Dodge City H. S. | Glen Elder H. S. |
| Carneiro | St. Mary of the Plains | Athens H. S. |
| Cassoday | Academy | Goddard |
| Castleton | Doniphan | Goessel |
| Cawker City | Dorrance | Goff |
| Cedar | Douglass | Goodland |
| Cedar Point | Dover | Sherman Co. Com. |
| Cedarvale | Downs | Gorham |
| Centerville | Dresden | Gorham H. S. |
| Centralia | Dunlap | St. Mary's H. S. |
| Chanute | Durham | Gove |
| Chapman | Dwight | Grainfield |
| Dickinson Co. Com. | Easton | Great Bend |
| Chase | Edgerton | Great Bend H. S. |
| Chautauqua | Edmond | Immaculate Conception |
| Cheney | Edna | Greeley |
| Cherokee | Edson | Green |
| Crawford Co. Com. | Edwardsville | Greenleaf |
| Cherryvale | Effingham | Greensburg |
| Chetopa | Atchison Co. Com. | Grenola |
| Cimarron | El Dorado | Gridley |
| Circleville | Elgin | Grinnell |
| Claffin | Elk City | Gypsum |
| Claffin H. S. | Elk Falls | Haddam |
| Holy Family | Elkhart | Halstead |
| Clay Center | Ellinwood | Hamilton |
| Clay Co. Com. | Ellis | Hamlin |
| Clayton | Ellsworth | Hanover |
| Clearwater | Elmdale | Hanston |
| Cleburne | Elsmore | Hardtner |
| Clements | Elwood | Harlan |
| Clifton | Emmett | Harper |
| Climax | Emporia | Hartford |
| Clyde | Emporia H. S. | Harveyville |
| Coats | K. S. T. C. H. S. | Havana |
| Cockerill | Englewood | Haven |
| Mulberry P. O. | Ensign | Havensville |
| Codell | Enterprise | Haviland |
| Coffeyville | Erie | Haviland H. S. |
| Colby | Esbon | Friends Academy |
| Thomas Co. Com. | Eskridge | Hays |
| Coldwater | Eudora | Hays H. S. |
| Collyer | Eureka | Girls Catholic H. S. |
| Colony | Everest | St. Joseph's College Acad- |
| Columbus | Fairview | emy |
| Cherokee Co. Com. | Fall River | Hazelton |
| Concordia | Falun | Healy |
| Concordia H. S. | Fellsburg | Hepler. |
| Nazareth H. S. | Florence | Herington |
| Conway Springs | Flush | Herndon |
| Coolidge | St. Joseph's H. S. | Herndon H. S. |
| Copeland | Fontana | St. Mary's H. S. |
| Corning | Oswego Twp. | Hesston |
| Cottonwood Falls | Ford | Hesston College Academy |
| Chase Co. Com. | Formoso | Hiawatha |
| Council Grove | Fort Scott | Highland |
| Courtland | Fostoria | Highland Park |
| Covert | Fowler | Topeka P. O. |
| Coyville | Frankfort | Hill City |
| Cuba | Fredonia | Hillsboro |
| Cullison | Frontenac | Hillsboro H. S. |
| Culver | Fulton | Tabor College Academy |
| Cunningham | Galena | Hoisington |
| Damar | Galesburg | Holcomb |
| Deerfield | Galva | Hollenberg |
| Delavan | Garden City | Holton |
| Delia | Garden Plain | Holyrood |
| Delphos | Gardner | Hope |
| Denison | Garfield | Horton |
| Dennis | Garnett | Howard |
| Densmore | Garrison | Hoxie |
| Denton | Gaylord | Sherman Co. Com. |
| Derby | Gem | Hoyt |
| De Soto | Geneseo | Hudson |
| Dexter | Geneva | Hugoton |
| Diamond Valley | Geuda Springs | Humboldt |
| Burdick P. O. | Girard | Hunter |
| Dighton | Glaseo | Huron |
| Lane Co. Com. | Glendale | |
| | Brookville P. O. | |

- Hutchinson
 Hutchinson H. S.
 Bresee College Academy
 St. Theresa's Academy
 Independence
 Ingalls
 Inman
 Iola
 Ionia
 Irving
 Isabel
 Jamestown
 Jarbalo
 Jennings
 Jetmore
 Hodgeman Co. Com.
 Jewell City
 Johnson
 Stanton Co. Com. H. S.
 Junction City
 Junction City H. S.
 St. Xavier's H. S.
 Kackley
 Kanopolis
 Kanorado
 Kansas City
 Argentine H. S.
 Rosedale H. S.
 State School for Blind
 Sumner H. S.
 Ward H. S.
 Western Univ. Academy
 Wyandotte H. S.
 Keats
 Kendall
 Kincaid
 Kingman
 Kingsdown
 Kinsley
 Kiowa
 Kipp
 Kirwin
 Kismet
 La Crosse
 La Cygne
 Lafontaine
 La Harpe
 Lake City
 Lakin
 Lane
 Langdon
 Lansing
 Larned
 Larned H. S.
 Zook H. S.
 Latham
 Lawrence
 Haskell Institute
 Liberty Memorial H. S.
 Oread Training School
 Leavenworth
 Immaculate Conception
 Leavenworth H. S.
 St. Mary's Academy
 Lebanon
 Lebo
 Lecompton
 Lehigh
 Lenora
 Leon
 Leona
 Leonardville
 Leoti
 Wichita Co. Com.
 Leoville
 Le Roy
 Levant
 Lewis
 Liberal
 Lillis
 Lincoln
 Lincolnville
 Lindsborg
 Linn
 Linwood
 Little River
 Logan
 Lone Elm
 Longford
 Long Island
 Longton
 Lorraine
 Lost Springs
 Louisburg
 Lovewell
 Sinclair R. H. S.
 Lucas
 Luray
 Lyndon
 Lyons
 Macksville
 Madison
 Mahaska
 Maize
 Manhattan
 Manhattan H. S.
 Sacred Heart Academy
 Mankato
 Manning
 Manter
 Maplehill
 Marion
 Marquette
 Marysville
 Matefield Green
 Mayetta
 McCracken
 McCune
 McDonald
 McLouth
 McPherson
 McPherson H. S.
 Central College Academy
 Meade
 Medicine Lodge
 Melvern
 Menlo
 Meriden
 Merriam
 Shawnee Mission H. S.
 Michigan Valley
 Midian
 Milan
 Mildred
 Milford
 Miller
 Milton
 Miltonvale
 Miltonvale R. H. S.
 Miltonvale Wesleyan Academy
 Minneapolis
 Minneola
 Moline
 Montezuma
 Montrose
 Monument
 Moran
 Morehead
 Morganville
 Morland
 Morrill
 Morrowville
 Moscow
 Mound City
 Moundridge
 Mound Valley
 Mount Hope
 Mulberry
 Mulberry H. S.
 Cockerill H. S.
 Mullinville
 Mulvane
 Munden
 Muscotah
 Narka
 Nashville
 Natoma
 Neal
 Neodesha
 Neosho Falls
 Neosho Rapids
 Ness City
 Netawaka
 Newton
 Nickerson
 Reno Co. Com.
 Norcatour
 North Branch
 North Branch Academy
 Norton
 Norton Co. Com.
 Nortonville
 Norway
 Norwich
 Oakley
 Oberlin
 Decatur Co. Com.
 Offerle
 Oketo
 Olathe
 Olivet
 Olpe
 St. Joseph's H. S.
 Olsburg
 Onaga
 Oneida
 Osage City
 Osawatomie
 Osborne
 Oskaloosa
 Oswego
 Otis
 Ottawa
 Overbrook
 Oxford
 Ozawkie
 Page City
 Palco
 Paola
 Paola H. S.
 Ursuline Academy
 Paradise
 Parker
 Parkerville
 Parsons
 Partridge
 Pawnee Rock
 Paxico
 Peabody
 Penalosa
 Perry
 Peru
 Phillipsburg
 Piedmont
 Pierceville
 Piper
 Pittsburg
 Pittsburg H. S.
 K. S. T. C. H. S.
 Plains
 Plainville
 Pleasanton
 Plevna
 Pomona
 Pomona H. S.
 Appanoose H. S.
 Portis
 Potter
 Potwin
 Powhattan
 Prairie View
 Pratt
 Prescott
 Preston
 Pretty Prairie

| | | |
|----------------------------|---------------------------|---------------------|
| Princeton | Seneca | Vermillion |
| Protection | Seneca H. S. | Vernon |
| Quenemo | Sts. Peter and Paul H. S. | Vesper |
| Quincy | Severance | Victoria |
| Quinter | Severy | St. Fidelis H. S. |
| Radium | Shallow Water | Vilas |
| Ramona | Sharon | Vinland |
| Randall | Sharon Springs | Viola |
| Randolph | Wallace Co. Com. | Virgil |
| Ransom | Shawnee | Wakeeney |
| Rantoul | Shawnee Mission H. S. | Trego Co. Com. |
| Raymond | Merriam P. O. | Wakefield |
| Reading | Silver Lake | Waldo |
| Reece | Simpson | Walker |
| Republic | Smith Center | St. Ann's H. S. |
| Reserve | Smolan | Wallace |
| Rexford | Soldier | Walnut |
| Richfield | Solomon | Walton |
| Richmond | South Haven | Wamego |
| Riley | Sparks | Washburn |
| Riverton | Spearville | Topeka P. O. |
| Robinson | Speed | Washington |
| Rock Creek | Spivey | Washington R. H. S. |
| Rolla | Spring Hill | Bethel P. O. |
| Rosalia | Spring Twp. | Waterville |
| Rosedale | Anthony P. O. | Wathena |
| See Kansas City | Stafford | Waverly |
| Rose Hill | Stanley | Wayside |
| Rossville | Stark | Wea |
| Roxbury | Sterling | Bucyrus P. O. |
| Rozel | Stillwell | Webber |
| Ruleton | Stockdale | Webster |
| Russell | Stockton | Weir |
| Russell Springs | Strawn | Welda |
| Sabetha | Strong City | Wellington |
| Saffordville | Sublette | Wellsville |
| St. Francis | Summerfield | Weskan |
| Cheyenne Co. Com. H. S. | Sun City | West Mineral |
| St. George | Sylvan Grove | Westmoreland |
| St. George H. S. | Sylvia | Westphalia |
| St. Joseph's H. S. at | Syracuse | Wetmore |
| Flush | Talmadge | Wheaton |
| St. John | Tampa | White City |
| St. John H. S. | Tescott | White Cloud |
| Antrim R. H. S. | Thayer | White Water |
| St. Marys | Tipton | Whiting |
| St. Marys H. S. | Tonganoxie | Wichita |
| Immaculate Conception | Tonovay | Wichita East H. S. |
| H. S. | Utopia P. O. | Wichita North H. S. |
| St. Paul | Topeka | Cathedral H. S. |
| St. Paul H. S. | Topeka H. S. | Mt. Carmel Academy |
| St. Francis H. S. | Catholic H. S. | St. John's Academy |
| Salina | Highland Park H. S. | Wilburton |
| Salina H. S. | Kansas Vocational School | Williamsburg |
| Sacred Heart H. S. | Seaman R. H. S. | Willis |
| St. John's Military School | Washburn H. S. | Wilmore |
| Marymount Academy | Toronto | Wilsey |
| Satanta | Towanda | Wilson |
| Savonburg | Tribune | Winchester |
| Sawyer | Greeley Co. Com. | Windthorst |
| Scandia | Trousdale | See Bellefont P. O. |
| Schoenchen | Troy | Windom |
| Scott City | Turner | Winfield |
| Scott Co. Com. | Turon | Winfield H. S. |
| Scottsville | Tyro | St. John's Academy |
| Seranton | Udall | Winona |
| Seaman | Ulysses | Woodbine |
| North Topeka P. O. | Grant Co. R. H. S. | Woodruff |
| Sedan | Uniontown | Woodston |
| Sedgwick | Utica | Yates Center |
| Selden | Utopia | Zenda |
| | Tonovay H. S. | Zook |
| | Valley Center | Larned P. O. |
| | Valley Falls | |

JUNIOR COLLEGES

Every junior college student who expects to complete his education at this College is urged to model his course in junior college in such a way as to meet all of the requirements for the particular curriculum which he expects to pursue here. Different curricula have different prerequisites; but admission to advanced standing in the College is reasonably flexible, hour-for-hour credit being given for two years' work wherever the work done in an accredited junior college can be directly applied or can be accepted as substitutions or electives in the curriculum chosen. If the work done in junior college has been carefully selected with regard to the curriculum to be pursued here, the average junior college graduate carrying the maximum assignment can usually complete the requirements for the degree of Bachelor of Science in two additional years.

Detailed statements as to the requirements for graduation in each of the several curricula at the College may be found in other sections of this catalogue.

KANSAS JUNIOR COLLEGES IN FULLY ACCREDITED RELATIONS WITH THE COLLEGE

PUBLIC

Arkansas City Junior College, Arkansas City
Coffeyville Junior College, Coffeyville
El Dorado Junior College, El Dorado
Fort Scott Junior College, Fort Scott
Garden City Junior College, Garden City
Hutchinson Junior College, Hutchinson
Independence Junior College, Independence
Iola Junior College, Iola
Kansas City Junior College, Kansas City
Parsons Junior College, Parsons

PRIVATE

Central Academy and College, McPherson
College of Paola, Paola
Northeast Kansas Junior College, Highland
St. John's College, Winfield
St. Joseph's College, Hays

Undergraduate Degrees

For graduation one must complete one of the four-year curricula as shown elsewhere. These are believed to provide for the necessities of most students who seek an institution of this kind, and departures from the specified work are not encouraged. Under special conditions, however, such substitutions are allowed as the interests of the student demand. The total requirement, including military science or physical training, or both, is about 120 to 140 semester hours, according to the four-year curriculum taken. (A semester hour is one hour of recitation or lecture work, or three hours of laboratory a week, for one semester of eighteen weeks. When no possible ambiguity is involved, the term "hour" is used for "semester hour" in this catalogue.)

A student, to be considered as a candidate for graduation, must have done his last year's work in residence. Resident work is interpreted to mean all regularly scheduled class or laboratory instruction given by the regular faculty under the direct supervision of the College and within the bounds of its campus. Not fewer than twenty semester hours of undergraduate work are to be taken here while this requirement is being fulfilled. Not to exceed sixteen semester hours of a student's last year of resident work may be taken for graduate credit, provided that all undergraduate requirements will have been satisfied by the close of the second semester of the year of graduation. In special cases candidates will be considered who have completed three full years of work here and have carried their last year of work in an institution approved by the faculty.

Seniors meeting the graduation requirement in hours but failing to meet it in points are required to take further courses designated by the dean of the division in which their major work lies, until the requirement in points is met.

No student is considered a candidate for graduation in the spring who, at the beginning of the first semester, is deficient more than nine hours in addition to his regular assignment for the year. Candidates desiring to be graduated must make application to the registrar at least thirty days before the date when graduation is expected. The responsibility rests with a candidate to see that he has complied with all the requirements.

Candidates for graduation are required to be present in person, unless arrangements have been made in advance for the conferring of the degree *in absentia*. Application for this privilege should be made to the student's dean. Degrees are conferred only in the spring and in the summer. Candidates for graduation are required to be present at the exercises of Baccalaureate Sunday, unless excused by the Council of Deans.

DEGREES

The following degrees are conferred on completion of four-year curricula:

- Bachelor of Science
- Bachelor of Science in Agriculture (Agriculture; Agricultural Administration; Landscape Gardening)
- Bachelor of Science in Agricultural Engineering
- Bachelor of Science in Architecture
- Bachelor of Science in Architectural Engineering
- Bachelor of Science in Chemical Engineering
- Bachelor of Science in Civil Engineering
- Bachelor of Science in Commerce (Commerce; Commerce and Accounting)
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Home Economics (Home Economics; Home Economics and Art; Home Economics and Institutional Economics and Dietetics; Home Economics and Journalism)

Bachelor of Science in Industrial Chemistry
Bachelor of Science in Industrial Journalism
Bachelor of Science in Landscape Architecture
Bachelor of Science in Mechanical Engineering
Bachelor of Science in Milling Industry
Bachelor of Music
Bachelor of Science in Music Education
Bachelor of Science in Physical Education

The degree of Bachelor of Science in Home Economics and Nursing is conferred upon those who complete the five-year curriculum in Home Economics and Nursing.

The degree of Doctor of Veterinary Medicine is conferred upon those who complete the five-year curriculum in Veterinary Medicine.

Those pursuing the six-year curriculum in Animal Husbandry and Veterinary Medicine are awarded the degree Bachelor of Science in Agriculture upon completion of the first four years, and the degree Doctor of Veterinary Medicine upon completion of the last two years of the curriculum.

Upon those taking the six-year curriculum in General Science and Veterinary Medicine, the degree Bachelor of Science is conferred when the first four years are completed, and the degree Doctor of Veterinary Medicine is conferred upon completion of the remaining two years of the curriculum.

For a second bachelor's degree an additional year of not less than thirty semester hours is required. This work is in charge of the dean who administers the curriculum chosen.

General Information

DUTIES AND PRIVILEGES

Good conduct is expected of all students. Aid and stimulus toward the development of good character is given by the Christian organizations of the College and the town and by the College itself. Every student is expected to render a good account of himself in the College community life. College discipline is confined chiefly to sending away those whose conduct, after fair trial, makes their further attendance at the College unprofitable or inadvisable.

In order that a fine type of democratic sociability may be fostered among students and faculty, a large community recreation and rest center is provided in Anderson Hall, the administrative building. This center, one of the largest rooms on the campus, is furnished with divans, arm chairs, and writing tables in wicker and is neatly and beautifully decorated. During vacant hours and between classes, students and faculty gather here for rest and conversation. The room is available for student and faculty receptions and parties during the late afternoon and the evening hours.

Absences from class or laboratory must be accounted for to the instructor concerned. Permission for absence from College for one or more days must be secured in advance from the dean of the division in which the student is registered. Students cannot honorably leave the College before the close of a semester except by previous arrangement with the deans concerned.

Opportunities for general scientific, literary, music, and forensic training are afforded, in addition to the College courses, by various societies and clubs, which are described elsewhere in the catalogue and afford excellent training in their diverse lines.

At various times during the year College halls are opened for social, literary, musical, and dramatic entertainments furnished by the literary societies, the Department of Music, the Intersociety Oratorical Board, and other organizations of students and instructors. Addresses by prominent speakers, men of affairs, and persons prominent in scientific, educational, and social work are of frequent occurrence.

EXPENSES

TUITION. There is no charge for tuition. Class instruction in music is free, but fees are charged for individual instruction. (See Department of Music for statement of fees for music.)

MATRICULATION FEE. A matriculation or entrance fee of \$7.50 for residents of Kansas, or \$15 for nonresidents, is charged all students in College curricula, but it is not paid by students in the summer school unless they are candidates for a degree at the end of the session. It is payable by special students.

INCIDENTAL FEE. An incidental fee of \$18.75 a semester or \$15 for the nine-week summer school is charged residents of Kansas; nonresidents pay \$37 a semester or \$25 for the nine-week summer school. The incidental fee for the four-week summer school is \$7.50.

STUDENT-HEALTH FEE. Each undergraduate student in the College pays a student-health fee of \$3 a semester or \$1.50 for the nine-week summer school. Graduate students do not pay this fee, nor do they receive the benefits of the student-health service.

The student-health fee entitles the student to receive the services of the College physician for any illness contracted while in College. It also includes the cost of medicine, and free hospital service up to three days. The fee does

not include the cost of surgical operations, reduction of fractures, or the treatment of chronic conditions.

As in the case of all other fees, the College reserves the right to change this fee or to modify the benefits given for it without previous notice.

The College maintains on the campus a contagion hospital having separate wards for men and women. This hospital is in charge of a matron who resides continuously in the building and cares for the patients, under the direction of the College physician. Students, when suffering from or suspected of having any contagious disease, except smallpox, are admitted to the hospital on the recommendation of the College physician. The student's only expense for hospital service is a fixed charge of \$1 a day, after three days of free service. The aim of the College in providing this hospital is to prevent contagious diseases among the students and, in case the student should contract such a disease, to make it unnecessary to quarantine a rooming house where there are many students.

STUDENT-ACTIVITY FEE. Each undergraduate student pays a student-activity fee of \$7.50 a semester. This fee is imposed by the vote of the students themselves, and at their request is collected by the College at the beginning of each semester along with the fees levied by the state. The fund is used to support ten student activities, including athletics, intercollegiate debate, the Student Governing Association, intercollegiate judging contests, and the College Band. Payment of this fee admits the student to all athletic events, to all intercollegiate debates and oratorical contests, and to band concerts, and gives membership in the Student Governing Association. The members of the faculty, the employees of the College, and graduate students are allowed the privilege of participation in the activity-fee plan.

FEES SUBJECT TO CHANGE. All fees are subject to change at any time by the State Board of Regents.

RECAPITULATION. To make plain to prospective students the amount of fees due at the opening of each semester of the College year in accordance with the statements of the above paragraphs, but not including the laboratory fees, which are announced in a succeeding paragraph, the following tabular statement is given:

FOR RESIDENTS OF KANSAS

| | <i>New students</i> | <i>Old students</i> |
|--------------------------------------|---------------------|---------------------|
| Matriculation (paid only once)..... | \$7.50 | None |
| Incidental (one semester)..... | 18.75 | \$18.75 |
| Student-health (one semester)..... | 3.00 | 3.00 |
| Student-activity (one semester)..... | 5.00 | 5.00 |
| Totals | \$34.25 | \$26.75 |

FOR NONRESIDENTS OF KANSAS

| | <i>New students</i> | <i>Old students</i> |
|--------------------------------------|---------------------|---------------------|
| Matriculation (paid only once)..... | \$15.00 | None |
| Incidental (one semester)..... | 37.00 | \$37.00 |
| Student-health (one semester)..... | 3.00 | 3.00 |
| Student-activity (one semester)..... | 5.00 | 5.00 |
| Totals | \$60.00 | \$45.00 |

LABORATORY EXPENSE. In all laboratories students are required to pay for supplies used and for apparatus broken or lost. The cost in the several subjects ranges from 50 cents to \$10 a semester. Charges are noted under the descriptions of the several courses; changes in charges are effective June 1. The following tabulation shows the laboratory charges for each semester of the freshman year in the several curricula. In a few instances these are approximate, since options exist in some curricula and charges are affected by the subjects chosen.

| <i>Curriculum</i> | <i>First Semester</i> | <i>Second Semester</i> |
|-------------------------------------------------------------|-----------------------|------------------------|
| Agricultural Administration..... | \$18.50 | \$22.00 |
| Agricultural Engineering..... | 12.75 | 14.25 |
| Agriculture | 18.50 | 22.00 |
| Agriculture with Landscape Gardening..... | 18.00 | 19.50 |
| Animal Husbandry and Veterinary Medicine (six year).... | 18.50 | 22.00 |
| Applied Music (not incl. sheet music and private lessons).. | 3.50 | 3.50 |
| Architectural Engineering..... | 12.75 | 14.25 |
| Architecture | 5.25 | 6.75 |
| Chemical Engineering..... | 14.25 | 14.25 |
| Civil Engineering..... | 12.75 | 12.75 |
| Commerce | 8.50* | 8.50* |
| Commerce and Accounting..... | 8.50* | 8.50* |
| Electrical Engineering..... | 18.25 | 12.75 |
| General Science..... | 17.25 | 17.25 |
| General Science Pre-Medic and Pre-Pharmacal Adap..... | 13.50 | 13.50 |
| General Science and Veterinary Medicine (six year)..... | 17.25 | 17.25 |
| Home Economics..... | 18.50 | 13.25 |
| Home Economics and Art..... | 18.50 | 13.25 |
| Home Economics and Industrial Journalism..... | 18.50 | 13.25 |
| Home Economics and Inst. Economics and Dietetics..... | 18.50 | 13.25 |
| Home Economics and Nursing (five year)..... | 17.75 | 12.50 |
| Industrial Chemistry..... | 15.00 | 13.50 |
| Industrial Journalism..... | 16.50* | 8.00* |
| Landscape Architecture..... | 9.00 | 10.50 |
| Mechanical Engineering..... | 14.25 | 12.75 |
| Milling Industry..... | 16.25 | 16.25 |
| Music Education (not incl. sheet music and private lessons) | 3.50 | 8.50* |
| Physical Education for Men..... | 13.50 | 11.00 |
| Physical Education for Women..... | 12.50 | 12.50 |
| Veterinary Medicine (freshman or second year)..... | 21.50 | 19.50 |

TEXTBOOKS. The cost of textbooks varies considerably from semester to semester and according to the curriculum pursued. The following tabulation shows the approximate cost of books required during the freshman year:

| <i>Curriculum</i> | <i>First Semester</i> | <i>Second Semester</i> |
|--------------------------------------------------------------|-----------------------|------------------------|
| Agricultural Administration..... | \$22.10 | \$12.40 |
| Agricultural Engineering..... | 23.85 | 10.05 |
| Agriculture | 22.10 | 12.40 |
| Agriculture with Landscape Gardening..... | 23.35 | 9.85 |
| Animal Husbandry and Veterinary Medicine (six year).... | 22.10 | 12.40 |
| Applied Music (not incl. sheet music and private lessons), | 15.22* | ..... |
| Architectural Engineering..... | 23.85 | 6.05 |
| Architecture | 31.60 | 5.50 |
| Chemical Engineering..... | 23.50 | 4.55 |
| Civil Engineering..... | 23.75 | 10.15 |
| Commerce | 16.10* | 6.80* |
| Commerce and Accounting..... | 16.10* | 6.80* |
| Electrical Engineering..... | 22.35 | 11.05 |
| General Science..... | 23.65 | 4.55 |
| General Science Pre-Medic and Pre-Pharmacal Adap..... | 21.25* | 4.55 |
| General Science and Veterinary Medicine (six year)..... | 23.65 | 4.55 |
| Home Economics..... | 17.60 | 7.55 |
| Home Economics and Art..... | 17.60 | 7.55 |
| Home Economics and Inst. Economics and Dietetics..... | 17.60 | 7.55 |
| Home Economics and Journalism..... | 17.60 | 7.55 |
| Home Economics and Nursing..... | 17.10 | 6.30 |
| Industrial Chemistry..... | 25.15 | 7.50 |
| Industrial Journalism | 18.00* | 6.25 |
| Landscape Architecture..... | 23.75 | 6.10 |
| Mechanical Engineering..... | 23.85 | 11.30 |
| Milling Industry..... | 18.45 | 12.00 |
| Music Education (not incl. sheet music and private lessons), | 15.00 | 5.00 |
| Physical Education for Men..... | 15.10 | 7.05 |
| Physical Education for Women..... | 16.15 | 7.85 |
| Veterinary Medicine..... | 24.60 | ..... |

LATE ASSIGNMENT FEE. For assignment after the close of the regular registration period the student is charged \$5. *There is no exception to this rule.*

COMMENCEMENT FEE. On graduation and on receiving an advanced degree, students pay a commencement fee of \$7.50 to cover the cost of the diploma and other commencement expenses.

* Approximate figures.

AUDITION FEE. To persons not enrolled in or employed by the College, the fee for auditing classes is one dollar per credit hour of the course audited.

PAYMENT OF FEES. The matriculation fee is paid upon admission to the College. The incidental fee, the student-health fee, laboratory fees, and the student-activity fee are payable at the beginning of each semester.

Students must be prepared to pay these fees in full at the time of registration; assignments cannot be completed without the payment. Checks on out-of-town banks or on local banks are accepted to the amount of the fees.

REFUND OF FEES. *No refund is made on the matriculation fee.* Certain refunds are made on other fees, as shown below, and *no exceptions are made to these rules.*

Refunds are given *only* on the presentation of the fee receipts for various fees paid. Refunds are authorized at the office of the registrar. *Fee receipts must be preserved* by the student. To be accepted, claims for fee refunds must be presented at the office of the registrar not later than the end of the semester or summer school for which the fees were paid.

A student permitted to withdraw before the end of the first week of the semester or summer school may receive a refund of all the fees paid for that semester or summer school. The first week ends at 5 p. m., Saturday, following the first day of enrollment.

A student permitted to withdraw after remaining the first week and less than one-third of a semester or summer school may receive a refund of one-half the fees paid for that semester or summer school.

Refund is made on the unused portion of laboratory fees. All claims for refunds on laboratory deposits must be made within fifteen days of the close of the semester or summer school.

A student dropping music before the end of a semester or summer school may receive a refund of fees paid proportional to the remaining time of the first three-fourths of the semester or summer school; that is, the fees for at least the last one-fourth of a semester or summer school are retained.

DRAWING INSTRUMENTS. In several curricula, especially in architecture and engineering, drawing instruments are required. These range in price from \$7.50 to \$25 a set.

GYMNASIUM SUITS. Each young woman taking physical training must have an approved gymnasium suit costing about \$4.50. Complete gymnasium suits for young men cost about \$5.

MILITARY UNIFORM. Each student who takes military training must have a uniform. For the basic courses the uniform, except shoes, is furnished by the war department. For the advanced courses an allowance is made toward the cost of the uniform used.

ROOMS. Van Zile Hall is available as a residence for 125 women, but other rooms are not furnished by the college. They are readily available in the city. The cost is determined by the location and accommodations offered. For a room suitable for two persons the average cost is from \$6 to \$8 a month for each occupant.

BOARD. The cost of board depends largely upon individual requirements. In clubs and private boarding houses the cost is \$3 a week and upward. Students may board themselves at a smaller money outlay. The College operates a first-class cafeteria, where all meals may be obtained, except on Saturday evenings and on Sundays, at moderate prices. Food is furnished at cost, and the expense to the student depends upon the care and judgment which he employs.

Board and room may be obtained at a minimum cost of about \$4 a week.

LAUNDRY. The expense for laundry may be estimated at 40 cents to 70 cents a week, depending upon individual requirements.

BOARDING AND ROOMING HOUSES

The Christian associations of the Kansas State College keep on file the official list of boarding and rooming houses. All correspondence relative to boarding accommodations, in advance of the student's arrival in Manhattan, may be addressed to the secretary of the Young Men's Christian Association, to the secretary of the Young Women's Christian Association, or to the registrar of the College. Upon arrival in Manhattan young men should go directly to the office of the Y. M. C. A. secretary in Anderson Hall on the College Campus. Young women upon arrival should go directly to the Y. W. C. A. offices in Anderson Hall on the campus. Taxi service may be had from either station.

For three days before the opening of the fall semester and for the first three days after the opening day, committees from these associations meet trains and assist in directing new students, either to the association offices or directly to proper boarding places. The associations make no charge for their services or for lists of all approved boarding places, and new students should depend absolutely upon the recommendations of the association committees.

Van Zile Hall, a dormitory for women students, is located on the campus. It accommodates one hundred twenty-five women. It is a beautifully furnished, well-equipped, fire-proof building of stone. Applications for rooms are considered in the order in which they are received. To validate an application for residence in the Hall a deposit of \$10 is required. This amount is credited on the last payment for room and board, or is refunded provided request is made to the dean of women by August 1. The contract for room and board in Van Zile Hall is for a full semester (eighteen weeks) and the obligation is canceled only for reasons satisfactory to the dean of women. All correspondence in regard to the dormitory should be addressed to "Dean of Women, Kansas State College, Manhattan, Kan."

SELF-SUPPORT

The courses of instruction are based upon the supposition that the student is here for study. Therefore a proper grasp of the subjects cannot be obtained by the average student unless the greater part of his time is given to College work. Students of limited means are encouraged and aided in every possible way, but unless exceptionally strong, both mentally and physically, such students are advised to take lighter work by extending their courses, in case they are obliged to give any considerable time to self-support. As a rule, a student should be prepared with means for at least a semester, as some time is required in which to make acquaintances and to learn where suitable work may be obtained.

There are various lines in which students may find employment. The College itself employs student labor to the extent of about \$6,000 a month, at rates varying from 20 to 35 cents an hour, according to the nature of the employment and the experience of the employee. Most of this labor is upon the College farm, in the orchards and gardens, in the shops and the printing office, for the janitor, etc. Various departments utilize student help to a considerable extent during the vacations. Students demonstrating exceptional efficiency, ability and trustworthiness obtain limited employment in special duties about the College. Many students secure employment in various lines in the town, and some opportunity exists for obtaining board in exchange for work with families either in town or in the neighboring country.

Labor is universally respected in the College community, and the student who remains under the necessity of earning his way will find himself absolutely unhampered by discouraging social conditions. Indeed, over one-third of the students support themselves wholly, while a third support themselves in part. False standards regarding physical work do not exist and are not tolerated by the board of instruction or by the student body as a whole. Absolutely democratic standards prevail at the College, and the students are judged on the basis of their personal worth and efficiency.

Students are assisted to obtain employment by means of the employment bureaus maintained by the Young Men's Christian Association and by the Young Women's Christian Association of the College, with the secretaries of which organizations correspondence is encouraged.

STUDENT LOAN FUNDS

The State Board of Regents has established the following rules covering the administration of student loan funds:

1. The development of sound character in student borrowers as well as the furnishing of financial aid to deserving students shall be regarded as a major purpose in administering student loan funds. Prompt payment of interest and of principal and other essential features of good business procedure shall be required to the fullest practicable extent.

2. When not inconsistent with the terms of the bequest or gift providing a student loan fund, not less than 10 per cent of the annual income from the fund shall be set up as a reserve to cover possible losses of principal, until the total reserve for that fund equals 10 per cent of the amount of the fund.

3. When not inconsistent with the terms of the bequest or gift providing a student loan fund, as much as necessary (but not exceeding 90 per cent) of the annual income from the fund may be used to defray expenses for clerical help, supplies, postage, etc., necessary in administering the fund, but this expense shall not include the services of faculty members, these services being contributed without extra compensation.

4. When not inconsistent with the terms of the bequest or gift providing the loan fund involved, a student loan is to be made only when a note or notes are signed by the borrower and one other responsible person, preferably the borrower's parent or guardian, and this indorser must be recommended by his bank as of good financial standing and as otherwise satisfactory as an indorser.

5. As a general policy, loans will be made only to juniors, seniors and graduate students who have attended Kansas State College for at least one semester and preferably for one year, and who have a scholarship average of at least "C." Departures from this policy will be permissible only in highly exceptional and strictly meritorious individual instances.

The College has established the following rules, among others, as to procedure with reference to all student loan funds:

1. The office of the Executive Secretary of Kansas State College Alumni Association is to be the central office through which all student loan activities are coördinated.

2. To apply for a loan from any of the loan funds, a student must present his request to the Alumni office. The Alumni office will give each such student a card designating the Loan Fund Committee to which he should apply for a loan. Decision concerning the Loan Fund Committee to which application should be made is to be based upon the qualifications of the student for a loan; the loans, if any, previously obtained by the student; the amount available to lend in each fund, and such other matters as may be mutually agreed upon by the chairmen of the committees concerned. The student must present the card from the Alumni office to the chairman or other designated representative of the committee named on the card. The Alumni office will keep a duplicate of every such card issued to students. The committee will retain the card presented by the student and furnish the student with the necessary application blanks, provided it appears worth while for the student to make formal application for a loan.

3. A student who has borrowed from one loan fund shall receive a loan from another fund only after those in charge of the fund from which the first loan was made have had an opportunity to extend an additional loan to the student. If the second loan is made from a fund other than the one from which the first loan was secured, then the first loan shall have priority of payment.

4. The maximum total amount loaned from all loan funds to one individual, under usual circumstances, shall not exceed \$400.

Students wishing loans from any of the funds listed below should apply to Kenney L. Ford, Secretary of the K.S.C. Alumni Association, Room 38A, Anderson Hall.

THE ALUMNI LOAN FUND. The Alumni Association of the Kansas State College has created a loan fund, chiefly from payments for life memberships in the association. Members pay the association \$3 a year, but on payment of \$50 in one sum they are relieved from further dues. If husband and wife are both eligible to membership, joint membership may be obtained by payment of \$75. The fund so created, now amounting with accruals to about \$48,500, is administered by a committee appointed by the directors of the Alumni Association. The committee announces no specific rules governing the granting of loans, but in general gives preference to junior and senior students, and to loans of smaller amounts on short time over larger amounts which cannot be paid for several years. Interest is charged at the rate of six per cent a year. Alumni are urged to take life memberships and thus add to the funds available to worthy students.

Acknowledgment of additions to the Life Membership Fund is made at this place from year to year. Since the last report, up to and including October 20, 1934, the following named persons have completed payments for life membership: Henry W. Allard, Ellen V. Blackwood, Francis E. Charles, William J. Conover, Howard C. Edinborough, Glenn S. Fox, Harvey R. Harwood, Walter D. Hemker, Elston L. Johnson, Emil E. Larson, Marianne Muse, George D. Oberle, Raymond W. O'Hara, Russell H. Oliver, William F. Pickett, Doris E. Prentice, Galen S. Quantic, Vance M. and Annalou Turner Rucker, Harry E. Schaulis, Zepherine Towne Shaffer, Richard W. Stumbo, E. Lynn Watson, and Mabel Shrontz Willis. This list brings the total paid-up life members to 660.

LOCKHART LOAN FUND. The Lockhart Loan Fund is represented by a one-sixth interest in the Lockhart Ranch in Wabaunsee county. This interest was bequeathed to the College by the late George N. Lockhart, who stated that the purpose of the bequest is "to form a fund to assist male students through college by means of loans at a reasonable rate of interest." The annual income from the fund is approximately \$1,000, so that the amount of the fund available for student loans increases at the rate of approximately \$1,000 a year. The fund is administered by a special committee of which Dr. W. E. Grimes is chairman.

THE HENRY JACKSON WATERS LOAN FUND. The Henry Jackson Waters Loan Fund consists of the royalties received from the Kansas sales of Ex-President Waters' textbook, *The Essentials of Agriculture*, for the first five years. The royalties amounted to approximately \$2,000, which sum has been augmented by gifts of \$100 each from Senator Capper and L. R. Eakin and by smaller amounts received from some others. The entire amount, now over \$3,000, is in constant use. The fund is administered by a committee appointed by the president of the College and approved by the Board of Regents. The rules for the loans are likewise approved by the Board. The rules allow emergency loans of \$50 to any student who has completed one semester of work in this college. Juniors may borrow \$100 and seniors may borrow \$150. This fund is administered by Prof. J. O. Hamilton, chairman of the Waters Loan Fund Committee, Manhattan, Kan.

THE 4-H CLUB LOAN FUND. The Collegiate 4-H Club of the College has created a loan fund of approximately \$1,500 to be loaned to deserving students who were former successful 4-H club members. This fund is loaned in units of \$50, drawing interest at 6 per cent per annum. The fund has been created by the efforts of the members of the Collegiate 4-H Club in editing and publishing the "Who's Whoot," the annual 4-H Club Book of Kansas. It is hoped that the fund will increase in size from year to year and that it will

prove helpful to deserving 4-H Club members attending college. The fund is administered by the K.S.C. Alumni Association in coöperation with the Collegiate 4-H Club.

THE STATE FEDERATION OF WOMEN'S CLUBS LOAN FUND. Each year several of the young women students of the Kansas State College are beneficiaries of the State Federation of Women's Clubs through the administration of its liberal Young Women's Student Loan Fund. Information regarding this fund can be obtained by addressing Dean Mary P. Van Zile, Manhattan, Kan.

THE P. E. O. LOAN FUND. The P.E.O., a national organization of women, maintains an education fund to be loaned to girls to help defray college expenses. Information regarding this fund may be obtained from Dean Mary P. Van Zile.

THE SOCIAL CLUB LOAN FUND. This is a fund loaned by the K.S.C. Social Club and is administered by the Waters Loan Fund Committee.

THE D. A. R. LOAN FUND. The D.A.R. Loan Fund is a fund available to both men and women students and is administered by the Waters Loan Fund Committee.

THE WOMEN'S PAN-HELLENIC LOAN FUND. The Alumnæ Pan-Hellenic Fund is loaned to women students. Applications should be made to the president, City Pan-Hellenic, through Dean Mary P. Van Zile.

THE WOMAN'S CLUB LOAN FUND. This is a fund established by the Woman's Club of Manhattan, and is available to both men and women students. This loan is administered by the Waters Loan Fund Committee.

THE AMERICAN ASSOCIATION OF UNIVERSITY WOMEN LOAN FUND. The Manhattan branch of the American Association of University Women maintains a small loan fund which is available to a graduate woman student enrolled in any department of the College recognized by the Graduate Council. Applications for this loan should be made to the chairman of the Graduate Loan Fund Committee of the Manhattan branch of the American Association of University Women.

THE BELLE SELBY CURTICE LOAN FUND. Mrs. Belle Selby Curtice, a graduate of the class of 1882, established a loan fund of \$1,000 in memory of the influence and inspiration the College has given her life. This fund is available to young women in the curriculum in Home Economics and is administered by the Waters Loan Fund Committee.

MASONIC LOAN FUND. The Knights Templar Commandery has established a loan fund that is available for junior and senior men and women who have given evidence of scholarship and worth. Applicants should seek recommendations from the commandery with whose members they may be acquainted.

FRANKLIN LITERARY SOCIETY LOAN FUND. The Franklin Literary Society has established a loan fund which is available to members of the society. It is administered by the Waters Loan Fund Committee.

THE ORDER OF THE EASTERN STAR LOAN FUND. This fund is open to members of the Order of the Eastern Star and to sons and daughters of members of that organization. Loans are made from this fund to college juniors and seniors. Applications for loans are passed upon in August for the first semester and in January for the second semester. Applications should be filed well in advance of these months. Information may be obtained through the Grand Secretary, The Order of the Eastern Star, National Reserve Building, Topeka.

PRIZES AND MEDALS

STOCK JUDGING. The Block and Bridle Club offers four medals, one gold, one silver, and two bronze, to students obtaining the highest four places in the club's stock-judging contest.

DAIRY JUDGING. The Student Dairy Club each year holds a dairy-judging contest, and offers a gold, a silver, and a bronze medal to students obtaining the highest three places.

POULTRY JUDGING. The Department of Poultry Husbandry offers prizes to the value of \$100 to students in poultry-judging contests.

GRAIN JUDGING. The Klod and Kernel Klub holds an annual grain-judging contest. Cash prizes, trophies, merchandise, and subscriptions to farm papers are given to the highest ranking students.

ARCHITECTURE. The American Institute of Architects offers a medal to the senior architect showing the highest degree of general excellence. The faculty of the Department of Architecture offers prizes of books to those freshmen, sophomores, and juniors who do the best work.

Alpha Rho Chi, national social fraternity of architecture, awards a medal to the graduating senior of the Department of Architecture who has shown through his attitude and personality the greatest ability for leadership, service for his school and department, and real professional merit.

CIVIL ENGINEERING. The Kansas section of the American Society of Civil Engineers offers payment of the initiation fee into the American Society of Civil Engineers to the senior civil engineer making the highest grades during his senior year.

ELECTRICAL ENGINEERING. Two medals, first (gold) and second (silver), are awarded those seniors who have made the best records in twenty hours of certain fundamental, required electrical engineering subjects. Also, two medals, first (gold) and second (silver), are awarded to the ranking juniors who have completed not less than eighty semester credits of the required electrical engineering curriculum.

MARGARET RUSSEL SCHOLARSHIP AWARD. Phi Alpha Mu, the honor society for women taking work offered in the curriculum in general science, awards \$50 each year to the junior young woman enrolled in the curriculum in general science who had the highest scholastic standing at the close of the second semester of the previous college year. To be eligible for this award the student must have done her sophomore work in the Division of General Science at the Kansas State College.

OMICRON NU SCHOLARSHIP AWARD. Omicron Nu, the honor society of the Division of Home Economics, grants annually a prize of \$10 to the young woman achieving highest rank in scholarship among the freshmen of that division.

SIGMA TAU SCHOLARSHIP AWARD. Sigma Tau, the honor society in the Division of Engineering, awards annually medals to the three sophomore engineering students making the highest scholastic records in their freshman year.

COMMERCE. The Alpha Omega chapter of Alpha Kappa Psi, professional commerce fraternity, offers a scholarship medallion annually to the student who makes the highest scholastic record among all junior men enrolled in the curriculum in commerce.

SHORT-STORY WRITING. The Quill Club offers annually \$10 to the student of Kansas State College writing the best short story in a contest held by this organization.

JOURNALISM. The outstanding student in Agricultural Journalism each year is honored by having his name engraved upon one of the several small shields surrounding a larger shield which bears these words: "Recognition for superior attainments in Agricultural Journalism. Presented by Arthur Capper to students in the Department of Industrial Journalism and Printing, Kansas State College."

ORATORY. The literary societies through the Inter-Society Council offer each year in the Inter-Society Oratorical Contest three substantial cash and medal prizes.

The College is a member of the Missouri Valley Oratorical Association and is represented in its annual contest in which valuable cash and medal awards are offered.

Other contest opportunities of an inter-collegiate character and carrying substantial awards are available from time to time.

SOCIOLOGY. The Kappa Alpha Chapter of Chi Omega Sorority offers a prize of \$25 to the woman student who holds the highest grade in sociology at the end of the first semester each year, the standing of the student to be determined by the instructor.

VETERINARY MEDICINE. Within the Division of Veterinary Medicine awards are made as indicated below:

Harwood prizes in physiology—donated by Dr. N. D. Harwood, K. S. C., '18—consist of a first prize of \$10 and a second prize of \$5. Sophomore students are eligible.

Salsbery prizes in therapeutics—donated by Dr. C. E. Salsbery representing the alumni of the suspended Kansas City Veterinary College—consist of a first prize of \$10 and a second prize of \$5. Junior students are eligible.

Franklin prizes in pathology—donated by Dr. O. M. Franklin, K.S.C., '12—consist of a first prize of \$10 and a second prize of \$5. Senior students are eligible.

Schmoker prizes in general efficiency—donated by Dr. E. A. Schmoker, K. S. C., '17—consist of a first prize of \$10 and a second prize of \$5. Senior students are eligible.

Bower prizes in pet animal medicine—donated by Dr. C. W. Bower, K. S. C., '18—consist of a first prize of \$10 and a second prize of \$5. Senior students are eligible.

SCHOLARSHIPS

DEBATE. In the Department of Public Speaking two scholarships of the value of \$100 each, one for men and one for women students, are offered annually for proficiency in intercollegiate debating.

FOR 4-H CLUB MEMBERS. The Union Pacific System offers \$100 scholarships to winners in 4-H Club work (in 36 counties named), the money to be used to enroll for a full-term course in agriculture, veterinary medicine, or home economics.

Senator Arthur Capper of Topeka, Kansas, offers \$300 annually for the purpose of providing two 4-H Club scholarships of \$150 each for any full-term course at the Kansas State College. One of these scholarships goes each year to the boy standing highest and the other to the girl standing highest in the 4-H leadership project in Kansas.

FOR WORLD WAR VETERANS AND THEIR DESCENDANTS. The trustees of the estate of LaVerne Noyes award to the Kansas State College annually six scholarships which cover the cost of matriculation fees, incidental fees, and laboratory charges only. These scholarships are available, with certain reservations, to deserving students who need this assistance and who served in the army or navy of the United States between April 6, 1917, and September 11, 1918, or descended by blood from some one who so served. Enlistments must have been made previous to May 11, 1918, unless active over-sea, pre-armistice service was rendered. Applications for these scholarships should be made through the student's dean.

GRADUATE ASSISTANTSHIPS

Graduate assistantships and graduate research assistantships have been established for some years by action of the Board of Regents, and are available in several departments of the College. See Division of Graduate Study.

BUSINESS DIRECTIONS

General information concerning the College may be obtained from the president or the registrar. Financial matters are handled through the office of the business manager, State Board of Regents, Topeka, Kan.

Prospective students desiring information or catalogues should address the vice president's office.

Scientific and practical questions and requests for special advice in subjects in which the College and the Experiment Stations are prepared to give information, should be addressed to the heads of the departments concerned with the work regarding which information is sought.

Applications for farmers' institutes should be made as early in the season as possible, to the Division of Extension. Applications for the publications of the Agricultural Experiment Station should be addressed: Director of the Agricultural Experiment Station, Manhattan, Kan. Publications of the Engineering Experiment Station may be had by addressing: Director of the Engineering Experiment Station, Manhattan, Kan.

Donations to the Library should be addressed to the librarian, and donations to the Museum to the curator of the Museum.

COLLEGE PUBLICATIONS

The official organ of the College is *The Kansas Industrialist*, published and printed at the College weekly by the Department of Industrial Journalism and Printing. Its pages are filled with articles of interest, with special reference to agriculture and the industries. Particular attention is paid to information concerning the work of the College, to investigations of the Experiment Stations, and to local and alumni news. *The Kansas Industrialist* will be sent to any address for \$3 a year. The alumni having active membership in the Alumni Association receive *The Kansas Industrialist* free of charge.

The Kansas Agricultural Student is issued monthly by the Division of Agriculture and the Division of College Extension.

The students of the College publish a semiweekly periodical, *The Kansas State Collegian*, in the interests of the students at large. *The Kansas State Engineer* is published by students in the Division of Engineering. *The Home Economics News* is published quarterly by the faculty and students of the Division of Home Economics. A College annual, *Royal Purple*, is published each year by the Student Governing Association.

MOTOR CAR PARKING REGULATIONS

PUBLIC PARKS. Two public motor-car parks have been provided for general use by students, faculty members, employees, and visitors. One of these is northwest of Engineering Hall and the other is north of Waters Hall. No permits are required for the use of these parks but cars must be so parked as not to interfere with the free movement of other cars into and out of parking spaces.

RESTRICTED PARKS. To accommodate crippled students and others having special need for parking spaces, a few small motor-car parks have been provided and permits for the exclusive use of these parks are issued when necessary. Each stall is assigned to a certain car and may be used by that car only. Cars must be so parked as not to interfere with the free movement of other cars into and out of the stalls.

PARKING ON DRIVEWAYS. No parking is permitted on the driveways except during public exercises. During such public exercises and for a short time be-

fore and after them, cars may be parked on the driveways provided they are so parked as not to interfere with either vehicular or pedestrian traffic.

In the interest of safety, the good appearance of the campus, and the general welfare of the college community, the coöperation of students and faculty in the observance of these regulations is requested. Furthermore, the handling of the parking problem will be greatly simplified if students and faculty members who come to the campus in motor cars will make extensive use of the streets adjacent to the campus for parking purposes.

COLLEGE ASSEMBLY

The College Assembly is held one hour each week. The library, offices, classrooms, and laboratories are closed and the students and faculty gather in the College Auditorium. These assembly exercises consist of devotional services, music and addresses. The devotional exercises are conducted by members of the faculty, by resident ministers of the various denominations, or by prominent visitors. Excellent music is provided by the College Orchestra, by members of the Department of Music, and by available outside talent. In addition to the addresses delivered by the president and by members of the faculty, many prominent leaders of state and national reputation are invited to address the assembly. Thus the Assembly has become a center of true culture and enlightenment. Although attendance is not compulsory it is common to see nearly two thousand students present during these exercises.

COLLEGE POST OFFICE

The College operates an office for the reception and delivery of mail. This is not a part of the United States postal service, but students and College officers may have their mail delivered there. Mail is received from the Manhattan post office twice a day. Matter may be deposited for insured and registered mail, and postage stamps may be procured, but post-office orders cannot be obtained.

The chief purpose of this office is to facilitate intercommunication of College departments and communication of deans and teachers with students. All students are expected to call for their mail at least once each two days and preferably every day.

APTITUDE TESTS FOR FRESHMEN

Aptitude tests of all freshmen have been conducted here since 1919. In recent years, examinations of this character have been given quite generally in educational institutions. The tests required in this college occupy only about three hours. These tests are designed to ascertain what features of the student's mental endowment and attainments are strongest. The results are very helpful to deans and advisers in judging the intellectual progress of students, and in giving them counsel concerning occupational aptitudes. They are also of assistance in placing students or graduates in positions.

ASSIGNMENTS

The student, primarily, is responsible for seeing that he conforms to the requirements of the curriculum for which he is enrolled. His assigner and his dean will assist him in planning his work, but are not responsible for his errors. The catalogue is the authentic source of information. College officers try to see that requirements are complied with, but if they fail, the student is not thereby relieved. All of the catalogue statements concerning assignments, and the student's curriculum, should be read.

No student may be enrolled in classes or for private lessons in music or other subjects before receiving an assignment, and no assignment is completed until after the incidental fee and any special fees or charges are paid.

Assignments at the dates shown in the College calendar are made in Nichols Gymnasium, where detailed directions are announced by placards. Later as-

signments are made by the student's assigner during regular office hours, but are subject to checking by the registrar in respect to availability of classes. Classes are closed when the limits as to numbers are reached. A student is not admitted later than ten days after the opening of the semester except by special permission of his dean. An extra fee of five dollars is charged for assignments secured after the last period provided for assignment of students at the opening of each semester as announced in the College calendar.

A student desiring to take work at any other than the regular time must obtain the written consent of his dean, the head of the department in which the work is to be done, and the dean of the division to which the department belongs.

Each student must take full work unless excused by his dean, and more than regular work is not allowed to any student except by permission of his dean, and under no circumstances to anyone who failed or was conditioned or deficient in any subject the preceding semester, or whose average grade was below B.

A student is not allowed to carry work by correspondence while enrolled here, except by permission of his dean.

Special requests concerning assignments, and permission to make up deficiencies by outside study under an approved tutor, are acted upon by the student's dean in conference with the heads of the departments involved.

CHANGES IN ASSIGNMENTS

Subjects are not dropped from assignments within two weeks preceding the close of a period covered by midsemester or final scholarship-deficiency reports.

No student may drop a study or modify his assignment except by a re-assignment, and any student desiring a change in his assignment must apply to his dean. Any change in a student's assignment is made in the office of his dean. Teachers desiring that assignments be changed send requests to the proper deans. Notices of changes are furnished the registrar, the student, and the student's assigner. Changes are effective at once, and the registrar, through the heads of departments, sends notices or enrollment cards to the teachers affected.

A student receiving a notice of reassignment must at once report to classes in accordance therewith. If not content with the revised assignment, he may confer with his dean concerning it. All absences caused by a student's dropping out of class without a proper reassignment are reported by the instructor as unexcused absences.

AUDITING CLASSES

Auditing a class consists in attending it regularly without other participation, and without credit. Only persons having written permits may audit classes. Permission to audit is issued to (a) any person who is enrolled for credit, by the dean in charge of his assignment; (b) an employee of the College not enrolled for credit, by the dean of the division in which the person is employed with approval of the head of the department in which the course is offered; (c) any other person, on payment of a fee of one dollar per credit hour, by the dean of the division in which the course is offered with the approval of the head of the department. Laboratory courses may not be audited.

SCHOLARSHIP DEFICIENCIES

Any freshman student who receives deficiencies (grades of F or Con.) in one-third of the work to which he is assigned, or any other student who receives deficiencies in one-fourth of his work, at the end of the semester, is automatically placed on probation for one semester and the parent or guardian of the student is informed of the fact. A third such probation automatically includes dismissal from the College.

Any freshman student who receives deficiencies in one-half of his work, or any other student who receives deficiencies in two-fifths of his work, at the end of the semester, is automatically dismissed from the College. The deans

notify parents and guardians of the fact when students are dismissed or put on probation on account of scholarship deficiencies.

Students dismissed at the end of the first semester are excluded until the beginning of the next summer session. Those dismissed at the end of the second semester are excluded till the end of the next fall semester. During this period of dismissal the student must not habitually appear upon the campus nor enter any classes. Any student dismissed for scholarship deficiencies may petition in writing, on a form provided by the College, for immediate reinstatement. Petitions presented by such students are considered by a committee appointed for that purpose. Reinstatement is granted only in exceptional and meritorious cases.

ABSENCE AND TARDINESS

Each student must appear at the first exercises of his classes after he is assigned. Students must be present on the very first day of each semester or render a reasonable excuse. All absences are reported from the first day of the semester, even though the student enrolled late. Failure to take out an assignment is not accepted as an excuse for absence from classes. A student is not admitted later than ten days after the opening of the semester except by special permission of his dean.

Each student is required to attend every exercise of a class to which he is assigned, unless exempted under the provision that a junior or senior student is given the privilege of optional attendance at class exercises if, during the last two semesters he attended this College, he made not fewer than thirty points each semester, with an average record of not fewer than two points per credit hour each semester and no grades below passing.

All absences and all cases of tardiness must be promptly accounted for on the "absence blanks." Permission for necessary absences from College for a day or more must, in all cases, be previously obtained from the dean. Any student present at College and desiring to be excused for the day from certain classes must apply in advance to the teachers of those subjects.

The student's attendance record is considered by each instructor as an important factor in determining the grade given in a subject.

The class record of attendance is marked immediately after the beginning of the class period. For students who come in late the record of absence may be changed to that of tardiness, but the teacher is not obliged to make such change unless the student on the day of tardiness hands to him at the close of the hour, on the "absence blank," a statement that he was present. In such a case the record is changed to agree with the facts. When a student who has been absent from College because of sickness returns, he must present to each instructor a certificate of good health from the College physician before he is permitted to remain in any classroom. The aim is to prevent the spread of any contagious disease.

Any class is excused if for any reason the instructor fails to report at the end of ten minutes after the beginning of the recitation period, unless the instructor sends word that he will be there later.

Signed reports of absences for each day are sent to the deans by the teachers before 5 o'clock p. m. Excuses submitted by students are transmitted with a recommendation in respect to excusing the absence. Action concerning excuse for absence is taken by the student's dean. Excuse for an absence does not relieve the student from responsibility for lecture, recitation or laboratory work lost while absent.

Any student who is found to be persistently inattentive in his College work is at once temporarily suspended by his dean, and reported to the president for permanent suspension.

EXAMINATIONS

Final examinations are held during the last four days of each semester, according to a definite schedule; for students who are to be graduated at the close of the semester, the examinations are given earlier, usually at the regular hours for the respective courses.

No regular examination may be given at a date in advance of that provided except that, at the discretion of the head of the department, a student may be permitted to take his examination with another class in the same subject instead of his own class, and that in cases of extreme importance the dean of the student may authorize an examination at an earlier date.

Any student who receives a grade of A for the semester, in any subject, and whose absences for all causes from the class in that subject do not exceed one-tenth of the number of times the class is scheduled to meet during the semester, may be excused from the final examination in that subject, at the discretion of the instructor; provided, however, that instructors are to announce such exemption lists in their respective subjects not earlier than the last session of the class preceding the final examination.

Examinations to remove conditions are held on the fourth Saturday of each semester. A student who has received the grade of Con. is entitled to take such conditional examination, provided the instructor or the department head be notified of the student's desire to take the examination not later than the Tuesday evening preceding the Saturday set for the examination. If a subject in which a student is conditioned is not passed at the first opportunity, the grade is changed from Con. to F, except that in individual instances, where the reason is sufficient, the student's dean may authorize such examination at a date different from that provided by the rule.

Permission for examination in subjects not taken in class or to make up failures by special examination must be obtained, on recommendation of the professor in charge, from the dean of the division in which the student is assigned. Permission to take such examination is not granted unless the preparation for it is made under an approved tutor. All such examinations are under the immediate supervision of the professor in whose department the subject falls.

Examinations in high-school subjects for admission to the College are held at the beginning of each semester and of the summer school. Students desiring such examinations should consult the registrar in advance.

GRADES

Student grades are designated by A, B, C, D, Con., and F, having the following significance and order of rank:

The grade A designates really distinguished achievement, and is the net resultant of exceptionally good mental ability in conjunction with serious application. It is expected that this grade will not include more than ten per cent of all grades given a class, and usually will include about five per cent.

The grade B represents superior achievement, better than that exhibited by the average student, but not distinguished. It is recognized as a mark of considerable honor and is the resultant of high ability and fair application, or of fair ability and serious application. The percentage of students assigned this grade will depend somewhat on the number assigned grade A, but the sum of grades A and B should approximate twenty-five per cent of all grades assigned.

The grade C represents the standing of about half of all students in the College. It means achievement equal to that of the average of students, and includes about half of all student grades. It indicates neither superior nor inferior accomplishment.

The grade D, meaning passed, represents achievement of a grade below that of the average of students. It indicates a student's position as being in the upper part of the lower fourth of the class, and his work as being such as may be described as poor, or inferior. The number of grades D awarded, together with the grades Con. and F, should not, on the whole, exceed twenty-five per cent of all and are expected to include about that proportion.

The grade Con., meaning conditioned, is the symbol used to represent work which is deficient in quality. The result of examinations to remove conditions are reported simply as D (passed) or F (failed). In case such examinations are not taken at the first opportunity offered, the grade Con. automatically

becomes an F, unless in the meantime the student has reënrolled in the course, in which case the Con. shall not become an F if the student completes the course satisfactorily.

The grade F, meaning failed, is used to indicate work that is so unsatisfactory as to require that the work be repeated in class or under an approved tutor.

Inc., meaning incomplete, is reported when, in the judgment of the instructor, the student deserves further time to complete work which has been interfered with by illness or other excusable cause of absence or disability. Inc. is also reported when the work of the student is satisfactory as to quality but inadequate as to quantity. This is only a temporary report and in no way prejudices the student's final grade in a course. Incomplete work for which a grade of Inc. has been reported, if not made up within the first semester the student is in attendance, automatically becomes an F. However, extensions of time may be made in meritorious cases by the dean concerned, provided notice of such extension is sent by him to the registrar within the "first semester" time limit.

The distribution of grades indicated above applies to large numbers, at least a hundred or several hundred, and is not necessarily true of small numbers. It is not a foregone conclusion, for example, that one in a class of twenty must fail nor even that one in the class must have an A grade. In a small group the chances are very much greater that there may be a departure from the normal. If there be such a departure it should of course be recognized in the grades issued. In the long run the accumulated grades for a series of small classes should, however, approach the normal distribution.

REPORTS OF GRADES

On the fifth Saturday and the ninth Saturday of each semester, not later than 6 p. m. of the last day of the first semester, and not later than 6 p. m. of the day after the close of the second semester, reports of all grades below passing at those dates are sent to the students and the deans. The dates are shown in the College calendar, and these reports are an imperative duty of all teachers. The first two of these reports are made in percentages on a scale of seventy for passing. The reports at the end of the semester are on the letter system in use.

Students desiring reports of intrasemester grades must supply their teachers with properly filled officially provided cards between the fourth and the eleventh days after the fifth or the ninth Saturday of a semester. Reports so requested are to be made by the teachers, and may be sent to the students or student organizations through the College post office, or otherwise.

The instructor prepares for each student a semester grade based on the examination and class work, and is required to report this to the registrar for record within two weeks after the close of the semester. If a student goes through the first half of the semester, but not the second half, a half-semester grade is reported for record, and designated as such. If the student drops out of College before midsemester a grade of Wd (withdrawn) is reported for each subject, irrespective of the standing of the student in the subject. However, regardless of the time of withdrawal, if all the required work of a course has been completed, a final grade shall be reported.

If a student drops a subject before midsemester a grade of Wd is reported. However, subjects are not dropped from assignments within two weeks preceding the close of a period covered by midsemester or final scholarship-deficiency reports. A subject dropped at any time after midsemester on account of failure is given a semester grade of F.

The result of an examination to remove a condition is reported in quadruplicate to the dean of the student, who transmits copies to the registrar, the student, and the student's assigner. The same procedure is followed in reporting grades to replace "Inc.'s" and in reporting corrections of grades.

In case of absence from the final examination at the end of a semester, a semester grade is not reported until the reason for such absence has been

learned; and if the absence is excused or excusable, a reasonable time, usually not over one month, is allowed within which the examination may be taken. In such cases, however, within two weeks after the end of the semester the teacher reports to the registrar a mark of Inc. with a grade for the first half of the semester. If the student's absence is inexcusable a semester grade is reported on the basis of zero for the final examination.

Students in laboratory and industrial work must put in at least four-fifths of the required time in order to get a passing grade in the subject. Should the required time minimum not be reached a mark of Inc. is reported if the quality of the work done is satisfactory and one of F if it is unsatisfactory.

Instructors are enjoined to leave all class books on file in the proper department or with the president of the College when severing their connection with the institution.

THE POINT SYSTEM

For each hour of work assigned, the student receives points, according to the grade attained, on the following scheme: Grade A, 3 points; B, 2 points; C, 1 point; and D (or lower), no points. For graduation the total requirement in points is the same as in hours. Above the freshman year classification is based on the same requirement in points as in hours.

Seniors meeting the graduation requirements in hours but failing to meet it in points are required to take further courses designated by the dean of the division in which their major work lies, until the requirement in points is met.

CLASSIFICATION OF STUDENTS

New students are classified by the Committee on Admission. To be classified as a freshman on entrance one must have been graduated from an accredited high school, or offer fifteen units of acceptable high-school work. One offering fourteen acceptable high-school units is classified as a conditioned freshman. A student is not advanced in classification until the required entrance units are completed. A student is classified as a sophomore, junior or senior when he attains credit in a number of hours and also of points nine less than the full number of hours required in one, two or three years, respectively, of the curriculum in which he is enrolled. Reclassification of students is made by the registrar each academic year previous to the opening of the first semester.

CREDITS FOR EXTRACURRICULAR WORK

Credit toward graduation may be obtained through satisfactory performance of the duties of certain activities not included in the requirements of any curriculum. These subjects and the limitations upon the semester hours of credit that may be so obtained are as follows:

| Subject | Per Semester | Total |
|----------------------------------------|--------------|-------|
| Orchestra | ½ | 4 |
| Band | ½ | 4 |
| Choral Ensemble..... | ½ | 4 |
| Debate | 2 | 4 |
| Oratorical Contest..... | 2 | 4 |
| Kansas State Collegian journalism..... | 1 | 4 |
| Home Economics News journalism..... | 1 | 4 |
| Agricultural Student journalism..... | 1 | 4 |
| Kansas State Engineer journalism..... | 1 | 4 |

To obtain credit on one of these subjects, the student must be regularly assigned to it in accordance with the general rules governing assignments, but may be assigned only upon the written recommendation of the instructor in charge of the work. This recommendation is filed in the office of the student's dean, and is effective until revoked.

Credits obtained in the above-named subjects may be counted as electives in the student's curriculum, or may be formally substituted for required subjects if the curriculum does not offer sufficient elective opportunity. Approval

as electives or substitutions is obtained only through the regular procedures. A total of not more than eight semester credits may be allowed a student for these subjects, and not more than two of these may be obtained in any one semester.

BIBLE STUDY

Bible study is an elective. Two semester credits are granted for each completed one-year course. Credit may be granted to any one student for not more than two courses. Teachers of classes are to be approved as tutors, and the supervision of the work is placed in the Department of Education. This department also conducts the examination for credit in Bible study.

COURSE NUMBERS

Each course offered bears a number indicating in a general way the standing of students for whom it is given. Courses for undergraduates bear numbers 101 to 199, courses for undergraduates and graduates bear numbers 201 to 299, and courses for graduates only bear numbers 301 to 399. The numbers 1 to 29 were applied to studies offered for short-course students, the numbers 31 to 49 are assigned to Summer School subjects not taught for entrance credit or for College credit, and subjects which give credit for admission to the College are numbered 51 to 99.

In applying this system, the courses offered by any department are numbered independently of all other departments of the College.

CLASSES

The minimum numbers for which classes are organized are as follows:

| | |
|--------------------------------------|----|
| Freshmen | 10 |
| Sophomores, juniors, or seniors..... | 7 |

This rule is varied only by special permission of the Board of Regents.

THE STUDENT GOVERNING ASSOCIATION

The governing association of the student body was organized in the spring of 1919, as the Student Self-governing Association, and reorganized in the spring of 1926 as the Student Governing Association.

The executive council of the association consists of seven members, elected each spring for the following school year by the student body as a whole. The council discharges all executive functions of the association, and sits as a court in disciplinary cases. Actions of the council are subject to approval by the faculty council. In cases of disagreement which are not compromised successfully, the decision of the president of the College is final.

Officers of the association are a president, vice president, secretary, and treasurer, elected by the council. Though the council sits as a committee of the whole in all its affairs, certain members are put in charge of certain activities, such as discipline, social affairs, etc. Membership in the student association is contingent upon payment of the student activity fee.

THE CHRISTIAN ASSOCIATIONS

The Young Men's Christian Association and the Young Women's Christian Association are organizations of the greatest worth and value in the College community, forming centers of moral culture and religious stimulus among the young men and women during their development period. As is well known, the Christian associations in colleges stand for the best ideals among the students, and are always accorded the cordial support of the authorities. In addition to general moral and spiritual development, the college Christian associations have a practical and efficient influence among the students in many directions.

THE YOUNG MEN'S CHRISTIAN ASSOCIATION

The College Y. M. C. A. has always been a strong and influential body among the students. All young men of the College are welcome in membership of the organization. No fixed fee is charged, each member giving whatever he feels able to afford. The work of the organization is carried on by a student cabinet, which is composed of the chairmen of the standing committees and officers. Each year there is organized a freshman commission for the benefit of the new men, especially those who have had Hi-Y experience. One of the useful and practical features of the Y. M. C. A. is the students' employment bureau, which is maintained for all students seeking employment. Especial attention is given the new students on and after arrival in helping them to find rooms and boarding places and to get the right start in College life. The association maintains a regular secretary, with whom prospective students are cordially encouraged to correspond. Address, General Secretary, Y. M. C. A., Kansas State College, Manhattan, Kan.

THE YOUNG WOMEN'S CHRISTIAN ASSOCIATION

Similar in aim and purpose to the organization of the young men is the Young Women's Christian Association. Anderson Hall is the headquarters of the association, to which all young women of the College are at all times cordially welcome. An office for the general secretary and rest rooms for the young women are maintained in this building during the College year.

An employment bureau for women students is maintained by the general secretary, without charge to its beneficiaries. Various committees are responsible for the lines of work of the association. At the opening of the College semesters the incoming trains are met by "Big Sisters" who assist new women students, the "Little Sisters," in securing suitable lodging and boarding places. If any prospective woman student will write to the general secretary of the association, her "Big Sister" will correspond with her during the summer vacation.

During the College year various social functions are given for the young women. The first of these is an informal reception to enable the College girls to become acquainted with one another. Once each year the two Christian associations entertain jointly.

The religious life of the young women is fostered by the weekly vesper services held in Recreation Center. The different churches of the city extend a cordial welcome to the College women, and through the efforts of the association they are encouraged to active participation in the services of the church of their choice.

THE NEWMAN CLUB

The Newman Club, an organization of Catholic students, holds meetings devoted to religious study on alternate Sundays. This work is carried on under the local pastor. The College authorities recognize this Bible study by allowing a two-hour credit for it when duly certified. In further recognition of the club's efforts, the College has placed a set of the Catholic Encyclopedia in the library, where there is also a comprehensive selection of Catholic books and pamphlets purchased by the club. In addition to the meetings devoted to religious study, social meetings are held.

The club is affiliated with the national organization of Newman clubs of the state universities and colleges. Its aim is to foster sound morality, to develop character, and to promote the knowledge and practice of their faith among Catholic students.

LITERARY SOCIETIES

The literary societies of the College, eight in number, are wholly student organizations, holding weekly meetings in the College buildings. The Alpha Beta and Franklin literary societies are open to both sexes; the Ionian, Eurodelphian, and Browning societies admit only young women to membership; the Webster, Hamilton, and Athenian societies admit young men only. Stu-

dents are encouraged to join one of these organizations for the sake of practice in the use of language, training in debate, and general experience in conducting meetings and in dealing with their fellows. These societies jointly maintain a debating council which coöperates with a faculty committee in arranging for all intercollegiate and interstate debates participated in by representatives of the College. The oratorical board, similarly maintained by these societies, arranges for the intersociety oratorical contest.

COSMOPOLITAN CLUB

A chapter of The Association of Cosmopolitan Clubs in Universities and Colleges of America is maintained at Kansas State College. The active membership is composed of foreign and American students in equal numbers, and is open to both men and women. A limited number of faculty members are admitted to associate membership. The objective of the club is the promotion of international understanding through friendship between the nationalities represented on the campus. Motto—"Above All Nations Is Humanity."

SCIENCE CLUB

The Science Club, meeting monthly, is an organization of instructors, students and others interested in science. Its programs include popular lectures by prominent men of science, and papers giving the result of research work at the College. The meetings are also characterized by free discussion of the subjects presented.

AGRICULTURAL SOCIETIES

The Agricultural Association meets during regular agricultural seminar periods. Special meetings are held at the call of the president of the association. All resident students enrolled in the Division of Agriculture are members. The objectives of the association are to encourage and support divisional activities; to correlate the work of various clubs and other organizations of students within the division; and, in general, to have leaders elected and authorized to speak for the student body of the division at all times.

The Agricultural Economics Club meets on the second and fourth Tuesdays of each month. Membership is open to students enrolled in the curriculum of agricultural administration, to majors in agricultural economics, to graduate students majoring or minoring in agricultural economics, and to members of the faculty whose work lies within the field of agricultural economics. The objectives of the club are to promote interest in agricultural economic topics and to further the acquaintanceship of faculty and students. Faculty members and outside speakers are usually secured for programs. Some social meetings are held each year.

The Alpha Mu Club meets on the second Monday of each month during the college year. Its object is to promote interest in milling and its closely associated fields, by bringing the milling industry in closer contact with the school. Membership is open to those taking the milling industry curriculum, the milling faculty, and others closely associated to the milling field. Outside speakers are frequently secured for programs.

The Block and Bridle Club meets on the first and third Tuesdays of each month. Membership is open to students majoring in animal husbandry and to students signifying their intention of majoring in animal husbandry. The object of the club is to promote the interests of animal husbandry in the College and in the state. Live-stock problems of all kinds are discussed, and the members of the faculty and outside speakers are secured for addresses on special topics.

The Dairy Club meets on the second and fourth Tuesdays of each month. Membership is open to anyone who is taking any four-year curriculum in the Division of Agriculture and also to anyone actively engaged in dairy work at the College. The object of the organization is the furtherance of dairying in Kansas. Current topics and records of the dairy breeds are read and lectures on special subjects are given by faculty and outside speakers.

The Horticultural Club meets the first and third Mondays of each month during the College year. Its object is to promote the horticultural interests of the state and to afford opportunity for students to improve their knowledge of horticulture. Faculty members and students of the College interested in horticulture are eligible for membership. Students present the majority of the programs.

The Klod and Kernel Klub meets on the second and fourth Tuesdays of each month. Membership is open to junior and senior agronomy students and members of the agronomy faculty. The object of the society is to arouse more interest in agronomic work and to help students and faculty members of the Department of Agronomy to become better acquainted. Faculty and outside speakers are secured for programs.

ENGINEERING SOCIETIES

The students in agricultural, civil, electrical, and mechanical engineering are organized as student branches of the American Society of Agricultural Engineers, the American Society of Civil Engineers, the American Institute of Electrical Engineers, and the American Society of Mechanical Engineers, respectively. The Architects Club conducts the meetings of the students in architecture.

The purpose of these various societies is to acquaint the students with the latest development in the fields of engineering and architecture, to give them more definite ideas as to the opportunities in their professions and the requirements for success in their professions, to promote acquaintance and fellowship among the students, and to further the interest of the Division of Engineering in the College and the state.

GENERAL SCIENCE SOCIETIES

The Popenoe Entomological Club meets twice a month. The object of the club is to promote interest in entomological work at the College. Membership is open to students and faculty members interested in insects. Entomological topics are discussed by members of the club and outside speakers. Occasional field trips are sponsored by the club.

HOME ECONOMICS SOCIETIES

The Home Economics Association is an organization in which membership is open to any student in the Division of Home Economics.

Its purpose is to promote professional interest by means of social contact and through talks by leaders in the field of home economics. It aids in the publication of *Home Economics News*, the divisional magazine issued four times a year. It is affiliated with the American Home Economics Association and is designed to lead to continued membership in that organization after graduation from college.

VETERINARY SOCIETIES

The Junior Chapter of the American Veterinary Medical Association is a student organization in affiliation with the American Veterinary Medical Association.

The object of the chapter is to promote interest and knowledge in veterinary science. The organization meets on the second and fourth Thursdays of each month. Papers are presented by the students. Members of the faculty and outside speakers also appear on the program.

EXTENSION SERVICE SOCIETIES

The Collegiate 4-H Club is an organization composed of college young men and young women who formerly were 4-H Club members. Its purpose is to maintain and increase the interest of its members in extension work and 4-H Club work, to develop more effective leadership in such work, to main-

tain and increase a loan fund for 4-H Club members in college, and in general to aid and promote the well-being of former 4-H Club members at Kansas State College. It participates actively in many campus activities and lends its aid to the various extension activities conducted on the campus or in connection with the College. The club publishes each year the yearbook of 4-H Club work in Kansas known as the "Who's Whoot." The organization aims to acquaint its members with the latest developments in the various fields in which they are interested and to bring added opportunities for professional and educational development. Outside speakers are frequently secured and the organization sends representatives to various national or interstate student conventions or meetings.

HONORS

In each of the divisions of the College, "sophomore honors" are awarded at Commencement to not more than five per cent of the sophomore class having the highest standing up to the close of the sophomore year.

In a similar manner "senior honors" are awarded to not exceeding ten per cent of the senior class having the highest standing during their junior and senior years.

In awarding honors, the following values are assigned: Grade A, 3; B, 2; C, 1; D, 0; Con., minus 1; and F. Minus 2. The honor grade is found by dividing the sum of the product of the grade values and the credit hours by the number of credit hours of work taken. In order to receive honors, the student's average must be B or higher.

The diplomas of the highest three per cent of the senior class are inscribed "with high honor" and of the remainder of the highest ten per cent "with honor."

HONOR SOCIETIES

A chapter of Phi Kappa Phi, an honor scholarship society, membership in which is open to honor graduates of all departments of American universities and colleges, was installed at the Kansas State College on November 15, 1915. The eligibility of undergraduates to membership is determined on the basis of their scholarship. The candidates are elected to membership at the October, April, and July meetings of the chapter.

The honor society of agriculture, Gamma Sigma Delta, has as its object the encouragement of high standards of scholarship in all branches of agricultural science and education, and the encouragement of a high degree of excellence in the practice of agricultural pursuits. Seniors whose grades place them in the upper one-fourth of their class are eligible for membership. Election is in the hands of faculty members of the local chapter.

A chapter of Sigma Xi was installed at this institution in March, 1928. The object of this society is to encourage original investigations in pure and applied science. Members of the faculty and graduate students who have shown noteworthy achievement in original investigations are eligible for election to active membership; seniors who have shown marked excellence in two or more departments of pure or applied science are eligible for election to associate membership.

Besides these above mentioned there are a number of honor fraternities, sororities, and societies which are open to students in different divisions of the College or in different activities. These are treated below.

HONORARY AND PROFESSIONAL ORGANIZATIONS

The honorary and professional organizations of the College consist of fraternities, sororities, and societies. Membership in these organizations is based on scholarship and achievement. They seek to stimulate effort and to pro-

mote the interests of the various divisions or departments which they serve or represent. The list of organizations follows:

| <i>Organization.</i> | <i>Division or department.</i> |
|-------------------------|--------------------------------|
| Alpha Kappa Psi..... | Commerce |
| Alpha Zeta..... | Agriculture |
| K Fraternity..... | Athletics |
| Mortar and Ball..... | Military |
| Mu Phi Epsilon..... | Music |
| Omicron Nu..... | Home Economics |
| Phi Alpha Mu..... | Women's Science |
| Phi Delta Kappa..... | Education |
| Phi Lambda Upsilon..... | Chemistry |
| Phi Mu Alpha..... | Music |
| Pi Kappa Delta..... | Debating |
| Quill Club..... | College Writers |
| Scabbard and Blade..... | Military |
| Sigma Delta Chi..... | Industrial Journalism |
| Sigma Tau..... | Engineering |
| Theta Sigma Phi..... | Industrial Journalism |

In addition to these student organizations there are chapters of Phi Kappa Phi, Gamma Sigma Delta, and Sigma Xi. In these societies election is based on scholarship and is in the hands of faculty and student members. (See "Honor Societies," above.)

AMERICAN CHEMICAL SOCIETY

This institution is headquarters for the Kansas State College section of the American Chemical Society. Its regular and special meetings constitute a valuable stimulus to interest and progress in chemistry. The section provides each year for one or more lectures by eminent chemists from out of town.

THE COLLEGE BAND

The College Band is a military organization, composed chiefly of cadets assigned to this duty for the College year in lieu of drill and technical military instruction. The Band is limited in its membership, and attendance of the members upon its exercises is obligatory. It has proved an effective aid to the cadet corps, stimulating a love for martial music, and affording an attractive feature of the various public ceremonial occasions at the College.

THE COLLEGE ORCHESTRA

The Orchestra is a student organization connected with the Department of Music, membership in which is voluntary. Its daily training under competent leadership results in the acquisition of a considerable repertoire of musical compositions of the best quality. Those connected with the Orchestra obtain in this way familiarity with the works of many of the great composers, and among the students at large the orchestra is an efficient aid in cultivating a taste for, and appreciation of, good music.

The Division of Graduate Study

JAMES EDWARD ACKERT, *Dean*

Facilities for advanced degrees were offered at the Kansas State College of Agriculture and Applied Science as early as 1866. Opportunities for investigation and research were afforded originally in 1877, when the Master of Science degree first was authorized. Graduate study was administered by the general faculty up to 1903, when this work was placed in the hands of a faculty committee. After 1903 the graduate work grew steadily. In 1909 it was put under the supervision of the Council of Deans. The work was reorganized in 1919 and placed under the supervision of a Graduate Council, which had charge of all graduate work until November 1, 1931. On that date a Division of Graduate Study was formed and a dean of the division appointed. During the next year the College was authorized to offer work leading to the degree Doctor of Philosophy, effective September 1, 1932.

The Graduate Council, which is continued, consists of seven members selected from the following divisions of the College: Agriculture, Engineering, General Science, Home Economics, and Veterinary Medicine. The members of the Graduate Council are appointed by the president. The dean of the Division of Graduate Study is chairman of the council.

The graduate faculty consists of the president of the College, the deans of the academic divisions, the heads of departments offering graduate work, and staff members recommended by the heads of departments and approved by the Graduate Council as qualified to give graduate instruction. The president of the College is chairman of the graduate faculty, the dean of the Division of Graduate Study is vice chairman and the secretary of the Graduate Council is secretary. The graduate faculty offers all graduate courses, and at the call of the chairman holds meetings for the consideration and adoption of general rules of procedure in the administration of the graduate work.

The Graduate Council determines, subject to the authority of the president of the College and the State Board of Regents and in accordance with any general regulations adopted by the graduate faculty, matters of curriculum, admission to graduate study and to candidacy for advanced degrees, and other matters which relate to the proper administration and development of graduate work in the College.

ADMISSION

Admission to graduate study is granted to graduates of institutions whose requirements for the bachelor's degree are substantially equivalent to those of the Kansas State College of Agriculture and Applied Science. Admission to graduate study, however, may not be construed to imply admission to candidacy for an advanced degree. Such candidacy is determined after the student has demonstrated by his work for a period of two months or longer (M.S.), or approximately two years (Ph.D.), that he has the ability to do major work of graduate caliber.

Application blanks for admission to graduate study may be secured from the dean of the Division of Graduate Study. Each applicant who is not a graduate of this College must submit with his application an official transcript of his college record.

REGISTRATION

Students applying for graduate work should present themselves to the dean of the Division of Graduate Study at Nichols Gymnasium during the regular registration days (see College calendar), and at other times at his office, room 26, Fairchild Hall.

Students who have been admitted to graduate study are required to register with the College registrar and be assigned by the dean of the Division of Graduate Study at the beginning of each semester.

ASSIGNMENTS

Not more than sixteen credits, including thesis, may be secured in a single semester, nor more than eight credits during the nine-week summer school, nor more than four credits during the four-week summer school. Students holding graduate assistantships may not obtain more than twelve credits, including thesis, in one semester.

GRADES

Graduate students' work is graded in eight classes: A, B, C, D, Con.,* Inc.,* F, and Wd. The degree will not be conferred on any student who does not make a grade of B or higher in three-fourths of the hours taken, including thesis. A failure or absence from examination in any course may prevent the conferring of the degree, and failure in any course in the major field precludes conferring the degree in the same year.

DEGREES

Of the advanced academic degrees, the degrees Master of Science and Doctor of Philosophy are conferred. The following professional degrees are conferred: Agricultural Engineer, Architect, Architectural Engineer, Landscape Architect, Chemical Engineer, Civil Engineer, Electrical Engineer, Flour Mill Engineer, and Mechanical Engineer.

CONFERRING OF DEGREES. Candidates for advanced degrees are required to be present in the academic costume and hood appropriate for the degree, unless arrangements have been made in advance for the conferring of the degree *in absentia*. Application for this privilege should be made to the dean of the Division of Graduate Study. Degrees are conferred only at the end of the second semester and of summer school. Candidates for degrees, except professional degrees, at the end of the second semester are required to be present at the exercises of Baccalaureate Sunday also, unless excused by the Council of Deans.

GENERAL REQUIREMENTS FOR THE DEGREES MASTER OF SCIENCE AND DOCTOR OF PHILOSOPHY

Candidates for the degrees Master of Science and Doctor of Philosophy are expected to assume the initiative and the responsibility. It is important to recognize that graduate work does not consist in the fulfillment of routine requirements alone. The various courses as well as the assistance and advice of the instructors are to be regarded simply as aids in acquiring the methods, discipline, and spirit of independent research.

Each candidate for a degree is expected to have a wide knowledge of his subject and of related lines of work.. This is usually obtained only by a wide range of private reading and study outside the immediate field covered by the formal courses to which he may be assigned.

The branch of knowledge to which the student expects to devote the larger part of his time is termed his major subject. The other fields of study selected, which necessarily will be more restricted in scope, are termed minor subjects. The latter should be chosen with reference to their direct bearing on the major subject.

Approximately two-thirds of the student's time is devoted to his major subject and one-third to one or more minor subjects. The word subject is used to designate a recognized field of study, and is not defined by the limits of a

* Penalty if not completed on time. See section headed Grades, under General Information.

department. The nature and distribution of the majors and minors (program of study) are approved by the Graduate Council, upon the recommendation of the major instructor and the head of the department (M.S.), or of the supervisory committee (Ph.D.).

The approved program of study is made the basis of the formal assignment to courses at the beginning of each semester and of the summer sessions.

Courses numbered in the two hundreds are open to both graduate and undergraduate students. For graduate credit in such courses, the student must do extra work, the nature and amount of which is determined by the instructor.

REQUIREMENTS FOR THE DEGREE MASTER OF SCIENCE

Work leading to the degree Master of Science is offered in the following departments:

DIVISION OF AGRICULTURE

Agricultural Economics
Agronomy
Animal Husbandry
Dairy Husbandry
Horticulture
Milling Industry
Poultry Husbandry

English
Entomology
Geology
History and Government
Industrial Journalism and Printing
Mathematics
Modern Languages
Physics
Public Speaking
Zoölogy

DIVISION OF ENGINEERING

Agricultural Engineering
Applied Mechanics
Architecture
Civil Engineering
Electrical Engineering
Machine Design
Mechanical Engineering
Shop Practice and Industrial Arts

DIVISION OF HOME ECONOMICS

Art
Child Welfare and Euthenics
Clothing and Textiles
Food Economics and Nutrition
General Home Economics
Household Economics
Institutional Economics

DIVISION OF GENERAL SCIENCE

Bacteriology
Botany and Plant Pathology
Chemistry
Economics and Sociology
Education

DIVISION OF VETERINARY MEDICINE

Anatomy and Physiology
Pathology
Surgery and Medicine

RESIDENCE REQUIREMENTS. Candidates for the degree Master of Science (M.S.) are required to spend at least one collegiate year in residence, except under certain special conditions when the residence may be reduced to one and one-half semesters. The equivalent of thirty semester hours, including a thesis, must be satisfactorily completed.

LANGUAGE REQUIREMENTS. A reading knowledge of two modern foreign languages is highly desirable.

MASTER'S THESIS. Each candidate for a master's degree is required to present a thesis on some subject approved by the major instructor and the head of the department. (See general requirements for the master's and doctor's degrees.)

The thesis ordinarily demands one-fourth of the student's time and may not exceed one-third of it. The thesis and special reports upon it must be prepared in accordance with specifications to be obtained from the office of the dean of the Division of Graduate Study. (See College calendar for dates.)

A candidate for the master's degree is subject to a rigid oral examination covering the major and minor subjects and thesis by a committee consisting of the instructors with whom the major and minor work was taken, the head of the major department, the dean of the division in which the major work is offered, and a member of the Graduate Council as chairman.

REQUIREMENTS FOR THE DEGREE DOCTOR OF PHILOSOPHY

DEPARTMENTS OFFERING MAJOR WORK. Major work leading to the degree Doctor of Philosophy is offered in the following departments: Bacteriology, Chemistry, Entomology, and Milling Industry. Minor work for this degree

may be chosen in the departments offering major work for the degree and in supporting fields in other departments offering graduate work.

RESIDENCE AND CREDIT REQUIREMENTS. At least three years (of nine months each) of graduate study beyond the bachelor's degree, equivalent to 90 semester credits, including a thesis, are required of candidates for the degree Doctor of Philosophy. At least one year of this time must be spent in residence at this College.

LANGUAGE REQUIREMENTS. Each candidate for the degree Doctor of Philosophy must demonstrate to the head of the Department of Modern Languages, or to members of his staff designated by him, ability to read the literature of the major field in two modern foreign languages, to be designated by the supervisory committee. The language requirements shall be fulfilled before the preliminary examinations are taken.

SUPERVISORY COMMITTEE. For each student who contemplates working for the degree Doctor of Philosophy, a supervisory committee is chosen by the dean of the Division of Graduate Study. This committee, consisting of five members representing the major and minor fields, aids the student in the preparation of the program of study, which must be approved by the Graduate Council, and has charge of all examinations except the language examinations.

MAJORS AND MINORS. Approximately two-thirds of the graduate work (program of study) shall be in a major field and the remainder devoted to one or two minors. In exceptional cases, all of the graduate work may be chosen in one field. The work in the major field may be taken wholly within a department or it may include closely related courses and problems in other departments or divisions of the College. The same principle applies to the minor or minors. (See general requirements for the degrees Master of Science and Doctor of Philosophy.)

PROGRAM OF STUDY AND EXAMINATIONS. Students enrolling in graduate study leading to the degree Doctor of Philosophy work on a tentative program of study until approximately two-thirds of the program, including a substantial portion of the thesis, has been completed. Ordinarily at the close of the second year of graduate study and not later than the beginning of the year in which the student contemplates receiving the degree, the candidate must pass oral and written preliminary examinations over the entire field of study. When the student has passed the language examinations and the preliminary oral and written examinations, he is recommended by the supervisory committee to the Graduate Council for admission to candidacy for the degree Doctor of Philosophy. The program of study leading to the degree accompanies the recommendation.

On completion of the three years of graduate study as prescribed in the program of study and on submission of a thesis satisfactory to the supervisory committee, at least one month before commencement, the candidate is given the final examination.

DOCTOR'S THESIS. Early in the graduate work a thesis subject is chosen in the major field and approved by the supervisory committee. The finished thesis must constitute a contribution to knowledge, either presenting conclusions from new material, or interpreting previous knowledge in a new light. Two complete typewritten copies of the thesis approved by the supervisory committee shall be submitted to the dean of the Division of Graduate Study at least one month before commencement. On the completion of all requirements for the degree, one copy shall be placed on the shelves of the College library and the other filed with the head of the department in which the major work is taken.

Before the degree is conferred the candidate shall guarantee the printing of the doctor's thesis (wholly or in part as determined by the supervisory committee) within three years after the date of the conferring of the degree. This guarantee shall be either a statement from the editor of an appropriate technical serial or publishing company that the thesis has been accepted for

publication or shall be in the form of a cash deposit of \$100 or a bond acceptable to the Graduate Council. If the thesis is not published in acceptable form within three years, the deposit or the bond shall be forfeited unless an extension of time is granted by the Graduate Council for delayed publication after acceptance. When the thesis has been published, 125 copies shall be consigned to the College library.

REQUIREMENTS FOR PROFESSIONAL DEGREES IN ENGINEERING AND ARCHITECTURE

A graduate in engineering or in architecture from this College will be granted the professional degree of Mechanical Engineer, Civil Engineer, Chemical Engineer, Electrical Engineer, Agricultural Engineer, Flour Mill Engineer, Architect, Architectural Engineer, or Landscape Architect, under the following conditions:

The candidate must submit a statement of his experience and a thesis covering some phase of his practice. The thesis and experience must be approved by the head of the department in which the degree is requested, by the dean of the Division of Engineering, and by the Graduate Council, before the granting of such a degree will be recommended to the College Faculty and to the State Board of Regents.

The candidate must declare his candidacy and file with the dean of the Division of Engineering a detailed statement of his professional study and experience, and an outline of his proposed thesis, not later than the November 15 next preceding the commencement at which the degree is to be conferred.

A preliminary copy of the completed thesis must be submitted for criticism not later than April 1, and the final copy in duplicate must be submitted not later than May 15.

The candidate for a professional degree shall present himself at the commencement exercises in academic costume in order that the degree may be conferred.

He shall pay a diploma fee of \$7.50 to the registrar not later than May 15.

VACATION CREDIT

Upon the recommendation of his major instructor a student not registered in the College may accumulate a limited number of graduate credits in problem or research courses during the period between the close of the summer school and the beginning of the next succeeding semester under the following provisions: (1) The approval of the dean of the Division of Graduate Study must be secured. (2) The work must be done under the supervision of a member of the graduate faculty.

The credit so earned will be included on the student's next regular assignment marked "vacation credit," and will be in addition to the regularly allowed number of credits assigned. Such credits will be forwarded to the registrar by the instructor as soon as the latter receives the class cards after the beginning of the next semester.

GRADUATE WORK *IN ABSENTIA*

Graduates may be enrolled for from one to six credit hours of research or problem work *in absentia* on a *pro rata* basis, on the recommendation of a member of the graduate faculty and with the approval of the dean of the Division of Graduate Study.

GRADUATE ASSISTANTS

In order to encourage graduates of this College and of similar institutions to continue their studies and to pursue advanced work leading to advanced degrees, the College has established graduate assistantships in several departments. These assistantships, which may be graduate assistantships, or graduate

research assistantships, demand approximately one-half of the time of the student for laboratory or research assistance along the line of his major work during the regular collegiate year. The remainder of his time is given to graduate study. No graduate assistant or graduate research assistant may receive more than twelve hours of graduate credit per semester nor satisfy the residence requirements in less than two semesters and one nine-week summer school.

Graduate assistantships, paying a salary fixed each year by the State Board of Regents, have been established as follows:

| <i>Subject</i> | <i>Number</i> |
|---------------------------------|---------------|
| Botany and Plant Pathology..... | 1 |
| Chemistry | 4 |
| Institutional Economics | 2 |

Graduate research assistantships as listed below usually are maintained in the departments named. Occupants of these positions assist in the conduct of regular research work in the institution.

| <i>Subject</i> | <i>Number</i> |
|-----------------------------------|---------------|
| Applied Mechanics | 2 |
| Electrical Engineering | 1 |
| Food Economics and Nutrition..... | 2 |
| Household Economics | 1 |
| Zoölogy | 5 |

By satisfactorily completing six credits of graduate work in the nine-week summer school, graduate assistants and graduate research assistants may meet the requirements for a master's degree within one calendar year.

Applications for all assistantships should be made annually by March 15 for the following academic year. Students desiring such appointments may obtain application blanks from the dean of the Division of Graduate Study.

GRADUATE LOAN

The Manhattan Branch of the American Association of University Women maintains a loan fund which is available to graduate women students enrolled in any department of the Kansas State College of Agriculture and Applied Science, recognized by the Graduate Council. Application for this loan shall be made to the chairman of the Graduate Loan Fund Committee of the Manhattan Branch of the American Association of University Women.

SENIORS AND GRADUATE STUDY

A senior who has completed so much of his work for the bachelor's degree that his program for the year is not full may, with the consent of his dean and of the dean of the Division of Graduate Study, be assigned to one or more courses for graduate credit. In no case shall such combination of courses exceed seventeen credit hours.

GRADUATE WORK IN THE SUMMER SCHOOL

Graduate students desiring to do a part or all of the work for the master's degree in the summer may complete the requirements, in certain lines only, by pursuing graduate work for four nine-week summer schools. Persons interested should correspond with the dean of the Division of Graduate Study in advance. In special cases it may be possible to complete the residence requirements for the master's degree in three nine-week summer schools.

A bulletin concerning the work offered in the summer school may be obtained by addressing the Vice President, Kansas State College, Manhattan, Kan.

THE GRADUATE CLUB

The Graduate Club is an organization composed of graduate students and members of the graduate faculty. Its purpose is to promote sociability and wide acquaintance among its members.

FEES AND EXPENSES

TUITION. There is no charge for tuition.

MATRICULATION FEE. A matriculation fee of \$7.50 for residents of Kansas, or \$15 for nonresidents, is charged all graduate students from other institutions. This fee is not charged a Summer School student, unless he is a candidate for a degree at the end of the session.

INCIDENTAL FEE. An incidental fee of \$18.75 a semester or \$15 for the nine-week summer term is charged residents of Kansas; nonresidents pay \$37 a semester or \$25 for the nine-week summer term. The incidental fee for the four week summer term is \$7.50. The incidental fee for members of the College faculty, including graduate assistants and graduate research assistants, is prorated.

STUDENT-HEALTH FEE. Graduate students are excused from payment of the student-health fee and do not receive the benefits of the student-health service.

STUDENT-ACTIVITY FEE. Graduate students are not assessed the student-activity fee, but they are allowed the privilege of participating in the activity fee plan.

LABORATORY FEES. Laboratory fees, ranging from 50 cents to \$10 a semester, are charged graduate students in the various subjects. These are stated with the descriptions of the courses.

LATE ASSIGNMENT FEE. For assignment after the close of the regular registration period the student is charged \$5. There is no exception to this rule.

COMMENCEMENT FEE. Students receiving an advanced degree pay a commencement fee of \$7.50 to cover the cost of the diploma and other commencement expenses.

PAYMENT OF FEES. The matriculation fee is paid upon admission to the College. The incidental fee and laboratory fees are payable at the beginning of each semester.

The Division of Agriculture

LELAND EVERETT CALL, *Dean*

The teaching of rational practical agriculture is fundamental to development in a state whose principal industries are agricultural. Kansas prospers in direct proportion to the productivity of her soil and to the effectiveness with which it is utilized. Effective utilization of the agricultural resources of the state depends upon the success with which the agricultural industries of the state are developed. In order to succeed in farming it is necessary to know something of the soil, the conservation of its fertility and moisture, and its proper cultivation; the kinds of plants to grow and how to improve them; the selection, breeding, and feeding of live stock; the maintenance of orchards, gardens, and attractive surroundings; farm buildings, and the equipment of the farm and the farm house with modern conveniences; the best methods of marketing the products of the farm; and in addition to all this, how to make the farm home the center of influence for good citizenship in the agricultural community.

A man may learn many of these things through practical experience, and thus become successful in modern farming. But practical experience alone is slow and expensive. The Kansas State College of Agriculture and Applied Science furnishes a means of acquiring systematic training in agriculture which fits young men adequately for the farm at a moderate expenditure of time and money.

In addition to training men for service as farmers, the College prepares students for various other activities which must be carried on if the agriculture of the state and nation is to be developed properly. These activities include scientific investigation of agricultural problems in the state and national institutions, agricultural extension work, teaching of agriculture, service in the industries directly involving agriculture, and a variety of other lines of public and private service of an agricultural nature. The demand for well-trained, reliable men in all these lines is always extensive. The primary aim of the College in training men in agriculture is to fit them for service in which they will develop into agricultural leaders, either as farmers or in some other capacity, and as such contribute to the upbuilding of rural institutions and the improvement of American country life.

The faculties for agricultural training at this College are of a high order. The College owns 1,428.7 acres of land, which is used for investigation, instruction, and demonstration in the various courses in agriculture and allied branches. The campus, which comprises 155 acres, is one of the best examples of ornamental tree planting and forestry in the state. Students working daily amid such surroundings can scarcely fail to gain an appreciation or love for the beautiful. A tract of 320 acres is devoted to the work in agronomy; for horticulture and forestry work, 80 acres are used; for dairy work, about 160 acres; and for animal husbandry, about 550 acres. The herds and flocks contain high-class representatives of the important breeds of dairy and beef cattle, hogs, horses, and sheep. With this class of stock available for the work in judging, the student is supplied with types of the best breeds and becomes familiar with these types by actual handling of the stock.

Three of the four-year curricula offered in this Division lead to the degree of Bachelor of Science in Agriculture. The four-year curriculum in milling industry leads to the degree of Bachelor of Science in Milling Industry. The six-year curriculum in animal husbandry and veterinary medicine, the last two years of which are given in the Division of Veterinary Medicine, leads to the degree of Bachelor of Science in Agriculture at the end of four years, and to the degree of Doctor of Veterinary Medicine at the end of two more years.

The curriculum in agriculture and the curriculum in agricultural administration have a common freshman year. It is not necessary until near the end of this freshman year that any student of agriculture state formally which of these curricula he will pursue.

Students selecting the curriculum in agriculture are not required until the second semester of the sophomore year to name the department in which they will major. A student may major not only in any department in the Division of Agriculture but also in the Departments of Botany and Plant Pathology, Entomology, Zoölogy, Bacteriology, Chemistry, or Agricultural Engineering. Liberal provision is also made for substitutions to meet definite and purposeful objectives. See "Substitutions to Meet Certain Objectives," following the outline of "Curriculum in Agriculture."

CURRICULUM IN AGRICULTURE

The curriculum in agriculture is designed primarily to meet the needs of the students who expect to return to the farm. However, the student who completes the curriculum will have had sufficient training to enable him to enter some one of the many lines of agricultural industry as a specialist. The demand for men thus trained is constantly increasing, and such positions offer attractive opportunities for men who by nature and training are adapted to the work. The United States Department of Agriculture, the state colleges and departments of agriculture, high schools, private institutions of secondary and college rank, and a great variety of commercial interests, are constantly demanding men trained in agriculture.

The young man who expects to make farming his life work can start with no better asset than the thorough training in practical and scientific agriculture afforded by the four-year curriculum. The American farmer needs more of the skill that comes through the training of the hand, in order that he may better do the work of farming; but much more he needs the training of the mind in the fundamental truths that underlie every operation in farming, in order that he may use the skill of the craftsman with reason and judgment. One may learn how to plow a field with the greatest skill; the work may be a model of its kind. If, however, it is plowed with utter disregard to the moisture conditions which prevail the result may be a failure. To understand the conditions which should determine when and how to plow is the work of the trained mind; the other is the work of the trained hand. The farmer and the teacher of agriculture must possess both kinds of training, and the curriculum has been organized with this fact in view, and has been so arranged that the student begins his practical training in agriculture on the day he enters College.

ANALYSIS OF THE CURRICULUM IN AGRICULTURE

One hundred twenty-four semester credits in addition to military science are required for graduation, as follows:

| | <i>Semester credits</i> |
|----------------------------------------------------------------|-------------------------|
| Prescribed in agriculture | 31 |
| Electives in agriculture, required with the prerequisites..... | 21 |
| Required in agriculture | 52 |
| Prescribed in nonagriculture | 47 |
| Electives in nonagriculture, required..... | 6 |
| Electives that may be nonagricultural..... | 19 |
| Total allowed in nonagriculture | 72 |
| Required in military science..... | 4 |
| Total semester credits for graduation..... | 128 |

Any candidate for a degree in agriculture must have had at least six months' farm experience approved by the dean of the Division of Agriculture. A formal statement giving information regarding this experience must be filed in the dean's office during the last semester of the senior year.

The student who completes the freshman and sophomore years will have had, in addition to the fundamental work in chemistry, zoölogy, geology, botany, and English, basic studies in soils, farm crops, live stock, dairying, poultry husbandry, horticulture, and agricultural economics. These two years

give the student a general knowledge of the whole range of agriculture, more than one-third of his time being devoted to strictly agricultural courses.

During the junior and senior years the student continues his studies of fundamental science and learns to apply science to agriculture. He is led step by step to understand the scientific relations to every farming operation. There is so much agriculture to be taught that it becomes necessary for the student to determine which of the general lines he should emphasize. This is made possible by numerous electives in soils, crops, agricultural economics, animal husbandry, dairy husbandry, horticulture, milling, and poultry husbandry.

CURRICULUM IN AGRICULTURAL ADMINISTRATION

The curriculum in agricultural administration is planned to meet the needs of students preparing for industries that are closely related to farming and in which basic training in both agriculture and business principles is desirable. Important among such industries and occupations are: Rural banking, the marketing and processing of grains, the sale and development of lands, hardware and implement retailing, promotion and sales, writing on farm subjects or in other phases of agricultural journalism, and the teaching of agriculture in high school and elsewhere. Those wishing to engage in certain specialized types of farming will find this curriculum suited to their needs. An increasing demand for men trained in the business phases of agriculture and closely related industries is coming from industries whose customers are primarily in rural communities. The United States Department of Agriculture, the state agricultural colleges and departments of agriculture, high schools, and many other interests are also in need of men trained along these lines.

The interdependence of town and farm is increasing. Recognition of this increased interdependence is to be found in many of the activities of farmers and civic organizations in which the farmers and the business men of the towns join to attain mutually desired ends. The business man of the rural town must render service to farmers, and service can be rendered best when the needs of customers are understood. In addition, every business man needs to know the principles underlying successful business activity. The curriculum in agricultural administration is planned to give this combined understanding of the needs and problems of agriculture and of the principles that must be observed to make a business successful. Ample opportunity is given to elect business subjects such as accounting, business organization, credit and finance, business law, marketing, and subjects in other related fields.

ANALYSIS OF CURRICULUM IN AGRICULTURAL ADMINISTRATION

One hundred twenty-four semester credits in addition to military science are required for graduation. For the field of agricultural education, field 6 as presented under "Electives" in the outline of the curriculum, these requirements may be classified as follows:

| | <i>Semester credits</i> |
|--------------------------------------------------------------|-------------------------|
| Prescribed in agriculture | 25 |
| Elective in agriculture required with the prerequisites..... | 27 |
| Required in agriculture | 52 |
| Prescribed in nonagriculture | 38 |
| Electives in nonagriculture, required | 15 |
| Electives that may be nonagricultural..... | 19 |
| Total allowed in nonagriculture | 72 |
| Required in military science | 4 |
| Total semester credits for graduation..... | 128 |

For fields 1 to 5 the credits may be grouped as follows:

| | <i>Semester credits</i> |
|---------------------------------------------------------------|-------------------------|
| Prescribed in agriculture..... | 25 |
| Electives in agriculture required with the prerequisites..... | 30 |
| Required in agriculture..... | 55 |
| Prescribed in nonagriculture..... | 38 |
| Electives in nonagriculture, required..... | 15 |
| Electives that may be nonagricultural..... | 16 |
| Total allowed in nonagriculture..... | 69 |
| Required in military science..... | 4 |
| Total semester credits for graduation..... | 128 |

The fifteen hours of major electives are chosen from courses in agricultural economics. The other electives in agricultural and nonagricultural subjects are grouped according to the industry or occupation for which the student is preparing.

STATE TEACHER'S CERTIFICATE

By the selection of proper electives in the Department of Education, the four-year curriculum in agriculture or in agricultural administration may lead to the degree of Bachelor of Science in Agriculture, and also qualify the student for the three-year Kansas state teacher's certificate, renewable for life and valid in any high school or other public school in the state. A student in the curriculum in agriculture, desiring to qualify for teaching, should begin his professional preparation by electing Psychology, first semester, junior year. (This course is required in the first semester of the sophomore year in the curriculum in agricultural administration.) A total of eighteen semester credits in the Department of Education is required for this certificate. These are as follows: Psychology, Principles of Secondary Education, Educational Psychology, Vocational Education, Methods of Teaching Agriculture, and Practice Teaching.

STATE CERTIFICATE FOR TEACHERS OF VOCATIONAL AGRICULTURE

Electives in the curriculum in agricultural administration and in the field of agricultural education may be so chosen as to meet the requirements for the state certificate for the teaching of vocational agriculture in Kansas high schools participating in the federal Smith-Hughes funds. In this case the group of minor electives in related nonagricultural subjects must complete the candidate's professional preparation in education, and the group of general electives must include the necessary training in mechanical lines for the handling of farm shop problems. These groups must, therefore, include the following courses or their equivalents:

| | <i>Semester credits</i> |
|--------------------------------------------|-------------------------|
| Minor electives..... | 15 |
| Principles of Secondary Education..... | 3 |
| Educational Psychology..... | 3 |
| Methods of Teaching Agriculture..... | 3 |
| Teaching Participation in Agriculture..... | 3 |
| Vocational Education..... | 3 |
| General electives..... | 17 |
| Gas Engines and Tractors..... | 3 |
| Farm Buildings..... | 3 |
| Farm Machinery..... | 3 |
| Farm Carpentry I..... | 3 |
| Farm Blacksmithing I..... | 1 |
| Farm Blacksmithing II..... | 1 |
| Farm Shop Methods..... | 3 |
| Total | 32 |

CURRICULUM IN LANDSCAPE GARDENING

The curriculum in landscape gardening is planned to prepare those who complete it for the practice of general landscape gardening. The training given includes the engineering features of the profession, the design of landscape improvements, and the plant materials and architectural structures which are used in the arrangement and beautification of both public and private grounds.

As the general culture and wealth of the country increase, one of their most common expressions is the improvement of home surroundings, for both utility and beauty, and the enlargement and beautification of public parks, recreational areas, school grounds, and cemeteries. The design and supervision of this work require professionally trained men. Those so trained have increasingly great opportunity for profitable, interesting, and valuable employment in a profession which requires the talents of an artist and the practicality of a builder.

CURRICULUM IN MILLING INDUSTRY

The milling of wheat and other cereals is one of the major industries in this country and calls for men of the best training. While the milling of grains is probably the oldest of the mechanic arts, it is one of the last to find a place in the educational system. Kansas State College is the only college in the United States that has a curriculum especially planned for students particularly interested in the milling industry.

The curriculum in milling industry is planned to meet the needs of students in three major fields of the industry: (1) Milling administration, (2) milling technology, and (3) milling chemistry. The first is related to the merchandising of the raw materials and manufactured products; the second to the management and operation of the mechanical equipment; the third to the testing and control of the products.

The curriculum requires 128 semester hours for graduation. The basic work calls for 65 hours, allowing 63 hours for electives. These electives are divided into majors and minors, the major electives for each of the three fields being hereafter listed. Considerable leeway is allowed in the selection of minors so as to better adapt the curriculum to the individual needs of the students.

CURRICULUM IN ANIMAL HUSBANDRY AND VETERINARY MEDICINE

This six-year curriculum is described and outlined in this catalogue in the section devoted to the Division of Veterinary Medicine.

AGRICULTURE IN THE SUMMER SCHOOL

All of the departments of this Division usually offer courses in the Summer School. Some of these are basic college courses, but graduate work particularly suited to high-school teachers of vocational agriculture is emphasized.

Full information concerning the courses offered is contained in the Summer School number of the Kansas State College *Bulletin*, which may be obtained upon application to the vice president of the College.

Curriculum in Agriculture

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------------------|-----------|-------------------------------------------------|-----------|
| College Rhetoric I, Engl. 101..... | *3(3-0) | Gen. Geology, Geol. 103..... | 3(3-0) |
| Gen. Botany I, Bot. 101..... | 3(1-4, 2) | Gen. Botany II, Bot. 105..... | 3(1-4, 2) |
| Gen. Chemistry, Chem. 110..... | 5(3-6) | Gen. Org. Chemistry, Chem. 122... | 5(3-6) |
| El. of An. Husb., An. Husb. 125.... | 3(2-4)or | El. of Dairying, Dairy Husb. 101... | 3(2-3)or |
| El. of Dairy, Dairy Husb. 101.... | 3(2-3) | El. of An. Husb., An. Husb. 125... | 3(2-4) |
| Freshman Lect., Gen. Agric. 102... | 1(2-0) | Library Methods, Lib. Ec. 101.... | 1(1-0) |
| Infantry I, Mil. Tr. 101A..... | 1(0-3) | Infantry II, Mil. Tr. 102A:..... | 1(0-3) |
| Phys. Education M, Phys. Ed. 103.. | R(0-2) | Phys. Education M, Phys. Ed. 104.. | R(0-2) |
| Agric. Seminar, ¹ Gen. Agric. 103... | R | Agric. Seminar, ¹ Gen. Agric. 103... | R |
| Total | 16 | Total | 16 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------------------|-----------|-------------------------------------------------|----------|
| El. of Horticulture, Hort. 107.... | 3(2-3) | Prin. of Feeding, An. Husb. 152 ² .. | 3(3-0) |
| Agric. Economics, Agric. Ec. 101... | 3(3-0) | College Rhetoric II, Engl. 104.... | 3(3-0) |
| Anat. and Physiol., Anat. 131..... | 3(2-3)or | Farm Crops, Agron. 101..... | 4(2-6)or |
| Plant Physiology I ³ , Bot. 208..... | 3(3-0) | Soils, Agron. 130..... | 4(3-3) |
| Soils, Agron. 130..... | 4(3-3)or | General Zoölogy, Zoöl. 105..... | 5(3-6) |
| Farm Crops, Agron. 101..... | 4(2-6) | Infantry IV, Mil. Tr. 104A..... | 1(0-3) |
| Farm Poult. Pro., Poult. Husb. 101. | 2(1-2, 1) | Phys. Education M, Phys. Ed. 106.. | R(0-2) |
| Infantry III, Mil. Tr. 103A..... | 1(0-3) | Agric. Seminar, ¹ Gen. Agric. 103... | R |
| Phys. Education M, Phays. Ed. 105. | R(0-2) | | |
| Agric. Seminar, ¹ Gen. Agric. 103... | R | | |
| Total | 16 | Total | 16 |

See notes at bottom of page 103.

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------------------|-----------|-------------------------------------------------|--------|
| Genetics, An. Husb. 221..... | 3(3-0) | Gen. Econ. Entomology, Ent. 203.. | 3(2-3) |
| Plant Pathology I, Bot. 205..... | 3(1-4, 2) | Agric. Microbiology, Bact. 106.... | 3(1-6) |
| Farm Organization, Agric. Ec. 106.. | 3(2-3) | Agric. Journalism, Ind. Jour. 160.. | 3(2-3) |
| Electives | 7 | Electives | 7 |
| Agric. Seminar, ¹ Gen. Agric. 103... | R | Agric. Seminar, ¹ Gen. Agric. 103... | R |
| Total | 16 | Total | 16 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------------------|----|-------------------------------------------------|--------|
| Electives | 16 | Agric. Relationships, Gen. Agric. 105, | R(1-0) |
| Agric. Seminar, ¹ Gen. Agric. 103... | R | Electives | 16 |
| | | Agric. Seminar, ¹ Gen. Agric. 103... | R |
| Total | 16 | Total | 16 |

Number of hours required for graduation, 128.§

Electives

The electives in the curriculum in agriculture are grouped as follows:

| | <i>Semester credits</i> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| MAJOR ELECTIVES..... | 12 |
| These electives may be taken in any one of the departments of the Division of Agriculture. In certain cases also a science department outside of the division may be selected for a major department; <i>e. g.</i> , Chemistry, Entomology, Bacteriology. | |
| MINOR AGRICULTURAL ELECTIVES..... | 9 |
| These electives may be taken from one or more departments but must directly strengthen the student's preparation in agriculture. | |
| MINOR NONAGRICULTURAL ELECTIVES..... | 6 |
| These electives must be chosen from one or more of the following departments: English, Education, Economics and Sociology, History and Government, Mathematics, Modern Languages. | |
| GENERAL ELECTIVES..... | 19 |
| These electives are expected to be chosen because they are adapted to meet individual needs and to round out the preparation provided by the rest of the student's curriculum. All students not offering one unit of high-school physics for entrance are required to include three credit hours of general physics in their electives. | |

All electives must be officially approved, before assignment, by both the dean of the Division of Agriculture and the head of the department in which the student majors.

SUBSTITUTIONS TO MEET CERTAIN OBJECTIVES

Students desiring more definitely to prepare themselves for scientific or special work in the field of agriculture may, with the approval of the dean of the Division of Agriculture and the head of the department in which they expect to major, substitute courses in the Departments of Mathematics, Physics, Chemistry, Bacteriology, Entomology, Zoölogy, Botany and Plant Pathology, Education, Agricultural Engineering, Modern Languages, and other approved departments, in place of twenty-five credit hours in the curriculum in agriculture; provided, that no student may receive a degree in agriculture who does not have at least twenty-five credits in technical agriculture in not fewer than three departments.

* The number before the parenthesis indicates the number of hours of credit; the first number within the parentheses indicate the number of hours of recitation each week; the second shows the number of hours to be spent in laboratory work each week; and the third, where there is one, indicates the number of hours of outside work in connection with the laboratory each week.

1. Four meetings each semester.

2. Sometime during the second semester of the sophomore year each student is required to file a written statement in the office of the dean of the Division of Agriculture, designating the department of the division in which he will major.

3. Students who do not expect to major in animal husbandry, dairy husbandry, or poultry husbandry may, with the approval of the head of the department in which they expect to major, take Plant Physiology I (Bot. 208) instead of Anatomy and Physiology.

§ Seniors must meet the graduation requirement in points as well as in hours. See section headed: The Point System.

Curriculum in Agricultural Administration

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|-----------|--------------------------------------|-----------|
| College Rhetoric I, Engl. 101..... | 3(3-0) | Gen. Geology, Geol. 103..... | 3(3-0) |
| Gen. Botany I, Bot. 101..... | 3(1-4, 2) | Gen. Botany II, Bot. 105..... | 3(1-4, 2) |
| Gen. Chemistry, Chem. 110..... | 5(3-6) | Gen. Org. Chemistry, Chem. 122.... | 5(3-6) |
| El. of An. Husb., An. Husb. 125... | 3(2-4)or | El. of Dairying, Dairy Husb. 101.... | 3(2-3)or |
| El. of Dairying, Dairy Husb. 101.. | 3(2-3) | El. of An. Husb., An. Husb. 125... | 3(2-4) |
| Freshman Lect., Gen. Agric. 102... | 1(2-0) | Library Methods, Lib. Ec. 101.... | 1(1-0) |
| Infantry I, Mil. Tr. 101A..... | 1(0-3) | Infantry II, Mil. Tr. 102A..... | 1(0-3) |
| Phys. Education M, Phys. Ed. 103.. | R(0-2) | Phys. Education M, Phys. Ed. 104.. | R(0-2) |
| Agric. Seminar,* Gen. Agric. 103... | R | Agric. Seminar,* Gen. Agric. 103... | R |
| Total | 16 | Total | 16 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|----------|-------------------------------------|-----------|
| General Psychology, Educ. 184.... | 3(3-0) | El. of Hort., Hort. 107..... | 3(2-3) |
| Agric. Economics, Agric. Ec. 101... | 3(3-0) | Feeding L. S., An. Husb. 172..... | 3(3-0) |
| College Algebra A, Math. 107..... | 5(5-0) | College Rhetoric II, Engl. 104..... | 3(3-0) |
| Soils, Agron. 130..... | 4(3-3)or | Soils, Agron. 130..... | 4(3-3)or |
| Farm Crops, Agron. 101..... | 4(2-6) | Farm Crops, Agron. 101..... | 4(2-6) |
| | | Farm Poul., Pro., Poul. Husb. 101.. | 2(1-2, 1) |
| Infantry III, Mil. Tr. 103A..... | 1(0-3) | Infantry IV, Mil. Tr. 104A..... | 1(0-3) |
| Phys. Education M, Phys. Ed. 105.. | R(0-2) | Phys. Education M, Phys. Ed. 106.. | R(0-2) |
| Agric. Seminar,* Gen. Agric. 103... | R | Agric. Seminar,* Gen. Agric. 103... | R |
| Total | 16 | Total | 16 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|------------------------------------|----|
| Agric. Journalism, Ind. Jour. 160.. | 3(2-3) | | |
| Agric. Seminar,* Gen. Agric. 103.. | R | Agric. Seminar,* Gen. Agric. 103.. | R |
| Electives | 13 | Electives | 16 |
| Total | 16 | Total | 16 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|----|----------------------------------------|--------|
| Agric. Seminar,* Gen. Agric. 103.. | R | Agric. Relationships, Gen. Agric. 105, | R(1-0) |
| | | Agric. Seminar,* Gen. Agric. 103.. | R |
| Electives | 16 | Electives | 16 |
| Total | 16 | Total | 16 |

Number of hours required for graduations, 128.

Electives

The electives in the curriculum in agricultural administration are grouped as indicated below in the following fields: (1) rural banking, (2) land economics, (3) grain industries, (4) agricultural journalism, (5) agricultural engineering, and (6) agricultural education.

SEMESTER CREDITS OF ELECTIVES REQUIRED FOR VARIOUS FIELDS

| GROUP | Credits in fields 1, 2, 3, 4, 5 | Credits in field 6 |
|----------------------------------------------------------------------------------------------|---------------------------------------|--------------------------|
| | | |
| Major electives in agricultural economics..... | 15 | 10 |
| Minor agricultural electives (not more than nine semester credits from one department) | 15 | 17 |
| Minor electives in related nonagricultural subjects..... | 15 | 15 |
| General electives..... | 16 | 19 |
| Total | 61 | 61 |

NOTE.—All students not offering one unit of high-school physics for entrance are required to include three credit hours of general physics in their electives.

All electives must be officially approved before assignment by both the dean of the Division of Agriculture and the head of the Department of Agricultural Economics.

* Four meetings each semester.

Curriculum in Landscape Gardening**FRESHMAN****FIRST SEMESTER**

| | |
|-------------------------------------|-----------|
| College Rhetoric I, Engl. 101..... | 3(3-0) |
| Gen. Botany I, Bot. 101..... | 3(1-4, 2) |
| Gen. Chemistry, Chem. 110..... | 5(3-6) |
| Engr. Draw., Mach. Des. 101..... | 2(0-6) |
| Library Methods, Lib. Ec. 101.... | 1(1-0) |
| Freshman Lect., Gen. Agric. 102... | 1(2-0) |
| Infantry I, Mil. Tr. 101A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 103.. | R(0-2)or |
| Phys. Education W, Phys. Ed. 151A. | R(0-3) |
| Agric. Seminar,* Gen. Agric. 103... | R |

| | |
|--------------------|----|
| Total (men)..... | 16 |
| Total (women)..... | 15 |

SECOND SEMESTER

| | |
|-------------------------------------|-----------|
| College Rhetoric II, Engl. 104.... | 3(3-0) |
| Gen. Botany II, Bot. 105..... | 3(1-4, 2) |
| Gen. Org. Chemistry, Chem. 122.. | 5(3-6) |
| Domestic Arch., Arch. 124..... | 2(2-0) |
| Gen. Geology, Geol. 103..... | 3(3-0) |
| Infantry II, Mil. Tr. 102A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 104.. | R(0-2)or |
| Phys. Education W, Phys. Ed. 152A. | R(0-3) |
| Agric. Seminar,* Gen. Agric. 103... | R |

| | |
|--------------------|----|
| Total (men) | 17 |
| Total (women)..... | 16 |

SOPHOMORE**FIRST SEMESTER**

| | |
|--------------------------------------|----------|
| Object Draw. I, Arch. 111..... | 2(0-6) |
| Agric. Economics, Agric. Ec. 101... | 3(3-0) |
| Silviculture, Hort. 119..... | 3(2-3) |
| Soils, Agron. 130..... | 4(3-3) |
| Landscape Gardening I, Hort. 125.. | 3(3-0) |
| Infantry III, Mil. Tr. 103A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 105. | R(0-2)or |
| Phys. Education W, Phys. Ed. 153. | R(0-3) |
| Agric. Seminar,* Gen. Agric. 103.... | R |

| | |
|--------------------|----|
| Total (men)..... | 16 |
| Total (women)..... | 15 |

SECOND SEMESTER

| | |
|--------------------------------------|----------|
| Object Drawing II, Arch. 114..... | 2(0-6) |
| Plane Trigonometry, Math. 101.... | 3(3-0) |
| Ext. Speech I, Pub. Spk. 106..... | 2(2-0) |
| El. of Horticulture, Hort. 107..... | 3(2-3) |
| Agric. Journalism, Ind. Jour. 160... | 3(2-3) |
| Physiographic Geol., Geol. 110.... | 3(3-0) |
| Infantry IV, Mil. Tr. 104A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 106. | R(0-2)or |
| Phys. Education W, Phys. Ed. 154.. | R(0-3) |
| Agric. Seminar,* Gen. Agric. 103.... | R |

| | |
|--------------------|----|
| Total (men) | 17 |
| Total (women)..... | 16 |

JUNIOR**FIRST SEMESTER**

| | |
|---------------------------------------|-----------|
| Plant Materials I, Hort. 224..... | 3(2-3) |
| Pencil Rend. & Sketch., Arch. 116.. | 2(0-6) |
| Surveying I, Civ. Engr. 102..... | 2(0-6) |
| Theory of Lands. Design, Hort. 243. | 2(2-0) |
| Greenhouse Con. & Mgt., Hort. 128. | 3(3-0) |
| Taxo. Bot. of Fl. Plants, Bot. 225... | 3(1-4, 2) |
| Agric. Seminar,* Gen. Agric. 103... | R |

| | |
|-------------|----|
| Total | 15 |
|-------------|----|

SECOND SEMESTER

| | |
|--------------------------------------|--------|
| Plant Materials II, Hort. 226..... | 3(2-3) |
| Water Color I, Arch. 118..... | 2(0-6) |
| Surveying III, Civ. Engr. 151, 155.. | 3(2-3) |
| Gen. Econ. Entomo., Ent. 203.... | 3(2-3) |
| Gen. Hist. of Arch., Arch. 244.... | 3(3-0) |
| Horticultural Probs., Hort. 244.... | 2(0-0) |
| Agric. Seminar,* Gen. Agric. 103.... | R |

| | |
|-------------|----|
| Total | 16 |
|-------------|----|

SENIOR**FIRST SEMESTER**

| | |
|-------------------------------------|-----------|
| Landscape Gard. II, Hort. 238.... | 3(1-6) |
| Landscape Constr., Hort. 227..... | 3(2-3) |
| Plant Physiology I, Bot. 208..... | 3(3-0) |
| Plant Pathology I, Bot. 205..... | 3(1-4, 2) |
| Horticultural Probs., Hort. 244.... | 2(0-0) |
| Electives ¹ | 2 |
| Agric. Seminar,* Gen. Agric. 103... | R |

| | |
|-------------|----|
| Total | 16 |
|-------------|----|

SECOND SEMESTER

| | |
|----------------------------------------|--------|
| Agric. Relationships, Gen. Agric. 105, | R(1-0) |
| Civic Art, Hort. 223..... | 3(1-6) |
| Landscape Gard. III, Hort. 246... | 3(1-6) |
| Spraying, Hort. 207..... | 3(2-3) |
| Plant Ecology, Bot. 228..... | 2(2-0) |
| Horticultural Probs., Hort. 244.... | 2(0-0) |
| Electives ¹ | 3 |
| Agric. Seminar,* Gen. Agric. 103.... | R |

| | |
|-------------|----|
| Total | 16 |
|-------------|----|

Number of hours required for graduation: Men, 129; women, 125.

Curriculum in Milling Industry**FRESHMAN****FIRST SEMESTER**

| | |
|--------------------------------------|--------|
| Prin. of Mill. I, Mill. Ind. 104.... | 2(1-3) |
| College Rhetoric I, Engl. 101..... | 3(3-0) |
| College Algebra, Math. 104..... | 3(3-0) |
| Gen. Chemistry, Chem. 110..... | 5(3-6) |
| Freshmen Lects., Gen. Agric. 102.. | 1(2-0) |
| Library Methods, Lib. Ec. 101.... | 1(1-0) |
| Infantry I, Mil. Tr. 101A..... | 1(0-3) |
| Phys. Education M, Phys. Ed. 103. | R(0-2) |
| Milling Seminar ² | R |
| Agric. Seminar,* Gen. Agric. 103... | R |

| | |
|-------------|----|
| Total | 16 |
|-------------|----|

SECOND SEMESTER

| | |
|--------------------------------------|--------|
| Prin. of Mill. II, Mill Ind. 106.... | 1(0-3) |
| College Rhetoric II, Engl. 104..... | 3(3-0) |
| Plane Trigonometry, Math. 101.... | 3(3-0) |
| Gen. Organic Chem., Chem. 122... | 5(3-6) |
| Engr. Drawing, Mach. Des. 101... | 2(0-6) |
| Current History, Hist. 126..... | 1(1-0) |
| Infantry II, Mil. Tr. 102A..... | 1(0-3) |
| Phys. Education M, Phys. Ed. 104.. | R(0-2) |
| Milling Seminar ² | R |
| Agric. Seminar,* Gen. Agric. 103... | R |

| | |
|-------------|----|
| Total | 16 |
|-------------|----|

1. All students not offering one unit of high-school physics for entrance are required to include three credit hours of general physics in their electives.

2. Two meetings each month.

* Four meetings each semester.

SOPHOMORE

FIRST SEMESTER

| | |
|-------------------------------------------------|-----------|
| Milling Practice I, Mill. Ind. 109.. | 3(1-6) |
| Gen. Physics I, Phys. 135..... | 4(3-3) |
| Gen. Botany I, Bot. 101..... | 3(1-4, 2) |
| Infantry III, Mil. Tr. 103A..... | 1(0-3) |
| Phys. Education M, Phys. Ed. 105.. | R(0-2) |
| Milling Seminar ¹ | R |
| Agric. Seminar, ² Gen. Agric. 103... | R |
| Elective ³ | 5 |

Total 16

SECOND SEMESTER

| | |
|-------------------------------------------------|-----------|
| Milling Practice II, Mill. Ind. 111.. | 3(1-6) |
| Gen. Physics II, Phys. 140..... | 4(3-3) |
| Gen. Botany II, Bot. 105..... | 3(1-4, 2) |
| Infantry IV, Mil. Tr. 104A..... | 1(0-3) |
| Phys. Education M, Phys. Ed. 106.. | R(0-2) |
| Milling Seminar ¹ | R |
| Agric. Seminar, ² Gen. Agric. 103... | R |
| Elective ³ | 5 |

Total 16

JUNIOR

FIRST SEMESTER

| | |
|-------------------------------------------------|--------|
| Milling Entomology, Ent. 116..... | 1(1-0) |
| Farm Crops Lab., Agron. 101..... | 2(0-6) |
| Agric. Economics, Agric. Ec. 101... | 3(3-0) |
| Milling Seminar ¹ | R |
| Agric. Seminar, ² Gen. Agric. 103... | R |
| Elective ³ | 10 |

Total 16

SECOND SEMESTER

| | |
|-------------------------------------------------|--------|
| Mill. Qual. of Wheat, Mill. Ind. 212. | 3(3-0) |
| Grain Grad. and Judg., Agron. 108. | 2(0-6) |
| Milling Seminar ¹ | R |
| Agric. Seminar, ² Gen. Agric. 103... | R |
| Elective ³ | 11 |

Total 16

SENIOR

FIRST SEMESTER

| | |
|-------------------------------------------------|----|
| Milling Seminar ¹ | R |
| Agric. Seminar, ² Gen. Agric. 103... | R |
| Elective ³ | 16 |

Total 16

SECOND SEMESTER

| | |
|-------------------------------------------------|----|
| Milling Seminar ¹ | R |
| Agric. Seminar, ² Gen. Agric. 103... | R |
| Agric. Relationships, Gen. Agric. 105, | R |
| Elective ³ | 16 |

Total 16

Number of hours required for graduation: 128—basic courses, 65 hours,
elective courses, 63 hours.

Electives for Students in Milling Administration

MAJOR ELECTIVES

| | | | |
|---------------------------------------|--------|---------------------------------------|--------|
| General Psychology, Educ. 184.... | 3(3-0) | Grain Marketing, Agric. Ec. 203... | 3(3-0) |
| Extempore Speech I, Pub. Spk. 106. | 2(2-0) | Money and Banking, Econ. 116.... | 3(3-0) |
| Extempore Speech II, Pub. Spk. 108. | 2(2-0) | Business Law I, Hist. 163..... | 3(3-0) |
| Com'l. Correspondence, Engl. 122.. | 3(3-0) | Business Law II, Hist. 164..... | 3(3-0) |
| Writ. & Oral Salesmanship, Engl. 123, | 3(3-0) | Prin. of Advertising, Ind. Jour. 178. | 4(4-0) |
| Accounting I, Econ. 133..... | 3(2-3) | Business Finance, Econ. 217..... | 3(3-0) |
| Accounting II, Econ. 134..... | 3(2-3) | | |
| Mktg. of Farm Prod., Agric. Ec. 202. | 3(3-0) | Total | 41 |

MINOR ELECTIVES: A total of 22 hours of minor electives complete the work of the curriculum.

Electives for Students in Milling Technology

MAJOR ELECTIVES

| | | | |
|-------------------------------------|--------|---------------------------------------|-----------|
| Plane Anal. Geometry, Math. 110.. | 4(4-0) | Str. of Mat. E, Ap. Mech. 216.... | 3(3-0) |
| Calculus I, Math. 205..... | 5(5-0) | Flour Mill Const., Mill. Ind. 203... | 3(0-9) |
| Calculus II, Math. 206..... | 3(3-0) | Steam & Gas Engineering C, | |
| Applied Mechanics, Ap. Mech. 202.. | 4(4-0) | Mech. Engr. 120, 125..... | 3(2-3) |
| Des. Geom., Mach. Des. 106..... | 2(0-6) | Elec. Engr. C, Elect. Engr. 102, 106. | 3(2-2, 1) |
| Mechanism, Mach. Des. 121..... | 3(3-0) | Engr. Woodwork, Shop 101..... | 1(0-3) |
| Mach. Drawing I, Mach. Des. 111.. | 2(0-6) | | |
| Mill. Tech. I, Mill. Ind. 201..... | 2(0-6) | Total | 40 |
| Mill. Tech. II, Mill. Ind. 202..... | 2(0-6) | | |

MINOR ELECTIVES: A total of 22 hours of minor electives complete the work of the curriculum.

1. Two meetings each month.
2. Four meetings each semester.

3. Major electives may be in milling administration, milling technology, or milling chemistry. These groups of electives are listed below. Minor electives are flexible and are intended to give leeway to adapt the curriculum to individual needs. Minor electives must be officially approved before assignment by the dean of the Division of Agriculture and the head of the Department of Milling Industry.

Electives for Students in Milling Chemistry

MAJOR ELECTIVES

| | | | |
|--------------------------------------|--------|--------------------------------------|--------|
| Chemistry II, Chem. 102..... | 5(3-6) | Chemistry of Proteins, Chem. 236A.. | 3(2-3) |
| Plane Anal. Geometry, Math. 110.. | 4(4-0) | Experimental Baking, Mill. Ind. 206, | 3(1-6) |
| Calculus I, Math. 205..... | 5(5-0) | Colloidal Chemistry, Chem. 213... | 2(2-0) |
| Physiological Chemistry, Chem. 231, | 5(3-6) | Adv. Wheat & Flour Testing, | |
| Quan. Analysis A, Chem. 250..... | 3(1-6) | Mill. Ind. 210..... | 2(0-6) |
| Quan. Analysis B, Chem. 251..... | 3(1-6) | Chemical Microscopy, Chem. 245.. | 1(0-3) |
| Prin. Animal Nutr., Chem. 230.... | 3(3-0) | | |
| Wheat & Flour Test., Mill. Ind. 205. | 3(0-9) | Total | 47 |
| Physical Chemistry I, Chem. 206... | 5(3-6) | | |

MINOR ELECTIVES: A total of 16 hours of minor electives complete the work of the curriculum.

Electives in Industrial Journalism

Provision is made for students desiring to prepare for the field of agricultural journalism to major in industrial journalism. They thus secure to a large extent the agricultural training provided in either the curriculum in agriculture or the curriculum in agricultural administration, but instead of securing advanced intensive training in some field of agricultural production or agricultural administration, secure some fundamental training in journalism. They are then well prepared for a large vocational field as agricultural writers, magazine and newspaper publishers, or leaders in other journalistic activities, especially those closely related to agriculture. The electives provided for students selecting such a field for major work are as follows:

Electives for Students of Agriculture Majoring in Industrial Journalism

| | | | |
|---------------------------------|--------|------------------------------------|--------|
| Industrial Writing..... | 2(2-0) | Principles of Advertising..... | 4(4-0) |
| Editorial Practice..... | 2(2-0) | Copy Reading..... | 2(0-6) |
| Industrial Feature Writing..... | 2(2-0) | History and Ethics of Journalism.. | 3(3-0) |
| The Rural Press..... | 2(2-0) | Journalism Surveys..... | 2(0-6) |

Agricultural Economics

Professor GRIMES
Professor GREEN
Professor HOWE
Associate Professor EVANS

Assistant Professor HODGES
Assistant Professor HENNEY
Assistant Professor MONTGOMERY
Assistant ROBERTS
Assistant McNEAL

The investigational work in agricultural economics brings together the latest information concerning the business of farming and of closely related industries. These data are used in the instructional work of the department and illustrate the principles of successful farm organization and operation, the marketing of farm products, and the conduct of business enterprises that are closely related to agriculture. The student has an opportunity to learn of the factors and economic forces involved in marketing, credit, taxation, land utilization, conservation, and similar subjects. Attention is given to the probable future consequences of various policies and practices, in addition to providing opportunity to become acquainted with existing conditions. The student in agricultural economics has exceptional opportunity to work with facts taken from the actual business of farming and of other industries that are closely related to agriculture.

The department is expanding its facilities to meet the growing demand for advanced study. Opportunities for careers for those who are well trained in this field are increasingly favorable, because of the growing importance of agricultural economics to the farmer and in our national life.

The equipment belonging to the department is valued at \$3,575.†

† The figures for equipment given here and on pages following are based on the official reports of June 30, 1934.

COURSES IN AGRICULTURAL ECONOMICS**FOR UNDERGRADUATE CREDIT**

101.§ AGRICULTURAL ECONOMICS. 3(3-0)*; I. Prerequisite: Sophomore standing. Dr. Grimes, Mr. Howe, Mr. Henney, Mr. Roberts, and Mr. McNeal. Economic principles as they relate to agriculture.

106. FARM ORGANIZATION. 3(2-3); I and II. Prerequisites: Ag. Ec. 101, Agron. 130, and An. Husb. 152. Dr. Grimes, Mr. Evans, and Mr. Hodges.

The economic factors affecting the organization and operation of the farm business, and their effect on profits. Results from actual farms are studied in the laboratory. Charge, \$1.

112. FARM COST ACCOUNTING. 3(2-3); I and II. Prerequisite: Ag. Ec. 101. Mr. Evans and Mr. Hodges.

Various systems of farm records and accounts. In the laboratory, problems from actual farms. Cost of producing farm products; analysis and utilization of cost of production data. Charge, \$1.

FOR GRADUATE AND UNDERGRADUATE CREDIT

202. MARKETING OF FARM PRODUCTS. 3(3-0); I and II. Prerequisite: Ag. Ec. 101. Mr. Green, Mr. Henney, and Mr. Montgomery.

Price problems affecting time of buying and selling; buyers' and sellers' relations; marketing organizations and the control of marketing, and the adaptability of products to market demands and preferences.

203. GRAIN MARKETING. 3(3-0); I. Prerequisite: Ag. Ec. 202. Mr. Green.

Price influences and price relationships, buying and selling problems; domestic and export trade in grain; grain trade organization; regulation and control of the trade.

204. TRANSPORTATION OF FARM PRODUCTS. 3(3-0); I. Prerequisite: Ag. Ec. 101. Mr. Henney.

Rate making and other transportation problems having an important influence on the marketing of farm products.

206A. ADVANCED FARM ORGANIZATION. 3(2-3); II. Prerequisite: Ag. Ec. 106. Mr. Evans.

Factors affecting the successful organization and operation of the farm business; effects of external factors. A number of the better and more profitable farms are visited.

212. CONSERVATION OF AGRICULTURAL RESOURCES. 2(2-03); II. Prerequisites: Ag. Ec. 101; junior standing. Mr. Howe.

The world's agricultural resources, the economics of their utilization, and their present and future relationship to human well-being.

218. AGRICULTURAL LAND PROBLEMS. 3(3-0); I. Prerequisite: Ag. Ec. 101. Mr. Howe.

A study of the relation of population to land supply and the conditions affecting tenure, ownership, and valuation of land.

219. TAXATION AND LAND OWNERSHIP. 3(3-0); II. Prerequisite: Ag. Ec. 101, or consult instructor. Mr. Howe.

Analysis of public expenditures and revenues, public credit, and fiscal administration with special emphasis upon the effects of each upon agriculture.

* The number before the parenthesis indicates the number of hours of credit; the first number within the parenthesis indicates the number of hours of recitation each week; the second shows the number of hours to be spent in laboratory work each week; and the third, where there is one, indicates the number of hours of outside work in connection with the laboratory required each week. I, II, and SS indicate that the course is given the first semester, second semester, and summer school, respectively.

§ For an explanation of the system used in numbering courses, see the paragraph on "Course Numbers," given elsewhere in this catalogue.

LAND LAW. See Land Law (Hist. 276).

221. AGRICULTURAL FINANCE. 2(2-0); II. Prerequisite: Ag. Ec. 101. Mr. Howe.

Sources and kinds of credit for purchasing farm land and financing farm operations.

227. FARMER MOVEMENTS. 3(3-0); I. Prerequisite: Ag. Ec. 101. Dr. Grimes and Mr. Hodges.

Farmers' efforts to improve their economic status through organization. Principles underlying successful organization of farmers.

231. AGRICULTURAL ECONOMICS SEMINAR. 1(1-0); I and II. Prerequisite: Ag. Ec. 101. Dr. Grimes, Mr. Green, Mr. Evans, Mr. Howe, Mr. Hodges, Mr. Henney, and Mr. Montgomery.

Current questions in agricultural economics reviewed and discussed; topics prepared and presented by students.

235. LIVE-STOCK MARKETING. 3(3-0); II. Prerequisite: Ag. Ec. 202. Mr. Henney.

The economics of live-stock marketing and factors affecting live-stock prices.

240. PRINCIPLES OF COÖPERATION. 3(3-0); II. Prerequisite: Ag. Ec. 101. Dr. Grimes and Mr. Montgomery.

A study of the principles underlying coöperation endeavor. Experiences of coöperative associations of farmers are used as illustrative material.

251. MARKETING OF DAIRY PRODUCTS. 3(3-0); I. Prerequisite: Ag. Ec. 202. Mr. Montgomery and Mr. Roberts.

Principles underlying the marketing of dairy products, factors affecting prices, and the function of dairy marketing organizations.

270. AGRICULTURAL ECONOMIC PROBLEMS. Credit to be arranged; I, II, and SS. Prerequisites: Ag. Ec. 106 or 202, or such other courses as are necessary for the study of the problem selected. Dr. Grimes, Mr. Green, Mr. Evans, Mr. Hodges, Mr. Howe, Mr. Henney, and Mr. Montgomery.

FOR GRADUATE CREDIT

301. RESEARCH IN AGRICULTURAL ECONOMICS. Credit to be arranged; I, II, and SS. Prerequisites: Consult instructors. Dr. Grimes, Mr. Green, Mr. Evans, Mr. Hodges, Mr. Howe, Mr. Henney, and Mr. Montgomery.

Individual research problems in the marketing of farm products, coöperation among farmers, farm movements, land problems, taxation, tenancy, agricultural industries, agricultural finance, farm labor, farm power, farm organization, and cost of producing farm products. Any of the subjects assigned may furnish data for a master's thesis.

305. ADVANCED AGRICULTURAL ECONOMICS. 3(3-0); I. Prerequisite: Ag. Ec. 101 or equivalent. Mr. Green.

The basic principles of economics, a strengthened foundation in fundamentals; planned readings in the works of leading economists, and discussion of principles and their application to problems confronting specialists in agricultural economics.

301. HISTORY OF AGRICULTURAL ECONOMIC THOUGHT. 3(3-0); II. Prerequisite: Ag. Ec. 101 or equivalent. Dr. Grimes.

Development of agricultural economics and relation of agricultural economic doctrines to conditions existing when they were formulated.

Agronomy

Professor THROCKMORTON
 Professor PARKER
 Professor ALDOUS
 Professor DULEY (on leave)
 Professor LAUDE
 Associate Professor ZAHNLEY
 Associate Professor CLAPP

Assistant Professor DAVIS
 Assistant Professor TIMMONS
 Assistant Professor MYERS
 Assistant Professor METZGER
 Seed Analyst HARLING
 Assistant LATTA
 Assistant PARSONS

The College farm used by the Department of Agronomy comprises 320 acres of medium rolling upland soil, well suited to experimental and demonstration work. It is well equipped with all kinds of farm machinery necessary in crop production. The general fields and experimental plots used for the breeding and testing of farm crops, and for conducting experiments in soil fertility and methods of culture, afford the student excellent opportunities for study and investigation.

Large and well-equipped laboratories for soil and crop work are maintained for the regular use of students. Material is provided for the study of the grain and forage crops best adapted to different purposes and most suitable for growing in the state. Ample greenhouse space is provided for problems and research work in crops and soils.

The Department of Agronomy offers courses in cereal and forage crop production and improvement, in pasture management, in soils, soil fertility, soil survey, and dry-land farming.

This department owns equipment valued at \$26,646.

COURSES IN FARM CROPS

FOR UNDERGRADUATE CREDIT

101. FARM CROPS. 4(2-6); I and II. Prerequisite: Bot. 101. Mr. Davis. The distribution, relative importance, value and production of the more important grain and forage crops. Deposit, \$3.50.

105. SEED IDENTIFICATION AND WEED CONTROL. 2(1-3); I. Prerequisite: Agron. 101. Mr. Zahnley and Mrs. Harling.

Methods of propagation, control, and eradication of weeds.

Laboratory.—Identification of weed plants and seeds; germination and purity testing; field trips. Charge, \$1.

108. GRAIN GRADING AND JUDGING. 2(0-6); II. Prerequisite: Agron. 101. Mr. Zahnley.

Practice in grading and judging crops and crop products, including wheat, corn, oats, barley, rye, buckwheat, flax, rice, alfalfa, clover, soybeans, cowpeas, field beans, and grain sorghums. Charge, \$3.

114. ADVANCED GRAIN JUDGING. 2(0-6); I. Prerequisite: Agron. 108. Mr. Zahnley.

Identification, commercial grading and judging, and presenting orally and in writing the merits of samples of the various kinds of field crops. Charge, \$3.

FOR GRADUATE AND UNDERGRADUATE CREDIT

202. CROP IMPROVEMENT. 3(2-3); or 4(2-6); II. Prerequisites: Agron. 101 and An. Husb. 221. Dr. Parker.

Principles of plant breeding reviewed and applied to the principal groups of field crops; methods of selection, hybridization, and breeding for special qualities.

Laboratory.—A study of heritable characters in crop plants and of laboratory, greenhouse, and field methods of plant breeding. Charge, \$1.

203. ADVANCED FORAGE CROPS. 2(1-3); I. Prerequisite: Agron. 101. Mr. Zahnley.

Results of the most recent investigation in forage crops here and abroad; a more intensive study of the sorghums, alfalfa, sweet clover, soybeans, and other important or promising forage crops.

Laboratory.—The growth habits of crops considered in the lecture, especially as related to the production and improvement of these crops, storing, market grading, and marketing of hay. Charge, \$1.

205B. PRINCIPLES OF AGRONOMIC EXPERIMENTATION. 3(2-3); I. Prerequisites: Agron. 101 and 130. Mr. Laude.

The principles of experimentation in general, and their application to agronomic problems; important contributions to agronomic science studied from the historical and statistical viewpoint. Charge, \$1.

206. AGRONOMY SEMINAR. 1(1-0); II. Prerequisites: Agron. 101 and 130. Mr. Throckmorton.

Students review before the class timely articles appearing in bulletins and current journals.

207A. PASTURE IMPROVEMENT. 3(2-3); II. Prerequisites: Bot. 102 and Agron. 101. Dr. Aldous.

Distribution, forage value, and grazing management of tame and native pasture plants; principal poisonous plants, their distribution and methods to use in eliminating losses; and the importance of tame and native pastures.

208. PLANT GENETICS. 3(3-0); I. Prerequisite: An. Husb. 221. Dr. Parker. An advanced course for students interested in plant breeding and principles of genetics. Offered in 1934-'35, and alternate years thereafter.

209. GENETICS SEMINAR. 1(1-0); I and II. Prerequisite: Consult instructors. Dr. Nabours, Dr. Parker, Dr. Warren, Dr. Ibsen, and Dr. Brunson.

Study and criticism of genetic experiments in plants and animals, of the biological and mathematical methods employed, and of the validity of conclusions drawn.

210. CROP PROBLEMS. Credit to be arranged; I, II and SS. Prerequisites: Agron. 101 and 130. Dr. Parker, Dr. Aldous, Mr. Laude, and Mr. Zahnley.

Special problems chosen or assigned; written report upon completion of problems; credit varies with amount and quality of work done. Deposit, \$4.

211. CROP ECOLOGY. 2(2-0); II. Prerequisite: Agron. 101. Mr. Laude.

Distribution of farm crops with special reference to the soil, climatic, economic, and social factors primarily responsible for the concentration of crop production in certain countries; possibilities of further increases in crop-producing areas and probable nature and direction of such increases.

213. SPECIAL CROPS. 2(2-0); II. Prerequisite: Agron. 101. Offered in 1931-'32, and alternate years thereafter. Mr. Zahnley.

Distribution, climatic and soil requirements, relative importance, and production of sugar beets, cotton, flax, hemp, tobacco, and other minor crops.

FOR GRADUATE CREDIT

301. RESEARCH IN CROPS. Credit to be arranged; I, II, and SS. Prerequisites depend upon the problem selected. Dr. Parker, Dr. Aldous, Mr. Laude, and Mr. Zahnley.

Special problems chosen or assigned, resulting data being available for master's thesis. Deposit, \$4.

303. PLANT BREEDING LITERATURE. 1(0-3); I, II, and SS. Prerequisite: An. Husb. 221. Dr. Parker.

An opportunity is offered to familiarize students with current literature in genetics and plant breeding.

COURSES IN SOILS**FOR UNDERGRADUATE CREDIT**

130. SOILS. 4(3-3); I and II. Prerequisites: Chem. 110 and Geol. 103. Mr. Throckmorton, Mr. Myers, and Mr. Latta.

Fundamental principles underlying the management of soils. Charge, \$3.

FOR GRADUATE AND UNDERGRADUATE CREDIT

231. DRY-LAND FARMING. 2(2-0); I. Prerequisite: Agron. 130. Mr. Myers. Principles underlying the cultivation methods and farming systems under light rainfall conditions.

232A. ADVANCED SOIL FERTILITY. 3(2-3); I. Prerequisite: Agron. 130. Dr. Metzger and Mr. Myers.

Physical, chemical, and biological factors which influence the fertility of the soil and practical use of manure, fertilizer, lime, and legumes. Charge, \$3.50.

234. DEVELOPMENT AND CLASSIFICATION OF SOILS. 2(2-0); II. Prerequisite: Agron. 130. Dr. Metzger.

A study of the influence of soil-forming agencies on soil characteristics and their relationship to soil classification.

236. SOIL PROBLEMS. Credit to be arranged; I, II, and SS. Prerequisites depend on problem assigned. Mr. Throckmorton, Dr. Duley, Mr. Myers, and Dr. Metzger.

Special problems in soils, chosen or assigned. Deposit, \$4.

243. SOIL AND CROP MANAGEMENT. 3(2-3); II. Prerequisites: Agron. 101 and 130. Mr. Myers.

Discussion and investigation of practical management of soils and crops.

247. INTERRELATIONS OF SOILS AND CROP PLANTS. 3(3-0); II. Prerequisites: Agron. 130 and Bot. 208. Mr. Myers.

Chemical laws, plant physiology, and ecological factors applied to soil problems in relation to crop production.

FOR GRADUATE CREDIT

331. RESEARCH IN SOILS. Credit to be arranged; I, II, and SS. Prerequisites: Agron. 130 and Chem. 250. Mr. Throckmorton, Dr. Duley, Mr. Myers, and Dr. Metzger.

Special soil problems, which may extend throughout the year and furnish data for a master's thesis. Charge, \$4.

Animal Husbandry

Professor McCAMPBELL
Professor WEBER
Professor BELL
Professor IBSEN

Associate Professor AUBEL
Assistant Professor MACKINTOSH
Assistant Professor COX
Instructor CONNELL

The courses of study in this department are arranged to give the student special instruction in the selection, breeding, feeding, marketing, and management of all classes of live stock.

The department devotes 624 acres of land to the maintenance of herds and flocks of pure-bred horses, cattle, sheep, and hogs. The College live stock has attained a national reputation among breeders and feeders on account of the many prize-winning animals produced.

This department feeds experimentally from 750 to 1,000 animals each year. This affords excellent opportunity to study feeding animals and problems in feeding.

The feed yards and barns are well arranged for experimental feeding and the maintenance of the herds. The laboratory of the animal husbandry stu-

dent is the feed lot and the judging pavilion. He studies the animal from the standpoint of the breeder and the feeders. He learns to combine the needs of each and to find those qualities in the animal best suited to meet these needs.

The department owns equipment valued at \$29,451.

COURSES IN ANIMAL HUSBANDRY

FOR UNDERGRADUATE CREDIT

125. ELEMENTS OF ANIMAL HUSBANDRY. 3(2-4); I and II. Mr. Bell, Mr. Aubel, Mr. Cox, and Mr. Connell.

A general survey of the field of animal husbandry, with special emphasis on the relation of live stock to agriculture in general. Type, conformation, quality, character, and breed characteristics in animals are stressed in the laboratory. Charge, 50 cents.

140. ADVANCED STOCK JUDGING I. 2(0-6); I. Prerequisite: An. Husb. 125. Mr. Bell.

The judging of market animals and of different breeds of pure-bred stock, four to six animals in a group, as is customary at county and state fairs. Charge, 50 cents.

143. ADVANCED STOCK JUDGING II. 2(0-6); II. Prerequisite: An. Husb. 140. Mr. Bell.

Continuation of An. Husb. 140; occasional trips to the best live-stock farms of the state, where the management of herds and flocks as handled by the most successful stockmen of the state are judged and observed. Charge, 50 cents.

146. FORM AND FUNCTION IN LIVE STOCK. 2(0-6); I. Prerequisite: An. Husb. 143. Mr. Bell.

A detailed and specific study of animal form and type, and influence of type upon function; relation of form, type and condition to growth and development; comparative measurements of growing and fattening animals, speed and draft horses, mutton and wool sheep, and lard and bacon types of hogs; special training in presenting orally the relative merits of animals of all breeds. Charge, 50 cents.

152. PRINCIPLES OF FEEDING. 3(3-0); II. Prerequisites: Anat. 131 and Chem. 122. Open only to students enrolled in the Curriculum in Agriculture. Mr. Cox.

The digestive system and processes of nutrition; the origin, chemical analysis, grades, and feeding values of different feeds; the theory of practical economy of rations for the maintenance and for the fattening of all classes of farm animals.

156. BEEF-CATTLE PRODUCTION. 2(2-0); II. Prerequisite: An. Husb. 152 or 172. Mr. Weber.

Economical methods of producing beef cattle. One field trip required.

159. SWINE PRODUCTION. 2(2-0); II. Prerequisite: An. Husb. 152 or 172. Mr. Aubel.

Economical methods of producing swine. One field trip required.

162. SHEEP PRODUCTION. 2(2-0); I. Prerequisite: An. Husb. 152 or 172. Mr. Cox.

Economical methods of producing sheep. One field trip required.

165. HORSE PRODUCTION. 2(2-0); I. Prerequisite: An. Husb. 152 or 172. Mr. Mackintosh.

Economical methods of producing horses. One field trip required.

167. MEATS. 2(1-3); II. Prerequisites: An. Husb. 125 and 152 or 172. Mr. Mackintosh.

Killing and dressing, cutting, curing, judging, and selecting meats. Charge, \$1.

171. LIVE-STOCK PRODUCTION. 3(3-0); I. Prerequisite: An. Husb. 152 or 172. Open only to juniors and seniors not majoring in animal husbandry. Mr. Cox.

Practical insight into the production of beef cattle, horses, swine, and sheep.

172. FEEDING LIVE STOCK. 3(3-0); II and SS. Prerequisite: Chem. 122 or its equivalent. Open only to students not enrolled in the Curriculum in Agriculture. Mr. Bell.

A practical study of the processes of digestion and assimilation, the feed requirements of different animals, the relative feeding value of different feeds, and methods of calculating rations.

176. MEATS HE. 1(0-3); I and II. For juniors and seniors in home economics. Prerequisite: Food and Nutr. 106. Mr. Mackintosh.

The selection, cutting, and curing of meats; particular attention to grading of carcasses and uses of the various cuts of meats. At least one field trip required. Charge, \$1.

184. BREED STUDIES. 2(2-0); I. Prerequisite: An. Husb. 125. Mr. Mackintosh.

A study of the origin, development, adaptability, families, strains, noted sires, and noted breeders of the leading breeds of farm live stock other than dairy cattle.

186. ANIMAL HUSBANDRY PRACTICUMS. 2(0-6); II. Mr. Weber, Mr. Aubel, Mr. Mackintosh, and Mr. Cox.

A course designed to give students information relative to, and experience in, the manual phases of live-stock management.

189. FEEDS AND FEEDING. 3(3-0); II. Prerequisites: Chem. 122 and Anat. 222. Open only to students enrolled in the curriculum in Veterinary Medicine. Mr. Connell.

This course includes a résumé of digestion and nutrition but deals primarily with the practical phases of feeding different classes of live stock.

FOR GRADUATE AND UNDERGRADUATE CREDIT

221. GENETICS. 3(3-0); I, II, and SS. Prerequisites: Zoöl. 105 and Bot. 105. Dr. Ibsen.

A general study of variation, Mendelian inheritance, and related subjects.

224. ANIMAL BREEDING. 2(2-0); I. Prerequisite: An. Husb. 221. Mr. Aubel.

The physiology of reproduction; general principles of heredity; variation; systems of mating; influence of pedigrees and herdbook standard; and an analysis of the breeding practices of leading breeders.

225. ADVANCED GENETICS. 4(3-3); II. Prerequisite: An. Husb. 221. Dr. Ibsen.

Genetics studied in greater detail than in An. Husb. 221; particular attention to the relation of chromosomes to heredity.

227. GENETICS SEMINAR. 1(1-0); I and II. Prerequisites: Consult instructors. Dr. Nabours, Dr. Ibsen, Dr. Parker, Dr. Warren, and Dr. Brunson.

Genetic experiments in plants and animals, the biological and mathematical methods employed, and validity of conclusions drawn.

229. RESEARCH IN GENETICS. Credit to be arranged; I and II. Prerequisite: An. Husb. 225. Dr. Ibsen.

A course offering opportunity for individual study of problems in which small mammals are used as the experimental animals.

231. ADVANCED STUDIES IN PEDIGREES. 3(1-6); II. Prerequisite: An. Husb. 184. Mr. Mackintosh.

Pedigrees and prepotency and individuals representing the more important strains and families of beef cattle, horses, sheep, and swine.

233. **ADVANCED FEEDING.** 2(2-0); I. Prerequisite: An. Husb. 152. Mr. Weber.

A survey of the experimental feeding of horses, cattle, sheep, and hogs; fundamental and practical feeding problems of the various sections of the country; results obtained in experimental investigation of these problems.

244. **ANIMAL HUSBANDRY SEMINAR.** 1(1-0); II. Open only to seniors and graduate students majoring in animal husbandry. Prerequisite: An. Husb. 152. Mr. Weber.

245. **ANIMAL HUSBANDRY PROBLEMS.** Credit to be arranged; I, II, and SS. Prerequisites: An. Husb. 152. and other courses; consult instructor. Dr. McCampbell.

250. **PURE-BRED LIVE-STOCK PRODUCTION.** 2(2-0); II. Prerequisites: An. Husb. 184 and 224; senior or graduate standing. Dr. McCampbell.

The real function of pure-bred live stock; the many factors upon which the successful production of pure-bred live stock depends; and possibilities in pure-bred live-stock production.

260. **LIVE-STOCK AND MEAT INDUSTRY.** 3(3-0); II. Prerequisites: An. Husb. 125 and 152. Dr. McCampbell.

An advanced study of the live-stock and meat industry; its organization, operation, and development; and the relation of its diversified activities to each other and to the public. Lectures, assigned readings, and reports.

268. **LIVE-STOCK EXPERIMENTAL METHODS.** 2(2-0); II. Prerequisites: An. Husb. 152 and 221. Dr. McCampbell and Dr. Ibsen.

How to plan, conduct, and interpret experiments involving the use of animals.

274. **ADVANCED MEATS.** 1 to 4 credits; II. Prerequisite: An. Husb. 167. Mr. Mackintosh.

Grading of carcasses; studies in nutritive value of different grades of meat; factors influencing the quality of meats; factors influencing dressing percentages of meat animals; and identification of meats from different animals.

290. **PROBLEMS IN TRAINING AGRICULTURAL JUDGING TEAMS.** Class, 2 hours daily; 2 credits; 2d SS. Prerequisites: An. Husb. 125, Agron. 101, Poult. Husb. 101, Dairy Husb. 101, and one year's teaching experience. Mr. Zahnley, Mr. Scott, Mr. Cave, and Mr. Davidson.

A seminar course in problems involved in training agricultural judging teams in animal husbandry, agronomy, poultry husbandry, and dairy husbandry. Practice in each field is a part of the course.

FOR GRADUATE CREDIT

301. **RESEARCH IN ANIMAL HUSBANDRY.** Credit to be arranged; I and II. Prerequisites: Consult instructor. Dr. McCampbell and other members of the department.

Special problems in beef-cattle production, swine production, sheep production, horse production, pure-bred live-stock production, or genetics.

305. **ANIMAL NUTRITION SEMINAR.** 1(1-0); I and II. Prerequisite: Consult instructor. Dr. McCampbell.

Study and criticism of experimental work in animal nutrition, of the methods employed, and of the validity of conclusions drawn.

311. **THE WOOL INDUSTRY.** 3(2-3); II. Prerequisite: An. Husb. 162. Mr. Cox.

The supply of wool and the demand for it; and the method of producing, marketing, storing, grading, and manufacturing wool.

Dairy Husbandry

Professor ATKESON
Professor FITCH*
Professor CAVE

Professor MARTIN
Associate Professor RIDDELL
Assistant Professor CAULFIELD

The activities of the Department of Dairy Husbandry may be divided into two groups; those that deal with the production of milk and those that deal with the marketing and manufacturing of the several dairy products. In order to get first-hand information a dairy herd is maintained and a creamery operated. The animals in the dairy herd are used by judging classes and in experiments in the feeding, care, and management of dairy animals. Up-to-date methods in creamery operation are exemplified in the creamery.

The dairy herd consists of excellent types of the four dairy breeds: Jersey, Guernsey, Ayrshire, and Holstein. These animals are pure-bred, and a number have been entered in the advanced registry of their respective breeds. The herd is now housed in a new dairy barn with up-to-date equipment for housing dairy cattle.

The Department of Dairy Husbandry is provided with ample room in the west wing of Waters Hall. The creamery is located in a one-story annex on the north end of this wing. In this building the department has the most up-to-date equipment available for handling butter, cheese, milk, ice cream, and condensed milk on a quantity basis, and is equipped far better than ever before to instruct students interested in the manufacturing side of dairying.

Students who have specialized in dairying are now among the leading dairy-cattle breeders of the state. Others who were interested in the manufacturing side of dairying are in responsible positions with creameries and milk companies or in business for themselves. The dairy industry is expanding in Kansas, and this is bringing a greater demand for men with experience and knowledge of dairying.

The instruction in the Department of Dairy Husbandry includes the study of the selection and breeding of dairy animals, the production of milk, its manufacture into butter, cheese, and other dairy products, and its sale on the market. The success of the instruction in judging dairy animals may be assumed from the fact that in fourteen national contests the Kansas team has averaged better than third place.

In judging dairy products, teams from this college in the last four years have been first once, second twice, and seventh once, in the Students' National Contest in Judging Dairy Products.

This department owns equipment valued at \$31,022.

COURSES IN DAIRY HUSBANDRY

FOR UNDERGRADUATE CREDIT

101. ELEMENTS OF DAIRYING. 3(2-3); I and II. Mr. Cave, Mr. Martin, Dr. Riddell, and Mr. Caulfield.

The secretion, composition, and properties of milk; factors influencing the quantity and quality of milk; care of milk and cream on the farm; different methods of creaming; construction and operation of farm separators; principles and application of the Babcock test; the use of the lactometer; and butter making on the farm.

Laboratory.—A brief study of the methods used in the selection of dairy cattle, the production and manufacture of dairy products, and the common tests used in connection with dairy products. Charge, \$2.50.

104. DAIRY CATTLE JUDGING. 1(0-3); I and II. Dr. Riddell and Mr. Cave. Judging dairy stock from the standpoint of economical production and breed type.

106. DAIRY INSPECTION I 2(1-3); I. Prerequisite: Dairy Husb. 101. Mr. Caulfield.

* Resigned, Dec. 31, 1934.

Advanced work in the testing of dairy products and testing for adulterations; practice in use of score cards for inspecting and grading milk plants, farm dairies, and creameries; outlining of state and city ordinances governing the handling and public sale of dairy products; training in duties of city, state, and government inspectors. Charge, \$3.

108. MILK PRODUCTION. 3(3-0); II. Prerequisites: Dairy Husb. 101 and An. Husb. 152 or 172. Mr. Atkeson.

Economical production of milk and the most approved method of handling the dairy herd; construction of dairy barns and buildings; other subjects relating to the dairy farmer.

109. BUTTER MAKING I. 3(2-3); I. Prerequisites: Dairy Husb. 101 and Bact. 211. Mr. Martin.

Principles of creamery butter making; construction and care of creameries and their appliances; methods of sampling and grading cream; pasteurization; starter making; cream ripening; and creamery accounting.

Laboratory.—Practice in the sampling and grading of milk and cream, etc.; the making of salt, fat, and moisture determinations of the finished product; judging and scoring butter. Charge, \$3.

111. BUTTER MAKING II. 4(2-6); I. Prerequisites: Dairy Husb. 101 and Bact. 211. Mr. Martin.

Similar to course 109; for students specializing in dairy manufacturing. To be taught concurrently with Bact. 235. Charge, \$3.

116A. MARKET MILK. 3(2-3); II. Prerequisites: Dairy Husb. 101 and Bact. 211. Mr. Martin.

Classes of market milk; equipment and methods for clean milk production; relation of clean milk to producer, dealer, and consumer; systems of milk inspection, score cards, and milk and cream contests; milk plants, including their methods and equipment.

Laboratory.—Actual practice in all the steps in the production of market milk and cream in the College milk plant. Charge, \$3.

119. DAIRY INSPECTION II. 2(1-3); II. Mr. Caulfield and Dr. Riddell.

The composition and properties of milk; principles and practices of clean milk production on the farm; study of suitable state and city ordinances governing the handling and sale of milk and dairy products.

Laboratory.—The testing of milk and dairy products; quality tests; preparation and testing of chemical disinfectants; the inspection and scoring of dairy farms and milk plants. Charge, \$3.

120. ADVANCED DAIRY CATTLE JUDGING. 1(0-3); II. Mr. Cave.

Continuation of Dairy Husb. 104; visits to the best farms of the state; opportunity to judge stock kept by the most successful breeders.

127. CONDENSED AND POWDERED MILK. 2(1-3); I. Prerequisites: Dairy Husb. 116 and Bact. 211. Offered in 1933-'34 and alternate years thereafter. Mr. Martin.

The history of milk condensing, methods of manufacture, condensing machinery, and the powdered-milk industry.

Laboratory.—Condensing milk in the college plant. Charge, \$3.

130. ICE CREAM MAKING. 3(2-3); II. Prerequisites: Dairy Husb. 106 and 116. Offered in 1932-'33 and alternate years thereafter. Mr. Martin and Mr. Caulfield.

A thorough study of the science and practice of the commercial manufacture of ice cream and ices.

Laboratory.—Practice in all phases of the manufacture of ice cream and ices in the college plant. Charge, \$3.

135A. CHEESE MAKING. 2(1-3); II. Prerequisites: Dairy Husb. 106 and Bact. 211. Offered in 1933-'34 and alternate years thereafter. Mr. Caulfield.

Manufacture of American cheddar cheese, soft cheeses, and the most important foreign varieties.

Laboratory.—Actual manufacture of the various types of cheese. Charge, \$3.

140. DAIRY PRODUCTS JUDGING. 1(0-3); I. Prerequisite: Dairy Husb. 101. Mr. Martin.

Inspection of dairy products for quality; score card grading of ice cream, butter, cheese, and market milk; practice judging in preparing for the dairy products judging team. Charge, \$2.

FOR GRADUATE AND UNDERGRADUATE CREDIT

202. DAIRY SEMINAR. 1(1-0); II. Prerequisites: Dairy Husb. 101, 106, and 108. Mr. Atkeson.

A study and review of dairy periodicals and experiment station bulletins, books, and other dairy literature.

207. FEEDING AND MANAGEMENT OF DAIRY CATTLE. 3(2-3); II. Prerequisites: Dairy Husb. 108 and An. Husb. 152. Mr. Cave.

An advanced course in feeding as it applies to dairy cattle under ordinary conditions and to cows on advanced registry test; general management problems and the fitting of animals for show and sale. Charge, \$1.

212. DAIRY CATTLE BREEDING AND SELECTION. 2(1-3); I. Prerequisite: Dairy Husb. 108. Offered in 1933-'34 and alternate years thereafter. Dr. Riddell.

An advanced course giving consideration to (1) the history and development of the different breeds and families of dairy cattle; (2) reproduction; (3) inheritance of milk secretion; (4) bull indexes; (5) age correction factors; (6) selection of the herd sire; (7) systems of breeding.

Laboratory.—Brief study of the herd books of different dairy herds and practice in pedigree writing and analysis; practice judging on the basis of type, pedigree, and production standard.

216. DAIRY PRODUCTION PROBLEMS. Credit to be arranged; I and II. Prerequisites: Dairy Husb. 101, 104, and 108, and An. Husb. 152. Mr. Atkeson and Mr. Cave.

An investigation pertaining to dairy production problems, plans for said investigation to be so formulated that the study may be continued for more than one semester, if necessary.

221. DAIRY MANUFACTURING PROBLEMS. Credit to be arranged; I and II. Prerequisites: Dairy Husb. 101, 106, 108, 111, and 114. Mr. Martin and Mr. Caulfield.

An investigation pertaining to dairy manufacturing problems, plans for said investigation to be so formulated that, if necessary, the study may be continued for more than one semester.

226. CREAMERY MANAGEMENT. 2(2-0); II. Prerequisite: Dairy Husb. 111. Offered in 1932-'33, and alternate years thereafter. Mr. Martin.

An advanced course in creamery management for students specializing in dairy manufacturing.

FOR GRADUATE CREDIT

301. RESEARCH IN DAIRY HUSBANDRY. Credit to be arranged; I and II. Prerequisites: Dairy Husb. 108, 109, 211, or 108, 111, 116, and 226.

Special investigations in dairy husbandry or dairy manufactures which may form the basis of a thesis in partial fulfillment of the requirement for the degree of master of science.

305. ANIMAL NUTRITION SEMINAR. 1(1-0); I and II. Prerequisite: Consult instructors. Mr. Atkeson and Dr. Riddell.

Study and criticism of experimental work in animal nutrition, of the methods employed, and of the validity of conclusions drawn.

General Agriculture

Dean CALL
Assistant Dean DURHAM

102. FRESHMEN LECTURES. 1(2-0); I. Dean, assistant dean, heads of departments, and freshman advisers of the Division of Agriculture, assisted by a professor of education and various other members of the College faculty.

A two-fold object: (1) To assist in development of ability to study effectively, and (2) to inform regarding prospective opportunities for service in various fields of work open to agricultural graduates, and requirements for success in these fields; and regarding the relationship between agricultural and other subject matter in well-balanced agricultural training.

103. AGRICULTURAL SEMINAR. R (four meetings each semester).

Discussion of general agricultural questions and of agricultural student affairs; programs presented by students, members of the faculty, and invited speakers from outside. Charge, 75 cents.

105. AGRICULTURAL RELATIONSHIPS. R(1-0); II.

Agricultural graduates and their duties, responsibilities, and opportunities for service as citizens of the agricultural community and as specialists in various phases of agricultural activity.

Horticulture

Professor BARNETT
Professor QUINLAN
Associate Professor PICKETT
Associate Professor BALCH

Assistant Professor FILINGER
Assistant Professor REITZ
Assistant Professor ABMEYER

Instruction offered in the Department of Horticulture covers pomology, vegetable gardening, greenhouse practice, forestry, and landscape gardening.

The horticultural farm consists of eighty acres of land devoted exclusively to work in horticulture and forestry. Full equipment of garden tools, spraying machinery and accessories, pruning tools, and special apparatus for floriculture is available at all times for the use of the students. The College grounds furnish one of the finest and most complete laboratories in the state for the study of landscape gardening, and on them are located the vegetable gardens.

Instruction in landscape gardening is planned to meet the requirements of two classes of students: (1) Students who wish a general knowledge of the principles underlying landscape gardening; (2) students who wish to specialize in landscape gardening. A complete curriculum, with the coöperation of the Departments of Civil Engineering and Architecture, is offered the latter students. (See "Curriculum in Landscape Gardening.")

The value of the equipment belonging to this department is \$5,731.

COURSES IN HORTICULTURE

FOR UNDERGRADUATE CREDIT

107. ELEMENTS OF HORTICULTURE. 3(2-3); I and II. Prerequisite: Bot. 105. Mr. Barnett, Dr. Filing, and Mr. Pickett.

The relation of the more important subdivisions of horticulture to general agriculture and to advanced courses in pomology and olericulture; practices necessary for success in orcharding and gardening and the principles on which these practices are based.

Laboratory.—Study of fruit-bearing habits, propagation, pruning, spraying, transplanting, cover crops, fruit varieties, etc. Charge, \$1.

110. SMALL FRUITS. 2(2-0); II and SS. Prerequisite: Bot. 105. Dr. Filing.

Growing, harvesting, and marketing small fruits; management of home and commercial plantations.

111. SYSTEMATIC POMOLOGY. 3(2-3); I. Prerequisite: Hort. 107. Dr. Filingher.

Technical study of fruit varieties, including varietal relationships; pomological nomenclature, variety description, and both artificial and natural systems of variety classification.

Laboratory.—Study of actual fruits from many parts of the United States; description, identification, judging, and preparation of fruit displays. Charge, \$1.

114. FARM FORESTRY. 3(2-3); I. Prerequisite: Bot. 105. Mr. Pickett.

A study of the growing of forest trees on the farm; methods of planting, care, and harvesting; utilization of woodlot products; value of windbreaks and shelterbelts, their establishment and management. Charge, \$1.

119. SILVICULTURE. 3(2-3); I. Prerequisite: Bot. 105. Mr. Pickett.

A study of the influence of site factors on forest trees; theory and practice of germination, seeding and planting of forest trees in the nursery and in the field. Charge, \$1.

125. LANDSCAPE GARDENING I. 3(3-0); I and SS. Mr. Quinlan.

An introductory course in the fundamental principles of landscape gardening.

128. GREENHOUSE CONSTRUCTION AND MANAGEMENT. 3(3-0); I. Mr. Balch.

Principles of greenhouse construction and methods of greenhouse management; conservatories and commercial greenhouses.

129. FLORAL ARRANGEMENT. 2(1-3); I. Mr. Balch.

The use of flowers and floral pieces for the home and the store.

Laboratory.—The arrangement of seasonable flowers for various uses. Charge, \$1.

130. SCHOOL GARDENING. 2(2-0); SS. Mr. Balch.

A general study of soils, insects, diseases, and machinery as related to vegetable crops and their culture.

133. ELEMENTS OF VEGETABLE GARDENING. 3(2-3); II. Mr. Balch.

The practices necessary for success in vegetable gardening—the fundamentals for the student who becomes a teacher, a county agricultural agent, or a vegetable grower, and a foundation for advanced courses in vegetable production. Charge, \$1.

FOR GRADUATE AND UNDERGRADUATE CREDIT

201. PRACTICAL POMOLOGY. 3(2-3); II. Prerequisite: Hort. 111. Dr. Filingher.

Fruit geography, orchard locations, financing the orchard, orchard equipment, orchard economics, fruit manufactured products, and fruit marketing. Lectures and recitations.

Laboratory.—Laboratory practice in grading and packing fruits, intensive field work in identification of fruit plant varieties; propagation and advanced pruning of fruit plants. Charge, \$1.

202. SUBTROPICAL POMOLOGY. 2(2-0); II. Prerequisite: Hort. 111. Offered in 1931-'32 and alternate years thereafter. Mr. Barnett.

The geography and methods of production of the principal subtropical fruits grown in the United States. Lectures and assigned readings.

205. ADVANCED POMOLOGY. 3(2-3); I. Prerequisite: Hort. 111. Mr. Pickett.

A course on the fundamentals of orcharding.

Laboratory.—Advanced apple judging; production and marketing studies. Charge, \$1.

207. SPRAYING. 3(2-3); II. Prerequisite: Chem. 110. Mr. Pickett.

Spray machinery and accessories; chemical properties, manufacture and use of the important insecticides and fungicides; determination of spray dates.

Laboratory.—Preparation and testing of spray materials; special study of spray machinery and accessories. Charge, \$1.

208. LITERATURE OF HORTICULTURE. 2(2-0); II. Prerequisite: Hort. 111. Offered in 1933-'34 and alternate years thereafter. Dr. Filinger.

Books, journals, and serials relating to horticulture are reviewed and classified; biographies of leading horticulturists are studied, and bibliographies are prepared.

210. MARKET GARDENING. 3(2-3); II. Prerequisites: Agron. 130 and Hort. 133. Mr. Balch.

The business side of market gardening; preparation of seed orders; estimates of costs per acre of growing various garden crops; harvesting, storing, and marketing vegetables.

Laboratory.—Each student is assigned a plot of ground to plant and care for during the semester. Careful records of cultural operations and of yields; disease and insect control. Charge, \$1.

223. CIVIC ART. 3(1-6); II. Prerequisite: Hort. 243. Offered in 1931-'32 and alternate years thereafter. Mr. Quinlan.

A study of the growth and development of cities and towns. Emphasis is laid on the design of community and civic centers, parks, land subdivisions, etc.

224. PLANT MATERIALS I. 3(2-3); I. Prerequisite: Bot. 105. Mr. Quinlan. Study and identification of perennials and annuals for general ornamental planting; planting plans.

226. PLANT MATERIALS II. 3(2-3); II. Prerequisite: Hort. 224. Mr. Quinlan.

Study and identification of trees, shrubs, and vines for general ornamental planting. Planting plans, sketches, and written reports are required.

227. LANDSCAPE CONSTRUCTION. 3(2-3); I. Prerequisite: Civil Engr. 111. Offered in 1932-'33 and alternate years thereafter. Mr. Quinlan.

Interpretation of topographic maps, preparation of grading plans; structures in relation to the topography, sewage, water supply, lighting, and drainage on the private estate. Charge, \$1.

235. HORTICULTURE SEMINAR. 1(1-0); I and II. Prerequisites: Hort. 111, 133 or 128. Mr. Barnett.

A study and critical discussion of recent horticultural publications and of experimental and research projects now under way in this and other agricultural experiment stations.

238. LANDSCAPE GARDENING II. 3(1-6); I. Prerequisites: Hort. 125 and 226. Mr. Quinlan.

An elementary course in the designing of the home grounds, the country estate, special gardens, and playgrounds. Several sketch problems will be given during the course. Charge, \$1.

243. THEORY OF LANDSCAPE DESIGN. 2(2-0); I. Prerequisite: Hort. 125. Offered in 1933-'34 and alternate years thereafter. Mr. Quinlan.

The economic and æsthetic theory of design; taste, character, historic styles, composition; natural elements in design; and planting design.

244. HORTICULTURAL PROBLEMS. Credit to be arranged; I, II, and SS. Prerequisites: Consult instructor. Mr. Barnett, Mr. Quinlan, Mr. Pickett, Mr. Balch, and Dr. Filinger.

Investigations in pomology, olericulture, floriculture, or landscape gardening are undertaken by advanced or graduate students. Conferences and reports required.

246. LANDSCAPE GARDENING III. 3(1-6); II and SS. Prerequisites: Hort. 226, 243, and 238. Mr. Quinlan.

Advanced course in designing of large parks, cemeteries, golf courses, educational groups, and high-class land subdivisions; construction details; con-

tracts and specifications. Several sketch problems will be given during the course. Charge, \$1.

FOR GRADUATE CREDIT

301. RESEARCH IN HORTICULTURE. Credit to be arranged; I, II, and SS. Prerequisites: Consult instructor. Mr. Barnett, Mr. Balch, Mr. Pickett, Mr. Quinlan, and Dr. Filinger.

Any feasible problem relating to the student's major line of graduate study—pomology, olericulture, floriculture, or landscape gardening. Data collected may form basis for a master's thesis.

Milling Industry

Professor SWANSON
Associate Professor WORKING

Instructor PENCE
Assistant ANDERSON

The milling of wheat and other cereals is one of the leading manufacturing industries of the United States, and milling products constitute over one-third of the total food materials produced in the United States. An industry of such magnitude calls for technically trained men. Kansas is the center of the hard-winter-wheat belt, and flour milling is the second manufacturing industry in the state.

The department has a well-equipped flour mill, consisting of six double stand rolls with necessary wheat-cleaning machinery, sifters, purifiers, and dust collectors. The equipment is equal to that found in the commercial mills of the same capacity.

The baking laboratory is equipped with dough mixer, proofing closet, baking oven, and other necessary apparatus. The chemical laboratory contains the apparatus needed for flour and wheat testing. For advanced work there are available a hydrogen-ion potentiometer, and apparatus for making conductivity measurements and viscosity tests.

The department owns equipment valued at \$28,633.

COURSES IN MILLING INDUSTRY

FOR UNDERGRADUATE CREDIT

104. PRINCIPLES OF MILLING I. 2(1-3); I. Dr. Swanson and Mr. Pence. The theory and principles of flour-milling operations; practice work on an experimental mill. Charge, \$2.

106. PRINCIPLES OF MILLING II. 1(0-3); II. Mr. Pence.

Wheat conditioning and the study of the course of different products through the mill with the aid of a flow-sheet. Charge, \$2.

109. MILLING PRACTICE I. 3(1-6); I. Prerequisite: Mill. Ind. 106. Mr. Pence and Mr. Anderson.

A study of the operation of wheat-cleaning machines, tempering controls, grinders, sifters, and purifiers. Charge, \$2.

111. MILLING PRACTICE II. 3(1-6); II. Prerequisite: Mill. Ind. 109. Mr. Pence and Mr. Anderson.

Relation of roll and bolting surfaces, flour blending, redressing, principles of bleaching, belt management, lubrications, spout construction, methods of checking mill operations. Charge, \$2.

FOR GRADUATE AND UNDERGRADUATE CREDIT

201. MILLING TECHNOLOGY I. 2(0-6); I. Prerequisite: Mill. Ind. 111. Mr. Pence.

Problems related to management of flour-mill operations, variation in wheat conditioning, corrugation, roll spiral, roll surfaces, purifiers, and bolters. Charge, \$2.

202. MILLING TECHNOLOGY II. 2(0-6); II. Prerequisite: Mill. Ind. 201. Mr. Pence.

Study of the influence of external conditions on flour-mill operations, management of air control, exhaust, dust collectors, flour bleachers, determining the flow of mill streams. Charge, \$2.

203. FLOUR MILL CONSTRUCTION. 3(0-9); I. Prerequisites: Mach. Des. 111 and 121. To be assigned concurrently or after Strength of Materials (Ap. Mech. 216). Mr. Pence.

A study of the design and construction of modern flour mills, the making of flow sheets, and the selection and placing of machinery.

205. WHEAT AND FLOUR TESTING. 3(0-9); I. Prerequisites: Mill. Ind. 212 and Chem. 122 or 123, and 251 or 260. Dr. Working.

Special quantitative tests applied to cereals and their products; methods of analysis and interpretation of results. Deposit, \$7.50.

206. EXPERIMENTAL BAKING. 3(1-6); II. Prerequisite: Mill. Ind. 205. Dr. Working.

Practice in baking tests; comparison of methods, formulas, and flours; interpretation of results. Charge, \$5.

210. ADVANCED WHEAT AND FLOUR TESTING. 1 to 5 semester hours; I and II. Prerequisites: Mill. Ind. 205 and other courses; consult instructor. Dr. Working.

Physiochemical and other methods used in testing wheat and flour. Deposit, \$2.50 per hour.

212. MILLING QUALITIES OF WHEAT. 3(3-0); II. Prerequisite: Chem. 122 or 123. Dr. Swanson.

Factors which affect the milling qualities of wheat and the quality of flour, such as moisture, respiration, enzymes, harvesting, storage, climate, and soil.

214. MILLING INDUSTRY PROBLEMS. Credit to be arranged; I, II, and SS. Prerequisites: Mill. Ind. 212, or such other courses as are necessary for the problem selected. Dr. Swanson, Dr. Working, Mr. Pence, and Mr. Anderson. Charge, \$2.50 per hour.

218. MILLING INDUSTRY SEMINAR. R($\frac{1}{2}$ -0); I and II.

All students who major in milling industry meet with the instructors twice each month to discuss problems of general interest to students in milling industry. Programs are furnished by both students and instructors.

FOR GRADUATE CREDIT

301. RESEARCH IN MILLING INDUSTRY. Credit to be arranged; I, II, and SS. Prerequisites: Consult instructors. Dr. Swanson, Dr. Working, and Mr. Pence.

A definite line of investigation which may, if sufficient as to quality and quantity, be used as a basis for thesis presented in partial fulfillment of the requirements for the degree of master of science.

Poultry Husbandry

Professor PAYNE
Professor WARREN

Associate Professor SCOTT
Farm Superintendent GISH

The poultry plant, occupying twenty-four acres and situated just north of the northeast corner of the College campus, is devoted to the breeding and rearing of the stock used for class and experimental work. It is equipped with various types of houses, runs, incubators and brooders, and with flocks of the leading breeds of fowls.

There is in the government and state experiment stations and in schools and colleges an increasing demand for men with experience and systematic training in handling poultry. There is likewise a growing demand for men to enter poultry-packing houses and for men capable of managing poultry-farming enterprises of considerable proportions.

The department owns equipment valued at \$9,393.

COURSES IN POULTRY HUSBANDRY

FOR UNDERGRADUATE CREDIT

101. FARM POULTRY PRODUCTION. 2(1-3); I and II. Mr. Payne and Mr. Scott.

Problems of poultry management on the general farm. Charge, \$2.

104. PRACTICE IN POULTRY FEEDING. 1(3 times a day, 7 days a week, for 3 weeks, at hours outside the regular schedule); II. Prerequisite: Poult. Husb. 101. Offered in 1933-'34, and alternate years thereafter. Mr. Scott.

A flock of fowls cared for under supervision of an instructor; careful records kept of feeds consumed and eggs produced; survey of recent literature on poultry feeding. Charge, \$2.

103. POULTRY JUDGING. 3(1-6); I. Prerequisite: Poult. Husb. 101. Mr. Scott.

A historical study of the various breeds commonly found on the Kansas farm; particular attention to production characteristics and tracing evolution of present breed types.

Laboratory.—Judging the standard breeds and varieties by comparison; judging hens for egg production on the basis of their trap-nest records. Charge, \$2.

116. MARKET POULTRY AND EGGS. 4(2-6); I. Prerequisite: Poult. Husb. 101. Offered in 1933-'34, and alternate years thereafter. Mr. Payne.

Methods of handling market eggs and live and dressed poultry.

Laboratory.—Candling and grading eggs; crate-feeding, killing, dressing, grading, and packing market poultry. Charge, \$2.

120. ARTIFICIAL INCUBATION AND BROODING. 3(1-6) (laboratory 3 times a day, 7 days a week for not less than 8 weeks, at hours outside the regular schedule); II. Prerequisites: Poult. Husb. 101 and Zoöl. 105. Mr. Scott.

The development of the chick; metabolism; survey of the literature on incubation and brooding; actual care of an incubator throughout the incubation period; bringing off the hatch; care of chicks in brooder for 3 weeks. Charge, \$2.

125. ADVANCED INCUBATION. 1(0-3) (laboratory 3 times a day, 7 days a week, for not less than 3 weeks, at hours outside the regular schedule); II. Prerequisites: Poult. Husb. 101 and 120. Offered 1933-'34, and alternate years thereafter. Mr. Scott.

Study of the baby chick industry; operation of a Mammoth incubator; packing and shipping of baby chicks. Charge, \$2.

FOR GRADUATE AND UNDERGRADUATE CREDIT

204. POULTRY GENETICS. 3(3-0); II. Prerequisite: An. Husb. 221. Dr. Warren.

A study of the literature on inheritance in poultry with special reference to its bearing on practical breeding problems.

POULTRY FARM ORGANIZATION. See Advanced Farm Organization (Ag. Ec. 206A).

POULTRY BACTERIOLOGY. See Poultry Bacteriology (Bact. 216).

POULTRY ANATOMY. See Special Anatomy (Anat. 202).

206. POULTRY PROBLEMS. Credit to be arranged; I, II, and SS. Prerequisites: Poult. Husb. 101, 104, and such other courses as required. Mr. Payne and Mr. Scott.

A definite investigation covering some phase of poultry work, to be continued into the next semester if necessary.

210. GENETICS SEMINAR. 1(1-0); I and II. Prerequisites: Consult instructors. Dr. Nabours, Dr. Ibsen, Dr. Warren, Dr. Parker, and Dr. Brunson.

Genetic experiments in plants and animals, the biological and mathematical methods employed, and validity of conclusions drawn.

216. POULTRY MANAGEMENT. 3(3-0); II and SS. Prerequisites: Poult. Husb. 101; senior or graduate standing. Mr. Payne and Mr. Scott.

A detailed study of all phases of farm and commercial flocks, including cost of production.

220. POULTRY SEMINAR. 1(1-0); I. Prerequisite: Poult. Husb. 101. Required of all graduate students and of both juniors and seniors majoring in poultry husbandry. Dr. Warren.

A review of current literature appearing in periodicals and bulletins and reports on research projects and topics of special interest.

FOR GRADUATE CREDIT

301. RESEARCH IN POULTRY HUSBANDRY. Credit to be arranged; I, II, and SS. Prerequisites: Poult. Husb. 101, 104, 109, 116, 120, or their equivalent, and such other courses as required. Consult instructors. Dr. Warren, Mr. Payne, and Mr. Scott.

A definite line of investigation in poultry genetics, management, or incubation, which may form the basis of a master's thesis.

305. ANIMAL NUTRITION SEMINAR. 1(1-0); I and II. Prerequisite: Consult instructors. Mr. Payne and Mr. Scott.

Study and criticism of experimental work in animal nutrition, of the methods employed, and of the validity of conclusions drawn.

Kansas Agricultural Experiment Station

STATION STAFF

F. D. FARRELL, President of the College

ADMINISTRATION—

L. E. CALL, Director

HUGH DURHAM, Assistant to Director

BENJAMIN FRANKLIN, Business Manager

AGRICULTURAL ECONOMICS—

W. E. GRIMES, Farm Organization, in Charge

R. M. GREEN, Marketing Grain (on leave)

HAROLD HOWE, Land Economics

MORRIS EVANS, Farm Organization

J. A. HODGES, Farm Organization

HOMER J. HENNEY, Marketing Live Stock

GEORGE MONTGOMERY, Marketing Fruits and Vegetables (on leave)

AGRICULTURAL ENGINEERING—

F. C. FENTON, in Charge

FRANK J. ZINK, Farm Power Machinery

C. A. LOGAN, Rural Electrification and Home Equipment (on leave)

E. L. BARGER, Farm Power Equipment

AGRONOMY—

R. I. THROCKMORTON, in Charge

J. H. PARKER, Plant Breeding¹

A. E. ALDOUS, Pasture Management

F. L. DULEY, Soils (on leave)

H. H. LAUDE, Crops

A. M. BRUNSON, Corn Breeding¹

J. W. ZAHNLEY, Crops

A. L. CLAPP, Coöperative Experiments

F. L. TIMMONS, Coöperative Experiments (transferred)

F. G. PARSONS, Coöperative Experiments

C. D. DAVIS, Crops

W. H. METZGER, Soils

H. E. MYERS, Soils

I. K. LONDON, Southeastern Kansas Experiment Fields (resigned)

C. E. CREWS, South Central Kansas Experiment Fields

ELISABETH HARLING, Seed Analyst

C. O. GRANDFIELD,¹ Forage Crops

ANIMAL HUSBANDRY—

C. W. McCAMPBELL, in Charge

A. D. WEBER, Cattle Investigations

C. E. AUBEL, Swine Investigations

R. F. COX, Sheep Investigations

D. L. MACKINTOSH, Horse Investigations

H. L. IBSEN, Animal Genetics

W. E. CONNELL, Live Stock

RALPH BOGART, Graduate Research Assistant in Genetics

1. In coöperation with the U. S. Department of Agriculture.

BACTERIOLOGY—

L. D. BUSHNELL, in Charge
A. C. FAY, Dairy Bacteriology
P. L. GALNEY, Soil Bacteriology
C. A. BRANDLY, Poultry Disease Investigations

BOTANY—

L. E. MELCHERS, in Charge
E. C. MILLER, Plant Physiology
O. H. ELMER, Plant Pathology
F. C. GATES, Taxonomy
C. L. LEFEBVRE, Plant Pathology
HURLEY FELLOWS, Cereal Investigations¹
C. O. JOHNSTON, Cereal Investigations¹
C. H. FICKE, Cereal Investigations¹

CHEMISTRY—

H. H. KING, in Charge
J. T. WILLARD, Consulting Chemist
J. S. HUGHES, Animal Nutrition
C. J. WHITNAH, Feedingstuffs Analysis
J. F. MERRILL, Fertilizer Analysis
A. T. PERKINS, Soil Investigations
J. L. HALL, Physical Chemical Investigations
H. W. LOY, Assistant Chemist

DAIRY HUSBANDRY—

F. W. ATKESON, in Charge
J. B. FITCH, in Charge (resigned)
H. W. CAVE, Dairy Production
W. H. MARTIN, Dairy Manufactures
W. H. RIDDELL, Dairy Production
W. J. CAULFIELD, Dairy Manufactures

ENTOMOLOGY—

G. A. DEAN, in Charge
RALPH L. PARKER, Apiculture, Fruit Insects
ROGER C. SMITH, Staple Crop Insect Investigations
R. H. PAINTER, Staple Crop Insect Investigations
H. R. BRYSON, Staple Crop Insect Investigations
DONALD A. WILBUR, Staple Crop Insect Investigations
P. G. LAMERSON, Fruit Insect Investigations
SAMUEL G. KELLY, Cocklebur Control Investigations²

HOME ECONOMICS—

MARGARET M. JUSTIN, in Charge
MARTHA M. KRAMER, Food Economics and Nutrition
ESTHER BRUNER, Clothing and Textiles
KATHERINE HESS, Clothing and Textiles
MARY F. TAYLOR, Home Management
BERNICE KUNERTH, Technician
MINA GOEHRING, Clothing and Textiles (resigned)
HELEN ROBERTS, Research Assistant

HORTICULTURE—

R. J. BARNETT, in Charge
L. R. QUINLAN, Landscape Gardening
W. F. PICKETT, Orchard Investigations

1. In coöperation with the U. S. Department of Agriculture.

2. In coöperation with the Division of Economic Entomology, Commonwealth of Australia.

W. B. BALCH, Floriculture and Vegetable Gardening
G. A. FILINGER, Pomology
T. R. REITZ, Northeastern Kansas Experiment Fields (on leave)
ERWIN ARMEYER, Northeastern Kansas Experiment Fields

MILLING INDUSTRY—

C. O. SWANSON, in Charge
EARL B. WORKING, Wheat and Flour Investigations
R. O. PENCE, Milling Technology
J. E. ANDERSON, Assistant in Milling

POULTRY HUSBANDRY—

L. F. PAYNE, in Charge
D. C. WARREN, Genetics
H. M. SCOTT, Poultry Production
C. L. GISH, Superintendent Poultry Farm

VETERINARY MEDICINE—

R. R. DYKSTRA, in Charge
H. F. LIENHARDT, Pathology
J. P. SCOTT, Blackleg Investigations
C. H. KITSELMAN, Abortion Disease Investigations
HERMAN FARLEY, Shipping Fever Investigations
CHARLES A. PYLE, Anaplasmosis Investigations¹

ZOOLOGY—

R. K. NABOURS, in Charge
J. E. ACKERT, Parasitology
G. E. JOHNSON, Injurious Mammals
FLORENCE STEBBINS, Genetics
CHARLES G. DOBROVOLNY, Technician
IVAN PRATT, Graduate Research Assistant
BURTON L. BAKER, Graduate Research Assistant
MARGARET TABOR, Graduate Research Assistant
JOHN H. WHITLOCK, Graduate Research Assistant

BRANCH EXPERIMENT STATIONS**FORT HAYS—**

L. C. AICHER, Superintendent
FRED P. ESHBAUGH, Forest Nurseryman
A. L. HALLSTED, Dry-land Agriculture Investigations¹
A. F. SWANSON, Cereal Crop Investigations¹
D. A. SAVAGE, Forage Crop Investigations¹
F. G. ACKERMAN, Soil Erosion Investigations¹
R. R. DRAKE, Soil Erosion Investigations¹

GARDEN CITY—

F. A. WAGNER, Superintendent
H. J. CLEMMER, Dry-land Agriculture Investigations¹ (resigned)

COLBY—

E. H. COLES, Superintendent¹
J. B. KUSKA, Dry-land Agriculture Investigations¹

TRIBUNE—

T. B. STINSON, Superintendent

1. In coöperation with the U. S. Department of Agriculture.

The Agricultural Experiment Station

The Kansas Agricultural Experiment Station was organized under the provisions of an act of congress, approved March 2, 1887, which is commonly known as the "Hatch act," and is officially designated as—

"An act to establish agricultural experiment stations in connection with the colleges established in the several states under the provisions of an act approved July 2, 1862, and the acts supplementary thereto."

The wide scope and far-reaching purposes of this act are best comprehended by an extract from the body of the measure itself, in which the objects of its enactment are stated as being—

"To aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and practices of agricultural science."

The law specifies in detail—

"That it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and waters; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses for forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable."

On the day after the Hatch act had received the signature of the President, the legislature of Kansas, being then in session, passed a resolution, dated March 3, 1887, accepting the conditions of the measure, and vesting the responsibility of carrying out its provisions in the Board of Regents of the Kansas State College.

Until 1908 the expenses of the Agricultural Experiment Station were provided for entirely by the federal government. The original creative act (the Hatch act) carried an annual congressional appropriation of \$15,000. No further addition to this amount was made until the passage of the Adams act, which was approved by the President March 16, 1906. This measure provided "for the more complete endowment and maintenance of agricultural experiment stations," a sum beginning with \$5,000, and increasing each year by \$2,000 over the preceding year for five years, since which time the annual appropriation has been \$15,000—

"To be applied to paying the necessary expenses of conducting original researches or experiments bearing directly on the agricultural industry of the United States, having due regard to the varying conditions and needs of the respective states or territories."

It is further provided that—

"No portions of said moneys exceeding five percentum of each annual appropriation shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation or repair of any building or buildings, or to the purchase or rental of land."

The Adams act, providing as it does for original investigations, supplied the greatest need for the Agricultural Experiment Station—means of providing men and equipment for advanced research. Only such experiments may be entered upon under the provisions of this act as have first been passed upon and approved by the Office of Experiment Stations of the United States Department of Agriculture.

Further support for the Agricultural Experiment Station was provided by the federal government by the passage of the Purnell act, which was approved

by the President February 24, 1925. This measure authorized an appropriation of \$20,000 for the fiscal year beginning July 1, 1925, with allotments increasing annually by \$10,000 until a total of \$60,000 was reached for the fiscal year beginning July 1, 1929. The law specifies that—

"The funds appropriated pursuant to this act shall be applied only to paying the necessary expenses of conducting investigations or making experiments bearing directly on the production, manufacture, preparation, use, distribution, and marketing of agricultural products and including such scientific researches as have for their purpose the establishment and maintenance of a permanent and efficient agricultural industry, and such economic and sociological investigations as have for their purpose the development and improvement of the rural home and rural life, and for printing and disseminating the result of said researches."

The Purnell act, while specific in its statement of the purposes for which the appropriation may be used, is broad in scope and provides specifically for scientific research in agricultural economics, home economics, and rural sociology, in addition to providing more liberal support for the older established work of the Agricultural Experiment Station.

More than one hundred projects, covering practically all phases of agricultural investigation, are being studied by the members of the Agricultural Experiment Station staff.

The farms, livestock, laboratories, and general equipment of the College are all directly available for the use of the Agricultural Experiment Station.

The results of the work of the Station are published in the form of bulletins, circulars, and scientific papers. These bulletins are of two classes—those which record the results of research work of a purely scientific character and those which present technical information in a simplified form, suitable for the general reader. The circulars are popular presentations of data which call for immediate application, as well as timely and useful information not necessarily new or original. The scientific papers are usually published as reprints or addresses given before scientific bodies. These reprints contain original information or report definite steps in the progress of investigations under way.

All bulletins and other publications from the Agricultural Experiment Station are sent without charge to citizens of the state. Any person in the state who so desires may have his name placed on the permanent mailing list of the station.

Letters of inquiry and general correspondence should be addressed: "Agricultural Experiment Station, Manhattan, Kan." Special inquiries should be directed, so far as possible, to the heads of departments having in charge the matters concerning which information is desired.

CONTROL WORK OF THE STATION

In addition to the work of agricultural investigation, the state has enlarged the activities of the station along various lines of state executive or control work.

One of the important lines of control work is that of the State Entomological Commission. (Laws of 1907, ch. 386; 1909, ch. 27.) This commission, created in 1907, was established—

"To suppress and eradicate San José scale and other dangerous insect pests and plant diseases throughout the state of Kansas."

The professors of entomology at the Kansas State College and at the University of Kansas are by law designated as two of the five members of the above commission. Acting under the title of state entomologists, they divide between them the territory of the state, for the purpose of inspection.

They are empowered—

"To enter upon any public premises . . . or upon any land of any firm, corporation or private individual within the state of Kansas, for the purpose of inspection, destroying, treating, or experiment upon the insects or diseases aforesaid."

They may treat or cause to be treated "any and all suspicious trees, vines, shrubs, plants and grains," or, under certain conditions, may destroy them. They must annually inspect all nursery stock, and no nursery stock is to be admitted within the state without such inspection.

By legislative act (Laws of 1909, ch. 49), a "division of forestry" at the Kansas State College is also provided for in the following terms:

"For the promotion of forestry in Kansas there shall be established at the Kansas State Agricultural College, under the direction of the Board of Regents, a division of forestry. The Board of Regents of the Kansas State Agricultural College shall appoint a state forester, who shall have general supervision of all experimental and demonstration work in forestry conducted by the Agricultural Experiment Station. He shall promote practical forestry in every possible way, compile and disseminate information relative to forestry, and publish the results of such work through bulletins, press notices, and in such other ways as may be most practicable to reach the public, and by lecturing before farmers' institutes, associations, and other organizations interested in forestry."

It will thus be seen that the state of Kansas is making increased use of the scientific staff of the Agricultural Experiment Station in matters of state importance requiring the application of technical knowledge.

Branch Agricultural Experiment Stations

FORT HAYS BRANCH STATION

The land occupied by this station is a part of what was originally the Fort Hays military reservation. Being no longer required for military purposes, it was turned over to the Department of the Interior, October 22, 1899, for disposal under the act of congress of July 5, 1884. Through the influence of Senator, later Regent, W. A. Harris, and of Congressman Reeder, a bill was passed in the fifty-sixth congress setting aside this reservation "for the purpose of establishing an experimental station of the Kansas Agricultural College and a western branch of the Kansas State Normal School thereon and a public park." This bill was approved by the President on March 28, 1900. By act of the state legislature, approved on February 7, 1901, the act of congress donating this land and imposing the burden of the support of these institutions was accepted. The same session of the legislature passed an act providing for the organization of a branch experiment station and appropriating a small fund for preliminary work. In the division of this land, the College received 3,560 acres.

The land at the Fort Hays Branch Station consists mainly of high, rolling prairie, with a limited area of rich alluvium bordering on a creek, and is situated on the edge of the semiarid plains region. It is well suited for experimental and demonstration work in dry farming, in irrigation, and in crop, forestry, and orchard tests, under conditions of limited rainfall and high evaporation.

The work of this Station may be divided into two divisions: (A) Experimental projects, and (B) general farm and live-stock work. The experimental projects are as follows: Dry-farming investigations, forage-crop investigations, cereal-crop investigations, forest, nursery and park demonstrations and investigations, farm dairying, and experiments in the feeding and breeding of live stock. All this work is confined to the study of the problems peculiar to the western half of the state, and relates especially to crop production under limited rainfall, to the development of varieties better adapted to the climatic conditions there prevailing and to studies of the systems of animal husbandry and dairy husbandry suited to this region. The facilities of this Station are being used for the growing of large quantities of pure seed of the strains and varieties which have proved in actual test to be most productive in the western part of the state.

GARDEN CITY BRANCH STATION

In 1906 the county commissioners of Finney county purchased, for purposes of agricultural experimentation, a tract of land amounting to 320 acres, situated four and one-half miles from Garden City, on the unirrigated upland.

The land has been leased for a term of ninety-nine years to the Kansas Agricultural Experiment Station as an "experimental and demonstration farm"

for the purpose of determining the methods of culture, crop varieties, and crop rotation best suited to the southwestern portion of the state, under dry-land farming conditions. A pumping plant irrigating from eighty to one hundred acres has been installed for the purpose of investigating the expense of pumping and the cost of equipment necessary for plants of this type, which are common in the shallow-water districts between Garden City and Scott City and along the Arkansas valley. The Agricultural Experiment Station's investigations in irrigation agriculture are centered at this branch station.

COLBY BRANCH STATION

The legislature of 1913 provided for the establishment of a branch experiment and demonstration station near Colby, in northwestern Kansas, "for the purpose of advancing and developing the agricultural, horticultural, and irrigation interests of this state and western Kansas." This station was located upon a tract of three hundred and fourteen acres of land bordering upon the townsite of Colby. This land was purchased by the county and deeded to the state for the purposes named above. Operations were begun in March, 1914. Cropping experiments are being conducted under dry-land conditions and under irrigation. Water is being lifted one hundred and fifty feet for irrigating a garden, fruit trees, and a few desirable crops, such as alfalfa, that could not be grown successfully in western Kansas with the natural rainfall. The primary purpose of the Colby Station is to determine the best methods of developing the agriculture of northwestern Kansas and to make it a still more desirable place to live.

TRIBUNE BRANCH STATION

At the Tribune Station experimental and demonstration work is conducted for the benefit of the surrounding territory. Special attention is paid to the problems of producing, storing, and utilizing crops for winter feeding of cattle which in summer graze the extensive range areas of the extreme western part of the state.

The Division of Engineering

ROY ANDREW SEATON, *Dean*

The Division of Engineering offers curricula in agricultural engineering, architectural engineering, architecture, chemical engineering, civil engineering, electrical engineering, landscape architecture, and mechanical engineering, each leading to the degree of Bachelor of Science in the profession selected.

While the curricula, as scheduled, are believed to be sufficient to cover the needs of the average young man, it is possible to combine portions of the work of two or more of them in such a way that one may be prepared to take up a special line of work for which he desires to fit himself. For example, by substituting certain courses from the departments of chemistry and geology for some of those in the curriculum in mechanical engineering, a young man can fit himself for work in connection with the oil industry. By combining some of the courses in civil and mechanical engineering and by taking additional work in chemistry and geology, a young man may fit himself for special work in connection with the development of the coal fields of the country. With the permission of the dean of the division students desiring to do so may substitute work in the reserve officers' training corps for certain subjects in any of the curricula of the division.

It is believed that the curricula as tabulated give the best preparation for students expecting to follow general work in the profession selected and for those who are not certain what particular branch of the profession they will follow. The substitutions and combinations indicated, and others similar to them, will be permitted only when there is good evidence that the student desiring such work is practically certain to follow the branch selected.

In the case of any of these modifications, the degree granted will be that of the curriculum in which the major portion of the work is taken. In no case will the substitution of an additional amount of technical work for any of the general cultural work in the course be allowed.

CURRICULUM IN AGRICULTURAL ENGINEERING

The curriculum in agricultural engineering is designed to qualify men for engineering work in agriculture. The field of the agricultural engineer includes: research, sales, or advertising in the farm-machinery and farm-motor industry; farm structure design, or promotional work with the building materials industry; soil erosion prevention with the federal and state agencies; rural electric service with electric power companies; management of farms where drainage, irrigation, or power-farming methods are of major importance; and as professional engineers in agricultural development.

The curriculum in agricultural engineering includes all of the basic courses which are common to the other engineering curricula, such as mathematics, physics and mechanics. The foundation courses in agriculture are also included in order to familiarize the student with the modern methods of agriculture. Training along engineering lines includes farm machinery, farm power, rural architecture, highway engineering, drainage, irrigation, soil erosion control, and modern farm and home equipment.

CURRICULUM IN ARCHITECTURAL ENGINEERING

The curriculum in architectural engineering as herein outlined is designed primarily for the student who wishes to specialize in the constructional side of the building profession.

The field of the architectural engineer is wide and varied. It comprises the superintending of building construction, general contracting, the estimating of costs for construction projects, and the designing of the structural members of steel, timber and concrete.

Because of the nature of the work of the architectural engineer in the profession, it is necessary that he be also well grounded in the underlying principles of art and architectural designs. In addition to the necessary architectural and engineering requirements the curriculum also provides for general cultural courses. These courses are designed to provide the student with the essentials of a liberal education.

CURRICULUM IN ARCHITECTURE

The curriculum in architecture aims to provide the technical training which will give a broad and sound foundation for the needs of the practicing architect, as well as the essentials of a liberal education. Although closely associated with, and somewhat dependent upon, science and engineering, architecture is primarily a fine art; hence the training of the architect, while including the general fundamentals of engineering and science, must be based primarily upon a study and understanding of the basic architectural principles, together with the canons of art and good taste. A major portion of the curriculum is therefore devoted to the study of architectural design, supplemented by those subjects preparatory or contributory to it.

Supporting this line of study the student is given a comprehensive view of the development of civilization, together with a more detailed study of the history of architecture and of art. Throughout the course draughtsmanship as applied to architectural design and construction, as well as to free-hand drawing and sketching, is given constant attention. Courses dealing with the fundamental principles of building construction, sanitation, heating, and lighting, together with a careful study of the properties and uses of building materials, are given simultaneously with the courses in design and drawing.

In addition to the above-outlined professional and technical studies, approximately one-quarter of the curriculum is devoted to more general studies designed to broaden the student's view and to give him the essentials of a liberal education. Thus it is the aim not only to provide a fundamental training upon which the student may base his professional development and advancement, but to afford a training which is in the broadest sense educational.

Students pursuing the curriculum in architecture are urged to devote a fifth year to the work. By so doing the student can combine the curricula in architectural engineering and architecture and receive the Bachelor of Science degree in both architectural engineering and architecture.

CURRICULUM IN CHEMICAL ENGINEERING

Though the progress of chemical science and of the chemical industries has been rapid in the last twenty-five years, their development really has only begun. One need but survey briefly the hosts of industries which are dependent upon chemistry for their improvement to realize what opportunities await the trained chemical engineer. Industries which have been more or less empirically developed include those concerned with the manufacture of paints and varnishes, soaps, glass, leather, rubber, and ceramic materials. Industrial products which are the direct result of chemical research include dyes, synthetic essential oils, drugs, food products, and all electrochemical and electrothermal products, such as calcium carbide, carborundum, graphite, caustic soda, chlorine, chlorates, aluminum and other metals, and atmospheric nitrates. Still further improvements are possible in the present processes, and a vast number of entirely new industries are waiting to be developed.

The training offered in the chemical engineering curriculum gives the student knowledge of the theoretical phases of chemistry and engineering which are fundamental to further development in many lines of industrial work. It is intended to fit him to enter the professional field of chemical engineering. In addition to sound training in chemical laws and processes, considerable work is given in the mathematical and physical sciences, drawing, economics, and engineering methods and operations.

CURRICULUM IN CIVIL ENGINEERING

The aim of the curriculum in civil engineering, as outlined in this catalogue, is to give the young men taking the work the best possible preparation for entering upon the active practice of the profession under present conditions. It will be noted that the first and second years are devoted largely to general cultural studies and the sciences, including mathematics. This follows the arrangement generally found in the engineering curricula in American colleges, and it finds its justification in the well-nigh universally accepted idea that any engineering education worthy of consideration must be grounded upon ample preliminary education in the allied sciences. An introduction to the technical work is given in these years through courses in drawing, surveying, and the elementary phases of engineering.

The last two years are devoted largely to technical work. In recognition of the mechanical trend of the age, liberal provision is made for class and laboratory work in mechanical and electrical engineering. In view of the growing importance of municipal problems, such as paving, sewerage, and water supply, the curriculum in civil engineering includes required courses in these subjects.

Advanced elective courses in railway, highway, and irrigation and drainage engineering are offered in the second semester of the senior year.

CURRICULUM IN ELECTRICAL ENGINEERING

The curriculum in electrical engineering aims to prepare the student for leadership in the field of his chosen profession. The graduate may enter upon one of several divisions in the field of electrical engineering, such as electrical design, research, application, commercial, or operation in either the electric power or the electric communication industry.

In order to qualify for the various divisions of the profession, the student should have a thorough grounding in mathematics and the sciences; practice and theoretical training in drawing, surveying, and shop practice; and a liberal training in the cultural subjects of English, history and economics. Such a broad foundation serves as the basis for the more technical training in electrical engineering. This technical training begins with a course during the first year in College, is followed by another course during the second year, and is completed by several courses extending through the junior and senior years. The curriculum provides, in addition, elective work, giving the student ample opportunity for the selection of extra work along cultural, economic, or technical lines.

An opportunity for contact with the field of electrical engineering is offered by special lectures and by inspection trips. The student is aided in securing professional experience during the summer vacation periods.

CURRICULUM IN LANDSCAPE ARCHITECTURE

The aim of the curriculum in landscape architecture is to give to the student such technical training as will equip him for successful practice as a landscape architect.

The work of the landscape architect embraces the design, construction, execution, planting, and maintenance of farmsteads, estates, and other home grounds. In his work he is also called upon to plan parks, playgrounds, real estate subdivisions, country clubs, and boulevards and street systems. City planning and the laying out of town sites is probably the most important work of the landscape architect.

The function of the landscape architect is the fitting of land for human use, convenience, and enjoyment, whether it be in the city or in the country. The work requires a thorough knowledge of the fundamentals of architecture, engineering, and horticulture. Because landscape architecture is primarily a fine art, especial emphasis is given to the study of the fundamental principles of design. A major portion of the curriculum is therefore devoted to the study

of architectural and landscape design. These courses are supplemented with courses in drafting, free-hand drawing, and sketching, so the student may develop a facility for expressing his ideas on paper. Throughout the course the student is also given intensive training in the study of plant materials, forestry, and soil conditions.

In addition to professional courses of study the curriculum provides general cultural courses. These courses are designed primarily to give the student the basic elements of a liberal education.

CURRICULUM IN MECHANICAL ENGINEERING

The work in mechanical engineering prepares for the successful management and superintendence of factories and power plants; for the design of power machinery installations; for the design and construction of machine tools, steam and gas engines, compressors, hydraulic machinery, etc.; and for the design and erection of engineering buildings and factories, including the selection, purchasing, and location of the equipment.

The curriculum has been laid out with the aim of securing a judicious mixture of theory and practice, such as will not only give the student the technical skill required for engineering operations, but will also endow him with an understanding of the scientific and economic principles necessary for the solution of engineering and industrial problems.

Throughout the four years the theoretical studies in the classroom are supplemented by practical work in the laboratories in such a manner as very materially to strengthen both. In the testing laboratories the work does not end when the test is completed, but the entire problem must be written up in such a manner as would be approved in the best commercial testing laboratories. The laboratory work in the shops not only gives the student practice in operating the machinery and performing the various mechanical operations, but includes a scientific study of the factors of production, so that the loss of material and expenditure of human effort will be a minimum.

Optional and elective courses are available in the senior year and give the student an opportunity for instruction in the more specialized branches of mechanical engineering, including factory engineering, power production, and aeronautical engineering.

Students pursuing a mechanical engineering curriculum are urged to spend at least two summers in some shop or commercial plant in order to broaden their training.

ENGINEERING IN THE SUMMER SCHOOL

The Division offers summer courses in free-hand and mechanical drawing, water-color and oil painting, manual training, and shop practice for high-school and grade-school teachers. In addition, various courses required in the several engineering curricula are offered in the Summer School. This enables teachers who wish to take an engineering curriculum to get a considerable start on the work during their summer vacations, and also enables College students who are irregular to make up their back courses.

Full information concerning the courses offered is contained in the Summer School number of the Kansas State College *Bulletin* which may be obtained upon application to the vice president of the College.

Curriculum in Agricultural Engineering

FRESHMAN

FIRST SEMESTER

| | |
|--------------------------------------|---------|
| Chemistry E-I, Chem. 107..... | *4(3-3) |
| College Algebra, † Math. 104..... | 3(3-0) |
| College Rhetoric I, Engl. 101..... | 3(3-0) |
| Engr. Draw., Mach. Design 101.... | 2(0-6) |
| Agric. Mach. & Con., Agr. Engr. 122, | 2(1-3) |
| Extempore Speech I, Pub. Spk. 106. | 2(2-0) |
| Artillery I, Mil. Tr. 113A..... | 1(0-3) |
| Engr. Lectures, Gen. Engr. 101.... | R |
| Phys. Education M, Phys. Ed. 103. | R(0-2) |

Total 17

SECOND SEMESTER

| | |
|-------------------------------------|--------|
| Chemistry E-II, Chem. 108..... | 4(3-3) |
| Plane Trigonometry, Math. 101.... | 3(3-0) |
| College Rhetoric II, Engl. 104..... | 3(3-0) |
| Descriptive Geom., Mach. Des. 106.. | 2(0-6) |
| Elements An. Husb., An. Husb. 125.. | 3(2-4) |
| Forging, Shop 150..... | 1(0-3) |
| Artillery II, Mil. Tr. 114A..... | 1(0-3) |
| Engr. Lectures, Gen. Engr. 101.... | R |
| Phys. Education M, Phys. Ed. 104.. | R(0-2) |

Total 17

SOPHOMORE

FIRST SEMESTER

| | |
|-------------------------------------|--------|
| Engr. Physics I, Phys. 145..... | 5(4-3) |
| Plane Analytical Geom., Math. 110.. | 4(4-0) |
| Metallurgy, Shop 165..... | 2(2-0) |
| Mechanism, Mach. Design 121..... | 3(3-0) |
| Surveying I, Civ. Engr. 102..... | 2(0-6) |
| Artillery III, Mil. Tr. 115A..... | 1(0-3) |
| Seminar, Gen. Engr. 105..... | R |
| Phys. Education M., Phys. Ed. 105.. | R(0-2) |

Total 17

SECOND SEMESTER

| | |
|------------------------------------|--------|
| Engr. Physics II, Phys. 150..... | 5(4-3) |
| Calculus I, Math. 205..... | 5(5-0) |
| General Geology, Geol. 103..... | 3(3-0) |
| Mach. Draw. I, Mach. Design 111. | 2(0-6) |
| Surveying II, Civ. Engr. 111..... | 2(0-6) |
| Artillery IV, Mil. Tr. 116A..... | 1(0-3) |
| Seminar, Gen. Engr. 105..... | R |
| Phys. Education M, Phys. Ed. 106.. | R(0-2) |

Total 18

JUNIOR

FIRST SEMESTER

| | |
|-------------------------------------|--------|
| Applied Mechanics, Ap. Mech. 202.. | 4(4-0) |
| Calculus II, Math. 206..... | 3(3-0) |
| Fld. & Power Mach., Agr. Engr. 111. | 4(2-6) |
| Carpentry,\|\| Shop 149..... | 2(0-6) |
| Machine Tool Work I, Shop 170... | 2(0-6) |
| Law for Engineers,\|\| Hist. 167..... | 2(2-0) |
| Seminar, Gen. Engr. 105..... | R |

Total 17

SECOND SEMESTER

| | |
|---------------------------------------|--------|
| Strength of Mat., Ap. Mech. | |
| 211, 220..... | 6(5-3) |
| American Industrial Hist., Hist. 105. | 3(3-0) |
| Farm Crops, Agronomy 101..... | 4(2-6) |
| Farm Motors, Agric. Engr. 225.... | 4(2-6) |
| Foundry Production, Shop 161..... | 1(0-3) |
| Seminar, Gen. Engr. 105..... | R |

Total 18

SENIORS§

FIRST SEMESTER

| | |
|-------------------------------------|--------|
| Economics I, Econ. 101..... | 3(3-0) |
| Farm Structure, Agric. Engr. 203... | 2(2-6) |
| Highway Engr. I,\|\| Civ. Engr. 231. | 2(2-0) |
| Hydraulics, Ap. Mech. 230, 235.... | 4(3-3) |
| Highway Mat. Lab.,\|\| Ap. Mech. | |
| 250 | 1(0-3) |
| Soils, Agron. 130..... | 4(3-3) |
| Seminar, Gen. Engr. 105..... | R |
| Inspection Trip, Agric. Engr. 140.. | R |

Total 18

SECOND SEMESTER

| | |
|---------------------------------------|-----------|
| Farm Organization, Agric. Econ. 106, | 3(2-3) |
| Land Reclamation, Agric. Engr. 250, | 3(2-3) |
| Elec. Engr. C, Elec. Engr. 102, 106. | 3(2-2, 1) |
| Heat. & Ventil. A,\|\| Mech. Engr. 135, | 3(3-0) |
| Modern Farm and Home Equipment, | |
| Agric. Engr. 210..... | 3(2-3) |
| Elective‡ \|\| ..... | 2(-) |
| Seminar, Gen. Engr. 105..... | R |

Total 17

Number of hours required for graduation, 139.

*The number before the parenthesis indicates the number of hours of credit; the first number within the parentheses indicates the number of hours of recitation each week; the second shows the number of hours to be spent in laboratory work each week; and the third, where there is one, indicates the number of hours of outside work in connection with the laboratory each week.

† Students who offer but one unit of algebra for admission take a five-hour course in College Algebra, Math. 107, the first semester, postponing two hours of other work.

‡ Electives are to be chosen with the advice and approval of the head of the department and the dean.

§ Optional subjects are offered during the senior year for those wishing to specialize in rural electrification.

|| Omitted by students taking Advanced Course, Coast Artillery.

Curriculum in Architectural Engineering

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|-----------------------------------------------------------------|--------|
| Chemistry E-1, Chem. 107..... | 4(3-3) | Chemistry E-II, Chem. 108..... | 4(3-3) |
| College Algebra,* Math. 105..... | 3(3-0) | Plane Trigonometry, Math. 101... | 3(3-0) |
| College Rhetoric I, Engl. 101..... | 3(3-0) | College Rhetoric II, Engl. 104..... | 3(3-0) |
| Desc. Geom. A, Mach. Design 107.. | 3(0-9) | Shades and Shadows, and Perspec- tive, Mach. Design 108..... | 3(0-9) |
| El. of Arch. I, Arch. 106A..... | 3(0-9) | El. of Architectur II, Arch. 107A.. | 3(0-9) |
| Artillery I, Mil. Tr. 113A..... | 1(0-3) | Artillery II, Mil. Tr. 114A..... | 1(0-3) |
| Engr. Lectures, Gen. Engr. 101.... | R | Engr. Lectures, Gen. Engr. 101.... | R |
| Phys. Education M, Phys. Ed. 103.. | R(0-2) | Phys. Education M, Phys. Ed. 104.. | R(0-2) |
| Total | 17 | Total | 17 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|-------------------------------------|--------|
| Engr. Physics I, Phys. 145..... | 5(4-3) | Engr. Physics II, Phys. 150..... | 5(4-3) |
| Hist. of Arch. I, Arch. 154A..... | 2(2-0) | Hist. of Arch. II, Arch. 157A..... | 2(2-0) |
| Plane Analytical Geom., Math. 110. | 4(4-0) | Calculus I, Math. 205..... | 5(5-0) |
| Object Drawing I, Arch. 111..... | 2(0-6) | Object Drawing II, Arch. 114..... | 2(0-6) |
| Extm. Speech I, Pub. Spk. 106... | 2(2-0) | Illumination A, Elect. Engr. 116... | 2(2-0) |
| Surveying I, Civ. Engr. 102..... | 2(0-6) | Artillery IV, Mil. Tr. 116A..... | 1(0-3) |
| Artillery III, Mil. Tr. 115A..... | 1(0-3) | Seminar, Gen. Engr. 105..... | R |
| Seminar, Gen. Engr. 105..... | R | Phys. Education M, Phys. Ed. 106.. | R(0-2) |
| Phys. Education M, Phys. Ed. 105.. | R(0-2) | Total | 17 |
| Total | 18 | Total | 17 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|-------------------------------------|--------|
| Applied Mechanics, Ap. Mech. 202.. | 4(4-0) | Str. of Mat., Ap. Mech. 211, 220... | 6(5-3) |
| Calculus II, Math. 206..... | 3(3-0) | Work. Draw. and Spec., Arch. 191.. | 3(0-9) |
| Hist. of Arch. III, Arch. 158A.... | 2(2-0) | Hist. of Arch. IV, Arch. 160A..... | 2(2-0) |
| Masonry & Found., Civ. Engr. 120.. | 2(2-0) | Design II, Arch. 144..... | 3(0-9) |
| Design I, Arch. 142..... | 3(0-9) | Water Color I, Arch. 118..... | 2(0-6) |
| Pencil Rend. & Sketch., Arch. 116.. | 2(0-6) | Elective† \|\| ..... | 2(-) |
| Elective† \|\| ..... | 2(-) | Seminar, Gen. Engr. 105..... | R |
| Seminar, Gen. Engr. 105..... | R | Total | 18 |
| Total | 18 | Total | 18 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|---------------------------------------------|---------|-----------------------------------------------------------|---------|
| Str. in Framed Struc., Civ. Engr. 201 | 4(4-0) | Des. of Fr. Struc., Civ. Engr. 246.. | 3(0-9) |
| Civil Engr. Draw. II, Civ. Engr. 205, | 2(0-6) | Concrete Design, Civ. Engr. 250, 255, | 3(2-3) |
| Design III, Arch. 145..... | 5(0-15) | Design IV, Arch. 147..... | 5(0-15) |
| Rural Architecture, Arch. 153..... | 2(0-6) | Heating and Ventilation A, Mechani- cal Engr. 135..... | 3(3-0) |
| Economics I, Econ. 101..... | 3(3-0) | Business Management,\|\| Econ. 126.. | 2(2-0) |
| Law for Engineers, Hist. 167..... | 2(2-0) | Seminar, Gen. Engr. 105..... | R |
| Seminar, Gen. Engr. 105..... | R | Total | 16 |
| Inspection Trip, Arch. 199..... | R | Total | 16 |
| Total | 18 | Total | 16 |

Number of hours required for graduation, 139.

* Students who offer but one unit of algebra for admission take a five-hour course in College Algebra, Math. 107, the first semester, postponing two hours of other work.

† Electives are to be chosen with the advice and approval of the head of the department and the dean.

|| Omitted by students taking Advanced Course, Coast Artillery.

Curriculum in Architecture

FRESHMAN

FIRST SEMESTER

| | |
|-------------------------------------|------------------|
| College Algebra,* Math. 104..... | 3(3-0) |
| Hist. of Arch. I, Arch. 154A..... | 2(2-0) |
| College Rhetoric I, Engl. 101..... | 3(3-0) |
| Desc. Geom. A, Mach. Des. 107... | 3(0-9) |
| Object Drawing I, Arch. 111..... | 2(0-6) |
| El. of Arch. I, Arch. 106A..... | 3(0-9) |
| Artillery I, Mil. Tr. 113A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 103.. | R(0-2) <i>or</i> |
| Phys. Education W, Phys. Ed. 151A, | R(0-3) |
| Engr. Lectures, Gen. Engr. 101.... | R |

| | |
|-------------------|----|
| Total, men..... | 17 |
| Total, women..... | 16 |

SECOND SEMESTER

| | |
|--------------------------------------|------------------|
| Plane Trigonometry, Math. 101.... | 3(3-0) |
| Hist. of Arch. II, Arch. 157A..... | 2(2-0) |
| College Rhetoric II, Engl. 104..... | 3(3-0) |
| Shd. & Shad. & Per., Mach. Des. 108, | 3(0-9) |
| Object Drawing II, Arch. 114..... | 2(0-6) |
| El. of Arch. II, Arch. 107A..... | 3(0-9) |
| Artillery II, Mil. Tr. 114A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 104.. | R(0-2) <i>or</i> |
| Phys. Education W, Phys. Ed. 152A, | R(0-3) |
| Engr. Lectures, Gen. Engr. 101.... | R |

| | |
|-------------------|----|
| Total, men..... | 17 |
| Total, women..... | 16 |

SOPHOMORE

FIRST SEMESTER

| | |
|---------------------------------------|------------------|
| Gen. Physics I, Phys. 135..... | 4(3-3) |
| Hist. of Arch. III, Arch. 158A..... | 2(2-0) |
| Bld. Mat. & Con., Arch. 187A..... | 3(3-0) |
| Pencil Rend. & Sketch., Arch. 116.. | 2(0-6) |
| Design I, Arch. 142..... | 3(0-9) |
| French I, Mod. Lang. 151..... | 3(3-0) |
| Artillery III, Mil. Tr. 115A (men)... | 1(0-3) |
| Seminar, Gen. Engr. 105..... | R |
| Phys. Education M, Phys. Ed. 105.. | R(0-2) <i>or</i> |
| Phys. Education W, Phys. Ed. 153.. | R(0-3) |

| | |
|-------------------|----|
| Total, men..... | 18 |
| Total, women..... | 17 |

SECOND SEMESTER

| | |
|--------------------------------------|------------------|
| General Physics II, Phys. 140..... | 4(3-3) |
| Hist. of Arch. IV, Arch. 160A..... | 2(2-0) |
| Work. Draw. & Spec., Arch. 191... | 3(0-9) |
| Water Color I, Arch. 118..... | 2(0-6) |
| Design II, Arch. 144..... | 3(0-9) |
| French II, Mod. Lang. 152..... | 3(3-0) |
| Artillery IV, Mil. Tr. 116A (men)... | 1(0-3) |
| Seminar, Gen. Engr. 105..... | R |
| Phys. Education M, Phys. Ed. 106.. | R(0-2) <i>or</i> |
| Phys. Education W, Phys. Ed. 154.. | R(0-3) |

| | |
|-------------------|----|
| Total, men..... | 18 |
| Total, women..... | 17 |

JUNIOR

FIRST SEMESTER

| | |
|----------------------------------------|---------|
| Ap. Mech. A, Ap. Mech. 102..... | 3(3-0) |
| Still-life Drawing, Arch. 117..... | 2(0-6) |
| Design III, Arch. 145..... | 5(0-15) |
| Rural Architecture, Arch. 153..... | 2(0-6) |
| Economics I, Econ. 101..... | 3(3-0) |
| Hist. of Paint. and Sculp., Arch. 179, | 3(3-0) |
| Seminar, Gen. Engr. 105..... | R |

| | |
|-------------|----|
| Total | 18 |
|-------------|----|

SECOND SEMESTER

| | |
|--------------------------------------|---------|
| Str. of Mat. A, Ap. Mech. 116, 121.. | 4(3-3) |
| Life Drawing I, Arch. 121..... | 2(0-6) |
| Design IV, Arch. 147..... | 5(0-15) |
| Extem. Speech I, Pub. Spk. 106... | 2(2-0) |
| Law for Engineers, Hist. 167..... | 2(2-0) |
| Electives †\|\|..... | 2(-) |
| Seminar, Gen. Engr. 105..... | R |

| | |
|-------------|----|
| Total | 17 |
|-------------|----|

SENIOR

FIRST SEMESTER

| | |
|------------------------------------|---------|
| Interior Design, Arch. 120..... | 2(0-6) |
| Design V, Arch. 253..... | 8(0-24) |
| Theory of Struc. I, Arch. 192..... | 4(2-6) |
| Elective †\|\|..... | 3(-) |
| Seminar, Gen. Engr. 105..... | R |
| Inspection Trip, Arch. 199..... | R |

| | |
|-------------|----|
| Total | 17 |
|-------------|----|

SECOND SEMESTER

| | |
|------------------------------------|---------|
| Life Drawing II, Arch. 123..... | 2(0-6) |
| Design VI, Arch. 256..... | 8(0-24) |
| Theory of Struc. II, Arch. 194A... | 5(3-6) |
| Elective †\|\|..... | 2(-) |
| Seminar, Gen. Engr. 105..... | R |

| | |
|-------------|----|
| Total | 17 |
|-------------|----|

Number of hours required for graduation: Men, 139; women, 135.

* Students who offer but one unit of algebra for admission take a five-hour course in College Algebra, Math. 107, the first semester, postponing two hours of other work.

† Electives are to be chosen with the advice and approval of the head of the department and the dean.

|| Omitted by students taking Advanced Course, Coast Artillery.

Curriculum in Chemical Engineering

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|-------------------------------------|--------|
| Chemistry I, Chem. 101..... | 5(3-6) | Chemistry II, Chem. 102..... | 5(3-6) |
| College Algebra,* Math. 104..... | 3(3-0) | Plane Trigonometry, Math. 101.... | 3(3-0) |
| College Rhetoric I, Engl. 101..... | 3(3-0) | College Rhetoric II, Engl. 104..... | 3(3-0) |
| Engr. Drawing, Mach. Des. 101.... | 2(0-6) | Des. Geometry, Mach. Des. 106.... | 2(0-6) |
| German I, Mod. Lang. 101..... | 3(3-0) | German II, Mod. Lang. 102..... | 3(3-0) |
| Artillery I, Mil. Tr. 113A..... | 1(0-3) | Artillery II, Mil. Tr. 114A..... | 1(0-3) |
| Engr. Lectures, Gen. Engr. 101.... | R | Engr. Lectures, Gen. Engr. 101.... | R |
| Phys. Education M, Phys. Ed. 103.. | R(0-2) | Phys. Education M, Phys. Ed. 104.. | R(0-2) |
| Total | 17 | Total | 17 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|------------------------------------|---------|
| Engr. Physics I, Phys. 145..... | 5(4-3) | Engr. Physics II, Phys. 150..... | 5(4-3) |
| Plane Analytical Geom., Math. 110.. | 4(4-0) | Calculus I, Math. 205..... | 5(5-0) |
| Adv. Inorganic Chem., Chem. 207.. | 3(3-0) | Quantitative Analysis, Chem. 241.. | 5(1-12) |
| Mechanism, Mach. Des. 121..... | 3(3-0) | Metallurgy, Shops 165..... | 2(2-0) |
| Mach. Drawing I, Mach. Des. 111.. | 2(0-6) | | |
| Artillery III, Mil. Tr. 115A..... | 1(0-3) | Artillery IV, Mil. Tr. 116A..... | 1(0-3) |
| Seminar, Gen. Engr. 105..... | R | Seminar, Gen. Engr. 105..... | R |
| Phys. Education M, Phys. Ed. 105.. | R(0-2) | Phys. Education M, Phys. Ed. 106.. | R(0-2) |
| Total | 18 | Total | 18 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|---------------------------------------|-----------|
| Calculus II, Math. 206..... | 3(3-0) | Str. of Mat. E, Ap. Mech. 216, 220.. | 4(3-3) |
| Ap. Mech., Ap. Mech. 202..... | 4(4-0) | Steam and Gas Engineering II, Mech. | |
| Steam and Gas Engineering I, Mech. | | Engr. 204, 205..... | 4(3-3) |
| Engr. 201, 202..... | 5(4-3) | Organic Chem. II, Chem. 219..... | 4(2-6) |
| Organic Chemistry I, Chem. 218... | 4(2-6) | Elec. Engr. C, Elec. Engr. 102, 106.. | 3(2-2, 1) |
| Electives †\|\|..... | 2(-) | Economics I, Econ. 101..... | 3(3-0) |
| Seminar, Gen. Engr. 105..... | R | Seminar, Gen. Engr. 105..... | R |
| Total | 18 | Total | 18 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|-------------------------------------|--------|
| Industrial Chem. I, Chem. 203..... | 5(3-6) | Industrial Chem. II, \|\| Chem. 204.. | 5(3-6) |
| El. of Chem. Engr. I, Chem. 278.. | 4(3-3) | El. of Chem. Engr. II, Chem. 279... | 4(3-3) |
| Phys. Chem. I, Chem. 206..... | 5(3-6) | Chem. Engr. Prin.,\|\| Chem. 281.... | 2(2-0) |
| Electives †\|\|..... | 2(-) | Chem. Engr. Prob.,\|\| Chem. 268... | 3(0-9) |
| Seminar, Gen. Engr. 105..... | R | Phys. Chem. II, Chem. 272..... | 3(3-0) |
| Inspection Trip, Chem. 130..... | R | Seminar, Gen. Engr. 105..... | R |
| Total | 16 | Total | 17 |

Number of hours required for graduation, 139.

* Students who offer but one unit of algebra for admission take a five-hour course in College Algebra, Math. 107, the first semester, postponing two hours of other work.

† Electives are to be chosen with the advice and approval of the head of the department and the dean.

|| Omitted by students taking Advanced Course, Coast Artillery, except that in the case of Industrial Chemistry II, the laboratory only will be omitted.

Curriculum in Civil Engineering

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|-------------------------------------|--------|
| Chemistry E-I, Chem. 107..... | 4(3-3) | Chemistry E-II, Chem. 108..... | 4(3-3) |
| Plane Trigonometry,* Math. 101... | 3(3-0) | College Algebra,* Math. 104..... | 3(3-0) |
| College Rhetoric I, Engl. 101..... | 3(3-0) | College Rhetoric II, Engl. 104..... | 3(3-0) |
| Engr. Drawing, Mach. Des. 101.... | 2(0-6) | Des. Geometry, Mach. Des. 106.... | 2(0-6) |
| Surveying I, Civ. Engr. 102..... | 2(0-6) | Surveying II, Civ. Engr. 111..... | 2(0-6) |
| Extern. Speech I, Pub. Spk. 106.... | 2(2-0) | Metallurgy, Shop 165..... | 2(2-0) |
| Artillery I, Mil. Tr. 113A..... | 1(0-3) | Artillery II, Mil. Tr. 114A..... | 1(0-3) |
| Engr. Lectures, Gen. Engr. 101.... | R | Engr. Lectures, Gen. Engr. 101.... | R |
| Phys. Education M, Phys. Ed. 103.. | R(0-2) | Phys. Education M, Phys. Ed. 104.. | R(0-2) |
| Total | 17 | Total | 17 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|--------------------------------------|--------|--------------------------------------|--------|
| Engr. Physics I, Phys. 145..... | 5(4-3) | Engr. Physics II, Phys. 150..... | 5(4-3) |
| Plane Analytical Geom., Math. 110.. | 4(4-0) | Calculus I, Math. 205..... | 5(5-0) |
| Amer. Industrial Hist., Hist. 105... | 3(3-0) | Law for Engineers, Hist. 167..... | 2(2-0) |
| Surveying III, Civ. Engr. 151, 155.. | 3(2-3) | Surveying IV, Civ. Engr. 156, 157... | 3(2-3) |
| Mach. Drawing I, Mach. Des. 111.. | 2(0-6) | C. E. Drawing I, Civ. Engr. 125... | 2(0-6) |
| Artillery III, Mil. Tr. 115A..... | 1(0-3) | Artillery IV, Mil. Tr. 116A..... | 1(0-3) |
| Seminar, Gen. Engr. 105..... | R | Seminar, Gen. Engr. 105..... | R |
| Phys. Education M, Phys. Ed. 105.. | R(0-2) | Phys. Education M, Phys. Ed. 106.. | R(0-2) |
| Total | 18 | Total | 18 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|--------------------------------------|--------|
| Ap. Mech., Ap. Mech. 202..... | 4(4-0) | Str. of Mat., Ap. Mech. 211, 220... | 6(5-3) |
| Calculus II, Math. 206..... | 3(3-0) | Hydraulics, Ap. Mech. 230, 235.... | 4(3-3) |
| Highway Engr. I, Civ. Engr. 231... | 2(2-0) | Ry. Engr. I, Civ. Engr. 145..... | 2(2-0) |
| Engr. Geology, Geol. 102..... | 4(3-3) | Drain. & Irrig. I, Civ. Engr. 161... | 2(2-0) |
| Masonry & Found., Civ. Engr. 120.. | 2(2-0) | Steam and Gas Engineering C, Mech. | |
| Water & Sewage Bact., Bact. 125... | 2(0-6) | Engr. 120, 125..... | 3(2-3) |
| Seminar, Gen. Engr. 105..... | R | Seminar, Gen. Engr. 105..... | R |
| Total | 17 | Total | 17 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|---------------------------------------|--------|---------------------------------------|-----------|
| Str. in Fr. Struc., Civ. Engr. 201... | 4(4-0) | Des. of Fr. Struc., Civ. Engr. 246... | 3(0-9) |
| C. E. Drawing II, Civ. Engr. 205... | 2(0-6) | Elec. Engr. C, Elec. Engr. 102, 106.. | 3(2-2, 1) |
| Water Supply, Civ. Engr. 220.... | 2(2-0) | Con. Design, Civ. Engr. 250, 255.. | 3(2-3) |
| Sewerage, Civ. Engr. 225..... | 2(2-0) | Electives †\|\|..... | 8(-) |
| Highway Mat. Lab., Ap. Mech. 250. | 1(0-3) | Seminar, Gen. Engr. 105..... | R |
| Economics I, Econ. 101..... | 3(3-0) | | |
| Astron. & Geod.,\|\| Civ. Engr. 211, | | | |
| 216 | 4(2-6) | | |
| Seminar, Gen. Engr. 105..... | R | | |
| Inspection Trip, Civ. Engr. 180.... | R | | |
| Total | 18 | Total | 17 |

Number of hours required for graduation, 139.

* Students who offer but one unit of algebra for admission take a five-hour course in College Algebra, Math. 107, the first semester, postponing Plane Trigonometry and two hours of other work until the second semester.

† Electives are to be chosen with the advice and approval of the head of the department and the dean.

|| Omitted by students taking Advanced Course, Coast Artillery.

Curriculum in Electrical Engineering

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|---------------------------------------|-----------|---------------------------------------|-----------|
| Chemistry E-I, Chem. 107..... | 4(3-3) | Chemistry E-II, Chem. 108..... | 4(3-3) |
| College Algebra,* Math. 104..... | 3(3-0) | Plane Trigonometry, Math. 101.... | 3(3-0) |
| College Rhetoric I, Engl. 101..... | 3(3-0) | College Rhetoric II, Engl. 104..... | 3(3-0) |
| Engr. Drawing, Mach. Des. 101.... | 2(0-6) | Desc. Geometry, Mach. Des. 106... | 2(0-6) |
| Foundry Production, Shop 161..... | 1(0-3)and | Metallurgy, Shop 165..... | 2(2-0) |
| Forging, Shop 150..... | 1(0-3)or | Foundry Production, Shop 161..... | 1(0-3)and |
| Elec. Mech. & Con., Elec. Engr. 112.. | 2(0-6) | Forging, Shop 150..... | 1(0-3)or |
| Extern. Speech I, Pub. Spk. 106... | 2(2-0) | Elec. Mach. & Con., Elec. Engr. 112.. | 2(0-6) |
| Artillery I, Mil. Tr. 113A..... | 1(0-3) | Artillery II, Mil. Tr. 114A..... | 1(0-3) |
| Engr. Lectures, Gen. Engr. 101.... | R | Engr. Lectures, Gen. Engr. 101.... | R |
| Phys. Education M, Phys. Ed. 103.. | R(0-2) | Phys. Education M, Phys. Ed. 104.. | R(0-2) |
| Total | 17 | Total | 17 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|--------------------------------------|--------|
| Engr. Physics I, Phys. 145..... | 5(4-3) | Engr. Physics II, Phys. 150..... | 5(4-3) |
| Plane Analytical Geom., Math. 110.. | 4(4-0) | Calculus I, Math. 205..... | 5(5-0) |
| Mechanism, Mach. Des. 121..... | 3(3-0) | Amer. Indus. History, Hist. 105.... | 3(3-0) |
| Mach. Draw. I, Mach. Des. 111.... | 2(0-6) | Mach. Draw. E-II, Mach. Des. 117.. | 2(0-6) |
| Surveying I, Civ. Engr. 102..... | 2(0-6) | Prin. Elec. Engr., Elec. Engr. 120.. | 2(2-0) |
| Artillery III, Mil. Tr. 115A..... | 1(0-3) | Artillery IV, Mil. Tr. 116A..... | 1(0-3) |
| Seminar, Gen. Engr. 105..... | R | Seminar, Gen. Engr. 105..... | R |
| Phys. Education M, Phys. Ed. 105.. | R(0-2) | Phys. Education M, Phys. Ed. 106.. | R(0-2) |
| Total | 17 | Total | 18 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|--------------------------------------------|-----------|-----------------------------------------------|-----------|
| Direct-cur. Mach. I, Elec. Engr. 203 | 3(3-0) | Dir.-cur. Mach. II, Elec. Engr. 206, 208..... | 4(2-4, 2) |
| Elec. Meas., Elec. Engr. 227, 229.... | 4(2-4, 2) | Alt.-cur. Mach. I, Elec. Engr. 209.. | 4(4-0) |
| Applied Mech., Ap. Mech. 202..... | 4(4-0) | Elec. Mach. Des., Elec. Engr. 270... | 1(0-3) |
| Calculus IIA, Math. 206A..... | 4(4-0) | Str. of Mat. E, Ap. Mech. 216, 220.. | 4(3-3) |
| Machine Tool Work I, Shop 170.... | 2(0-6) | Economics I, Econ. 101..... | 3(3-0) |
| Seminar, Gen. Engr. 105..... | R | Elective †\|\|..... | 2(-) |
| Total | 17 | Seminar, Gen. Engr. 105..... | R |
| | | Total | 18 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|--------------------------------------------------------|-------------|-------------------------------------------------------------|-----------|
| Alt.-cur. Mach. II, Elec. Engr. 214, 215 | 5(3-4, 2) | Alternating-current Machines III, Elec. Engr. 224, 225..... | 5(3-4, 2) |
| Elec. Commun. I, Elec. Engr. 217,-218 | 3(2-2, 1)or | Steam and Gas Engineering II, Mech. Engr. 204, 205..... | 4(3-3) |
| Pub. Util. Mangt., Elec. Engr. 290.. | 3(3-0) | Bus. English & Sales.,\|\| Engl. 125... | 3(3-0) |
| Steam and Gas Engineering I, Mech. Engr. 201, 202..... | 5(4-3) | Elective †\|\|..... | 5(5-0) |
| Hydraulics Rec., Ap. Mech. 230.... | 3(3-0) | Seminar, Gen. Engr. 105..... | R |
| Corp. Organiz. & Fin.,\|\| Econ. 219.. | 2(2-0) | Total | 17 |
| Seminar, Gen. Engr. 105..... | R | | |
| Inspection Trip, Elec. Engr. 190.... | R | | |
| Total | 18 | | |

Number of hours required for graduation, 139.

* Students who offer but one unit of algebra for admission take a five-hour course in College Algebra, Math. 107, the first semester, postponing Extempore Speech until the second semester, junior year.

† Electives are to be chosen with the advice and approval of the head of the department and the dean.

|| Omitted by students taking Advanced Course, Coast Artillery.

Curriculum in Landscape Architecture

FRESHMAN

FIRST SEMESTER

| | |
|-------------------------------------|-----------|
| Plane Trigonometry,* Math. 101... | 3(3-0) |
| College Rhetoric I, Engl. 101..... | 3(3-0) |
| General Botany I, Bot. 101..... | 3(1-4, 2) |
| Des. Geom. A, Mach. Des. 107.... | 3(0-9) |
| Object Drawing I, Arch. 111..... | 2(0-6) |
| Surveying I, Civ. Engr. 102..... | 2(0-6) |
| Artillery I, Mil. Tr. 113A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 103.. | R(0-2)or |
| Phys. Education W, Phys. Ed. 151A, | R(0-3) |
| Engr. Lectures, Gen. Engr. 101.... | R |

| | |
|-------------------|----|
| Total, men..... | 17 |
| Total, women..... | 16 |

SECOND SEMESTER

| | |
|--------------------------------------|-----------|
| College Algebra,* Math. 104..... | 3(3-0) |
| College Rhetoric II, Engl. 104..... | 3(3-0) |
| Gen. Botany II, Bot. 105..... | 3(1-4, 2) |
| Sh. & Shad. & Per., Mach. Des. 108. | 3(0-9) |
| Object Drawing II, Arch. 114..... | 2(0-6) |
| Surveying II, Civ. Engr. 111..... | 2(0-6) |
| Artillery II, Mil. Tr. 114A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 104.. | R(0-2)or |
| Phys. Education W, Phys. Ed. 152A | R(0-3) |
| Engr. Lectures, Gen. Engr. 101.... | R |

| | |
|-------------------|----|
| Total, men..... | 17 |
| Total, women..... | 16 |

SOPHOMORE

FIRST SEMESTER

| | |
|---------------------------------------|----------|
| Hist. of Arch. I, Arch. 154A..... | 2(2-0) |
| El. of Arch. I, Arch. 106A..... | 3(0-9) |
| Surveying III, Civ. Engr. 151, 155.. | 3(2-3) |
| General Chem., Chem. 110..... | 5(3-6) |
| Landscp. Gardening I, Hort. 125... | 3(3-0) |
| Artillery III, Mil. Tr. 115A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 105.. | R(0-2)or |
| Phys. Education W, Phys. Ed. 153.. | R(0-3) |
| Seminar, Gen. Engr. 105..... | R |

| | |
|-------------------|----|
| Total, men..... | 17 |
| Total, women..... | 16 |

SECOND SEMESTER

| | |
|--------------------------------------|----------|
| Hist. of Arch. II, Arch. 157A..... | 2(2-0) |
| El. of Arch. II, Arch. 107A..... | 3(0-9) |
| Water Color I, Arch. 118..... | 2(0-6) |
| Plant Ecology, Bot. 228..... | 2(2-0) |
| El. of Hort., Hort. 107..... | 3(2-3) |
| General Geology, Geol. 103..... | 3(3-0) |
| Artillery IV, Mil. Tr. 116A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 106.. | R(0-2)or |
| Phys. Education W, Phys. Ed. 154.. | R(0-3) |
| Elective †..... | 1(-) |
| Seminar, Gen. Engr. 105..... | R |

| | |
|-------------------|----|
| Total, men..... | 17 |
| Total, women..... | 16 |

JUNIOR

FIRST SEMESTER

| | |
|--------------------------------------|--------|
| Hist. of Arch. III, Arch. 158A..... | 2(2-0) |
| Pencil Rend. and Sketch., Arch. 116. | 2(0-6) |
| Design I, Arch. 142..... | 3(0-9) |
| Bldg. Mat. & Con., Arch. 187A.... | 3(3-0) |
| Theory of Land. Des., Hort. 243... | 2(2-0) |
| Plant Materials I, Hort. 224..... | 3(2-3) |
| Plant Physiology I, Bot. 208..... | 3(3-0) |
| Seminar, Gen. Engr. 105..... | R |

| | |
|-------------|----|
| Total | 18 |
|-------------|----|

SECOND SEMESTER

| | |
|------------------------------------|--------|
| Hist. of Arch. IV, Arch. 160A..... | 2(2-0) |
| Extm. Speech I, Pub. Spk. 106... | 2(2-0) |
| Design II, Arch. 144..... | 3(0-9) |
| Plant Materials II, Hort. 226..... | 3(2-3) |
| Work. Draw. & Spec., Arch. 191... | 3(0-9) |
| Soils, Agron. 130..... | 4(3-3) |
| Seminar, Gen. Engr. 105..... | R |

| | |
|-------------|----|
| Total | 17 |
|-------------|----|

SENIOR

FIRST SEMESTER

| | |
|-------------------------------------|-----------|
| Landscape Construc., Hort. 227... | 3(2-3) |
| Greenhouse Con. & Mngt., Hort. 128, | 3(3-0) |
| Highway Engr. I, Civ. Engr. 231.. | 2(2-0) |
| Highway Mats. Lab., Ap. Mech. 250, | 1(0-3) |
| Silviculture, Hort. 119..... | 3(2-3) |
| Landscape Gardening II, Hort. 238.. | 3(1-6) |
| Plant Pathology I, Bot. 205..... | 3(1-4, 2) |
| Seminar, Gen. Engr. 105..... | R |
| Inspection Trip, Arch. 199..... | R |

| | |
|-------------|----|
| Total | 18 |
|-------------|----|

SECOND SEMESTER

| | |
|-------------------------------------|--------|
| Civic Art, Hort. 223..... | 3(1-6) |
| Landscape Gardening III, Hort. 246, | 3(1-6) |
| City Planning, Arch. 249..... | 3(0-9) |
| Economics I, Econ. 101..... | 3(3-0) |
| Seminar, Gen. Engr. 105..... | R |
| Elective †\|\|..... | 6(-) |

| | |
|-------------|----|
| Total | 18 |
|-------------|----|

Number of hours required for graduation: Men, 139; women, 135.

* Students who offer but one unit of algebra for admission take a five-hour course in College Algebra, Math. 107, the first semester, postponing Plane Trigonometry and two hours of other work until the second semester.

† Electives are to be chosen with the advice and approval of the head of the department and the dean.

|| Omitted by students taking Advanced Course, Coast Artillery.

Curriculum in Mechanical Engineering

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|----------|-------------------------------------|-----------|
| Chemistry E-I, Chem. 107..... | 4(3-3) | Chemistry E-II, Chem. 108..... | 4(3-3) |
| College Algebra,* Math. 104..... | 3(3-0) | Plane Trigonometry, Math. 101.... | 3(3-0) |
| College Rhetoric I, Engl. 101..... | 3(3-0) | College Rhetoric II, Engl. 104..... | 3(3-0) |
| Engr. Drawing, Mach. Des. 101.... | 2(0-6) | Des. Geom., Mach. Des. 106..... | 2(0-6) |
| Extem. Speech I, Pub. Spk. 106.... | 2(2-0) | Surveying I, Civ. Engr. 102..... | 2(0-6) |
| { Engr. Woodwork, Shop 101..... | 1(0-3) } | Elements of Steam and Gas Power, | |
| { Forging, Shop 150..... | 1(0-3) } | Mech. Engr. 130..... | 2(0-6) or |
| Elements of Steam and Gas Power, | | { Engr. Woodwork, Shop 101..... | 1(0-3) } |
| Mech. Engr. 130..... | 2(0-6) | { Forging, Shop 150..... | 1(0-3) } |
| Artillery I, Mil. Tr. 113A..... | 1(0-3) | Artillery II, Mil. Tr. 114A..... | 1(0-3) |
| Engr. Lectures, Gen. Engr. 101.... | R | Engr. Lectures, Gen. Engr. 101.... | R |
| Phys. Education M, Phys. Ed. 103.. | R(0-2) | Phys. Education M, Phys. Ed. 104.. | R(0-2) |
| Total | 17 | Total | 17 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|--------------------------------------|--------|
| Engr. Physics I, Phys. 145..... | 5(4-3) | Engr. Physics II, Phys. 150..... | 5(4-3) |
| Plane Analyt. Geom., Math. 110.... | 4(4-0) | Calculus I, Math. 205..... | 5(5-0) |
| Mechanism, Mach. Des. 121..... | 3(3-0) | American Indus. Hist., Hist. 105.... | 3(3-0) |
| Mach. Draw. I, Mach. Des. 111.... | 2(0-6) | Mach. Draw. II, Mach. Des. 116.... | 3(0-9) |
| Metallurgy, Shop 165..... | 2(2-0) | Foundry Production, Shop 161.... | 1(0-3) |
| Metallography I, Shop 167..... | 1(0-3) | Artillery IV, Mil. Tr. 116A..... | 1(0-3) |
| Artillery III, Mil. Tr. 115A..... | 1(0-3) | Seminar, Gen. Engr. 105..... | R |
| Seminar, Gen. Engr. 105..... | R | Phys. Education M, Phys. Ed. 106.. | R(0-2) |
| Phys. Education M, Phys. Ed. 105.. | R(0-2) | | |
| Total | 18 | Total | 18 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|-------------------------------------|--------|
| Ap. Mech., Ap. Mech. 202..... | 4(4-0) | Str. of Mat., Ap. Mech. 211, 220.. | 6(5-3) |
| Calculus II, Math. 206..... | 3(3-0) | Graphic Statics, Ap. Mech. 225.... | 1(0-3) |
| Steam and Gas Engineering I, Mech. | | Steam and Gas Engineering II, Mech. | |
| Engr. 201, 202..... | 5(4-3) | Engr. 204, 205..... | 4(3-3) |
| Machine Tool Work I, Shop 170.... | 2(0-6) | Machine Tool Work II, Shop 192.... | 2(0-6) |
| Economics I, Econ. 101..... | 3(3-0) | Nontechnical Elective †\|\|..... | 4(-) |
| Seminar, Gen. Engr. 105..... | R | Seminar, Gen. Engr. 105..... | R |
| Total | 17 | Total | 17 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|--------------------------------------|-----------|--------------------------------------|-----------|
| Elec. Engr. M-I, Elec. Engr. 230, | | Elec. Engr. M-II, Elec. Engr. 242, | |
| 231 | 4(3-2, 1) | 243 | 4(3-2, 1) |
| Power Plant Engr., Mech. Engr. 207, | 3(1-6) | Heat. & Vent., Mech. Engr. 210, 215, | 3(2-3) |
| Mach. Design I, Mach. Des. 204, 205, | 5(3-6) | Machine Design II, Mach. Des. 210. | 2(0-6) |
| Hydraulics, Ap. Mech. 230, 235.... | 4(3-3) | Factory Option:\|\| |  |
| Factory Option: | | Factory Design, Shop 255..... | 2(0-6) |
| Factory Engr., Shop 245..... | 2(2-0) | Machine Tool Work III, Shop | |
| Power Option: | | 193 | 1(0-3) |
| Ad. Thermody., Mech. Engr. 230, | 2(2-0) | Elective †..... | 5(-) |
| Seminar, Gen. Engr. 105..... | R | Power Option:\|\| |  |
| Inspection Trip, Mech. Engr. 180.. | R | Steam Turb., Mech. Engr. 235.. | 2(2-0) |
| | | Elective † | 6(-) |
| | | Seminar, Gen. Engr. 105..... | R |
| Total | 18 | Total | 17 |

(Number of hours required for graduation, 139.)

* Students who offer but one unit of algebra for admission take a five-hour course in College Algebra, Math. 107, the first semester, postponing two hours of other work.

† Electives are to be chosen with the advice and approval of the head of the department and the dean.

|| Omitted by students taking Advanced Course, Coast Artillery.

Agricultural Engineering

Professor FENTON
Associate Professor ZINK
Assistant Professor LOGAN

Instructor BARGER
Assistant ROBERTS
Graduate Assistant HULBURT

This department gives instruction in such branches of engineering as are directly related to agriculture. It also correlates and gives general supervision to such courses presented in other engineering departments as are open to students in agriculture and agricultural engineering, in order that the agricultural application and uses of engineering principles, methods, and materials may be kept clearly before the student.

In all the courses given, the time is carefully apportioned between the classroom and laboratory, in order to present the subject in the clearest and most forceful way. The practical application of theoretical principles is emphasized.

The laboratory equipment is unusually ample and complete; all kinds of modern farm implements and equipment, to the value of \$30,000, are available, hence their construction, operation, adjustment, and care may be fully covered in the field and laboratory studies. The study of engines is arranged to cover thoroughly the construction, operation, and repair of the numerous modern tractors which are part of the regular equipment; draft tests in conjunction with various types of farm power machinery are also made. The tractor laboratory is equipped with four tractor power units mounted on bases, with various types of tractor ignition apparatus, and with complete apparatus for power and draft tests. All farm machinery and tractor equipment is kept up to date through a system of exchange with the manufacturers whereby old machines are replaced, when advisable, by new ones.

The comparatively recent development of this work, and its rapidly growing importance, render investigational study very valuable, and special attention is given to the courses covering this phase of the subject.

The department possesses equipment valued at \$10,446.

COURSES IN AGRICULTURAL ENGINEERING

FOR UNDERGRADUATE CREDIT

101. FARM BUILDINGS 3(2-3)*; II. Mr. Fenton and Mr. Barger.

Requirements, details of arrangements, and materials of construction for barns and storage, and work buildings for the farm; preparation of plans and specifications, bills of material, and estimates of costs.

108. FARM MACHINERY. 3(2-3); I and II. Mr. Zink, Mr. Logan, and Mr. Barger.

Construction, operation, adjustment, power, requirements, tests, and use of tillage, seeding, harvesting, feed processing and miscellaneous machines both field and belt operated. (For agricultural students). Charge, \$2.

111. FIELD AND POWER MACHINERY. 4(2-6); I. Prerequisites: Mechanism (Mach. Des. 121) and Engineering Physics II (Phys. 150). Mr. Zink, Mr. Logan, and assistants.

Development, design, and utilization of tillage, seeding, harvesting and crop processing machinery for all forms of farm power. Charge, \$2.

122. AGRICULTURAL MACHINES AND CONSTRUCTION. 2(1-3); I. Mr. Barger.

Introductory principles of mechanics and physics as applied to the construction and operation of farm machinery. (For freshman agricultural engineers.) Charge, \$1.

* The number before the parenthesis indicates the number of semester hours of credit; the first number within the parentheses indicates the number of hours of recitation each week; the second shows the number of hours to be spent in laboratory work each week; and the third, where there is one, indicates the number of hours of outside work in connection with the laboratory required each week. I, II, and SS indicate that the course is given the first semester, second semester, and summer session respectively.

130. GAS ENGINES AND TRACTORS. 3(2-3); I, II, and SS. Mr. Barger and assistants.

Principles and application of the internal-combustion engine; engine mechanisms, carburetion, valve timing, ignition, cooling, lubrication and fuels. Selection and use of tractors in agriculture. (For agricultural students.) Charge, \$2.

140. INSPECTION TRIP. R; I. Prerequisite: Senior classification. Mr. Fenton and assistants.

A trip of three to five days for the purpose of studying farm machinery production and other projects of special interest to agricultural engineers.

FOR GRADUATE AND UNDERGRADUATE CREDIT

201. POWER AND MACHINERY IN AGRICULTURE. 2(-0); I, II, and SS. Prerequisite: Junior or senior classification. Mr. Zink.

History and development of machinery in agriculture. The application, selection, management, and cost of machines; future development. A survey course dealing with the mechanization of agriculture. Open to all students who have not taken Ag. Engr. 108 or Ag. Engr. 130.

203. FARM STRUCTURES. 4(2-6); I. Prerequisite: Applied Mechanics (Ap. Mech. 202). Mr. Fenton and assistants.

Design of farm structures, details and materials of construction; specifications and estimates.

205. AGRICULTURAL ENGINEERING PROBLEMS. Credit to be arranged. Prerequisite: Permission of instructors. Mr. Fenton and Mr. Zink.

Problems in the design, construction or application of machinery or power in agriculture, structures, modern conveniences, rural electrification.

210. MODERN FARM AND HOME EQUIPMENT. 3(2-3); II. Prerequisite: Hydraulics (Ap. Mech. 230, 235). Mr. Fenton and Mr. Logan.

Water supply, sewage disposal, lighting, heating, and ventilation of farm buildings; refrigeration; and rural electrification. Charge, \$1.

215. TRACTOR RESEARCH. Credit to be arranged; I. Prerequisite: Farm Motors (Ag. Engr. 225) or equivalent. Mr. Zink and Mr. Barger.

Research studies relating to tractor construction and operation.

225. FARM MOTORS. 4(2-6); II. Prerequisites: Engineering Physics II (Phys. 150) and Calculus I (Math. 205). Mr. Zink and Mr. Barger.

Theory, design, operation, adjustment and application of the internal combustion engine in agriculture, special emphasis on tractors; study of manual, animal, wind, and electric power. Charge, \$3.

240. DRAINAGE, EROSION CONTROL, AND IRRIGATION. 3(2-3); I and II. Prerequisite: Soils (Agron. 130). Mr. Fenton and Mr. Logan.

Principles and practices of land improvement by terracing and other methods of erosion control; drainage, irrigation, and land clearing; use of explosives in agriculture. (For agricultural students.) Charge, \$1.

250. LAND RECLAMATION. 3(2-3); II. Prerequisites: Hydraulics Recitation (Ap. Mech. 230) and Soils (Agron. 130). Mr. Fenton and assistants.

Principles and methods of bringing waste lands into production by drainage, irrigation, terracing, and land clearing. Charge, \$1.

FOR GRADUATE CREDIT

301. RESEARCH IN AGRICULTURAL ENGINEERING. Credit to be arranged; I, II, and SS. Prerequisites: Soils (Agron. 130) and Engineering Physics II (Phys. 150) or equivalent. Mr. Fenton and Mr. Zink.

The laboratories of the College are available for research in the design, use, and application of machinery and equipment in the development of agriculture. The results of such investigations, if suitable, may be incorporated in bulletins of the Engineering Experiment Station, or the work may furnish material for the master's thesis.

Applied Mechanics

Professor SCHOLER
Professor ROBERT
Professor DAWLEY
Associate Professor CHEEK

Assistant Professor KOENITZER
Assistant Professor PICKETT
Instructor TAYLOR

The aim of the course in applied mechanics is to give to the engineering student a practical working knowledge of those fundamental principles of mechanics upon which his future work in structural and machine design may be based.

The materials-testing laboratory is well equipped with machines and apparatus for making physical tests of materials of construction, such as tension, compression, flexure, shear, torsion, hardness, and impact tests, and tests under repeated load. Some of the machines are of sufficient capacity to test full size structural and machine members to destruction, among them being a universal machine of 200,000 pounds capacity, with extension members for testing long beams and columns. Facilities are provided for making, curing, and testing concrete and reinforced concrete test specimens.

The materials-testing laboratory also has complete equipment for the testing of highway materials, and has been designated as the official laboratory of the Kansas Highway Department.

The hydraulics laboratory has facilities for furnishing water under a considerable range of pressures and volumes. It contains devices for measuring and recording the flow of water, including measuring pits, water meters, weirs, nozzles, pitometer, and Venturi meters. It is also provided with pumps, a standpipe, water motors, and a turbine water wheel for testing purposes, and a supply of pressure gauges, weighing scales, and other auxiliary apparatus. The equipment belonging to the department is valued at \$36,010.

COURSES IN APPLIED MECHANICS

FOR UNDERGRADUATE CREDIT

102. APPLIED MECHANICS A. 3(3-0); I. Prerequisites: Plane Trigonometry and Engineering Physics I. Mr. Robert and Mr. Cheek.

A study of statics, with applications to stress in structures; center of gravity; and moment of inertia.

116. STRENGTH OF MATERIALS A RECITATION. 3(3-0); II. Prerequisite: Applied Mechanics A. Mr. Robert and Mr. Cheek.

Behavior of materials subjected to tension, compression, and shear; strength and stiffness of simple beams; moment and shear in flexure of beams, with diagrams; designs of beams of wood, steel and reinforced concrete, and design and investigation of columns.

121. STRENGTH OF MATERIALS A LABORATORY. 1(0-3); II. Prerequisite: Applied Mechanics A. Mr. Robert and Mr. Cheek.

A study of various testing machines; tension, compression, shear, and bending tests on iron, steel, wood, and concrete; tests on cement and on the fine and coarse aggregates for concrete. Charge, \$2.

150. THESIS. Credit to be arranged; I and II. Mr. Scholer and Mr. Robert.

Experimental work in strength of materials, road materials, concrete and hydraulics, suitable for thesis projects in any branch of engineering; subject of investigation to be selected in consultation with the head of the department at the beginning of the senior year.

FOR GRADUATE AND UNDERGRADUATE CREDIT

202. APPLIED MECHANICS. 4(4-0); I, II, and SS. Prerequisites: Calculus I and Engineering Physics I. Mr. Robert, Mr. Dawley, and Mr. Pickett.

Composition, resolution, and conditions of equilibrium of concurrent and nonconcurrent forces; center of gravity; friction; laws of rectilinear and curvi-

linear motion of material points; moments of inertia; relations between forces acting on rigid bodies and the resulting motions; and of work, energy, and power.

211. STRENGTH OF MATERIALS RECITATION. 5(5-0); I, II, and SS. Prerequisite: Applied Mechanics. Mr. Scholer, Mr. Robert, and Mr. Koenitzer.

Behavior of materials subjected to tension, compression, and shear; riveted joints; torsion; shafts, and the transmission of power; strength and stiffness of simple and continuous beams; bending moments and shear forces in beams; design of beams; stresses in columns and hooks; and the design of columns.

216. STRENGTH OF MATERIALS E RECITATION. 3(3-0); I, II, and SS. Prerequisite: Applied Mechanics. Mr. Robert, Mr. Dawley, and Mr. Pickett.

Similar to course 211, but much less time given to study of continuous girders and of reinforced concrete.

220. STRENGTH OF MATERIALS LABORATORY. 1(0-3); I, II, and SS. Must accompany or follow course 211 or 216. Mr. Robert, Mr. Dawley, and Mr. Pickett.

Tension, compression, shear, and bending tests on specimens of iron, steel, wood and concrete; torsion tests on steel shafting; standard tests on fine and coarse aggregates for concrete. Charge, \$2.

225. GRAPHIC STATISTICS. 1(0-3); II. Must accompany or follow course 102 or 202. Mr. Robert.

Graphical solutions of the stresses existing in a number of typical trusses, under a variety of loadings.

230. HYDRAULICS RECITATION. 3(3-0); I, II, and SS. Prerequisite: Applied Mechanics. Mr. Robert, Mr. Dawley, and Mr. Pickett.

Fluid pressures, center of pressure, immersion and flotation; Bernoulli's theorem; orifices, weirs, short and long pipes, flow of water in open channels, and its measurement; elements of water power, impulse wheels, reaction turbines, and centrifugal pumps.

235. HYDRAULICS LABORATORY. 1(0-3); I, II, and SS. Prerequisite: Applied Mechanics. Mr. Robert, Mr. Dawley, and Mr. Pickett.

Tests to determine the coefficients of weirs and orifices, loss of head in pipes, water wheels, water turbines, rams, and pumps, also use and calibration of water meter. Charge, \$1.

250. HIGHWAY MATERIALS LABORATORY. 1(0-3); I. Prerequisite: Strength of Materials Laboratory. Mr. Scholer and Mr. Koenitzer.

A comprehensive course in the examination and testing of road materials. Charge, \$1.50.

265. ADVANCED MECHANICS OF MATERIALS. 2(2-0); I. Prerequisite: Strength of Materials. Mr. Scholer.

Theory of elasticity and its applications; advanced problems in continuous girders involving general three-moment equations.

270. HYDRAULIC MACHINERY. 2(2-0); I. Prerequisite: Hydraulics. Mr. Robert.

Characteristics and applications of water wheels, turbines, pumps, and other hydraulic machinery.

275. ADVANCED HIGHWAY MATERIALS. 2(1-3); II. Prerequisite: Highway Materials Laboratory. Mr. Scholer.

An advanced course in the properties and testing of the various materials used in road construction.

276. DESIGN OF CONCRETE MIXTURES. 3(1-6); I and II. Prerequisite: Strength of Materials Laboratory. Mr. Scholer and Mr. Dawley.

Practical applications of the fundamental principles of concrete making, using various kinds of cement and placing special emphasis on the proper designing, mixing and placing of concrete mixtures to meet certain strength and durability requirements. Charge, \$2.50.

280. MECHANICS OF REINFORCED CONCRETE. 2(2-0); I. No credit for students who have had Strength of Materials. Prerequisite: Strength of Materials E. Mr. Scholer and Mr. Robert.

The behavior of reinforced concrete structural elements, including slabs, rectangular beams, T-beams, columns, and special floor systems under load.

FOR GRADUATE CREDIT

301. RESEARCH IN MATERIALS OF CONSTRUCTION. Credit to be arranged; I, II, and SS. For prerequisites, consult instructors. Mr. Scholer, Mr. Robert, and Mr. Dawley.

Many problems related to materials used in engineering construction offer attractive fields for research. A number of special pieces of apparatus in addition to the usual equipment of strength-of-materials laboratory are available for this work. The results of such investigations, if suitable, may be incorporated in bulletins of the Engineering Experiment Station; this work may furnish materials for the master's thesis.

305. SOIL MECHANICS. 3(1-6); I. Prerequisite: Highway Materials Laboratory (Ap. Mech. 250). Mr. Scholer.

The physical properties of soil which govern its behavior as a material for highway surfaces or foundations; the behavior of soil when used as a material of construction in fills and dams.

Architecture

Professor WEIGEL
Associate Professor CHEEK
Associate Professor HELM

Associate Professor WICHERS (on leave)
Associate Professor MORGAN
Instructor WARE
Instructor EKDAHL

The courses in architecture are offered, not only to provide for the fundamental training necessary for the practice of architecture, but also to give the student a facility and working knowledge which will be of immediate value to him upon graduation. The foundation which the student acquires in college should be supplemented by continual professional study, especially during those years immediately following graduation, when it is desirable that he should acquire practical experience in the employ and under the guidance of capable and experienced members of the profession. Students are most urgently advised to acquire practical experience in an architect's office during the summer vacations of their college course.

Throughout the course the instruction by lectures, recitations and drafting-room practice is fully amplified and expanded by a free use of the equipment of the Department of Architecture. Within the department is housed a good working library of the standard architectural works and leading professional magazines, together with the collections of lantern slides and photographs, to all of which the student has free access. Placed about the amply lighted and well-equipped rooms of the department is a generous collection of plaster casts, including important examples of architectural fragments and ornaments from historical monuments. On the walls of the drafting rooms, where they are constantly before the student, are hung selected examples from the department's collection of original drawings, including specimens of both academic and current professional work. From time to time this exhibit is changed.

At frequent intervals representative men actually engaged in the practice of architecture and the allied arts and trades are invited to talk to and to advise the student. During the junior or senior year, under the direction of and in company with a member of the departmental faculty, each student is expected to make a visit to one or more of the neighboring cities, thus enabling him to acquaint himself with the representative work of the profession as well as with the operations and processes involved in the conduct of allied professions and industries.

Students pursuing the curriculum in architecture are urged to devote a fifth year to the work. By so doing a student can combine the curricula in architectural engineering and architecture and receive the bachelor of science degree in both.

All drawings or designs made during the student's course are to become the property of the department, to be used or returned at the discretion of the faculty.

The department owns equipment valued at \$21,034.

COURSES IN ARCHITECTURE

FOR UNDERGRADUATE CREDIT

106A. ELEMENTS OF ARCHITECTURE I. 3(0-9); I and II. Mr. Ware.

A thorough treatment of the orders and fundamental elements of architectural forms; special attention to the development of high standard of lettering and draftsmanship. Charge, \$1.

107A. ELEMENTS OF ARCHITECTURE II. 3(0-9); I and II. Prerequisite: Elements of Architecture I. Mr. Ware.

Simple application of the forms studied in course 106A; simple architectural rendering. Charge, \$1.

111. OBJECT DRAWING I. 2(0-6); I, II, and SS. Mr. Helm and Mr. Wichers.

The drawing of simple geometric objects; studies from fragments of antique architectural ornament.

114. OBJECT DRAWING II. 2(0-6); I, II, and SS. Prerequisite: Object Drawing I. Mr. Helm and Mr. Wichers.

An application and expansion of the principles taught in Object Drawing I.

116. PENCIL RENDERING AND SKETCHING. 2(0-6); I, II, and SS. Prerequisite: Object Drawing II. Mr. Helm and Mr. Wichers.

The drawing of architectural ornament, architectural fragments, and pencil sketches from nature.

117. STILL-LIFE DRAWING. 2(0-6); I and SS. Prerequisite: Water Color I (Arch. 118). Mr. Morgan.

Advanced studies from full-length plaster casts in charcoal; pen and ink rendering.

118. WATER COLOR I. 2(0-6); I, II, and SS. Prerequisite: Arch. 116 or approval of instructor. Mr. Helm.

Exercises in the handling of the medium and of the translation of color; theory of color.

119. WATER COLOR II. 2(0-6); I, II, and SS. Prerequisite: Arch. 118. Mr. Helm.

Advanced study in the technique of the medium. Includes both studio work and out-of-door sketching.

120. INTERIOR DESIGN. 2(0-6); I and SS. Prerequisites: Arch. 118, 145, and 244. Mr. Helm.

The principles of interior architecture with special attention to period design. Deposit, \$1.

121. LIFE DRAWING I. 2(0-6); II and SS. Prerequisite: Arch. 118. Mr. Helm. Drawing from the living model in charcoal. Deposit, \$5.

123. LIFE DRAWING II. 2(0-6); II and SS. Prerequisite: Arch. 121. Mr. Helm. A continuation of Life Drawing I. Deposit, \$5.

124. DOMESTIC ARCHITECTURE. 2(2-0); II. Mr. Wichers.

The course is designed to help the student understand home building problems. A detailed study is made of home designing and planning.

133. CLAY MODELING. 2(0-6); I and SS. Prerequisite: Arch 117. Mr. Weigel and Mr. Helm.

The making of clay models, plaster casts of simple decorative fragments and anatomical forms; and construction of relief maps. Charge, \$1.

134. PEN AND INK DRAWING I. 2(0-6); I, II, and SS. Prerequisite: Arch. 116 or approval of instructor. Mr. Helm and Mr. Ware.

A study of the technique and drawing of fragments, casts, still life, etc., in this medium, also outdoor sketching.

135. PEN AND INK DRAWING II. 2(0-6); I, II, and SS. Prerequisite: Arch. 134. Mr. Helm and Mr. Ware.

A continuation of Pen and Ink Drawing I (Arch. 134).

137. BLOCK PRINTS. 2(0-6); I and SS. Prerequisite: Arch 114 or approval of instructor. Mr. Helm.

A study of the carving of original compositions in linoleum and wood blocks. Charge, \$1.

142, 144. DESIGN I AND II. 3(0-9) each; I and II each. Prerequisites: For I, Arch. 107A and 114; for II, Arch. 142. Mr. Morgan and Mr. Ware.

An analysis of architectural composition and rendering. Charge, \$1 for each course.

145, 147. DESIGN III AND IV. 5(0-15) each; I and II each. Prerequisites: For III, Arch. 117 and 144; for IV, Arch. 145. Mr. Weigel, Mr. Morgan and Mr. Ware.

Continuation of Design II; time problems and rapid design sketches required, at frequent intervals. Charge, \$1 for each course.

153. RURAL ARCHITECTURE. 2(0-6); I. Prerequisites: Arch. 144 and 191. Mr. Wichers.

A detailed study of the small home and the architectural needs of rural communities.

154A, 157A. HISTORY OF ARCHITECTURE I AND II. 2(2-0) each; I and II, respectively. Mr. Ware.

The history of architecture from the dawn of civilization to the end of the Roman Empire, in I; II covers the Gothic period to 1400.

158A, 160A. HISTORY OF ARCHITECTURE III AND IV. 2(2-0) each; I and II, respectively. Prerequisites: Arch. 114 and 157A. Mr. Morgan.

Continuation of Arch. 157A; finishes the history of architecture to modern times.

163, 164. HISTORIC ORNAMENT I AND II. 2(1-3) each; I and II, respectively. Prerequisites: Arch. 118 and Arch. 160A. Mr. Weigel and Mr. Helm.

The study and analysis of historic ornament and its application to architectural and decorative design. Charge, \$1 for each course.

165, 170. COMMERCIAL ILLUSTRATION I AND II. 2(0-6) each; I, II, and SS, each. Mr. Helm.

The principles of advertising arrangements; making various types of advertising design, such as newspaper advertisements, lettering, and posters; making cover designs for magazines, books, and trade catalogues; for headings, tail pieces, and decorative page arrangements; drawings carried out in black and white and in one or more colors.

179. HISTORY OF PAINTING AND SCULPTURE. 3(3-0); I. Mr. Helm.

A study of development of painting, sculpture, furniture and the minor arts to the fifteenth century.

187A. BUILDING MATERIALS AND CONSTRUCTION. 3(3-0); I. Prerequisite: Elements of Architecture II (Arch. 107A). Mr. Cheek.

An introduction to the properties and uses of the materials of construction; also plumbing, heating, and lighting systems; occasional visits to buildings under construction.

191. WORKING DRAWINGS AND SPECIFICATIONS. 3(0-9); II. Prerequisites: Arch. 142 and 187A. Mr. Weigel and Mr. Wichers.

Preparing working drawings and specifications for suburban residences; drawing complete details for buildings, working out heating, plumbing, and structural problems.

192. THEORY OF STRUCTURES I. 4(2-6); I. Prerequisites: Arch. 191, Applied Mechanics A (Ap. Mech. 102), and Strength of Materials A (Ap. Mech. 116, 121). Mr. Cheek.

Mathematical and graphical solutions of stresses in framed structures under static loading; practical problems in the design of wood construction; occasional inspection trips to buildings under construction.

194A. THEORY OF STRUCTURES II. 5(3-6); II. Prerequisite: Arch. 192. Mr. Cheek.

A continuation of Theory of Structures I applied to steel and masonry structures.

199. INSPECTION TRIP. R; I. Prerequisite: Senior classification. Mr. Weigel and assistants.

An inspection trip is made to one of the larger cities of the Middle West by the senior students in Architectural Engineering, Architecture, and Landscape Architecture. The inspection party is under the charge of one or more faculty members of the Department of Architecture. Time allotted to the trip is from three days to one week. Cost to each student for trip, including meals, lodging and transportation, approximately \$50.

FOR GRADUATE AND UNDERGRADUATE CREDIT

201, 206. ADVANCED FREE-HAND DRAWING I AND II. 2(0-6) each; I, II, and SS, each. Prerequisites: Arch. 117 and 118. Mr. Helm.

Study of the human figure and exercises in original composition of architectural ornament, various mediums being employed.

208. FURNITURE DESIGN. 3(1-6); I. Prerequisites: Arch. 120 and Arch. 160A. Mr. Helm.

A study of the history of furniture design and its relationship to architectural development.

211, 216. ADVANCED HISTORY OF CIVILIZATION AND ART I AND II. 2(2-0) each; I and II, respectively. Prerequisite: Arch. 182. Mr. Weigel.

In course 211, a detailed study of civilization from the Babylonian and Assyrian empires to the fifteenth century, tracing the artistic development of each epoch; in course 216, a continuation of course 211.

217, 218. ETCHING I AND II. 2(0-6) each; I, II, and SS, each. Prerequisites: Arch. 117 and Arch. 134. Mr. Helm.

Instruction is given in the technical principles of etching on copper and zinc plate. Charge, \$1 for each course.

221. PROBLEMS IN ARCHITECTURAL DEVELOPMENT. Credit to be arranged; I, II, and SS. Mr. Weigel.

Under direct supervision of some member of the departmental staff, study of problems in architectural development. Deposit, \$1.

230, 235. OIL PAINTING I AND II. 2(0-6) each; I and II each and SS. Prerequisite: Water Color I (Arch. 118) or approval by instructor. Mr. Helm.

Rudiments of painting in oil; sketching of simple objects and drapes. In course 235, painting of larger still-life groups and outdoor sketching.

240, 241. LANDSCAPE PAINTING I AND II. 1(0-3) each; SS only. Prerequisite: Arch. 118 or Arch. 230, or equivalent. Mr. Helm.

Outdoor sketching and painting in oil or water color.

244. GENERAL HISTORY OF ARCHITECTURE. 3(3-0); II. Mr. Morgan.

The historic architectural styles of the world studied and analyzed; writ-

ten papers, with sketches, required of each student. (Elective for nonarchitectural students.)

249. CITY PLANNING. 3(0-9); II. Prerequisites: Arch. 144, Hort. 223, and Hort. 245. Mr. Weigel.

A detailed study of city planning, including transportation and street systems, parks and recreation facilities, public buildings and civic centers, subdivisions of land, restrictions and zoning.

253, 256. DESIGN V AND VI. 8(0-24) each; I and II each. Prerequisites: For V, Arch. 118 and 147; for VI, Arch. 253. Mr. Weigel and Mr. Morgan.

Continuation of Design IV; special training in interior design and decoration. Charge, \$1 for each course.

296, 298. STRUCTURAL DESIGN I AND II. 3(1-6) each; I and II, respectively. Prerequisite: Theory of Structures II (Arch. 194A). Mr. Cheek.

Application of the principles covered under Theory of Structures to the coordinated, grouped design of an entire structure with complete working drawings and details; preferably a problem simultaneously under consideration in an architectural design course.

FOR GRADUATE CREDIT

301, 304. ADVANCED DESIGN I AND II. Credit to be arranged; I, II, and SS, each. Mr. Weigel.

A study of the planning of important buildings and groups of buildings. Course 304, a continuation of 301, may furnish material for the master's thesis. Deposit, \$1, each.

324. RESEARCH IN ARCHITECTURE. Credit to be arranged; I, II, and SS.

The study of a research problem in architecture, determined by conferences between Mr. Weigel and the student and approved by the Graduate Council. This course may furnish material for the master's thesis. Deposit, \$1.

Civil Engineering

Professor CONRAD
Professor FRAZIER
Professor FURR

Associate Professor WHITE
Assistant Professor CRAWFORD
Assistant Professor MORSE

The purpose of the instruction in the Department of Civil Engineering is to give the student a thorough knowledge of the fundamental principles of engineering and to develop his ability to analyze engineering problems, and thus prepare the graduate to enter any one of the many special fields which are usually included under the title of civil engineering.

In addition to the laboratory equipment of the other engineering departments, which is available to civil-engineering students, the Department of Civil Engineering possesses a good assortment of transits, levels, plane tables, compasses, tapes, and chains. It also owns a precise level, a direction theodolite, a repeating theodolite, four different kinds of solar attachments, and a base-line outfit. A Beggs deformeter set has been added to the equipment of the department.

Approximately 90 per cent of the graduates of this department are now engaged in engineering work in cities, in the oil fields, in the government reclamation and valuation service, in consulting engineering, in highway work, in construction work, and in other work in which a knowledge of civil engineering is a prerequisite.

The department owns equipment valued at \$18,900.

COURSES IN CIVIL ENGINEERING

FOR UNDERGRADUATE CREDIT

102. SURVEYING I. 2(0-6); I and II. Prerequisite or parallel: Plane Trigonometry (Math. 101). Mr. White, Mr. Crawford, and Mr. Morse.

The use and care of engineer's surveying instruments, and plane surveying practice. Charge, \$1.

111. SURVEYING II. 2(0-6); I and II. Prerequisite: Surveying I. Mr. White and Mr. Morse.

Land surveying, the U. S. system of public land surveys, route surveying, the legal survey, the stadia survey, and calculations of areas and boundaries. Charge, \$1.

120. MASONRY AND FOUNDATIONS. 2(2-0); I. Prerequisite or parallel: Applied Mechanics I (Ap. Mech. 202). Mr. Frazier.

Design and construction of foundations; stresses in plain masonry structures; the method of designing such structures.

125. CIVIL ENGINEERING DRAWING I. 2(0-6); II. Prerequisite: Machine Drawing I (Mach. Design 111). Mr. White.

Stereotomy, shades and shadows, isometric and perspective drawing; copying working drawings of engineering structures.

145. RAILWAY ENGINEERING I. 2(2-0); II. Prerequisite: Surveying IV (Civ. Engr. 156 and 157). Mr. Frazier.

Railway engineering based on Wellington's economic theory; study of track construction and maintenance; design of yards and terminals.

151, 155.* SURVEYING III. 3(2-3); I and II. Prerequisite: Surveying II. Mr. White and Mr. Crawford.

Topographic, municipal and underground surveying; the celestial sphere; elements of horizontal and vertical curves and earthwork.

Laboratory.—Topographic surveying and topographic mapping.

156, 157. SURVEYING IV. 3(2-3); I and II. Prerequisite: Surveying III. Mr. Furr.

Field engineering; various problems in curve selection and location; including pertinent curve, spiral and earthwork computations; railway track and cross-over exercises.

161. DRAINAGE AND IRRIGATION I. 2(2-0); II. Prerequisite or parallel: Hydraulics (Ap. Mech. 230, 235). Mr. Furr and Mr. White.

Design and construction of drainage and irrigation works.

170. THESIS. Credit to be arranged; I and II. Mr. Conrad.

A report on a proposed design and original investigation, or a library research. With approval of Mr. Conrad, thesis work may be taken in some other department, the thesis subject to be selected and approved by the department head before the October first next preceding the student's graduation. An equivalent amount of work in an elective subject approved by the dean of this division may be substituted for thesis.

180. INSPECTION TRIP. R; I. Prerequisite: Senior classification. Mr. Conrad and assistants.

A trip of three to four days to Kansas City and other nearby industrial centers for the purpose of inspecting industrial plants and projects of special interest to civil engineers. The plants inspected are carefully selected to exemplify various engineering applications in practice.

FOR GRADUATE AND UNDERGRADUATE CREDIT

201. STRESSES IN FRAMED STRUCTURES. 4(4-0); I, II, and SS. Prerequisite: Strength of Materials (Ap. Mech. 211). Mr. Conrad and Mr. Morse.

Computation of stresses in bridges and buildings.

* In the case of many of the engineering courses, one course number is used for the recitation and another for the laboratory part of the course.

205. CIVIL ENGINEERING DRAWING II. 2(0-6); I and SS. Prerequisite or parallel: Stresses in Framed Structures. Mr. Conrad and Mr. Morse.
Graphic statics and design of simple roof trusses in timber and steel.

207. ADVANCED BRIDGE STRESSES. 3(3-0); I. Prerequisite: Stresses in Framed Structures (Civ. Engr. 201). Mr. Conrad.

A study of deflections; stresses in continuous, movable, cantilever, suspension, and steel-arch bridges; and secondary stresses.

211, 216. ASTRONOMY AND GEODESY. 4(2-6); I. Prerequisites: Surveying III (Civ. Engr. 151, 155) and Calculus II (Math. 206). Mr. Frazier.

The elements of practical astronomy; precise methods of surveying and leveling.

Laboratory.—Astronomical observations, principally for determining true meridian and latitude; base-line measurements and triangulation work.

220. WATER SUPPLY. 2(2-0); I and SS. Prerequisite: Hydraulics (Ap. Mech. 230, 235). Mr. Frazier.

Water supply from the standpoint of consumption, collection, storage, distribution, and purification.

225. SEWERAGE. 2(2-0); I and SS. Prerequisite: Hydraulics (Ap. Mech. 230). Mr. Crawford.

A study of sewer systems and sewage treatment.

228. SANITARY ENGINEERING DESIGN. 2(0-6); II. Prerequisites: Water Supply (Civ. Engr. 220) and Sewerage (Civ. Engr. 225). Mr. Frazier.

Design of water purification plants, sewage treatment plants, water distribution systems and sewage collecting systems. Estimates of cost and methods of financing.

231. HIGHWAY ENGINEERING I. 2(2-0); I and SS. Prerequisite: Surveying II (Civ. Engr. 111). Mr. Furr.

Fundamental principles, location, design, construction, and maintenance of roads and pavements.

246. DESIGN OF FRAMED STRUCTURES. 3(0-9); II and SS. Prerequisite: Stresses in Framed Structures (Civ. Engr. 201). Mr. Conrad.

The making of general drawings for a highway truss bridge, a railroad truss bridge, and a railroad deck-plate girder.

247. ECONOMICS OF DESIGN AND CONSTRUCTION. 4(4-0); II. Prerequisites: Highway Engineering I and Stresses in Framed Structures. Mr. Conrad.

Primarily a study of methods, equipment, construction costs, and economy in design.

250, 255. REINFORCED CONCRETE DESIGN. 3(2-3); II and SS. Prerequisite: Strength of Materials (Ap. Mech. 211). Mr. Frazier and Mr. Morse.

Design of reinforced concrete retaining walls, dams, slab bridges, and girder bridges.

Laboratory.—Drawing reinforced concrete retaining walls, dams, slab bridges, and girder bridges.

256. REINFORCED CONCRETE ARCHES. 3(3-0); II. Prerequisite: Concrete Design (Civ. Engr. 250, 255). Mr. Conrad.

Various types of reinforced concrete arches adapted for use in bridges, buildings, and dams; computation of stresses; arrangement of details.

260, 265. RAILWAY ENGINEERING II. 4(2-6); II. Prerequisite: Railway Engineering I (Civ. Engr. 145). Mr. Frazier.

Railway operation and maintenance.

Laboratory.—A reconnoissance and survey of a short railroad; making the maps, profiles, and estimates from the survey.

266. RAILROAD TRANSPORTATION. 3(3-0); II. Prerequisite: Railway Engineering I (Civ. Engr. 146). Mr. Frazier.

A study of the function of the railway system; its relation to industrial development, and its correlation with other methods of transportation.

270, 275. HIGHWAY ENGINEERING II. 4(2-6); II. Prerequisite: Highway Engineering I (Civ. Engr. 230). Mr. Furr.

Highway laws, highway administration, and highway economics.

Laboratory.—A reconnoissance and survey for a highway a few miles long; making maps, profiles, and estimates from the survey.

276. HIGHWAY ECONOMICS. 3(3-0); I. Prerequisite: Highway Engineering I. Mr. Furr.

Economic concepts, highway transport, design, and construction problems as effected by recent findings of research agencies.

280, 285. DRAINAGE AND IRRIGATION II. 4(2-6); II. Prerequisites: Drainage and Irrigation I (Civ. Engr. 161). Mr. Conrad.

Design of irrigation structures and management of irrigation projects.

Laboratory.—Making the survey for a drainage or irrigation project; making maps, estimates, and designs, using the survey as a basis.

FOR GRADUATE CREDIT

304. RESEARCH IN CIVIL ENGINEERING. Credit to be arranged; I, II, and SS. For prerequisites, consult instructors. Mr. Conrad, Mr. Frazier, or Mr. Furr.

Original investigation or advanced study in some field relating to the practice of civil engineering.

Electrical Engineering

Professor KLOEFFLER
Professor BRENNEMAN
Professor KERCHNER
Assistant Professor HUNT
Assistant Professor JORGENSEN

Instructor SITZ
Instructor PASLAY
Instructor SCHUMANN
Graduate Research Assistant MELLIES

Instruction in the Department of Electrical Engineering is planned to give the student a thorough training in the underlying principles of electrical phenomena, direct and alternating current, and in the application of electrical theory to the solution of the practical problems in the many fields of the industry. The textbook, lectures, and classroom instruction are accompanied by extended courses in the laboratories.

The main dynamo laboratory contains examples of many types of electrical machinery and control apparatus, including more than 50 direct- and alternating-current generators and motors ranging from 1 to 15 kilowatts capacity. The instrument room in connection contains more than 140 instruments for the measurement of current, voltage, power, frequency, and other electrical quantities. The dynamo laboratory also includes a complete electric-railway test set, consisting of two modern railway motors, geared to a load and operated by a modern pneumatic type of control equipment.

An electrical measurement laboratory is equipped with standards of resistance, electromotive force, self-induction, and capacity, and many types of bridges and apparatus for the measurement of magnetic and electric quantities. The main electrical measurement laboratory is supplemented by a standardizing laboratory which contains all the necessary precision instruments, sine wave generating equipment and control apparatus for calibrating voltmeters, ammeters, wattmeters, instrument transformers, watt-hour meters, and rotating standards.

There are three communication laboratories: The wire communication laboratory contains several demonstration panels and switchboards for magneto, common battery (manual) and automatic telephone systems and oscillators, bridges, and artificial telephone lines for making measurements at the various frequencies encountered in telephone practice. The radio communication

laboratory is supplied with equipment for high frequency measurements and the study of radio phenomena. A short-wave laboratory is equipped with a short-wave transmitter and receiver for experimental broadcasting and reception of short-wave communications.

An illumination laboratory is equipped with bar, spherical, and portable photometers and accessory equipment such as lamps, reflectors, and luminaries.

The wiring laboratory for the freshman course contains sixteen booths or rooms, in imitation of buildings both finished and in process of construction, and a complete stock of supplies for concealed knob and tube, conduit, and conduit construction which provides students with actual practice in wiring buildings.

Two special laboratories are provided for the research conducted by the electrical engineering staff and for television and other special investigations made by graduate students. One of the laboratories contains the television broadcasting station W9XAK of the Kansas State College.

The equipment belonging to the department is valued at \$51,743.

COURSES IN ELECTRICAL ENGINEERING

FOR UNDERGRADUATE CREDIT

102, 106. ELECTRICAL ENGINEERING C. 3(2-2, 1); II and SS. Prerequisite: Engineering Physics II (Physics 150). Mr. Jorgenson and Mr. Sitz.

The fundamental principles of direct-current and alternating-current electricity, with emphasis upon proper installation and operation of different classes of machines.

Laboratory.—Practice to give a knowledge of the most important commercial tests; proper use of electrical instruments; a written report of each test. Charge, \$1.50.

112. ELECTRICAL MACHINERY AND CONSTRUCTION. 2(0-6); I and II. Mr. Hunt, Mr. Jorgenson, and Mr. Sitz.

An introductory course in applied electricity; various modern methods of interior wiring, and installation, care, operation, and repair of electrical machinery. Charge, \$3.

116. ILLUMINATION A. 2(2-0); II. Prerequisite: Engineering Physics II (Phys. 150) or General Physics II (Phys. 140). Mr. Hunt.

The various methods used for interior wiring; methods of calculating the necessary number and size of electric circuits in a building; wiring specifications; and fundamental principles of illumination. For architects and architectural engineers.

120. PRINCIPLES OF ELECTRICAL ENGINEERING. 2(2-0); I and II. Prerequisites: Chemistry EI and EII (Chem. 107 and 108) and Trigonometry (Math. 101). Mr. Kloeffer and Mr. Schumann.

The fundamental principles of electronics.

190. INSPECTION TRIP. R; I. Prerequisite: Senior classification. Mr. Kloeffer and assistants.

A trip of four to six days to Kansas City, St. Louis, and other cities for the purpose of making inspections of power plants and various industries illustrating the application of electrical engineering principles.

195. THESIS. Credit to be arranged; I and II. Mr. Kloeffer, Mr. Brenne-
man, Mr. Kerchner, Mr. Hunt, Mr. Schumann, and Mr. Paslay.

Subject for thesis work selected in consultation with the department head at the beginning of the senior year; every opportunity given to work out original ideas as to design and operation of electrical apparatus and machinery.

FOR GRADUATE AND UNDERGRADUATE CREDIT

203. DIRECT-CURRENT MACHINES I. 3(3-0); I, II, and SS. Prerequisites: Calculus I (Math. 205) and Engineering Physics II (Physics 150). Mr. Brenne-
man, Mr. Hunt, and Mr. Sitz.

A detailed study of the fundamental principles of magnetic and electric circuits and their application to the various types of direct-current machines.

206, 208. DIRECT-CURRENT MACHINES II. 4(2-4, 2); I, II, and SS. Prerequisite: Direct-current Machines I. Mr. Brennehan, Mr. Hunt, Mr. Jorgenson, and Mr. Sitz.

A detailed study of special types of direct-current machinery, dynamo losses, and commutation.

Laboratory.—A series of experiments to show the fundamental principles, characteristics and operation of direct-current machines. Charge, \$3.

209. ALTERNATING-CURRENT MACHINES I. 4(4-0); I, II, and SS. Prerequisites: Calculus IIA (Math. 206A) and Direct-current Machines I (Elec. Engr. 203). Mr. Kerchner, Mr. Hunt, and Mr. Jorgenson.

A mathematical treatment of alternating-current phenomena.

214, 215. ALTERNATING-CURRENT MACHINES II. 5(3-4, 2); I, II, and SS. Prerequisite: Alternating-current Machines I. Mr. Kerchner, Mr. Hunt, and Mr. Jorgenson.

Principles of design, construction, and operation of transformers and alternating-current generators.

Laboratory.—A series of experiments illustrating the characteristics of alternating-current circuits, transformers, and alternating-current generators. Charge, \$3.

217, 218. ELECTRICAL COMMUNICATION I. 3(2-2, 1); I. Prerequisite: Alternating-current Machines I (Elec. Engr. 209). Mr. Kloeffer and Mr. Schumann.

The principles of telephone communications as applied to the apparatus and circuits used on magneto, common battery (manual), Strowger automatic, and machine switching systems; toll telephone practice, involving the use of line loading, repeaters, and carrier currents.

Laboratory.—Study of telephone apparatus and circuits on magneto, common battery, and automatic systems; measurements made on artificial telephone lines. Charge, \$1.50.

219, 223. RADIO COMMUNICATION. 3(2-3); II. Prerequisite: Alternating-current Machines I (Elec. Engr. 209). Mr. Schumann.

The production, measurement, and control of high-frequency alternating currents and electromagnetic waves, and their application to radio telegraphy and telephony and carrier current transmission; principles of operation of thermionic vacuum tubes and a proper consideration of these principles in their application to the generation, modulation, amplification, and detection of continuous waves.

Laboratory.—Characteristics of vacuum tubes; high frequency measurements. Charge, \$1.50.

224, 225. ALTERNATING-CURRENT MACHINES III. 5(3-4, 2); I, II, and SS. Prerequisite: Alternating-current Machines II. Mr. Kerchner, Mr. Hunt, Mr. Jorgenson, and Mr. Paslay.

Continuation of Alternating-current Machines II (E. E. 214), including synchronous motors, parallel operation of alternators, converters, induction and commutator alternating-current motors, rectifiers, alternating-current instruments, and accessory apparatus.

Laboratory.—Continuation of Alternating-current II Laboratory. (Elec. Engr. 215.) Tests on machines listed in Elect. Engr. 224. Charge, \$2.

227, 229. ELECTRICAL MEASUREMENTS. 4(2-4, 2); I and II. Prerequisites: Calculus I (Math. 205) and Engineering Physics II (Physics 150). Mr. Brennehan and Mr. Schumann.

Methods for electric and magnetic measurements; resistance, quantity, current, electromotive force, capacity, inductance.

Laboratory.—Characteristics of electron tubes; measurement of resistance, inductance, and capacity. Charge, \$3.

230, 231. ELECTRICAL ENGINEERING M-I. 4(3-2); I. Prerequisites: Calculus I and Engineering Physics II. Mr. Hunt and Mr. Sitz.

Direct-current machines with reference to the fundamental laws of the electric circuit, the principles of direct-current machinery, and the more important commercial tests; and introduction to alternating-current circuits.

Laboratory.—A series of experiments covering the fundamental principles and characteristics of direct-current machines. Charge, \$1.50.

232, 233. ELECTRICAL COMMUNICATION II. 3(2-3); II. Prerequisite: Electrical Communication I. Mr. Schumann.

Transmission problems, telephonic efficiencies, telephone repeaters, wave filters, and carrier currents.

Laboratory.—High frequency measurements as applied to wire communication. Charge, \$1.50.

235, 236. ILLUMINATING ENGINEERING. 3(2-3); I. Prerequisites: Calculus I and Engineering Physics II. Mr. Hunt.

Photometry, light standards, principles of illumination, and illumination design.

Laboratory.—Photometric measurements of light intensity, luminous flux, brightness, and illumination; the determination of light distribution about various illuminants. Charge, \$1.50.

242, 243. ELECTRICAL ENGINEERING M-II. 4(3-2, 1); II. Prerequisite: Electrical Engineering M-I (Elec. Engr. 230, 231). Mr. Hunt.

The important principles of alternating-current machinery of primary importance to mechanical engineers.

Laboratory.—Standard tests of alternators, motors, and transformers, and methods of operating the different types of alternating-current machinery. Charge, \$1.50.

270. ELECTRICAL MACHINE DESIGN. 1(0-3); I and II. Prerequisite: Direct-current Machines I (Elec. Engr. 203). Mr. Brenneman and Mr. Hunt.

The principles of electrical design; each student makes calculation for electromagnets and a direct-current motor.

280. TRANSMISSION AND DISTRIBUTION OF ELECTRICAL ENERGY. 3(3-0); II. Prerequisite: Elec. Engr. 214. Mr. Brenneman.

Transmission line design, economic and technical features; and properties of cables and insulators.

284. TRANSIENT ELECTRICAL PHENOMENA. 3(3-0); II. Prerequisites: Alternating-current Machines I and II and Differential Equations (Math. 201). Mr. Brenneman.

Two phases of electrical phenomena; (a) transients in time, and (b) transients in space.

287. ADVANCED ILLUMINATING ENGINEERING. 3(3-0); II. Prerequisites: Engineering Physics II (Phys. 150) and Calculus IIA (Math. 206A). Mr. Hunt.

The various theories on the property of light, the theoretical distribution curves from light sources of various shapes, psychological and physiological phases of lighting, daylight illumination in buildings, and spectrophotometry.

288. ELECTRON TUBES. 3(3-0); I and SS. Prerequisites: Principles of Electrical Engineering (Elect. Engr. 120) and Alternating-current Machines I (Elect. Engr. 209). Mr. Schumann.

An advanced study of the characteristics, theory of operation, and the applications of electron tubes and photoelectric cells.

290. PUBLIC UTILITY MANAGEMENT. 3(3-0); II. Prerequisite: Economics (Econ. 101). Mr. Kloeffer.

The problems of depreciation, finance, rates, and public regulation in gas, electric, and telephone properties.

FOR GRADUATE CREDIT

301. **ELECTRIC CIRCUITS I.** 3(3-0); I. Prerequisite: Alternating-current Machines III (Elec. Engr. 224). Mr. Kerchner.

Methods of determining short-circuit currents in networks; equivalent impedances of multicircuit transformers; symmetrical components for analysis of unbalanced polyphase circuits and analysis of induction motor performance on unbalanced voltages; short transmission lines in steady state.

304. **ELECTRIC CIRCUITS II.** 3(3-0); II. Prerequisite: Electric Circuits I (Elec. Engr. 301). Mr. Kerchner.

Long transmission lines in steady state with various terminal conditions; transmission charts; harmonics in circuits; general circuit constants; transmission problems involving synchronous machines.

307. **OPERATIONAL CIRCUIT ANALYSIS.** 3(3-0); I or II. Prerequisite: Alternating-current Machines I (Elec. Engr. 209). Mr. Brenneman and Mr. Paslay. Heaviside's Operational Calculus applied to electric circuit theory.

312. **HIGH FREQUENCY ALTERNATING CURRENTS.** 3(3-0); II. Prerequisites: Alternating-current Machines I (Elec. Engr. 209) and Radio Communication (Elec. Engr. 219), or equivalent. Mr. Paslay.

An advanced study of high-frequency currents in coupled and resonant circuits; the analytical treatment of vacuum tubes as used for amplification, modulation, and detection.

316. **ADVANCED ELECTRICAL THEORY.** Credit to be arranged; I and II. Prerequisite: Alternating-current Machines III (Elec. Engr. 224). Mr. Kloeffer.

An advanced course in electrical theory designed to meet the needs of graduate students.

336. **RESEARCH IN ELECTRICAL ENGINEERING.** Credit to be arranged; I or II. Prerequisite: Alternating-current Machines II (Elec. Engr. 214). Mr. Kloeffer, Mr. Brenneman, Mr. Kerchner, and Mr. Paslay.

Special investigations adapted to the needs of individual students; may be used as the basis of a master's thesis. The laboratory work is correlated with the work of the Engineering Experiment Station.

General Engineering

Dean SEATON
Assistant Dean DURLAND

101. **ENGINEERING LECTURES.** R(1-0); entire freshman year. Dean Seaton, other members of the engineering faculty, and visiting practicing engineers.

Designed to acquaint freshman engineers and architects with fundamental principles of their profession and to give a general survey of the field. Charge, 75 cents.

105. **SEMINAR.** R(1-0); sophomore, junior, and senior years. Members of the engineering faculty.

Presentation by students of abstracts and reviews of articles appearing in the journals of their respective societies or in the technical press of their profession, and as far as possible is conducted by the student branches of the professional engineering societies. Occasionally these individual groups unite in the General Engineering Society, under whose auspices lectures are given by practicing engineers and by members of the engineering and college faculty on topics of general interest to engineering students. Charge, 75 cents.

Machine Design

Professor PEARCE
Professor DURLAND
Professor SMUTZ

Associate Professor GINGRICH
Instructor OLSEN
Instructor BRANIGAN

The courses in engineering drawing and machine drawing deal principally with the training of the freshman and sophomore students in visualization, and the application of graphical language to engineering problems, with particular reference to commercial drafting-room methods. The object of these courses is primarily to develop this graphical language as a tool to be used in all future engineering work.

The courses in machine design deal with mechanical transmission of power, analysis of the action of machine parts, and design of machine elements and of complete machines with careful regard to strength, stiffness, and general operating efficiency. They consider also aërodynamic forces and airplane structures.

The department owns equipment valued at \$3,607.

COURSES IN DRAWING AND MACHINE DESIGN

FOR UNDERGRADUATE CREDIT

101. ENGINEERING DRAWING. 2(0-6); I, II, and SS. Mr. Smutz, Mr. Gingrich, Mr. Olsen, and Mr. Branigan.

The selection and use of drawing instruments, construction of geometrical figures, lettering, orthographic projections and sections, and pictorial methods of representation.

106. DESCRIPTIVE GEOMETRY. 2(0-6); I, II, and SS. Prerequisites: Engineering Drawing (Mach. Design 101) and Solid Geometry. Mr. Smutz, Mr. Gingrich, and Mr. Branigan.

More advanced problems than in Engineering Drawing, involving the point, line, and plane; the intersection and development of the surfaces of geometric solids; practical applications of the principles involved; emphasis on developing the student's ability to visualize drawings in the third angle.

107. DESCRIPTIVE GEOMETRY A. 3(0-9); I and II. Prerequisite: Solid Geometry. Mr. Smutz and Mr. Gingrich.

This course is primarily for architectural students, and its problems are all related to their work.

108. SHADES AND SHADOWS, AND PERSPECTIVE. 3(0-9); I and II. Prerequisites: Descriptive Geometry A (Mach. Design 107) and Elements of Architecture I (Arch. 106A). Mr. Smutz.

Conventional shades and shadows of common geometrical solids and solids of revolution; simple architectural problems; the theory of perspective as applied to the same simple solids and to problems from architectural practice. Charge, \$1.50.

111. MACHINE DRAWINGS I. 2(0-6); I, II, and SS. Prerequisite: Descriptive Geometry (Mach. Design 106). Mr. Olsen and Mr. Branigan.

Conventional representations, working drawings, modern drafting-room systems, and the reproduction of drawings; special emphasis given to proper selection of views to present the necessary information in convenient forms, dimensioning, checking for errors, and the subject matter and arrangement of titles and notes.

116. MACHINE DRAWING II. 3(0-9); I, II, and SS. Prerequisite: Machine Drawing I (Mach. Design 111). Mechanism (Mach. Design 121) must precede or accompany this course. Mr. Olsen and Mr. Branigan.

The making of free-hand sketches of simple machine parts and complete working drawings from these sketches without further reference to the objects; kinematic problems, including belting, cams, linkages, and gears to fulfill specified conditions.

117. MACHINE DRAWING E-II. 2(0-6); I, II, and SS. Prerequisite: Machine Drawing I (Mach. Design 111). Mr. Pearce and Mr. Olsen.

Machine sketching from parts of actual machines; complete working and assembly drawings. Practice is given in tracing and blue printing.

121. MECHANISM. 3(3-0); I, II, and SS. Prerequisites: Plane Trigonometry (Math. 101) and Descriptive Geometry (Mach. Design 106). Mr. Pearce, Mr. Durland, and Mr. Olsen.

A careful study of the fundamental elements of machinery with reference to the transmission of motion and force, and to their forms and arrangements in actual machines; the solution of a large number of graphical and mathematical problems is required.

126. THESIS. Credit to be arranged; I and II. Mr. Pearce and Mr. Durland.

Excellent material for thesis study is furnished by projects in machine design or aerodynamics; subject of the investigation is selected in consultation with the head of the department at the beginning of the senior year.

FOR GRADUATE AND UNDERGRADUATE CREDIT

204, 205. MACHINE DESIGN I. 5(3-6); I and II. Prerequisites: Strength of Materials (Ap. Mech. 211), Machine Drawing II (Mach. Design 116), and Steam and Gas Engineering II (Mech. Eng. 204, 205). Mr. Pearce, Mr. Durland, and Mr. Olsen.

The straining actions in machine elements; frictions and lubrication; the action of reciprocating parts in engines; problems arising in the transmission of power and in the design of high-speed machinery.

Laboratory.—Riveted joints of a steam boiler designed in strict conformity to the A. S. M. E. Boiler Code; calculations for a number of simple machines and machine parts, paralleling the recitation class assignments.

210. MACHINE DESIGN II. 2(0-6); I and II. Prerequisite: Mach. Design 204, 205. Mr. Pearce, Mr. Durland, and Mr. Olsen.

Design of a small power shear; calculations made for all parts; a graphical analysis made of the stress in the shaft; working drawings made; and the rotative effect diagram of a steam engine.

225. GRAPHICS OF ENGINEERING FORMULAS. 2(2-0); II. Prerequisite: Plane Analytical Geometry (Math. 110). Mr. Pearce.

Design of empirical equations according to the methods of selected points, averages, or least squares, and a consideration of general methods of plotting; the diagramming of formulas; construction of nomographic or alignment charts, in which all the variables of a formula are along any straight transversal cutting the lines of the diagram.

250, 251. AERODYNAMICS. 4(3-3); I. Prerequisite: Applied Mechanics (Ap. Mech. 202). Mr. Pearce and Mr. Durland.

A general introduction into aerodynamics, particularly as regards action of air foils, effects of parasite drag, prediction of performance, and analysis of stability and control.

Laboratory.—Determination of performance curves and the stability of an airplane.

255. AIRPLANE DESIGN. 2(0-6); II. Prerequisites: Aerodynamics (Mach. Design 250, 251) and Strength of Materials (App. Mech. 211, 220). Mr. Pearce and Mr. Durland.

A general presentation of the problems involved in the design and stress analysis of an airplane structure, particularly as regards the requirements of the United States Department of Commerce.

FOR GRADUATE CREDIT

301. ADVANCED MACHINE DESIGN. Credit to be arranged; I or II. For prerequisites, consult instructors. Mr. Pearce and Mr. Durland.

At the option of the student this course may include (a) the design of a machine, (b) a study of the advanced dynamics of machinery, with special reference to inertia effects, torque characteristics, fly-wheel design, and balancing of multiple cylinder engines and compressors, the design of turbine drums and disks, the critical speed of rotating parts, and gyroscopic action, or (c) a study of some phase of aërodynamics.

310. RESEARCH IN DESIGN. Credit to be arranged; I, II, and SS. For prerequisites, consult instructors. Mr. Pearce and Mr. Durland.

Original investigation in the analysis, design, or test of machines and machine elements, or into some phase of aërodynamics. This work may furnish material for the master's thesis.

Mechanical Engineering

Professor HELANDER
Professor MACK

Associate Professor BRAINARD
Assistant Professor FLINNER

The object of the instruction in this department is to give to the student the fundamental principles underlying the design, construction, selection, operation and testing of steam boilers; steam engines and steam turbines; gas producers; gas and petroleum engines; compressed-air and refrigerating machinery; condensers and evaporators. These subjects are developed by courses in engineering thermodynamics and in steam and gas engineering, and are followed in the fourth year by courses in power-plant engineering, in refrigeration, and in heating and ventilation. The classroom instruction of every course consists of lectures and recitations, which are paralleled by work in the drafting room and laboratory, and supplemented by numerous practical problems, trade catalogues, notes and inspection trips requiring written reports.

The mechanical-engineering laboratories are well equipped for the testing of boilers, steam engines, gas engines, refrigeration machinery, fuels, lubricants, airplane motors, and other equipment and materials met with in the practice of mechanical engineering. In addition to the equipment installed especially for experimental purposes, all the heating, power, ventilating, and pumping equipment of the College subserves the further purpose of experimental work.

The equipment belonging to this department is valued at \$46,607.

COURSES IN MECHANICAL ENGINEERING

FOR UNDERGRADUATE CREDIT

120, 125. STEAM AND GAS ENGINEERING C. 3(2-3); I and II. Prerequisites: Engineering Physics II and Calculus I. Mr. Flinner.

Steam boilers, steam engines, steam turbines, gas and oil engines, including the various auxiliaries.

Laboratory.—Study and calibration of steam gauges, indicators, and planimeters; calorimeters; evaporative tests of steam boilers; determination of the heating value of liquid and gaseous fuels; tests of steam engines; operation and testing of refrigerating machines. Charge, \$1.50.

130. ELEMENTS OF STEAM AND GAS POWER. 2(0-6); I and II. Mr. Helander, Mr. Mack, Mr. Brainard, and Mr. Flinner.

An elementary study of steam engines, steam turbines, steam boilers, steam power-plant auxiliaries, gas and oil engines, natural and manufactured gas, gas power-plant auxiliaries, and the elements of automotive engineering.

135. HEATING AND VENTILATION A. 3(3-0); II. Prerequisite: Engineering Physics I or General Physics I. Mr. Mack.

Fundamental principles of heating and ventilation; heat transmission of materials; furnace, steam, hot-water, and fan systems of heating.

170, 175. DAIRY REFRIGERATION. 2(1-3); I. Mr. Brainard.

The elementary theory and principles of operation of various refrigerating and ice-making machinery and of cold storage, with special reference to the dairy industry.

Laboratory.—Various types of refrigeration systems and their operation; steam engine operation; tests of refrigeration machines. Charge, \$1.

180. INSPECTION TRIP. R; I. Prerequisite: Senior classification. Mr. Helander and assistants.

A trip of three to four days to Kansas City and other near-by industrial centers for the purpose of inspecting industrial plants of special interest to mechanical engineering students. The plants inspected are carefully selected to exemplify various engineering applications in practice.

195. THESIS. Credit to be arranged; I and II. Mr. Helander and Mr. Mack.

The department laboratories are well equipped with apparatus suitable for experimental and research work in the field of heat-power engineering. Subject for investigation to be selected in consultation with the department head at the beginning of the senior year.

FOR GRADUATE AND UNDERGRADUATE CREDIT

201, 202. STEAM AND GAS ENGINEERING I. 5(4-3); I and II. Prerequisites: Mechanism (Mach. Design 121) and Calculus I (Math. 205). Mr. Helander, Mr. Mack, Mr. Brainard, and Mr. Flinner.

Heat-power engineering, including valve gears and thermodynamics, with special stress upon the thermodynamics of gases and vapors, and gas and vapor cycles.

Laboratory.—Study and calibration of steam gauges, indicators, and planimeters; valve-setting and steam-engine operation; study of calorimeters, flow meters, and feed-water heaters; determination of the indicated and brake horsepower, mechanical efficiency and steam consumption of high-speed automatic cut-off, Corliss, simple and compound engines; tests of DeLaval, Kerr, and Terry steam turbines. Charge, \$1.50.

204, 205. STEAM AND GAS ENGINEERING II. 4(3-3); I and II. Prerequisite: Course 201. Mr. Helander, Mr. Mack, Mr. Brainard, and Mr. Flinner.

A detailed study of steam engines, steam boilers, steam turbines, internal-combustion engines, fuels and combustion, gas producers, and other power-plant equipment.

Laboratory.—Proximate analysis of coal; determination of the calorific values of solid, liquid and gaseous fuels, evaporative tests of steam boilers; tests of internal-combustion engines; test of compressed air and refrigerating machinery. Charge, \$1.50.

207. POWER-PLANT ENGINEERING. 3(1-6); I and II. Prerequisite: Mech. Engr. 204. Mr. Helander, Mr. Mack, Mr. Brainard, and Mr. Flinner.

Complete power-plant testing; special investigations of steam-engine performance; advanced laboratory work on internal-combustion engines; the designing of a complete power plant; and the solution of special problems dealing with power generation. Charge, \$1.50.

210, 215. HEATING AND VENTILATION. 3(2-3); II. Prerequisite: Mech. Engr. 204. Mr. Mack and Mr. Brainard.

Fundamental principles of heating and ventilation; study of heat losses from buildings, different methods of heating, layout of piping and duct systems, temperature control, air conditioning, and artificial cooling.

Laboratory.—Tests of fans, blowers, radiators, house-heating boilers, and automatic ventilators; the design of heating and ventilating systems for buildings. Charge, \$1.

221. REFRIGERATION. 2(2-0); I. Prerequisite: Mech. Eng. 201. Mr. Mack.

Thermodynamics of refrigeration; systems of refrigeration and their operation, application of refrigeration to ice making, cold storage, and the cooling of gases, liquids, and solids.

230. ADVANCED THERMODYNAMICS. 2(2-0); I. Prerequisite: Mech. Eng. 201. Mr. Helander and Mr. Brainard.

The advanced phases of engineering thermodynamics, including research work along fundamental properties of gases and vapors.

235. STEAM TURBINES. 2(2-0); II. Prerequisite: Mech. Engr. 204. Mr. Helander and Mr. Flinner.

The theoretical principles involved in the various important types of steam turbines and the construction and operation of some of the commercial types; the selection of a steam turbine as a prime mover for power plants operating under particular operating conditions; the effect of factors such as superheat, vacuum, and pressure.

240. INTERNAL COMBUSTION ENGINES. 2(2-0); II. Prerequisite: Mech. Engr. 201. Mr. Flinner.

General principles of the internal combustion engine, with special reference to its use as an airplane motor; study of cycles of operation, fuels, carburetors, ignition systems, engine requirements, altitude performance, reliability, and types of airplane engines.

FOR GRADUATE CREDIT

305. RESEARCH IN MECHANICAL ENGINEERING. Credit to be arranged; I, II, and SS. For prerequisites, consult instructors. Mr. Helander and Mr. Mack.

The laboratory work is correlated with the work of the Engineering Experiment Station. Investigations of lubricants, fuels, combustion, internal-combustion engines, steam engines, steam turbines, steam boilers, gas producers, refrigeration, heat-insulating materials, heating and ventilation, compressed air, and similar subjects are carried on. Data secured in this course may be used as the basis for a master's thesis.

Shop Practice

Professor CARLSON
Professor SELLERS
Associate Professor GRAHAM
Assistant Professor JONES
Assistant Professor LYNCH

Assistant Professor AIMAN
Instructor STUTZMAN
Instructor GRANT
Instructor MCCOLLUM

The work in the shops is planned to meet the needs of three classes of students: (1) those in the special courses related to engineering and agriculture who expect to make use of the knowledge gained in their subsequent work in the shops and on the farm; (2) those who are training themselves for teaching and need a general knowledge of the principles underlying shop work, together with sufficient skill in the performance of various operations to be able to instruct others; and (3) those in the courses in engineering whose need is to secure a thorough knowledge of the methods of performing various kinds of shop work, of the machines best suited for the different purposes, of the amount of work that may be expected of the different machines, and of the workman under different conditions.

The shop building is a series of connected structures. The woodworking shop consists of two rooms 40 by 90 and 35 by 42 feet, respectively. The farm shop, 65 by 75 feet, is equipped for handling farm-shop projects. The machine shop, 40 by 170 feet, is well equipped with the necessary machines. The blacksmith shop is 50 by 100 feet and is equipped with twenty down-draft forges, arc and oxyacetylene welding outfits, and other important equipment. The iron and brass foundries are 27 by 100 and 24 by 34 feet, respectively. The metallography laboratory occupies 3,200 square feet of floor space and is well equipped for class and research work.

A locker room of ample capacity is conveniently located near the shops building for the use of students taking work in the department.

The value of equipment belonging to the department is \$39,762.

COURSES IN SHOP PRACTICE

FOR UNDERGRADUATE CREDIT

101. ENGINEERING WOODWORK. 1(0-3); I and II. Mr. Aiman.

Importance of the use of methods, machinery, and men in connection with an industrial woodworking plant; forest conditions, wastage, the structural growth of wood, and the kiln drying of lumber.

117. MANUAL TRAINING FOR PRIMARY GRADES. 2(0-6); I, II, and SS. Mr. Aiman.

Exercises suitable for pupils from the primary to the eighth grade; selection of suitable problems, material and equipment; special instruction in methods of teaching this work. Charge, \$2.50.

119. REED FURNITURE CONSTRUCTION. 2(0-6); I, II, and SS. Mr. Aiman.

Exercises with reed and art fiber in constructing commercial articles; special instruction in methods of teaching this work. Charge, \$2.50.

120. WOODWORKING FOR GRAMMAR GRADES. 2(0-6); I, II, and SS. Mr. Aiman.

Elementary manual training for those who are preparing to teach problems suitable for grammar grades. Charge, \$2.50.

125. WOODWORKING I FOR HIGH SCHOOLS. 2(0-6); I, II, and SS. Prerequisite: Shop 120. Mr. Aiman.

Continuation of course 120; problems suitable for high-school students; special attention to the study of woods, methods of finishing, and use and care of tools. Charge, \$2.50.

130. WOODWORKING II FOR HIGH SCHOOLS. 2(0-6); I, II, and SS. Prerequisite: Shop 125. Mr. Aiman.

Advanced work in cabinet construction by the use of woodworking machinery, and such bench work as is necessary; both quantity and quality are emphasized, in order that proper use may be made of time; the use, care, and erection of machines for a manual training shop. Charge, \$2.50.

135. WOOD TURNING. 2(0-6); I, II, and SS. Mr. Aiman.

Practice in handling the lathe and turning tools. Charge, \$2.50.

140. ADVANCED WOODWORK. 2(0-6); I, II, and SS. Prerequisite: Shop 130. Mr. Aiman.

An opportunity to specialize in wood finishing, cabinet work, or some other work of special interest to the student. Charge, \$2.50.

147. FARM CARPENTRY I. 3(1-6); I and SS. Mr. Graham.

Rafter cutting and erection, studding and siding work, making window and door frames, hanging doors, and similar operations on full-size construction work; making out bill of material; care and upkeep of tools; designed for training of teachers who must solve problems in connection with carpentry work on the farm. Charge, \$2.50.

149. CARPENTRY. 2(0-6); I. Mr. Graham.

Discussions, demonstrations, and practice in connection with tools and materials used in carpenter work on the farm. For students in agricultural engineering. Charge, \$2.50.

150. FORGING. 1(0-3); I and II. Mr. Lynch.

Practice, demonstrations, and discussions covering: (a) forging of iron and steel; (b) production equipment as used in the commercial forge shop; (c) operation of gas, oil, and electric furnaces, heat-treating steel, and oxyacetylene and electric welding. Charge, \$2.50.

157, 158. FARM BLACKSMITHING I and II. 1(0-3) each; I and SS, and II and SS, respectively. Mr. Lynch.

In I, preliminary work same as in Shop 150; exercises closely related to work on the farm; designed to train teachers for work in rural communities. Charge, \$2.50.

In II, more advanced instruction in the working of iron and steel, and in the annealing, hardening, and tempering of tools. Charge, \$2.50.

161. FOUNDRY PRODUCTION. 1(0-3); I and II. Mr. Grant.

(a) Bench, floor, and pit molding, use of molding and core machines, operating nonferrous furnaces and cupola; (b) study of commercial foundry equipment and the operation and control of the foundry. Charge, \$1.

165. METALLURGY. 2(2-0); I and II. Prerequisites: Chemistry E-I and E-II; or may be taken with Chemistry E-II. Mr. Sellers.

Manufacture and use of iron, steel, copper, and their alloys; proper selection and use of these in the manufacturing industries.

167. METALLOGRAPHY I. 1(0-3); I and II. Prerequisites: Shop 150 and 165, or may be taken with the latter. Mr. Sellers.

The microscopic constituents of the different grades of iron, steel, and the more common nonferrous alloys; changes in the structure and properties of the metals as produced by heat treatment, mechanical working, and composition. Charge, \$2.50.

170. MACHINE TOOL WORK I. 2(0-6); I, II, and SS. Prerequisite: Shop 161. Mr. Jones and Mr. McCollum.

Practice in chipping, filing, shaper and planer work; scraping, drilling, and turning on the lathe. Charge, \$5.

171. OXYACETYLENE WELDING. 1(0-3); I and II. Prerequisite: Shop 150. Mr. Lynch.

The theory and practice of oxyacetylene welding, including a microscopic study of welds. Charge, \$2.50.

172. ARC WELDING. 1(0-3); I and II. Prerequisite: Shop 150. Mr. Lynch. The theory and practice of arc welding, including a microscopic study of welds. Charge, \$2.50.

173. SHEET METAL WORK. 2(0-6); I, II, and SS. Prerequisite: Engineering Drawing or equivalent. Mr. Graham.

Covers developments, the use of templates, practice in soldering, brazing, folding, wiring, flanging, seaming, rolling, and the more common operations on sheet metal. Charge, \$2.50.

175. FARM SHOP METHODS. 3(1-6); I and SS. Prerequisites: Shop 147 and 157. Mr. Graham.

Babbitting, soldering, drilling and drill grinding, thread cutting with dies and taps, tool sharpening, belt lacing, repair of machinery, and other practical operations; designed to train teachers in farm-shop work. Charge, \$2.50.

192, 193. MACHINE TOOL WORK II AND III. 2(0-6) and 1(0-3), respectively; I, II, and SS. Prerequisite: Shop 170. Mr. Jones and Mr. McCollum.

In II, progressive problems in turning, calipering, boring, reaming, taper turning, threading on the lathe, in chucking, use of forming tools, gear cutting; study of cutting edges and tool adjustments best suited to the different metals, cutting speeds and feeds. Charge, \$5.

In III, work on the turret lathe, boring mill, hand and automatic screw machines, and grinder; practical work with jigs and fixtures and a study of rapid production of duplicate parts. Charge, \$2.50.

195. THESIS. Credit to be arranged; I and II. Mr. Carlson and Mr. Sellers.

The student works out problems of interest and value to himself under his own initiative, but subject to the supervision of his instructors. Ample facilities are available for carrying on work of a constructive or investigative nature.

FOR GRADUATE AND UNDERGRADUATE CREDIT

245. FACTORY ENGINEERING. 2(2-0); I. Prerequisites: Shop 170 and Ap. Mech. 211. Mr. Carlson.

Problems of the factory executive, such as the selection, installation, and

arrangement of direct and indirect equipment, the standardization of machines and tools, stock and store methods, and the various other factors that have to do with the design and control of factories.

255. **FACTORY DESIGN.** 2(0-6); II. Prerequisite: Shop 245. Mr. Carlson.

Knowledge gained in shops and laboratories and in Factory Engineering (Shop 245) is used in the design of a factory.

261. **ADVANCED SHOP PRACTICE.** Credit to be arranged; I, II, and SS. Mr. Carlson and assistants.

Continuation of courses Shop 101, 135, 140, 147, 150, 158, 161, 171, 172, 175, 193, 255, or 265. Opportunity is also offered to specialize to a limited degree along certain lines of shop practice, such as heat treatment of steel, oxyacetylene and electric welding, jig fixtures and die work, pattern making and any shop work that may be of special interest to the student. All assignments must be approved by the head of the Department of Shop Practice. Charge varies with subject matter.

264. **STRUCTURE AND PROPERTIES OF METALS.** 3(2-3); I, II, and SS. Not open to students who have credit in Shop 165 or Shop 167. Prerequisite: Chemistry E-I and E-II or may be taken with Chemistry E-II. Mr. Sellers.

A study of the structure and properties of the more common metals and alloys. Charge, \$2.50.

265. **METALLOGRAPHY II.** 2(0-6); I and II. Prerequisite: Shop 167. Mr. Sellers and Mr. Stutzman.

A continuation of course 167, with work in brass, bronze and aluminum, and advanced work in steel. Charge, \$5.

286. **SHOP PRACTICE TEACHING.** Credit to be arranged; I, II, and SS. For prerequisites, consult instructor. Mr. Carlson and assistants.

Actual laboratory teaching experience under the supervision of an instructor. Work covers the outlining, preparation and presentation of assignments and the supervision of the work; procurement of materials and equipment, shop layouts and upkeep, and general considerations. In so far as possible the course is adapted to the particular needs of the student. All assignments must be approved by the head of the department.

FOR GRADUATE CREDIT

301. **RESEARCH IN SHOP PRACTICE.** Credit to be arranged; I, II, and SS. For prerequisites, consult instructors. Mr. Carlson, Mr. Sellers, and assistants.

The problems related to shop practice offer a broad field for research. Authoritative data are needed by industry in many fields dealing with metallurgy, metallography, foundry, blacksmithing, woodworking, machine-shop practice, the farm shop and the automobile. The results of such investigations, if suitable, may be incorporated in bulletins of the Engineering Experiment Station; this work may furnish material for the master's thesis. All assignments must be approved by the head of the Department of Shop Practice.

Engineering Experiment Station

STATION STAFF

F. D. FARRELL, President of the College

ADMINISTRATION

R. A. SEATON, Director
LOUISE SCHWENSEN, Secretary
M. A. DURLAND, Bulletin Editor

AGRICULTURAL ENGINEERING

F. C. FENTON, in Charge
F. J. ZINK, Farm Machinery
C. A. LOGAN,† Rural Electrification and Home Equipment
E. L. BARGER, Farm Power
JUNE ROBERTS, Assistant
W. C. HULBERT, Graduate Assistant

APPLIED MECHANICS

C. H. SCHOLER, in Charge
E. R. DAWLEY, Materials of Construction
L. H. KOENITZER, Road Materials
W. E. GIBSON, Road Materials*
D. C. TAYLOR, Road Materials

ARCHITECTURE

PAUL WEIGEL, in Charge
H. E. WICHERS,† Rural Architecture

CHEMICAL ENGINEERING

H. H. KING, in Charge
W. L. FAITH, General Investigations
W. A. VAN WINKLE, Concrete
R. F. CHILDS, Road Materials*

CIVIL ENGINEERING

L. E. CONRAD, in Charge

ELECTRICAL ENGINEERING

R. G. KLOEFFLER, in Charge
J. L. BRENNEMAN, General Investigations
R. M. KERCHNER, Power Circuits
FRED SCHUMANN, Radio Investigations
L. C. PASLAY, General Investigations
N. J. MELLIES, Graduate Research Assistant

MACHINE DESIGN

C. E. PEARCE, in Charge
M. A. DURLAND, General Investigations
J. C. OLSEN, Photo-elasticity
G. F. BRANIGAN, Materials of Construction

MECHANICAL ENGINEERING

LINN HELANDER, in Charge
A. J. MACK, General Investigations
B. B. BRAINARD, General Investigations
A. O. FLINNER, General Investigations

PHYSICS

J. O. HAMILTON, in Charge
G. E. RABURN, General Investigations
E. K. CHAPIN, General Investigations
L. E. HUDIBURG, General Investigations

SHOP PRACTICE

W. W. CARLSON, in Charge
G. A. SELLERS, General Investigations
E. C. GRAHAM, Farm Shop Problems
E. C. JONES, Machine Tools
EDWARD GRANT, Foundry Practice
M. J. STUTZMAN, General Investigations

† On leave.

* In coöperation with the Kansas State Highway Department.

The Engineering Experiment Station

The Engineering Experiment Station was established for the purpose of carrying on tests and research work of engineering and manufacturing value to the state of Kansas, and of collecting, preparing and presenting technical information in a form readily available for the use of the various industries and the people of the state. It is the intention to make all the work of the Experiment Station of direct importance to Kansas.

All the equipment of the various engineering and scientific laboratories, the shops, and the College power plant are available for the work, while the personnel of the Station consists of members of the teaching staff from the various departments of the Division of Engineering and from other scientific departments whose work is directly related to the work of this division, and others employed especially for the work of the Station.

Among the investigations now being carried on are: Quality of concrete in Kansas highway construction; atmospheric resistance of automobiles; farm sewage disposal systems; Lewis factors for nonstandard gear teeth; durability of belt fastenings; road-material resources of Kansas; *pisé de terre* construction; durability of concrete; processing and handling grain and forage; deterioration of concrete in silos; harvesting and storage of grain crops; volume changes in concrete; harvesting and baling hay; rural electrification; farm refrigeration; elastic properties of concrete; relation of potential gradient to meteorological elements; tool rooms and storerooms of school shops; air conditioning for residences; use of electricity in hot beds; cost and depreciation of farm machinery; wind pressures on farm buildings; cutting edges of tillage implements; blending lubricating oils; tractor fuels; television apparatus; electrical grounds; wind-electric plants; low-cost residential construction; gear tooth stresses and residential construction units.

The testing laboratories of this Station have been made available by law† for the use of the State Highway Commission and the state highway engineer, and the road materials for use in state road construction are tested in these laboratories.

Some of the results of the investigations are published as bulletins of the Engineering Experiment Station, which are sent free to any citizen of the state upon request. Thirty-two such bulletins have been published. Besides issuing these bulletins, the Station answers yearly many hundreds of requests for information upon matters coming within its field.

Requests for bulletins and general correspondence should be addressed to Engineering Experiment Station, Manhattan, Kan. Requests for information in specific matters should be addressed, as far as possible, to the heads of departments in whose fields the particular matters lie.

† Chapter 281, Laws of 1931.

The Division of General Science

RODNEY WHITEMORE BABCOCK, *Dean*

In the land-grant colleges, of which this institution is one, the classical studies of the older type of college are replaced by work in the sciences and in professional and vocational subjects. A sound basis for technical training includes thorough training in mathematics, physical science, and biological science. It is believed, also, that education should include some preparation for the discharge of one's duties to the state and to the community in which he lives. It should afford him that discipline and culture which alone can give him a grasp of the relations among persons and activities, peoples and events, with breadth of view and tolerance of attitude, and hence an influence over his associates and fellow citizens of every station of life.

It is the province of the departments grouped in this division of the College to give this basic, scientific, cultural, and disciplinary training. Their work is not only foundational, but it penetrates through all of the characteristic vocational courses of the institution, as the structural steel of the modern skyscraper penetrates the entire building and forms a secure framework and support for the more readily visible and evidently important parts. The departments of this division thus give unity to all of the four-year curricula offered in this institution. Nine of these are in charge of this division, and some of them, by means of electives and options, are susceptible of manifold modification and application.

CURRICULUM IN GENERAL SCIENCE

The curriculum in general science includes the fundamental training in English, mathematics, science, history, economics, military science, and physical training required in the several specialized curricula now offered by the College. Its required subjects constitute the central educational basis of the institution. By means of a number of groups of electives, it gives an opportunity to students to advance themselves still further in these fundamental lines and to give special attention to some, instead of taking the technical subjects characterizing other courses. This opportunity meets the needs of several types of young people, among whom are: (1) Those who have not yet fully decided as to their vocation, but who wish an education that is strong and well balanced in respect to modern science and cultural subjects, as a foundation for further education or as a preparation for sound citizenship and intellectual, esthetic and ethical satisfaction in life. (2) Those who are looking forward to teaching in the high schools of the state. The electives offered allow one to give special attention to mathematics, physical science, biological science, agriculture, home economics, history, economics, English, journalism, music, professional educational subjects, and several other lines. (3) Those who are fitting themselves for research work in the sciences, especially as applied to agriculture, engineering, and other industries. (4) Those for whom a good general education is required or desirable before studying a profession such as law or medicine.

The electives are to be chosen in groups, approved by the dean, and in such a manner as to give logical coherence to the curriculum as a whole. Special combinations in home economics and mechanic arts have been planned to meet the needs of prospective teachers of household arts and manual training. Students changing from other curricula to that in general science receive credit for work done in the other curricula in so far as it can be fitted into the general plan of this one.

CURRICULUM IN INDUSTRIAL JOURNALISM

The aim of the curriculum is to present such subjects as will enable the writer to see his work in proper perspective, to obtain authoritative knowledge of some field of industrial activity, and to write acceptably. The curriculum consequently offers, in the first place, fundamental studies of literary, social, and scientific character. Because of the materials with which journalism deals it is highly desirable that the student obtain a clear knowledge of the social sciences and be able to read at least one current foreign language. In the second place, the student is required to elect subjects in agriculture, mechanic arts, applied science, or home economics, depending on the portion of the field of industrial journalism which he desires to enter, it being expected that every student graduated from the curriculum shall have special knowledge of some prominent line of industry. In the third place, the theory and practice of journalism are presented in a series of courses extending throughout the sophomore, junior, and senior years, and opportunity is offered for taking additional electives in journalism simultaneously with the required courses.

CURRICULUM IN INDUSTRIAL CHEMISTRY

The facilities for instruction in chemistry are ample, and the demand of students for a curriculum planned especially to give chemical training is such that a formulation has been made to meet the needs of those desiring to specialize in industrial chemistry. A curriculum in chemical engineering is also offered in the Division of Engineering. The instruction facilities of the Department of Chemistry, reinforced by opportunities for practical work in connection with the researches of the experiment stations, are such as to provide amply for this specialized training.

CURRICULA IN MUSIC

A knowledge of music contributes to the satisfaction in life of practically all cultivated people. This college throughout its history has maintained a department of music for the purpose of affording culture in this art to any of its students. In recent years the excellence of the instruction offered has created a demand for curricula in music.

A four-year curriculum is offered in applied music, preparing the student with a major in voice, piano, violin, organ, or other instrument, and with a minor in another of these subjects. Students completing this curriculum are awarded the degree of Bachelor of Music, and are eligible to receive a three-year special state certificate in music renewable for three-year terms if they have elected the required subjects in education.

A four-year curriculum in music education is also offered, with specialization in voice, instrument, or public-school band or orchestra. Students completing this curriculum are awarded the degree of Bachelor of Science in Music Education, and are eligible to receive a special state certificate to teach music and permission to teach any nonmusic subject in which they have completed fifteen or more college hours; students completing this curriculum with sufficient extra hours so that not more than forty hours in music are submitted to the State Board of Education are eligible to receive the state three-year, renewable-for-life certificate.

CURRICULA IN PHYSICAL EDUCATION

Within recent years a great awakening has taken place in respect to physical development. The prevalence of bodily conditions and defects that systematic and intelligently directed exercise would have corrected has been found to be serious. Since the situation has been recognized there has been in schools of all grades a great increase in the provision for physical education and training. Success in teaching this work requires vigorous health, a normal condition of the hands, feet, joints, muscles and internal organs, and eyes that do not require

glasses. The curricula offered at this institution are designed to prepare teachers of physical education who are fundamentally trained. This is a much broader field than mere coaching of athletics. At the same time it is fully recognized that the impulse to play is instinctive, and that wisely chosen games, conducted under adequate supervision, constitute attractive and effective agencies for physical development. The theoretical and practical instruction given in these curricula amply prepares students for coaching athletic games. The curricula are also so planned as to enable the student to get the work in professional education necessary for a state certificate, and to elect work in English, mathematics, history or some other subject which one may teach in connection with physical education in the smaller schools.

CURRICULA IN COMMERCE

The curriculum in commerce was established chiefly because of the relationship of this College to the business activities of the state and nation that directly involve agriculture and rural affairs. The commercial prosperity of Kansas depends primarily upon the business success of its farming population. The success of the farmer is determined to a large extent by his relations with those who handle his products or furnish him with goods and service. The towns of the state and the strictly rural districts about them constitute an economic unit, the members of which are mutually dependent. A knowledge of the economic, financial, social, and business principles affecting the country and the towns, in themselves and in their interrelations, is of the greatest importance. The curriculum in commerce is designed primarily to train men and women for citizenship and business service in these communities, but the information acquired and the general principles involved are applicable everywhere and in all lines of business.

The completion of this curriculum should not only enable one to conduct his own business more successfully, but give him an insight into the problems of others in their occupations. A general diffusion of such knowledge promotes tolerance, consideration for the general public with which each deals, and social unity.

Choice of electives is rather free in this curriculum, and any agricultural, industrial, commercial, or social subjects of study will be approved, if they are chosen in such relationships as to give promise of usefulness.

The curriculum in commerce with special training in accounting furnishes a course of study for those who wish preparation in this important activity of business and government. The basic subjects of the four-year curriculum in commerce are included, and a sequence of courses in accounting extends through the last three years. Modern tax laws have made accounting imperative in all branches of industry, and the graduate from this curriculum is prepared to take a place in this part of the commercial relations of the world.

SIX-YEAR CURRICULUM IN GENERAL SCIENCE AND VETERINARY MEDICINE

A six-year curriculum has been formulated which combines many of the advantages of a course of general scientific study with preparation for the profession of veterinary medicine. During the first four years, science work of a general character is combined with subjects fundamental in veterinary medicine, and on completion of these four years the degree of Bachelor of Science is conferred. The last two years are given almost exclusively to professional veterinary subjects, and complete the requirements for the degree of Doctor of Veterinary Medicine.

Curriculum in General Science

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|-----------|-------------------------------------|-----------|
| College Rhetoric I, Engl. 101..... | *3(3-0) | College Rhetoric II, Engl. 104..... | 3(3-0) |
| Chemistry I, Chem. 101..... | 5(3-6) | Chemistry II, Chem. 102..... | 5(3-6) |
| College Algebra,† Math. 104..... | 3(3-0) | Plane Trigonometry, Math. 101..... | 3(3-0) |
| General Botany I, Bot. 101..... | 3(1-4, 2) | General Botany II, Bot. 105..... | 3(1-4, 2) |
| Library Methods, Lib. Ec. 101..... | 1(1-0) | Current History, Hist. 126..... | 1(1-0) |
| Infantry I, Mil. Tr. 101A (men)... | 1(0-3) | Infantry II, Mil. Tr. 102A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 103.. | R(0-2)or | Phys. Education M, Phys. Ed. 104.. | R(0-2)or |
| Phys. Education W, Phys. Ed. 151A, | R(0-3) | Phys. Education W, Phys. Ed. 152A, | R(0-3) |
| Total | 15 or 16 | Total | 15 or 16 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|--------------------------------------|----------|-------------------------------------|----------|
| English Literature, Engl. 172..... | 3(3-0) | American Literature, Engl. 175.... | 3(3-0) |
| English History, Hist. 121..... | 3(3-0) | Modern Europe II, Hist. 223..... | 3(3-0) |
| General Physics I, Phys. 135..... | 4(3-3) | General Physics II, Phys. 140..... | 4(3-3) |
| General Zoölogy, Zoöl. 105..... | 5(3-6) | General Psychology, Educ. 184.... | 3(3-0) |
| Infantry III, Mil. Tr. 103A (men)... | 1(0-3) | Elective ‡..... | 2(-) |
| Phys. Education M, Phys. Ed. 105. | R(0-2)or | Infantry IV, Mil. Tr. 104A (men)... | 1(0-3) |
| Phys. Education W, Phys. Ed. 153. | R(0-3) | Phys. Education M, Phys. Ed. 106 | R(0-2)or |
| | | Phys. Education W, Phys. Ed. 154. | R(0-3) |
| Total | 15 or 16 | Total | 15 or 16 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|----------------------------------------|--------|------------------------------------|--------|
| Hist. of Engl. Literature, Engl. 181.. | 3(3-0) | American History I, Hist. 201..... | 3(3-0) |
| Amer. Govt., Hist. 151, 152 or 153. | 3(3-0) | Economics I, Econ. 101..... | 3(3-0) |
| Current History, Hist. 126..... | 1(1-0) | Gen. Microbiology, Bact. 101..... | 3(1-6) |
| Extern. Speech I, Public Spk. 106.. | 2(2-0) | Elective ‡..... | 6(-) |
| Elective‡ | 6(-) | | |
| Total | 15 | Total | 15 |

SENIOR

| FIRST SEMESTER | SECOND SEMESTER |
|-----------------|-----------------|
| Elective ‡..... | Elective ‡..... |
| 15(-) | 15(-) |

Summary.—Men: Physical education, two years, required; military science, 4 hours; other prescribed subjects, 76 hours; elective, 44 hours; total, 124 hours. Women: The same, except no military science; total, 120 hours.

Pre-Medical and Pre-Pharmaceutical Adaptation of Curriculum in General Science

The following arrangement of required and elective subjects is prepared for students who wish to enter medical or pharmaceutical schools at the end of two years. Students preparing to enter a school of medicine may elect French, 9 hours, instead of German, 10 hours. Students preparing to enter a school of pharmacy must substitute General Botany I, General Botany II, and General Microbiology for General Zoölogy, Comparative Anatomy, and English Literature. At least 60 hours must be completed in the two years.

* The number before the parenthesis indicates the number of hours of credit; the first number within the parentheses indicates the number of hours of recitation each week; the second shows the number of hours to be spent in laboratory work each week; and the third, where there is one, indicates the number of hours of outside work in connection with the laboratory each week.

† Students who offer but one unit of algebra for admission take a five-hour course in College Algebra, Math. 107. The additional hours are applied against electives.

‡ Electives are to be chosen, with the advice and approval of the dean, in groups of not less than eight hours, or in courses which extend fields already entered in the required work.

FRESHMAN

FIRST SEMESTER

| | |
|------------------------------------|----------|
| Coll. Rhet. I, Engl. 101..... | 3(3-0) |
| Chemistry I, Chem. 101..... | 5(3-6) |
| Coll. Algebra, Math. 104..... | 3(3-0) |
| German I, Mod. Lang. 101..... | 3(3-0) |
| Extem. Speech I, Pub. Spk. 106... | 2(2-0) |
| Infantry I, Mil. Tr. 101A (men)... | 1(0-3) |
| Phys. Educ. M, Phys. Ed. 103..... | R(0-2)or |
| Phys. Educ. W, Phys. Ed. 151A... | R(0-3) |

Total 16 or 17

SECOND SEMESTER

| | |
|-------------------------------------|----------|
| Coll. Rhet. II, Engl. 104..... | 3(3-0) |
| Chemistry II, Chem. 102..... | 5(3-6) |
| Plane Trigonometry, Math. 101.... | 3(3-0) |
| German II, Mod. Lang. 102..... | 3(3-0) |
| Elective | 2(-) |
| Infantry II, Mil. Tr. 102A (men)... | 1(0-3) |
| Phys. Educ. M, Phys. Ed. 104..... | R(0-2)or |
| Phys. Educ. W, Phys. Ed. 152A... | R(0-3) |

Total 16 or 17

SOPHOMORE

FIRST SEMESTER

| | |
|--------------------------------------|----------|
| English Literature, Engl. 172..... | 3(3-0) |
| Scientific German, Mod. Lang. 237 | 4(4-0) |
| General Physics I, Phys. 135..... | 4(3-3) |
| General Zoölogy, Zoöl. 105..... | 5(3-6) |
| Infantry III, Mil. Tr. 103A (men)... | 1(0-3) |
| Phys. Educ. M, Phys. Ed. 105..... | R(0-2)or |
| Phys. Educa. W, Phys. Ed. 153..... | R(0-3) |

Total 16 or 17

SECOND SEMESTER

| | |
|-------------------------------------|----------|
| Organic Chemistry, Chem. 220..... | 5(3-6) |
| General Physics II, Phys. 140..... | 4(3-3) |
| Comp. Anat. of Vert., Zoöl. 246... | 4(2-6) |
| Elective | 3(-) |
| Infantry IV, Mil. Tr. 104A (men)... | 1(0-3) |
| Phys. Educ. M, Phys. Ed. 106..... | R(0-2)or |
| Phys. Educ. W, Phys. Ed. 154..... | R(0-3) |

Total 16 or 17

Curriculum in Industrial Chemistry

FRESHMAN

FIRST SEMESTER

| | |
|------------------------------------|----------|
| College Rhetoric I, Engl. 101..... | 3(3-0) |
| Chemistry I, Chem. 101..... | 5(3-6) |
| College Algebra, Math. 104..... | 3(3-0) |
| Engr. Drawing, Mach. Des. 101.... | 2(0-6) |
| General Geology, Geol. 103..... | 3(3-0) |
| Infantry I, Mil. Tr. 101A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 103.. | R(0-2)or |
| Phys. Ed. W, Phys. Ed. 151A..... | R(0-3) |

Total 16 or 17

SECOND SEMESTER

| | |
|-------------------------------------|----------|
| College Rhetoric II, Engl. 104.... | 3(3-0) |
| Chemistry II, Chem. 102..... | 5(3-6) |
| Plane Trigonometry, Math. 101.... | 3(3-0) |
| Des. Geometry, Mach. Des. 106.... | 2(0-6) |
| Machine Drawing I, Mach. Des. 111, | 2(0-6) |
| Library Methods, Lib. Ec. 101.... | 1(1-0) |
| Infantry II, Mil. Tr. 102A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 104.. | R(0-2)or |
| Phys. Education W, Phys. Ed. 152A, | R(0-3) |

Total 16 or 17

SOPHOMORE

FIRST SEMESTER

| | |
|--------------------------------------|----------|
| Inorg. Preparations, Chem. 202.... | 2(0-6) |
| Plane Anal. Geometry, Math. 110... | 4(4-0) |
| Engr. Physics I, Physics 145..... | 5(4-3) |
| Adv. Inorg. Chemistry, Chem. 207, | 3(3-0) |
| Commercial Law, Hist. 160..... | 1(1-0) |
| Infantry III, Mil. Tr. 103A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 105.. | R(0-2)or |
| Phys. Education W, Phys. Ed. 153.. | R(0-3) |

Total 15 or 16

SECOND SEMESTER

| | |
|-------------------------------------|----------|
| Quant. Analysis, Chem. 241..... | 5(1-12) |
| Calculus I, Math. 205..... | 5(5-0) |
| Engr. Physics II, Physics 150..... | 5(4-3) |
| Infantry IV, Mil. Tr. 104A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 106.. | R(0-2)or |
| Phys. Education W, Phys. Ed. 154.. | R(0-3) |

Total 15 or 16

JUNIOR

FIRST SEMESTER

| | |
|------------------------------------|--------|
| German I, Mod. Lang. 101..... | 3(3-0) |
| Organic Chemistry I, Chem. 218... | 4(2-6) |
| Physical Chemistry I, Chem. 206... | 5(3-6) |
| Calculus II, Math. 206..... | 3(3-0) |
| Fire Assaying, Chem. 242..... | 2(0-6) |

Total 17

SECOND SEMESTER

| | |
|---------------------------------------|-----------|
| German II, Mod. Lang. 102..... | 3(3-0) |
| Organic Chemistry II, Chem. 219... | 4(2-6) |
| Physical Chemistry II, Chem. 272.. | 3(3-0) |
| Elec. Engr. C, Elec. Engr. 102, 106.. | 3(2-2, 1) |
| History of Chemistry, Chem. 208.. | 1(1-0) |
| Elective† | 3(-) |

Total 17

SENIOR

FIRST SEMESTER

| | |
|--------------------------------------|--------|
| Amer. Govt., Hist. 151, 152, or 153. | 3(3-0) |
| Indust. Chemistry I, Chem. 203.... | 5(3-6) |
| Scientific German, Mod. Lang. 237.. | 4(4-0) |
| Inspection Trip, Chem. 130..... | R |
| Elective† | 5(-) |

Total 17

SECOND SEMESTER

| | |
|-------------------------------------|--------|
| Economics I, Econ. 101..... | 3(3-0) |
| Indust. Chemistry II, Chem. 204.... | 5(3-6) |
| Problems in Chemistry, Chem. 270.. | 3(0-9) |
| Elective† | 5(-) |

Total 16

Summary.—Men: Physical education, required; military science, 4 hours; chemistry, 52 hours; engineering, 9 hours; other prescribed subjects, 55 hours; electives, 13 hours. Total, 133 hours. Women: The same, except no military science. Total, 129 hours.

† Electives are to be chosen, with the advice and approval of the dean, in groups of not less than eight hours, or in courses which extend fields already entered in the required work.

Curriculum in Industrial Journalism

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|----------|-----------------------------------------|----------|
| College Rhetoric I, Engl. 101..... | 3(3-0) | College Rhetoric II, Engl. 104..... | 3(3-0) |
| General Chemistry, Chem. 110..... | 5(3-6) | General Geology, Geol. 103..... | 3(3-0) |
| Modern Language I* | 3(3-0) | Modern Language II*..... | 3(3-0) |
| Library Methods, Lib. Ec. 101.... | 1(1-0) | Journalistic Vocations, Ind. Jour. 140, | 2(2-0) |
| Option* | 3(-) | Option* | 4(-) |
| Infantry I, Mil. Tr. 101A (men)... | 1(0-3) | Infantry II, Mil. Tr. 102A (men)... | 1(0-3) |
| Industrial Journalism Lecture..... | R | Industrial Journalism Lecture..... | R |
| Phys. Education M, Phys. Ed. 103.. | R(0-2)or | Phys. Education M, Phys. Ed. 104. | R(0-2)or |
| Phys. Education W, Phys. Ed. 151A, | R(0-3) | Phys. Education W, Phys. Ed. 152A, | R(0-3) |
| Total | 15 or 16 | Total | 15 or 16 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|--------------------------------------|-------------|--------------------------------------|-------------|
| El. Journalism, Ind. Jour. 151..... | 2(2-0) | Industrial Writing, Ind. Jour. 161.. | 2(2-0) |
| Prin. of Typography, Ind. Jour. | | English Literature, Engl. 172..... | 3(3-0) |
| 101 | 3(2-3) | General Botany II, Bot. 105..... | 3(1-4, 2)or |
| General Zoölogy, Zoöl. 105..... | 5(3-6)or | General Microbiology, Bact. 101... | 3(1-6)if |
| General Botany I, Bot. 101..... | 3(1-4, 2) | General Botany I is chosen the first | |
| Modern Language Readings*..... | 3(3-0) | semester. | |
| Option* | 2 or 4(-) | General Psychology, Educ. 184.... | 3(3-0) |
| Industrial Journalism Lecture..... | R | Option* | 7 or 4(-) |
| Infantry III, Mil. Tr. 103A (men)... | 1(0-3) | Industrial Journalism Lecture..... | R |
| Phys. Education M, Phys. Ed. 105. | R(0-2)or | Infantry IV, Mil. Tr. 104A (men)... | 1(0-3) |
| Phys. Education W, Phys. Ed. 153.. | R(0-3) | Phys. Education M, Phys. Ed. 106. | R(0-2)or |
| Total | 15 or 16 | Phys. Education W, Phys. Ed. 154.. | R(0-3) |
| | | Total | 15 or 16 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|--------------------------------------|----------|
| Advanced Reporting, Ind. Jour. 163. | 3(3-0) | Jour. for Women, Ind. Jour. 172.... | 2(2-0)or |
| Ind. Feature Writing, Ind. Jour. | | The Rural Press, Ind. Jour. 181.... | 2(2-0)or |
| 167 | 2(2-0) | Adv. Practice, Ind. Jour. 225..... | 2(2-0) |
| Prin. of Adv., Ind. Jour. 178..... | 4(4-0) | Copy Reading, Ind. Jour. 254.... | 2(0-6) |
| American Literature, Engl. 175.... | 3(3-0) | History of English Lit., Engl. 181.. | 3(3-0) |
| Option* | 3(-) | Extens. Speech I, Pub. Spk. 106... | 2(2-0) |
| Industrial Journalism Lecture..... | R | Current History, Hist. 126..... | 1(1-0) |
| Total | 15 | Elective and Option*..... | 5(-) |
| | | Industrial Journalism Lecture..... | R |
| | | Total | 15 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|--------------------------------------|--------|-------------------------------------|--------|
| Current History, Hist. 126..... | 1(1-0) | Hist. & Ethics of Jour., Ind. Jour. | |
| Editorial Practice, Ind. Jour. 257.. | 2(2-0) | 273 | 3(3-0) |
| Contem. Thought, Ind. Jour. 255.. | 3(3-0) | American Govt. Hist. 151..... | 3(3-0) |
| Electives and Options*..... | 9(-) | Electives and Options*..... | 9(-) |
| Industrial Journalism Lecture..... | R | Industrial Journalism Lecture..... | R |
| Total | 15 | Total | 15 |

Summary.—Men: Physical education, two years required; military science, 4 hours; industrial journalism, 30 hours; restricted options, 27 hours; modern language, 9 hours; other prescribed subjects, 39 or 40 hours; general electives, 14 or 15 hours; total, 124 hours. Women: The same, except no military science; total, 120 hours.

* The options and electives are chosen with the advice and approval of the dean. The options are in two general groups: (1) fifteen hours in courses related to an industry or to applied science, and (2) twelve hours in courses in political or social science, history, government, economics, or sociology. The options taken in the freshman year, and a large part of those in the sophomore year, must be those related to an industry or applied science. In the tabulated presentation of electives for students in the Division of General Science, groups may be found that will be accepted as the required options and electives. These are printed following the tabulation of the curricula. The fifteen-hour option related to an industry or to applied science must be selected from one of the following groups: Group 31 (applied science), group 32 (home economics), group 35 (agriculture), group 36 (drawing and art), group 37 (manual and industrial arts), and group 38 (printing). The twelve-hour option in social science may be selected by any combination formed from the following groups: Group 15 (history, government and law), group 16 (economics and sociology), and group 30 (social science).

Proficiency equivalent to nine hours of study in a modern language is required. Each unit of German, French, or Spanish offered for entrance reduces this requirement in that language by three hours, an equal amount of additional electives being chosen.

Electives are to be chosen in groups of usually not fewer than eight hours, unless they are selected in subjects which extend fields already entered through the required subjects or the options.

Curriculum in Music Education

Students wishing special training in Band or Orchestra make the following substitution:

Instrument, 16 hours, for Voice, 6 hours, Piano, 2 hours, and Voice or Instrument, 8 hours, and take Chorus, R (1-0), throughout the senior year.

FRESHMAN

FIRST SEMESTER

| | |
|--------------------------------------|---------------------|
| College Rhetoric I, Engl. 101..... | 3(3-0) |
| Harmony I, Mus. 101..... | 2(2-0) |
| Ear Tr. & Sight Singing I, Mus. 105. | 2(1-3) |
| Piano, Mus. 161..... | 2(1-6) |
| Voice, Mus. 156..... | 2(1-6) |
| Orch. Instruments I, Mus. 151A.... | $\frac{1}{2}$ (1-) |
| Choral Ensemble, Mus. 194..... | $\frac{1}{2}$ (0-2) |
| General Psychology, Educ. 184..... | 3(3-0) |
| Infantry I, Mil. Tr. 101A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 103. | R(0-2)or |
| Phys. Education W, Phys. Ed. 151A, | R(0-3) |

Total 15 or 16

SECOND SEMESTER

| | |
|--------------------------------------|---------------------|
| College Rhetoric II, Engl. 104..... | 3(3-0) |
| Harmony II, Mus. 102..... | 2(2-0) |
| Ear Tr. & Sight Singing II, Mus. 106 | 2(1-3) |
| Piano, Mus. 161..... | 2(1-6) |
| Voice, Mus. 156..... | 2(1-6) |
| Orch. Instruments II, Mus. 151B... | $\frac{1}{2}$ (1-) |
| Choral Ensemble, Mus. 194..... | $\frac{1}{2}$ (0-2) |
| Phys. or Biol. Science..... | 3(-) |
| Infantry II, Mil. Tr. 102A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 104. | R(0-2)or |
| Phys. Education W, Phys. Ed. 152A, | R(0-3) |

Total 15 or 16

SOPHOMORE

FIRST SEMESTER

| | |
|---------------------------------------|----------------------|
| Harmony III, Mus. 103..... | 2(2-0) |
| Ear Tr. & Sight Singing III, Mus. 107 | 2(1-3) |
| Piano, Mus. 161..... | 1($\frac{1}{2}$ -6) |
| Voice, Mus. 156..... | 1($\frac{1}{2}$ -6) |
| Orch. Instr. III, Mus. 151C..... | $\frac{1}{2}$ (1-) |
| Choral Ensemble, Mus. 194..... | $\frac{1}{2}$ (0-2) |
| School Music I, Mus. 138..... | 2(2-0) |
| Choral Conducting, Mus. 133..... | 1(1-0) |
| Phys. or Biol. Science..... | 5(-) |
| Infantry III, Mil. Tr. 103A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 105. | R(0-2)or |
| Phys. Education W, Phys. Ed. 153.. | R(0-3) |

Total 15 or 16

SECOND SEMESTER

| | |
|--------------------------------------|----------------------|
| Harmony IV, Mus. 104..... | 2(2-0) |
| Ear Tr. & St. Singing IV, Mus. 108.. | 2(1-3) |
| Piano, Mus. 161..... | 1($\frac{1}{2}$ -6) |
| Voice, Mus. 156..... | 1($\frac{1}{2}$ -6) |
| Orch. Instr. IV, Mus. 151D..... | $\frac{1}{2}$ (1-) |
| Choral Ensemble, Mus. 194..... | $\frac{1}{2}$ (0-2) |
| School Music II, Mus. 139..... | 2(2-0) |
| English Literature, Engl. 172..... | 3(3-0) |
| Nonmusic elective..... | 3(-) |
| Infantry IV, Mil. Tr. 104A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 106. | R(0-2)or |
| Phys. Education W, Phys. Ed. 154.. | R(0-3) |

Total 15 or 16

JUNIOR

FIRST SEMESTER

| | |
|---------------------------------------|---------------------|
| Counterpoint, Mus. 108A..... | 2(2-0) |
| Voice or Instrument..... | 2(1-6) |
| Hist. & Appre. of Mus. I, Mus. 130. | 2(2-0) |
| Pub. Spk. for Teachers, Pub. Spk. 138 | 1(1-0) |
| Instrumental Conducting, Mus. 134. | 1(1-0) |
| Orch. Instr. V, Mus. 151E..... | $\frac{1}{2}$ (1-) |
| Choral Ensemble, Mus. 194..... | $\frac{1}{2}$ (0-2) |
| Educational Psychology, Educ. 109, | 3(3-0) |
| Education Elective..... | 3(3-0) |

Total 15

SECOND SEMESTER

| | |
|-------------------------------------|---------------------|
| Musical Form & Analysis, Mus. 111 | 2(1-6) |
| Voice or Instrument..... | 2(1-6) |
| Hist. & Appre. of Mus. II, Mus. 131 | 2(2-0) |
| Rad. Mus. Appre. Programs, Mus. 115 | 1(1-0) |
| School Music III, Mus. 143..... | 2(2-0) |
| Orch. Instr. VI, Mus. 151F..... | $\frac{1}{2}$ (1-) |
| Choral Ensemble, Mus. 194..... | $\frac{1}{2}$ (0-2) |
| Educ. Admin., Educ. 105..... | 3(3-0) |
| American Literature, Engl. 175.... | 3(3-0) |

Total 15

SENIOR

FIRST SEMESTER

| | |
|---------------------------------------|---------------------|
| Voice or Instrument..... | 2(1-6) |
| Orch. Instr. VII, Mus. 151G..... | $\frac{1}{2}$ (1-) |
| Choral Ensemble, Mus. 194..... | $\frac{1}{2}$ (0-2) |
| Teach. Part. in Grade School, Ed. 129 | 3(3-0) |
| Instr. & Orches., Mus. 136..... | 3(3-0) |
| English elective..... | 3(3-0) |
| Nonmusic elective..... | 3(-) |

Total 15

SECOND SEMESTER

| | |
|-----------------------------------|---------------------|
| Voice or Instrument..... | 2(1-6) |
| Orch. Instr. VIII, Mus. 151H..... | $\frac{1}{2}$ (1-) |
| Choral Ensemble, Mus. 194..... | $\frac{1}{2}$ (0-2) |
| Education elective..... | 3(3-0) |
| Nonmusic elective..... | 9(-) |

Total 15

Summary.—Women: Physical education, required; theoretical music, 39 hours; applied music, 24 hours; other prescribed subjects, 36 hours; restricted electives, 6 hours; nonmusic electives, 15 hours. Total, 120 hours. Men: The same, except that military science, 4 hours, is also required. Total, 124 hours.

Curriculum in Applied Music

Students majoring in piano or pipe organ are required to take Piano Ensemble R (1-0) each semester.

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|----------------------------------------------------|---------------------|----------------------------------------------------|---------------------|
| College Rhetoric I, Engl. 101..... | 3(3-0) | College Rhetoric II, Engl. 104..... | 3(3-0) |
| Music Major..... | 4(1-12) | Music Major..... | 4(1-12) |
| Ear Tr. & Sight Singing I, Mus. 105..... | 2(1-3) | Ear Tr. & Sight Singing II, Mus. 106..... | 2(1-3) |
| Harmony I, Mus. 101..... | 2(2-0) | Harmony II, Mus. 102..... | 2(2-0) |
| Modern Language..... | 3(3-0) | Modern Language..... | 3(3-0) |
| Orch. Instr. I, Mus. 151A..... | $\frac{1}{2}$ (1-) | Orch. Instr. II, Mus. 151B..... | $\frac{1}{2}$ (1-) |
| Ensemble, Mus. 183..... | $\frac{1}{2}$ (0-2) | Ensemble, Mus. 183..... | $\frac{1}{2}$ (0-2) |
| Infantry I, Mil. Tr. 101A (men)... | 1(0-3) | Infantry II, Mil. Tr. 102A (men)... | 1(0-3) |
| Phys. Education M, Phys. Ed. 103. R(0-2) <i>or</i> | | Phys. Education M, Phys. Ed. 104. R(0-2) <i>or</i> | |
| Phys. Education W, Phys. Ed. 151A, R(0-3) | | Phys. Education W, Phys. Ed. 152A, R(0-3) | |
| Total | 15 or 16 | Total | 15 or 16 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|----------------------------------------------------|---------------------|----------------------------------------------------|---------------------|
| Music Major..... | 4(1-12) | Music Major..... | 4(1-12) |
| Music Minor..... | 2(1-6) | Music Minor..... | 2(1-6) |
| Harmony III, Mus. 103..... | 2(2-0) | Harmony IV, Mus. 104..... | 2(2-0) |
| Orch. Instr. III, Mus. 151C..... | $\frac{1}{2}$ (1-1) | Orch. Instr. IV, Mus. 151D..... | $\frac{1}{2}$ (1-) |
| Ensemble, Mus. 183..... | $\frac{1}{2}$ (0-2) | Ensemble, Mus. 183..... | $\frac{1}{2}$ (0-2) |
| Recital I, Mus. 181A..... | R(-) | Recital II, Mus. 181B..... | R(-) |
| Hist. & Appre. of Mus. I, Mus. 130. 2(2-0) | | Hist. & Appre. of Mus. II, Mus. 131..... | 2(2-0) |
| Pub. Spk. for Teachers, Pub. Spk. 138..... | 1(1-0) | Rad. Mus. Appre. Programs, Mus. 115..... | 1(1-0) |
| Modern Language..... | 3(3-0) | Modern Language..... | 3(3-0) |
| Infantry III, Mil. Tr. 103A (men).. | 1(0-3) | Infantry IV, Mil. Tr. 104A (men).. | 1(0-3) |
| Phys. Education M, Phys. Ed. 105. R(0-2) <i>or</i> | | Phys. Education M, Phys. Ed. 106. R(0-2) <i>or</i> | |
| Phys. Education W, Phys. Ed. 153.. R(0-3) | | Phys. Education W, Phys. Ed. 154.. R(0-3) | |
| Total | 15 or 16 | Total | 15 or 16 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|--------------------------------------|---------------------|----------------------------------------|---------------------|
| Music Major..... | 4(1-12) | Music Major..... | 4(1-12) |
| Music Minor..... | 2(1-6) | Music Minor..... | 2(1-6) |
| Counterpoint, Mus. 108A..... | 2(2-0) | Musical Form & Analysis, Mus. 111..... | 1(1-0) |
| Orch. Instr. V, Mus. 151E..... | $\frac{1}{2}$ (1-) | Orch. Instr. VI, Mus. 151F..... | $\frac{1}{2}$ (1-) |
| Ensemble, Mus. 183..... | $\frac{1}{2}$ (0-2) | Ensemble, Mus. 183..... | $\frac{1}{2}$ (0-2) |
| Recital III, Mus. 181C..... | R(-) | Recital IV, Mus. 181D..... | R(-) |
| Choral Conducting, Mus. 133..... | 1(1-0) | General Psychology, Educ. 184.... | 3(3-0) |
| Physics for Musicians I, Phys. 158.. | 5(4-3) | Nonmusic elective | 4(-) |
| Total | 15 | Total | 15 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-----------------------------------------------------|---------------------|-------------------------------------|---------------------|
| Music Major..... | 4(1-12) | Music Major..... | 4(1-12) |
| Orch. Instr. VII, Mus. 151G | $\frac{1}{2}$ (1-) | Orch. Instr. VIII, Mus. 151H..... | $\frac{1}{2}$ (1-) |
| Ensemble, Mus. 183..... | $\frac{1}{2}$ (0-2) | Ensemble, Mus. 183..... | $\frac{1}{2}$ (0-2) |
| Recital V, Mus. 181E..... | R(-) | Recital VI, Mus. 181F..... | R(-) |
| Methods and Materials for the Studio, Mus. 149..... | 1(2-0) | Instr. & Orches., Mus. 136..... | 3(3-0) |
| English Literature, Engl. 172..... | 3(3-0) | Practice Teach. of Music, Mus. 187. | R(1-) |
| Nonmusic elective | 6(-) | American Literature, Engl. 175.... | 3(3-0) |
| Total | 15 | Total | 15 |

Summary.—Women: Physical education, required; theoretical music, 25 hours; applied music, 48 hours; other prescribed subjects, 33 hours; nonmusic electives, 14 hours. Total, 120 hours. Men: The same, except that military science, 4 hours, is also required. Total, 124 hours.

Curriculum in Physical Education for Men

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|------------------------------------|--------|
| Gymnastics I, Phys. Ed. 115A.... | 2(1-3) | Gymnastics II, Phys. Ed. 117A.... | 2(0-6) |
| Basketball, Phys. Ed. 130A..... | 2(1-3) | Football, Phys. Ed. 125..... | 3(2-3) |
| College Rhetoric I, Engl. 101.... | 3(3-0) | General Zoölogy, Zoöl. 105..... | 5(3-6) |
| Extens. Speech I, Pub. Spk. 106... | 2(2-0) | College Rhetoric II, Engl. 104.... | 3(3-0) |
| General Chemistry, Chem. 110.... | 5(3-6) | El. Org. Chemistry, Chem. 123.... | 3(2-3) |
| Library Methods, Lib. Ec. 101.... | 1(1-0) | Infantry II, Mil. Tr. 102A..... | 1(0-3) |
| Infantry I, Mil. Tr. 101A..... | 1(1-3) | Phys. Educ. M, Phys. Ed. 104.... | R(0-2) |
| Phys. Educ. M, Phys. Ed. 103.... | R(0-2) | | |
| Total | 16 | Total | 17 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|-----------------------------------|--------|-----------------------------------|--------|
| Apparatus, Phys. Ed. 109..... | 1(0-3) | Boxing, Phys. Ed. 132..... | 1(0-3) |
| Swimming M I, Phys. Ed. 121.... | 1(0-3) | Baseball, Phys. Ed. 133..... | 2(1-3) |
| Human Anatomy, Zoöl. 123A..... | 5(3-6) | Swimming M II, Phys. Ed. 122.... | 1(0-3) |
| Embryology A, Zoöl. 135..... | 3(2-3) | Kinesiology M, Phys. Ed. 141B.... | 3(3-0) |
| General Psychology, Educ. 184.... | 3(3-0) | Physiology, Zoöl. 130..... | 4(3-3) |
| El. Jour., Ind. Jour. 151..... | 2(2-0) | History and Principles of Phys. | |
| Infantry III, Mil. Tr. 103A..... | 1(0-3) | Educ., Phys. Ed. 192..... | 3(3-0) |
| Current History, Hist. 126..... | 1(1-0) | Playground Management and Games | |
| Phys. Educ. M, Phys. Ed. 105.... | R(0-2) | M, Phys. Ed. 145A..... | 2(2-0) |
| | | Infantry IV, Mil. Tr. 104A..... | 1(3-0) |
| | | Phys. Educ. M, Phys. Ed. 106.... | R(0-2) |
| Total | 17 | Total | 17 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|--------------------------------------|--------|
| Extens. Speech II, Pub. Spk. 108.. | 2(2-0) | Sociology, Econ. 151..... | 3(3-0) |
| Personal Hygiene, Phys. Ed. 119... | 2(2-0) | Track & Field Spts., Phys. Ed. | |
| First Aid and Mas., Phys. Ed. | | 140A | 2(1-3) |
| 113A | 3(3-0) | Educ. Admin., Educ. 210..... | 3(3-0) |
| Org. and Admin. of Phys. Educ. M, | | School Hygiene, Phys. Ed. 148.... | 3(3-0) |
| Phys. Ed. 146B..... | 2(2-0) | | |
| Psych. Child. and Adol., Educ. | | | |
| 250 | 3(3-0) | Practice Teaching in Phys. Educ. II, | |
| Practice Teaching in Phys. Educ. I, | | Phys. Ed. 136B..... | 2(0-6) |
| Phys. Ed. 135..... | 1(0-3) | Elective* | 3(-) |
| Wrestling, Phys. Ed. 128..... | 1(0-3) | | |
| Elective* | 3(-) | | |
| Total | 17 | Total | 16 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|---------------------------------------|--------|-----------------------------------|--------|
| Phys. Diagnosis and Prescript., | | Gen. Microbiology, Bact. 101..... | 3(1-6) |
| Phys. Ed. 124A..... | 3(3-0) | Teach. Partic. in H. S., Educ. | |
| Physiol. of Exercise, Phys. Ed. 123.. | 2(2-0) | 163 | 3(3-0) |
| Educ. Psychology, Educ. 109..... | 3(3-0) | Public-school Program in Phys. | |
| Practice Teaching in Phys. Educ. | | Educ., Phys. Ed. 142..... | 2(2-0) |
| III, Phys. Ed. 136C..... | 2(0-6) | Educ. Sociology, Educ. 239..... | 3(3-0) |
| Elective* | 5(-) | Elective* | 4(-) |
| Total | 15 | Total | 15 |

Summary.—Military science, 4 hours; physical education, 48 hours; professional education, 18 hours; other prescribed subjects, 45 hours; general electives, 15 hours. Total, 130 hours.

* Electives are to be chosen with the advice and approval of the dean, in groups of not less than eight hours, and from departments other than physical education.

Curriculum in Physical Education for Women

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|-------------------------------------|--------|
| College Rhetoric I, Engl. 101..... | 3(3-0) | College Rhetoric II, Engl. 104..... | 3(3-0) |
| General Chemistry, Chem. 110..... | 5(3-6) | El. Org. Chemistry, Chem. 123.... | 3(2-3) |
| Extm. Speech I, Pub. Spk. 106... | 2(2-0) | Extm. Speech II, Pub. Spk. 108.. | 2(2-0) |
| Library Methods, Lib. Econ. 101.. | 1(1-0) | General Zoölogy, Zoöl. 105..... | 5(3-6) |
| Personal Health, Child Welfare 101. | 2(2-0) | | |
| Phys. Educ. W, Phys. Ed. 151A... | R(0-3) | Phys. Educ. W, Phys. Ed. 152A... | R(0-3) |
| Gen. Technic I, Phys. Ed. 157A... | 2(1-3) | Gen. Technic II, Phys. Ed. 157B.. | 2(1-3) |
| Total | 15 | Total | 15 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|---------------------------------------|--------|
| Human Anatomy, Zoöl. 123A..... | 5(3-6) | General Psychology, Educ. 184.... | 3(3-0) |
| English Literature, Engl. 172..... | 3(3-0) | Kinesiology W, Phys. Ed. 184.... | 2(2-0) |
| Embryology A, Zoöl. 135..... | 3(2-3) | Physiology, Zoöl. 130..... | 4(3-3) |
| Playground Management and Games | | History and Prin. of Phys. Ed., Phys. | |
| W, Phys. Ed. 182A..... | 2(1-3) | Ed. 192..... | 3(3-0) |
| | | Current History, Hist. 126..... | 1(1-0) |
| Phys. Educ. W, Phys. Ed. 153.... | R(0-3) | Phys. Educ. W, Phys. Ed. 154.... | R(0-3) |
| Gen. Technic III, Phys. Ed. 157C.. | 2(1-3) | Gen. Technic IV, Phys. Ed. 157D.. | 2(1-3) |
| Total | 15 | Total | 15 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|------------------------------------------|--------|
| Prin. Health Educ., Phys. Ed. 163.. | 3(3-0) | American Literature, Engl. 175.... | 3(3-0) |
| General Microbiology, Bact. 101... | 3(1-6) | Educ. Admin., Educ. 105..... | 3(3-0) |
| Phys. Diagnosis W, Phys. Ed. 170. | 3(3-0) | Psych. of Child. and Adol., Educ. | |
| Folk Dancing I, Phys. Ed. 160.... | 1(0-3) | 250 | 3(3-0) |
| Phys. Educ. W, Phys. Ed. 151A... | R(0-3) | Therap. and Mas., Phys. Ed. 173.. | 3(2-3) |
| Gen. Technic V, Phys. Ed. 157E... | 2(1-3) | Folk Dancing II, Phys. Ed. 161... 1(0-3) | |
| Elective† | 3(-) | Phys. Educ. W, Phys. Ed. 152A... | R(0-3) |
| | | Gen. Technic VI, Phys. Ed. 157F.. | 2(1-3) |
| Total | 15 | Total | 15 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|--------------------------------------|--------|
| Amer. Hist. Survey, Hist. 104..... | 3(3-0) | Educ. Sociology, Educ. 239..... | 3(3-0) |
| Educ. Psychology, Educ. 109..... | 3(3-0) | Organization and Administration of | |
| Ap. Nutrition, Food & Nutr. 121... | 2(2-0) | Phys. Educ. W, Phys. Ed. 176.. | 2(2-0) |
| Teach. and Adapt. of Phys. Educ., | | | |
| Phys. Ed. 188..... | 3(3-0) | Teach. Partic. in H. S., Educ. 163.. | 3(3-0) |
| Phys. Educ. W, Phys. Ed. 153.... | R(0-3) | Phys. Educ. W, Phys. Ed. 154.... | R(0-3) |
| Gen. Technic VII, Phys. Ed. 157G.. | 2(1-3) | Gen. Technic VIII, Phys. Ed. 157H.. | 2(1-3) |
| Elective† | 2(-) | Elective† | 5(-) |
| Total | 15 | Total | 15 |

Summary.—Physical education, 41 hours; professional education, 18 hours; other prescribed subjects, 51 hours; general electives, 10 hours. Total, 120 hours.

† Electives are to be chosen with the advice and approval of the dean, in groups of not less than eight hours, and from departments other than physical education.

Curriculum in Commerce

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|----------|--------------------------------------|----------|
| College Rhetoric I, Engl. 101..... | 3(3-0) | College Rhetoric II, Engl. 104..... | 3(3-0) |
| Phys. or Biol. Science*..... | 3(-) | Phys. or Biol. Science*..... | 5(-) |
| Modern Language*..... | 3(3-0) | Modern Language*..... | 3(3-0) |
| Current History, Hist. 126..... | 1(1-0) | Current History, Hist. 126..... | 1(1-0) |
| Extens. Speech I, Pub. Spk. 106... | 2(2-0) | American Ind. History, Hist. 105... | 3(3-0)or |
| College Algebra, Math. 104..... | 3(3-0) | Hist. of Commerce & Ind., Hist. 110. | 3(3-0) |
| Infantry I, Mil. Tr. 101A (men)... | 1(0-3) | Infantry II, Mil. Tr. 102A (men)... | 1(0-3) |
| Phys. Educ. M, Phys. Ed. 103.... | R(0-2)or | Phys. Educ. M, Phys. Ed. 104.... | R(0-2)or |
| Phys. Educ. W, Phys. Ed. 151A.... | R(0-3) | Phys. Educ. W, Phys. Ed. 152A.... | R(0-3) |
| Total | 15 or 16 | Total | 15 or 16 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|--------------------------------------|----------|--------------------------------------|----------|
| Coml. Correspondence, Engl. 122... | 3(3-0) | General Psychology, Educ. 184.... | 3(3-0) |
| Accounting I, Econ. 133..... | 3(2-3) | Accounting II, Econ. 134..... | 3(2-3) |
| Modern Language..... | 3(3-0) | English Literature, Engl. 172..... | 3(3-0) |
| Economics I, Econ. 101..... | 3(3-0) | Economics II, Econ. 104..... | 3(3-0) |
| History Elective..... | 3(-) | Amer. Govt., Hist. 151, 152 or 153.. | 3(3-0) |
| Infantry III, Mil. Tr. 103A (men)... | 1(0-3) | Infantry IV, Mil. Tr. 104A (men)... | 1(0-3) |
| Phys. Educ. M, Phys. Ed. 105.... | R(0-2)or | Phys. Educ. M, Phys. Ed. 106.... | R(0-2)or |
| Phys. Educ. W, Phys. Ed. 153.... | R(0-3) | Phys. Educ. W, Phys. Ed. 154..... | R(0-3) |
| Total | 15 or 16 | Total | 15 or 16 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|-----------------------------|--------|
| Elements of Statistics, Math. 126.. | 3(3-0) | Investments, Econ. 222..... | 3(3-0) |
| Business Management, Econ. 126.. | 2(2-0) | Sociology, Econ. 151..... | 3(3-0) |
| Money & Banking, Econ. 116..... | 3(3-0) | | |
| Marketing, Econ. 246..... | 3(3-0) | | |
| Electives† | 4(-) | Electives† | 9(-) |
| Total | 15 | Total | 15 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|--------------------------------|--------|----------------------------------|--------|
| Business Law I, Hist. 163..... | 3(3-0) | Business Law II, Hist. 164..... | 3(3-0) |
| Public Finance, Econ. 214..... | 3(3-0) | Business Finance, Econ. 217..... | 3(3-0) |
| Electives† | 9(-) | Electives† | 9(-) |
| Total | 15 | Total | 15 |

Summary.—Men: Physical education, required; military science, 4 hours; commerce courses, 44 hours; other prescribed courses, 45 hours; special and general electives, 31 hours. Total, 124 hours. Women: The same, except military science. Total, 120 hours.

* Eight hours of physical or biological science are to be elected in this curriculum, if possible in the freshman year. Subject to any prerequisites, chemistry, physics, botany, zoölogy, and geology are available. If Chemistry I is taken, Chemistry II is required also. Proficiency equivalent to nine hours of study in a modern language is required. Each unit of German, French, or Spanish offered for entrance reduces this requirement in that language by three hours, an equal amount of additional electives being chosen. Students who have had only one year of high-school algebra are assigned to a five-hour course in College Algebra, Math. 107. Because of the various contingencies and elective possibilities in the science and modern languages, the proper planning of the work of the freshman year requires great care and foresight.

† Twelve hours of special electives must be chosen from the following group: Economics 223, Credits and Collections; 229, Transportation Problems; 233, Labor Problems; 242, Property Insurance; 244, Life Insurance; 248, Economic Problems; 251, Advanced Economics; 257, Social Problems; 280, Advanced Accounting I; 281, Advanced Accounting II; 282, Income Tax Accounting; 283, Accounting Systems; 284, Institutional Accounting; 285, Auditing; 287, Cost Accounting; 289, Government Accounting; Education 265, Psychology of Advertising and Selling; 273, Psychology and Personnel Management; English 123, Written and Oral Salesmanship; 223, Advanced Problems in Commercial Correspondence; History and Government 260, Government Regulation of Business; Industrial Journalism 178, Principles of Advertising; and Mathematics 150, Mathematics of Investment.

Curriculum in Commerce with Special Training in Accounting

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|------------------|-------------------------------------|------------------|
| College Rhetoric I, Engl. 101..... | 3(3-0) | College Rhetoric II, Engl. 104..... | 3(3-0) |
| Phys. or Biol. Science*..... | 3(-) | Phys. or Biol. Science* | 5(-) |
| Modern Language*..... | 3(3-0) | Modern Language*..... | 3(3-0) |
| Current History, Hist. 126..... | 1(1-0) | Current History, Hist. 126..... | 1(1-0) |
| College Algebra, Math. 104..... | 3(3-0) | American Ind. History, Hist. 105.. | 3(3-0) <i>or</i> |
| Extens. Speech I, Pub. Spk. 106... | 2(2-0) | Hist. of Com. & Indus., Hist. 110.. | 3(3-0) |
| Infantry I, Mil. Tr. 101A (men)... | 1(0-3) | Infantry II, Mil. Tr. 102A (men)... | 1(0-3) |
| Phys. Educ. M, Phys. Ed. 103.... | R(0-2) <i>or</i> | Phys. Educ. M, Phys. Ed. 104.... | R(0-2) <i>or</i> |
| Phys. Educ. W, Phys. Ed. 151A... | R(0-3) | Phys. Educ. W, Phys. Ed. 152A... | R(0-3) |
| Total | 15 or 16 | Total | 15 or 16 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|--------------------------------------|------------------|---------------------------------------------|------------------|
| Accounting I, Econ. 133..... | 3(2-3) | Accounting II, Econ. 134..... | 3(2-3) |
| Modern Language*..... | 3(3-0) | Economics II, Econ. 104..... | 3(3-0) |
| Economics I, Econ. 101..... | 3(3-0) | Amer. Govt., Hist. 151, 152, <i>or</i> 153. | 3(3-0) |
| Coml. Correspondence, Engl. 122... | 3(3-0) | English Literature, Engl. 172..... | 3(3-0) |
| Math. of Investments, Math. 150... | 3(3-0) | General Psychology, Educ. 184.... | 3(3-0) |
| Infantry III, Mil. Tr. 103A (men)... | 1(0-3) | Infantry IV, Mil. Tr. 104A (men)... | 1(0-3) |
| Phys. Educ. M, Phys. Ed. 105.... | R(0-2) <i>or</i> | Phys. Educ. M, Phys. Ed. 106.... | R(0-2) <i>or</i> |
| Phys. Educ. W, Phys. Ed. 153.... | R(0-3) | Phys. Educ. W, Phys. Ed. 154.... | R(0-3) |
| Total | 15 or 16 | Total | 15 or 16 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|-----------------------------------|--------|
| Adv. Accounting I, Econ. 280..... | 3(3-0) | Cost Accounting, Econ. 287..... | 3(3-0) |
| Elements of Statistics, Math. 126.. | 3(3-0) | Income Tax Accounting, Econ. 282. | 2(2-0) |
| Money & Banking, Econ. 116..... | 3(3-0) | Business Finance, Econ. 217..... | 3(3-0) |
| Business Management, Econ. 126... | 2(2-0) | Electives† | 7(-) |
| Electives† | 4(-) | | |
| Total | 15 | Total | 15 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|----------------------------------|--------|------------------------------------|--------|
| Auditing, Econ. 285..... | 3(3-0) | Adv. Accounting II, Econ. 281..... | 3(3-0) |
| Govt. Accounting, Econ. 289..... | 2(2-0) | Accounting Systems, Econ. 283.... | 2(2-0) |
| Public Finance, Econ. 214..... | 3(3-0) | Business Law II, Hist. 164..... | 3(3-0) |
| Business Law I, Hist. 163..... | 3(3-0) | Electives† | 7(-) |
| Electives† | 4(-) | | |
| Total | 15 | Total | 15 |

Summary.—Men: Physical education, required; military science, 4 hours; commerce courses, 56 hours; other prescribed courses, 42 hours; electives, 22 hours. Total, 124 hours. Women: The same, except military science. Total, 120 hours.

* Eight hours of physical or biological science are to be elected in this curriculum, if possible in the freshman year. Subject to any prerequisites, chemistry, physics, botany, zoology, and geology are available. If Chemistry I is taken, Chemistry II is required also. Proficiency equivalent to nine hours of study in a modern language is required. Each unit of German, French, or Spanish offered for entrance reduces this requirement in that language by three hours, an equal amount of additional electives being chosen. Students who have had only one year of high-school algebra are assigned to a five-hour course in College Algebra, Math. 107. Because of the various contingencies and elective possibilities in the sciences and modern languages, the proper planning of the work of the freshman year requires great care and foresight.

† Attention is called to the list of special electives for the curriculum in Commerce, *ante*.

Groups of Electives and Options for Students in the Division of General Science

In addition to the courses included in the following groups, others will be found described in the exposition of the work of the respective departments. From any group elected a sufficient number of courses to constitute an effective block of knowledge must be taken. At least eight hours in any new field are usually required, but a smaller number will be honored if in a field already entered upon. In a modern language a student must reach a point equivalent to that obtained by college courses aggregating at least eight or nine hours. For strong preparation in any field the student should take a total of twenty to forty hours in a department, or in closely related departments; a large part of this work should be in courses designed for juniors and seniors.

Any student desiring to major in a certain field should confer with the head of the department in which most of the work is given. This conference should be held in the sophomore year, or earlier, so that a decision may be made in respect to the subjects that should be taken in that and other departments, and their proper sequence. These will vary with the objective of the student, which may be general culture, or preparation for teaching, research, or some other profession.

In connection with some of the groups listed below are brief statements giving the order in which the earlier courses in a field should be taken. Department heads should be consulted for additional advice.

1. English Language

Students majoring in English should elect courses 219 and 220, and twelve to twenty additional hours of English language and literature, under the guidance of the head of the department. Twelve hours of a modern foreign language is strongly recommended.

| | | | |
|--------------------------------------------|--------|-------------------------------------------------|--------|
| Engineering English, Engl. 110..... | 2(2-0) | Adv. Composition I, Engl. 219..... | 3(3-0) |
| Coml. Correspondence, Engl. 122... | 3(3-0) | Adv. Composition II, Engl. 220..... | 3(3-0) |
| Writ. & Oral Salesmanship, Engl. 123 | 3(3-0) | Adv. Problems in Coml. Corres., Engl. 223 | 3(3-0) |
| Agricultural English, Engl. 137.... | 3(3-0) | The Short Story I, Engl. 228..... | 3(3-0) |
| Advanced Grammar, Engl. 143..... | 3(3-0) | The Short Story II, Engl. 230..... | 3(3-0) |
| Technical Writing, Engl. 207..... | 2(2-0) | Oral English, Engl. 232..... | 3(3-0) |

2. English Literature

| | | | |
|---------------------------------------------------|--------|----------------------------------------------------------------------|--------|
| Chaucer, Engl. 260..... | 3(3-0) | Milton and the Puritan Revolt, Engl. 262 | 3(3-0) |
| The English Bible, Engl. 271..... | 3(3-0) | American Survey, Engl. 265..... | 2(2-0) |
| Shakespearean Drama I, Engl. 273.. | 3(3-0) | Shakespearean Drama II, Engl. 274. | 3(3-0) |
| Wordsworth, Shelley, & Keats, Engl. 278..... | 3(3-0) | English Essayists of the Eighteenth and Nineteenth Cent., Engl. 276. | 3(3-0) |
| World Classics I, Engl. 280..... | 3(3-0) | World Classics II, Engl. 281..... | 3(3-0) |
| Contemporary Fiction, Engl. 283... | 3(3-0) | Contemporary Drama, Engl. 284... | 3(3-0) |
| The Novel I, Engl. 286..... | 3(3-0) | The Novel II, Engl. 287..... | 3(3-0) |
| English Survey I, Engl. 288..... | 2(2-0) | English Survey II, Engl. 290..... | 2(2-0) |
| American Literature, Engl. 175.... | 3(3-0) | Browning and Tennyson, Engl. 293.. | 3(3-0) |
| The Literature of the Middle West, Engl. 268..... | 3(3-0) | Contemporary Poetry, Engl. 297... | 3(3-0) |

3. German

| | | | |
|-------------------------------------|--------|-------------------------------------------|--------|
| German I, Mod. Lang. 101..... | 3(3-0) | German II, Mod. Lang. 102..... | 3(3-0) |
| German Readings, Mod. Lang. 111.. | 3(3-0) | German Sht. Stories, Mod. Lang. 201 | 3(3-0) |
| Scientific German, Mod. Lang. 237.. | 4(4-0) | German Comedies, Mod. Lang. 206.. | 3(3-0) |
| Schiller, Mod. Lang. 209..... | 3(3-0) | | |

4. French and Spanish

Students who wish to major in Romance Languages should take such of the following courses as they have not already pursued: In French, courses 151, 152, 161, 251, and 261; in Spanish, courses 176, 177, 180, 272, 275, and 280. In each group the courses should be taken approximately in the order here shown and always in conformity with requirements as to prerequisites.

| | | | |
|-----------------------------------------|--------|--------------------------------------------|--------|
| French I, Mod. Lang. 151..... | 3(3-0) | French II, Mod. Lang. 152..... | 3(3-0) |
| French Readings, Mod. Lang. 161.. | 3(3-0) | French Sht. Stories, Mod. Lang. 251 | 3(3-0) |
| French Drama I, Mod. Lang. 257.. | 3(3-0) | French Drama II, Mod. Lang. 258.. | 3(3-0) |
| | | French Comp. & Conv., Mod. Lang. 261 | 3(3-0) |
| Spanish I, Mod. Lang. 176..... | 3(3-0) | Spanish II, Mod. Lang. 177..... | 3(3-0) |
| Spanish Readings, Mod. Lang. 180.. | 3(3-0) | Spanish Sht. Stories, Mod. Lang. 272 | 3(3-0) |
| The Spanish Novel, Mod. Lang. 275 | 3(3-0) | Spanish Drama, Mod. Lang. 280... | 3(3-0) |

5. Mathematics

Students continuing work in mathematics beyond trigonometry are advised to take courses in the following order: Math. 110, 205, 206, 201, 210, 213, and 216, and in any event strictly in accordance with the stated prerequisites.

| | | | |
|-------------------------------------|--------|-----------------------------------|--------|
| Plane Anal. Geometry, Math. 110.. | 4(4-0) | Calculus I, Math. 205..... | 5(5-0) |
| Calculus II, Math. 206..... | 3(3-0) | Advanced Calculus I, Math. 210... | 3(3-0) |
| Differential Equations, Math. 201.. | 3(3-0) | Theory of Equations, Math. 216... | 3(3-0) |
| Advanced Calculus II, Math. 213.. | 3(3-0) | Modern Plane Geometry, Math. 225, | 3(3-0) |
| Higher Algebra, Math. 202..... | 3(3-0) | Vector Analysis, Math. 230..... | 3(3-0) |
| Theory of Statistics, Math. 203.... | 3(3-0) | Fourier Series, Math. 223..... | 3(3-0) |

6. Inorganic and Physical Chemistry

Students desiring extensive training in Chemistry are advised to take the curriculum in industrial chemistry, supplementing the required work by electives chosen with the advice of the head of the department. Those who wish to prepare for teaching chemistry in high schools, in addition to courses 101 and 102, should elect courses 218 and 219, and courses 207, 241 and 206. Math. 110, 205 and 206 are very desirable, and Physics 135 and 140, or 145 and 150 are essential.

| | | | |
|-------------------------------------|--------|--------------------------------------|--------|
| Adv. Inorg. Chemistry, Chem. 207.. | 3(3-0) | Ind. Electrochem., Chem. 205.... | 2(2-0) |
| Industrial Chemistry I, Chem. 203.. | 5(3-6) | Industrial Chem. II, Chem. 204.... | 5(3-6) |
| Physical Chemistry I, Chem. 206.. | 5(3-6) | Physical Chem. II, Chem. 272..... | 3(3-0) |
| Surf. Tension and Rel. Phenomena, | | Colloidal Chem., Chem. 213..... | 2(2-0) |
| Chem. 209..... | 2(2-0) | Chemical Thermodyn., Chem. 215, | 3(3-0) |
| | | Theoret. Electrochem., Chem. 216.. | 3(3-0) |
| | | Electrochemistry Lab., Chem. 217.. | 2(0-6) |
| | | Selected Topics in Inorg. Chemistry, | |
| | | Chem. 271..... | 2(2-0) |

7. Organic and Physiological Chemistry

Preparation for work in biological chemistry or nutrition should include courses Chem. 101, 102, 121, 241, 206, 231, 237, and 239; Physics 135 and 140; Zool. 105 and 235, and Bact. 101, 106 or 121.

| | | | |
|------------------------------------|---------|------------------------------------|--------|
| Organic Chemistry I, Chem. 218... | 4(2-6) | Organic Chemistry II, Chem. 219... | 4(2-6) |
| | | Stereoisomeric and Tautomeric Com- | |
| | | pounds, Chem. 225..... | 2(2-0) |
| Organic Preparations, Chem. 223... | 5(0-15) | Carbocyclic and Heterocyclic Com- | |
| | | pounds, Chem. 226..... | 2(2-0) |
| Physiological Chem., Chem. 231... | 5(3-6) | Qual. Org. Analysis, Chem. 224.... | 2(0-6) |
| Pathological Chem., Chem. 235.... | 2(2-0) | Laboratory Technique in Animal | |
| Biochemical Analysis, Chem. 237... | 2(0-6) | Nutrition, Chem. 239..... | 2(0-6) |

8. Analytical Chemistry

After completing Chem. 241 or 250 and 251, the student may take one or more courses in several different fields of analysis, such as soils, fertilizers, gases, feeds, foods, dairy products, etc.

| | | | |
|-----------------------------------|--------|----------------------------------|---------|
| Adv. Qual. Analysis, Chem. 240... | 3(1-6) | Quan. Analysis, Chem. 241..... | 5(1-12) |
| Quan. Analysis A, Chem. 250..... | 3(1-6) | Quan. Analysis B, Chem. 251..... | 3(1-6) |

9. Physics

Students who expect to teach physics in high schools should complete a course in college physics and at least ten hours additional as advised by the head of the department. Students who wish to major in physics may, with the advice of the major instructor, choose from courses 219, 222, 230, 232, 234, 252, 254, 257, 258, 259, and 260. Math. 110, 205, and 206 are desirable or necessary for the more advanced courses. Physics 110, 120, 133, and 155 are available for commerce or journalism students.

| | | | |
|--------------------------------------|--------|------------------------------------|------------------|
| Household Physics, Phys. 101..... | 4(3-3) | Spectroscopy, Phys. 229..... | 3(2-3) |
| Descriptive Physics, Phys. 110.... | 3(3-0) | Light, Phys. 230..... | 3(3-0) |
| Photography, Phys. 120..... | 2(1-3) | Light Laboratory, Phys. 232..... | 1(0-3) |
| General Radio, Phys. 131..... | 2(2-0) | Electron Theory, Phys. 234..... | 3(3-0) |
| Meteorology, Phys. 133..... | 3(3-0) | Radio Measurements, Phys. 245.... | 2(1-3) |
| Descriptive Astronomy, Phys. 155.. | 3(3-0) | History of Physics, Phys. 247..... | 2(2-0) |
| Architectural Acoustics, Phys. 214.. | 1(1-0) | Modern Physics, Phys. 249..... | 3(3-0) |
| Theoretical Astronomy, Phys. 216.. | 3(3-0) | Advanced Mechanics Laboratory, | |
| Heat, Phys. 219..... | 3(3-0) | Phys. 252 | 1(0-3) or 2(0-6) |
| Heat Laboratory, Phys. 222..... | 1(0-3) | Elec. and Magnetism, Phys. 257... | 2(2-0) |
| X-Rays, Phys. 226..... | 3(2-3) | Elec. Lab., Phys. 259..... | 1(0-3) or 2(0-6) |
| | | Probs. in Physics, Phys. 261..... | Cr. Ar. |

10. Microbiology

Courses 101, 106 or 121 may be followed in order by 202, 204, 211, and 206.

| | | | |
|-------------------------------------|--------|------------------------------------|--------|
| Gen. Microbiology, Bact. 101..... | 3(1-6) | Household Micro., Bact. 121..... | 3(1-6) |
| Agric. Microbiology, Bact. 106.... | 3(1-6) | Soil Micro., Bact. 202..... | 3(3-0) |
| Hyg. Bacteriology, Bact. 206..... | 4(2-6) | Soil Micro. Lab., Bact. 204..... | 2(0-6) |
| Patho. Bacteriology II, Bact. 116.. | 4(2-6) | Pathogenic Bact. I, Bact. 111..... | 4(2-6) |
| | | Dairy Bact., Bact. 211..... | 3(1-6) |
| | | Poultry Bact., Bact. 216..... | 3(1-6) |

11. Botany

Courses 101 and 105 are prerequisite to all other courses, except 110. Students specializing in plant diseases should take, in order, courses 205, 202, and 232; those in plant physiology, courses 208, 210, and 232; those in taxonomy and ecology, courses 225, 228 or 234 and 232. For general training, all are available if the prerequisites have been taken.

| | | | |
|------------------------------------|-----------|-------------------------------------|-----------|
| General Botany I, Bot. 101..... | 3(1-4, 2) | General Botany II, Bot. 105..... | 3(1-4, 2) |
| Plant Pathology I, Bot. 205..... | 3(1-4, 2) | Nat. and Dev. of Plants, Bot. 110.. | 3(3-0) |
| Morph. of the Fungi, Bot. 206.... | 3(1-6) | Plant Histology, Bot. 216..... | 3(1-6) |
| Plant Physiology I, Bot. 208..... | 3(3-0) | Plant Physiology II, Bot. 210..... | 3(1-4, 2) |
| Fruit Crop Diseases, Bot. 202..... | 2(1-2, 1) | Plant Ecology, Bot. 228..... | 2(2-0) |
| Problems in Botany, Bot. 232..... | Cr. Ar. | Field Crop Diseases, Bot. 241..... | 3(1-6) |
| Taxonomic Botany of the Flowering | | Plant Cytology, Bot. 268..... | 3(1-6) |
| Plants, Bot. 225..... | 3(1-4, 2) | | |
| Literature of Botany, Bot. 266.... | 2(2-0) | | |

12. Zoölogy

A student who wishes to major in Zoölogy should, in connection with the required work in this field or after completing it, elect from the courses listed below subjects varying with his special interest, such as parasitology, embryology, genetics, etc. Consult the head of the department.

| | | | |
|-------------------------------------|---------|--------------------------------------|------------------|
| Human Physiology, Zoöl. 235..... | 4(3-3) | Comp. Anat. of Vertebs., Zoöl. 246.. | 4(2-6) |
| Cytology, Zoöl. 214..... | 4(2-6) | Evol. & Heredity, Zoöl. 217.. | 3(2-3) or 4(2-6) |
| Parasitology, Zoöl. 208..... | 3(2-3) | Embryology B, Zoöl. 219A..... | 4(3-3) |
| Comp. & Human Neur., Zoöl. 250.. | 3(2-3) | Adv. Embryology, Zoöl. 220..... | 4(2-6) |
| Taxonomy of Parasites, Zoöl. 240... | 2(1-3) | Human Parasitology, Zoöl. 218.... | 3(3-0) |
| Field Zoölogy, Zoöl. 205..... | 3(1-6) | Zoölogy Technic, Zoöl. 206..... | 1 or 2(-) |
| Heredity and Eugenics, Zoöl. 216.. | 2(2-0) | Zoöl. and Ent. Seminar, Zoöl. 225... | 1(1-0) |
| Problems in Zoölogy, Zoöl. 203.... | Cr. Ar. | Genetics Seminar, Zoöl. 207..... | 1(1-0) |

13. Geology

The basic courses in Geology are 103, 203, and 209. Students who expect to major in Geology should take these three courses as early in their collegiate careers as possible.

| | | | |
|--------------------------------------|--------|-------------------------------------|--------|
| Engineering Geology, Geol. 102.... | 4(3-3) | General Geology, Geol. 103..... | 3(3-0) |
| Economic Geology, Geol. 207..... | 4(3-3) | Historical Geology, Geol. 203..... | 4(3-3) |
| Crystal. and Mineralogy, Geol. 209.. | 4(2-6) | Physiographic Geol., Geol. 110.... | 3(3-0) |
| Invert. Paleontology, Geol. 220.... | 4(3-3) | Structural Geology, Geol. 215..... | 4(3-3) |
| Prin. of Geography, Geol. 240..... | 3(3-0) | Vert. Paleontology, Geol. 255..... | 3(3-0) |
| Optical Mineralogy, Geol. 234..... | 4(2-6) | Field Meth. in Geology, Geol. 230.. | 3(1-6) |

14. Entomology

Students majoring in Entomology, with due regard for prerequisites, should take courses Ent. 203, 211, 212, 231, 216, 217, 218, 226, 206, 221, and 238, and preferably in this order.

| | | | |
|-------------------------------------|--------|------------------------------------|-------------|
| Gen. Entomology, Ent. 101..... | 3(3-0) | Prin. of Taxonomy, Ent. 216..... | 1(1-0) |
| Gen. Econ. Entomology, Ent. 203.. | 3(2-3) | Taxonomy of Insects I, Ent. 217.. | 2(0-6) |
| Extl. Insect Morphology, Ent. 211.. | 3(1-6) | Taxonomy of Insects II, Ent. 218.. | 3(0-9) |
| Intl. Insect Morphology, Ent. 212.. | 3(0-9) | Adv. Gen. Entomology, Ent. 221.. | 3(3-0) |
| Ent. & Zoöl. Literature, Ent. 231.. | 2(2-0) | Staple Crop Entomology, Ent. 206.. | 3(2-3) |
| Medical Entomology, Ent. 226.... | 3(2-3) | Entom. Problems, Ent. 238..... | 2 to 4 hrs. |
| Advanced Apiculture, Ent. 229..... | 3(2-3) | General Apiculture, Ent. 208..... | 3(2-3) |
| | | Insect Physiology, Ent. 241..... | 2(2-0) |

15. History, Government, and Law

To prepare for teaching history in high school the student should have at least fifteen hours of college history following two years of history in high school or its equivalent in college. The advice of the head of the department should be followed in each case.

| | | | |
|---------------------------------------|--------|--------------------------------------|--------|
| Ancient Civilizations, Hist. 101..... | 3(3-0) | Medieval Europe, Hist. 102..... | 3(3-0) |
| English History, Hist. 121..... | 3(3-0) | Current History, Hist. 126..... | 1(1-0) |
| American History I, Hist. 201..... | 3(3-0) | Am. Indust. History, Hist. 105.... | 3(3-0) |
| American History II, Hist. 202.... | 3(3-0) | American History III, Hist. 203... | 3(3-0) |
| American Agr'l History, Hist. 204.. | 3(3-0) | Latin America, Hist. 208..... | 3(3-0) |
| Modern Europe I, Hist. 115..... | 3(3-0) | Modern Europe II, Hist. 223..... | 3(3-0) |
| The Far East, Hist. 236..... | 3(3-0) | 20th Century Europe, Hist. 234.... | 3(3-0) |
| Hist. of Com. & Ind., Hist. 110.... | 3(3-0) | The British Empire, Hist. 226.... | 2(2-0) |
| Am. Political Parties, Hist. 206.... | 2(2-0) | History of the Home, Hist. 225.... | 3(3-0) |
| Immig. & Intern'l Rel., Hist. 228... | 2(2-0) | International Law, Hist. 256..... | 2(2-0) |
| Am. Government, Hist. 151..... | 3(3-0) | Gov't Regulation of Bus., Hist. 260. | 2(2-0) |
| Am. Nat'l Government Hist. 152.. | 3(3-0) | Am. State Government, Hist. 153.. | 3(3-0) |
| Comp. Government, Hist. 252..... | 2(2-0) | History of Religions, Hist. 231.... | 2(2-0) |
| Farm Law, Hist. 175..... | 2(2-0) | Commercial Law, Hist. 160..... | 1(1-0) |
| Business Law I, Hist. 163..... | 3(3-0) | Business Law II, Hist. 164..... | 3(3-0) |
| Land Law, Hist. 276..... | 2(2-0) | International Law, Hist. 256..... | 2(2-0) |

16. Economics and Sociology

Some of the subjects in this list are required in the several curricula of the institution, and the others are available as electives if any prerequisites have been satisfied. Additional work is offered in the department of agricultural economics.

| | | | |
|-----------------------------------|--------|------------------------------------|--------|
| Economics I, Econ. 101..... | 3(3-0) | Money and Banking, Econ. 116.... | 3(3-0) |
| Public Finance, Econ. 214..... | 3(3-0) | Business Finance, Econ. 217..... | 3(3-0) |
| Labor Problems, Econ. 233..... | 2(2-0) | Transportation Probs., Econ. 229.. | 2(2-0) |
| Marketing, Econ. 246..... | 3(3-0) | Business Management, Econ. 126.. | 2(2-0) |
| Advanced Economics, Econ. 251... | 3(3-0) | Economic Problems, Econ. 248.... | (-) |
| Sociology, Econ. 151..... | 3(3-0) | Com. Organization, Econ. 267..... | 3(3-0) |
| Rural Sociology, Econ. 156..... | 3(3-0) | Adv. Sociology, Econ. 273..... | 3(-) |
| Social Problems, Econ. 257..... | 2(2-0) | Adv. Rural Sociology, Econ. 270... | 3(-) |
| Property Insurance, Econ. 242.... | 2(2-0) | Investments, Econ. 222..... | 3(3-0) |
| Economics II, Econ. 104..... | 3(3-0) | Life Insurance, Econ. 244..... | 2(2-0) |

17. Accounting

| | | | |
|-----------------------------------|--------|--------------------------------------|--------|
| Accounting I, Econ. 133..... | 3(2-3) | Accounting Systems, Econ. 283.... | 2(2-0) |
| Accounting II, Econ. 134..... | 3(2-3) | Institutional Accounting, Econ. 284, | 2(2-0) |
| Adv. Accounting I, Econ. 280..... | 3(3-0) | Auditing, Econ. 285..... | 3(3-0) |
| Adv. Accounting II, Econ. 281.... | 3(3-0) | Cost Accounting, Econ. 287..... | 3(3-0) |
| Income Tax Accounting, Econ. 282. | 2(2-0) | Governmental Accounting, Econ. 289, | 2(2-0) |

18. Education and Psychology

Students desiring to qualify for the state teacher's certificate based on sixty hours of college work should take course 184 in Psychology, and courses 107, 111, and 129 in Education. Those desiring to qualify for the certificate based on graduation from a four-year curriculum should take course 184 in Psychology, and courses 109, 163, and 210 in Education. Advice should be obtained from the head of the Department of Education in respect to additional courses necessary. See, also, "Education" in this catalogue for information concerning certificates.

| | | | |
|---------------------------------------|------------------|--------------------------------------|--------|
| Gen. Psychology, Educ. 184..... | 3(3-0) | Educ. Measurements, Educ. 212.... | 3(3-0) |
| School Management, Educ. 107.... | 3(3-0) | Statis. Meth. Applied to Education, | |
| Educational Psychology, Educ. 109.. | 3(3-0) | Educ. 223..... | 3(3-0) |
| Methods of Teaching, Educ. 111.... | 3(3-0) | Principles of Secondary Education, | |
| Teach. Participation in Grade School, | | Educ. 236..... | 3(3-0) |
| Educ. 129..... | 1(1-0) to 4(4-0) | Educ. Psychology, Educ. 239..... | 3(3-0) |
| Meth. of Teach. Home Economics, | | The Psychology of Childhood and | |
| Educ. 132..... | 3(3-0) | Adolescence, Educ. 250..... | 3(3-0) |
| Meth. of Teach. Agric., Educ. 136.. | 3(3-0) | Abnormal Psychology, Educ. 254.. | 3(3-0) |
| Teach. Participation in High School, | | Adv. Gen. Psychology, Educ. 257.. | 3(3-0) |
| Educ. 163..... | 1(1-0) to 4(4-0) | Experimental Psychology, Educ. 259, | 3(3-0) |
| Animal Psychology, Educ. 188.... | 3(3-0) | Mental Tests, Educ. 260..... | 3(3-0) |
| Rural Life and Educ., Educ. 201.... | 3(3-0) | Psyc. of Excep. Children, Educ. 266. | 3(3-0) |
| Extracur. Activities, Educ. 202.... | 3(3-0) | Social Psychology, Educ. 270..... | 3(3-0) |
| Educ. Admin., Educ. 210..... | 3(3-0) | Psychology of Art, Educ. 276..... | 3(3-0) |

20. Industrial Journalism

While those who wish to give much attention to journalism will choose the curriculum in industrial journalism, many in other curricula desire some training in this field. Selection from the following list may be made in so far as the prerequisites permit.

| | | | |
|---------------------------------------|--------|--------------------------------------|--------|
| Journalistic Voca., Ind. Jour. 140.. | 2(2-0) | Industrial Writing, Ind. Jour. 161.. | 2(2-0) |
| El. Journalism, Ind. Jour. 151..... | 2(2-0) | Jour. for Women, Ind. Jour. 172... | 2(2-0) |
| Ind. Feature Writ., Ind. Jour. 167. | 2(2-0) | Magazine Features, Ind. Jour. 270. | 2(2-0) |
| Materials of Jour., Ind. Jour. 265... | 2(2-0) | Jour. Surveys, Ind. Jour. 278..... | 2(0-6) |

23. Music

Students in the various curricula are permitted to study theoretical or applied music, but the acceptability for elective credit of work in voice or instrumental music is contingent upon the attainment of an effective degree of proficiency.

APPLIED MUSIC

| | | | |
|----------------------------|-----------|--------------------------------|---------------------|
| Instrument, Mus. 153..... | 0-4 hours | Double Bass, Mus. 167..... | 0-4 hours |
| Voice, Mus. 156..... | 0-4 hours | Organ, Mus. 172..... | 0-4 hours |
| Violin, Mus. 158..... | 0-4 hours | Choral Ensemble, Mus. 194..... | $\frac{1}{2}$ (0-2) |
| Piano, Mus. 161..... | 0-4 hours | Orchestra, Mus. 195..... | $\frac{1}{2}$ (0-2) |
| Violoncello, Mus. 163..... | 0-4 hours | Band, Mus. 198..... | $\frac{1}{2}$ (0-2) |

THEORETICAL MUSIC

| | | | |
|-------------------------------------------|--------|-----------------------------------------|--------|
| Harmony I, Mus. 101..... | 2(2-0) | Harmony II, Mus. 102..... | 2(2-0) |
| Harmony III, Mus. 103..... | 2(2-0) | Harmony IV, Mus. 104..... | 2(2-0) |
| Counterpoint, Mus. 108A..... | 2(2-0) | Mus. Form & Analysis, Mus. 111.. | 1(1-0) |
| Hist. & Appre. of Music I, Mus. 130 | 2(2-0) | Hist. & Ap. of Music II, Mus. 131 | 2(2-0) |
| School Music I, Mus. 138..... | 2(2-0) | School Music II, Mus. 139..... | 2(2-0) |
| Instrn. & Orchestrn., Mus. 136.... | 3(3-0) | School Music III, Mus. 143..... | 2(2-0) |

25. Military Science and Tactics

Men who have completed the basic course in infantry may elect the advanced course if approved by the president, the dean, and the head of the Department of Military Science and Tactics.

| | | | |
|---------------------------------|--------|----------------------------------|--------|
| Infantry V, Mil. Tr. 109..... | 3(2-3) | Infantry VI, Mil. Tr. 110..... | 3(2-3) |
| Infantry VII, Mil. Tr. 111..... | 3(2-3) | Infantry VIII, Mil. Tr. 112..... | 3(2-3) |

26. Physical Education and Athletics

In connection with the required work or after its completion, students may elect courses in physical education. For a special state certificate at least forty hours are required. The courses listed below, and others on the advice of the head of the department, are available.

FOR MEN

| | | | |
|-------------------------------------|--------|--------------------------------------|--------|
| Gymnastics I, Phys. Ed. 115A..... | 2(1-3) | Gymnastics II, Phys. Ed. 117A.... | 2(0-6) |
| Football, Phys. Ed. 125..... | 3(2-3) | Track & Field Spts., Phys. Ed. 140A. | 2(1-3) |
| Basket Ball, Phys. Ed. 130A..... | 2(1-3) | Baseball, Phys. Ed. 133..... | 2(1-3) |
| Swimming M I, Phys. Ed. 121..... | 1(0-3) | Wrestling, Phys. Ed. 128..... | 1(0-3) |
| Boxing, Phys. Ed. 132..... | 1(0-3) | Swimming M II, Phys. Ed. 122.... | 1(0-3) |
| School Hygiene, Phys. Ed. 148.... | 3(3-0) | Playground Management and Games | |
| Apparatus, Phys. Ed. 109..... | 1(0-3) | M, Phys. Ed. 145A..... | 2(2-0) |
| First Aid and Mas., Phys. Ed. 113A, | 3(3-0) | Personal Hygiene, Phys. Ed. 119... | 2(2-0) |

FOR WOMEN

The following courses are available after completing the two years of required work:

| | | | |
|------------------------------------|--------|------------------------------------|--------|
| Folk Dancing I, Phys. Ed. 160.... | 1(0-3) | Folk Dancing II, Phys. Ed. 161... | 1(0-3) |
| Playground Management and Games | | Gen. Technic IV, Phys. Ed. 157D... | 2(1-3) |
| W. Phys. Ed. 182A..... | 2(1-3) | Gen. Technic VI, Phys. Ed. 157F.. | 2(1-3) |
| Gen. Technic III, Phys. Ed. 157C.. | 2(1-3) | Prin. Health Education W, Phys. | |
| Gen. Technic V, Phys. Ed. 157E... | 2(1-3) | Educ. 163..... | 3(3-0) |

27. Public Speaking

Courses covering various aspects of public speech are open for election after completing any prerequisites. The head of the department should be consulted for advice as to the individual needs.

| | | | |
|-------------------------------------|--------|-------------------------------------|--------|
| Extem. Speech I, Pub. Spk. 106... | 2(2-0) | Extem. Speech II, Pub. Spk. 108.. | 2(2-0) |
| Oral Interpretation, Pub. Spk. 101. | 2(2-0) | Dramatic Reading, Pub. Spk. 102.. | 2(2-0) |
| Parl. Proceed., Pub. Spk. 126..... | 1(1-0) | Lecture Recital, Pub. Spk. 115.... | 2(2-0) |
| Dramatic Produc. I, Pub. Spk. 130. | 2(2-0) | Dramatic Produc. II, Pub. Spk. 135, | 2(2-0) |
| Argum. and Debate, Pub. Spk. 121.. | 2(2-0) | Advanced Debate, Pub. Spk. 222.. | 2(2-0) |
| Pageantry, Pub. Spk. 205..... | 3(3-0) | The Public Program, Pub. Spk. | |
| | | 225 | 2(2-0) |

30. Social Science

(Political and Social History, Government, Economics, and Sociology.)

In the curriculum in industrial journalism students are required to elect twelve hours in a social science option. The following list includes some subjects, and many more are offered by the several departments. See, also, groups 15 and 16.

| | | | |
|--------------------------------------|--------|---------------------------------------|--------|
| American History I, Hist. 201..... | 3(3-0) | Am. Hist. II or III, Hist. 202 or 203 | 3(3-0) |
| Am. Pol. Parties, Hist. 206..... | 2(2-0) | Am. State Government, Hist. 153... | 3(3-0) |
| Am. Natl. Government, Hist. 152.. | 3(3-0) | Modern Europe I, Hist. 115..... | 3(3-0) |
| Latin America, Hist. 208..... | 3(3-0) | Modern Europe II, Hist. 223..... | 3(3-0) |
| Agric. Economics, Agric. Ec. 101.. | 3(3-0) | English History, Hist. 121..... | 3(3-0) |
| Money and Banking, Econ. 116.... | 3(3-0) | Economics I, Econ. 101..... | 3(3-0) |
| Business Finance, Econ. 217..... | 3(3-0) | Public Finance, Econ. 214..... | 3(3-0) |
| Mrkt. of Farm Prod., Agric. Ec. 202, | 3(3-0) | Labor Problems, Econ. 233..... | 2(2-0) |
| Agric. Land Probs., Agric. Ec. 218.. | 3(3-0) | Sociology, Econ. 151..... | 3(3-0) |

31. Applied Science

Students in the curriculum of industrial journalism who do not wish to elect subjects directly related to a single industry are permitted to elect sciences that support industries and subjects that involve applications of the sciences, in so far as they have satisfied requirements as to prerequisites.

| | | | |
|--------------------------------------|-----------|-------------------------------------|-----------|
| General Botany I, Bot. 101..... | 3(1-4, 2) | General Botany II, Bot. 105..... | 3(1-4, 2) |
| Plant Pathology I, Bot. 205..... | 3(1-4, 2) | Field Crop Diseases, Bot. 241..... | 3(1-6) |
| Fruit Crop Diseases, Bot. 202..... | 2(1-2, 1) | Plant Ecology, Bot. 228..... | 2(2-0) |
| Farm Forestry, Hort. 114..... | 3(2-3) | Nature & Dev. of Plants, Bot. 110.. | 3(3-0) |
| Seed Idén. & Weed Cont., Agron. | | El. of Horticulture, Hort. 107..... | 3(2-3) |
| 105 | 2(1-3) | Small Fruits, Hort. 110..... | 2(2-0) |
| General Zoölogy, Zoöl. 105..... | 5(3-6) | General Microbiology, Bact. 101.. | 3(1-6) |
| Parasitology, Zoöl. 208..... | 3(2-3) | Staple Crop Ent., Ent. 206..... | 3(2-3) |
| Landscape Gardening I, Hort. 125.. | 3(3-0) | General Apiculture, Ent. 208..... | 3(2-3) |
| Hygienic Bacteriology, Bact. 206.... | 4(2-6) | Ap. Nutrition, Food & Nutr. 121.. | 2(2-0) |
| Gen. Entomology, Entom. 101..... | 3(3-0) | General Geology, Geol. 103..... | 3(3-0) |
| Gen. Economic Entom., Ent. 203.. | 3(2-3) | Historical Geology, Geol. 203..... | 4(3-3) |
| Hort. Entomology, Ent. 201..... | 2(2-0) | Meteorology, Physics 133..... | 3(3-0) |
| El. Org. Chemistry, Chem. 123.... | 3(2-3) | Household Physics, Physics 101.... | 4(3-3) |
| Dairy Chemistry, Chem. 254..... | 3(1-6) | Photography, Physics 120..... | 2(1-3) |
| Economic Geology, Geol. 207..... | 4(3-3) | Descriptive Physics, Physics 110... | 3(3-0) |
| Human Nutrition, Food & Nutr. | | | |
| 112 | 3(3-0) | Principles of Geography, Geol. 240. | 3(3-0) |
| Physiographic Geology, Geol. 110.. | (3-0) | Vertebrate Paleontology, Geol. 255. | 3(3-0) |
| Crystal. and Mineralogy, Geol. 229 | (3-0) | | |

32. Home Economics

This group is suggested for women in the curriculum in industrial journalism. It states the fundamental subjects in the three lines, food, clothing and applied art. The required option related to an industry may be satisfied by fifteen hours in one or more of these lines. Additional subjects in each line are described in the department sections of the catalogue. Prerequisites count on the group requirement.

| | | | |
|------------------------------------|--------|-------------------------------------|--------|
| Household Physics, Phys. 101..... | 4(3-3) | Household Microbiology, Bact. 121. | 3(1-6) |
| Gen. Org. Chemistry, Chem. 122.. | 5(3-6) | Clothing for the Individual, Clo. & | |
| Foods I, Food & Nutr. 102..... | 5(3-6) | Text. 103..... | 4(1-9) |
| Foods II, Food & Nutr. 107..... | 3(1-6) | Elem. Design I, Art 101A..... | 2(0-6) |
| Human Nutrition, Food & Nutr. | | Elem. Design II, Art 101B..... | 2(0-6) |
| 112 | 3(3-0) | Intermediate Design, Art 103..... | 2(0-6) |
| Dietetics, Food & Nutr. 202..... | 4(3-3) | Interior Decoration I, Art 113.... | 2(0-6) |
| Ap. Nutrition, Food & Nutr. 121... | 2(2-0) | Principles of Art I, Art 124..... | 3(3-0) |
| Child Care & Trn. I, Child Welf. | | Advanced Design A, Art 105..... | 2(0-6) |
| 201 | 3(1-6) | Costume Design I, Art 130..... | 2(0-6) |
| Child Care & Trn. II, Child Welf. | | | |
| 206 | 3(3-0) | | |
| The Family, Child Welf. 216..... | 2(2-0) | | |

35. Agriculture

This group, compiled for the use of young men who elect the agriculture option in connection with their work in industrial journalism, gives the basic subjects in some agricultural lines. Subjects for which these are prerequisite are also acceptable. See the expositions of the work of the several departments in the Division of Agriculture.

| | | | |
|------------------------------------|-----------|-------------------------------------|-----------|
| General Botany I, Bot. 101..... | 3(1-4, 2) | General Botany II, Bot. 105..... | 3(1-4, 2) |
| El. of An. Husb., An. Husb. 125... | 3(2-4) | El. of Horticulture, Hort. 107..... | 3(2-3) |
| El. of Dairying, Dairy Husb. 101.. | 3(2-3) | Dairy Cattle Judg., Dairy Husb. | |
| El. Org. Chemistry, Chem. 123.... | 3(2-3) | 104 | 1(0-3) |
| Plant Pathology I, Bot. 205..... | 3(1-4, 2) | Prin. of Feeding, An. Husb. 152... | 3(3-0) |
| Soils, Agron. 130..... | 4(3-3) | Field Crop Diseases, Bot. 241..... | 3(1-6) |
| Farm Poultry Prod., Poul. Husb. | | Farm Crops, Agron. 101..... | 4(2-6) |
| 101 | 2(1-2, 1) | Genetics, An. Husb. 221..... | 3(3-0) |

36. Drawing and Art

Students in industrial journalism, with due regard for prerequisites, may elect fifteen hours from this group in order to fulfill the requirement in respect to subjects related to an industry.

| | | | |
|--------------------------------------|--------|--------------------------------------|--------|
| Object Drawing I, Arch. 111..... | 2(0-6) | Object Drawing II, Arch. 114..... | 2(0-6) |
| Design I, Arch. 142..... | 3(0-9) | Design II, Arch. 144..... | 3(0-9) |
| Coml. Illustration I, Arch. 165.... | 2(0-6) | Coml. Illustration II, Arch. 170.... | 2(0-6) |
| General Hist. of Arch., Arch. 244.. | 3(3-0) | Domestic Arch., Arch. 124..... | 2(2-0) |
| Pencil Rend. & Sketch., Arch. 116.. | 2(0-6) | Pen and Ink Drawing I, Arch. 134.. | 2(0-6) |
| Water Color I, Arch. 118..... | 2(0-6) | Water Color II, Arch. 119..... | 2(0-6) |
| Still-life Drawing, Arch. 117..... | 2(0-6) | Life Drawing I, Arch. 121..... | 2(0-6) |
| Clay Modeling, Arch. 133..... | 2(0-6) | Life Drawing II, Arch. 123..... | 2(0-6) |
| Adv. Free-hand Draw. I, Arch. | | Adv. Free-hand Draw. II, Arch. | |
| 201 | 2(0-6) | 206 | 2(0-6) |
| Etching I, Arch. 217..... | 2(0-6) | Etching II, Arch. 218..... | 2(0-6) |
| Oil Painting I, Arch. 230..... | 2(0-6) | Oil Painting II, Arch. 235..... | 2(0-6) |
| Hist. of Paint. & Sculp., Arch. 179. | 3(3-0) | Block Prints, Arch. 137..... | 2(0-6) |

37. Manual and Industrial Arts

Fifteen hours may be chosen from this group by students in industrial journalism in satisfaction of the option related to an industry. Students preparing to teach manual training will require credits in at least forty hours in that line. Prerequisites must be observed.

| | | | |
|------------------------------------|-------------|------------------------------------|--------|
| Engr. Drawing, Mach. Des. 101.... | 2(0-6) | Engr. Woodwork, Shop. 101..... | 1(0-3) |
| Deser. Geom., Mach. Des. 106..... | 2(0-6) | Manual Training for Primary | |
| Woodworking for Grammar Grades, | | Grades, Shop 117..... | 2(0-6) |
| Shop 120..... | 2(0-6) | Woodworking I for High Schools, | |
| Woodworking II for High School, | | Shop 125..... | 2(0-6) |
| Shop 130..... | 2(0-6) | Wood Turning, Shop 135..... | 2(0-6) |
| Forging, Shop 150..... | 1(0-3) | Farm Carpentry I, Shop 147..... | 3(1-6) |
| Machine Tool Work I, Shop 170.. | 2(0-6) | Machine Tool Work II, Shop 192.. | 2(0-6) |
| Machine Tool Work III, Shop 193. | 1(0-3) | Metallurgy, Shop 165..... | 2(2-0) |
| Gas Engines and Tractors, Agric. | | Farm Buildings, Agric. Engr. 101.. | 3(2-3) |
| Engr. 130 | 3(2-3) | Surveying I, Civ. Engr. 102..... | 2(0-6) |
| Machine Drawing I, Mach. Des. | | Farm Shop Methods, Shop 175.... | 3(1-6) |
| 111 | 2(0-6) | Metallography I, Shop 167..... | 1(0-3) |
| Reed Furn. Construction, Shop 119. | 2(0-6) | Advanced Woodwork, Shop 140.... | 2(0-6) |
| Foundry Production, Shop 161.... | 1(0-3) | Sheet Metal Work, Shop 173..... | 2(0-6) |
| Adv. Shop Practice, Shop 261.... | 1 to 5 hrs. | Farm Machinery, Agric. Engr. 108. | 3(2-3) |
| Farm Blacksmithing I, Shop 157... | 1(0-3) | | |
| Farm Blacksmithing II, Shop 158.. | 1(0-3) | | |

38. Printing

Students in industrial journalism may elect fifteen hours from this group in order to fulfill the requirement in respect to subjects related to an industry, or they may elect courses in this group to satisfy elective requirements, choosing not fewer than eight hours.

| | | | |
|-------------------------------------|--------|-------------------------------------|--------|
| Ad. Composition I, Ind. Jour. 108 | 2(0-6) | Ad. Composition II, Ind. Jour. 111 | 2(0-6) |
| Ad. Composition III, Ind. Jour. 112 | 2(0-6) | Job Composition I, Ind. Jour. 114 | 2(0-6) |
| Job Composition II, Ind. Jour. 118 | 2(0-6) | Job Composition III, Ind. Jour. 120 | 2(0-6) |
| Press Work I, Ind. Jour. 122..... | 2(0-6) | Press Work II, Ind. Jour. 126..... | 2(0-6) |

40. Milling Industry

Students in general science or industrial chemistry may elect work in milling industry for which they have taken the prerequisites.

| | | | |
|-------------------------------------------------------|-------------|---------------------------------------------|--------|
| Milling Practice I, Mill. Ind. 109.. | 3(1-6) | Prin. of Milling I, Mill. Ind. 104.. | 2(1-3) |
| Wheat and Flour Testing, Mill. Ind. 205 | 3(0-9) | Prin. of Milling II, Mill. Ind. 106, | 1(0-3) |
| Advanced Wheat and Flour Testing, Mill. Ind. 210..... | 1 to 5(-) | Milling Practice II, Mill. Ind. 111, | 3(1-6) |
| Farm Crops, Agron. 101..... | 4(2-6) | Mill. Qual. of Wheat, Mill. Ind. 212, | 3(3-0) |
| Grain Marketing, Ag. Ec. 203..... | 3(3-0) | Expul. Baking, Mill. Ind. 206..... | 3(1-6) |
| Quantitative Analysis A, Chem. 250, | 3(1-6) | Grain Grad. and Judging, Ag. 108, | 2(0-6) |
| El. Org. Chemistry, Chem. 123.... | 3(2-3) | Quant. Analysis B, Chem. 251..... | 3(1-6) |
| Milling Technology I, Mill. Ind. 201, | 2(0-6) | The Chem. of Proteins, Chem. 236A, | 3(2-3) |
| Prob. in Milling, Mill. Ind. 214... Cr. Ar | | Milling Technology II, Mill. Ind. 202 | 2(0-6) |
| | | Colloidal Chemistry, Chem. 213... | 2(2-0) |

42. Personnel Management

Students who desire specific training for personnel and executive work should elect Educ. 273, Econ. 126, 233, and 267 along with such other courses from the following group as may seem desirable.

| | | | |
|------------------------------------------------------|--------|---------------------------------------------|--------|
| Economics II, Econ. 104..... | 3(3-0) | Vocational Guidance, Educ. 230A.. | 3(3-0) |
| Business Management, Econ. 126.. | 2(2-0) | Stat. Meth. App. to Educ., Educ. 233 | 3(3-0) |
| Principles of Accounting, Econ. 136, | 3(3-0) | Vocational Education, Educ. 241... | 3(3-0) |
| Corporation Organization and Finance, Econ. 219..... | 2(2-0) | Mental Tests, Educ. 260..... | 3(3-0) |
| Labor Problems, Econ. 233..... | 2(2-0) | Technic of Mental Testing, Educ. 261 | 3(1-6) |
| Advanced Economics, Econ. 251... | 3(3-0) | Psych. of Adv. and Selling, Educ. 265 | 3(3-0) |
| Social Problems, Econ. 257..... | 2(2-0) | Social Psychology, Educ. 270..... | 3(3-0) |
| Community Organization, Econ. 267 | 3(3-0) | Psych. of Personnel Mngt., Educ. 273 | 3(3-0) |
| Advanced Sociology, Econ. 273.... | 3(3-0) | | |

44. Social Welfare Work

| | | | |
|-------------------------------------------------------------|--------|---------------------------------------------|--------|
| Economics I, Econ. 101..... | 3(3-0) | Psych. of Pers. Manag., Ed. 273... | 3(3-0) |
| Economics II, Econ. 104..... | 3(3-0) | Personal Health, Child Welf. 101.. | 2(2-0) |
| Sociology, Econ. 151 | 3(3-0) | Child Care & Trn. I, Child Welf. 201 | 3(1-6) |
| Rural Sociology, Econ. 156..... | 3(3-0) | Child Care & Trn. II, Child Welf. 206 | 3(3-0) |
| Labor Problems, Econ. 233..... | 2(2-0) | Family Health, Child Welf. 211... | 3(3-0) |
| Social Problems, Econ. 257..... | 2(2-0) | The Family, Child Welf. 216..... | 2(2-0) |
| Community Organization, Econ. 267 | 3(3-0) | Clo. for the Ind., Clo. and Text. 103 | 4(1-9) |
| Advanced Sociology, Econ. 273.... | 3(3-0) | Clo. Selection, Clo. and Text. 110.. | 2(2-0) |
| General Psychology, Educ. 184.... | 3(3-0) | Foods I, Food & Nutr. 102..... | 5(3-6) |
| The Psychology of Childhood and Adolescence, Educ. 250..... | 3(3-0) | The House, Hshld. Econ. 107.... | 3(2-3) |
| Abnormal Psychology, Educ. 254.. | 3(3-0) | Home Manag., Hshld. Econ. 116... | 3(1-6) |
| Social Psychology, Educ. 270..... | 3(3-0) | Heredity and Eugenics, Zoöl. 216.. | 2(2-0) |

Bacteriology

Professor BUSHNELL
Professor GAINEY
Professor FAY

Assistant Professor BRANDLY
Assistant Professor FOLTZ

The Department of Bacteriology occupies part of the first and second floors of Veterinary Hall. The space is divided into offices and private laboratories, an experiment station and research laboratory, two large general laboratories, incubator or temperature room, preparation room, and stock room. The laboratories are well lighted and equipped with gas, lockers, electric refrigerators, sterilizers, wall cases, microscopes, and other modern facilities necessary for bacteriological work.

The instruction consists of lectures, recitations, demonstrations, and laboratory practice. Printed synopses of lectures and printed laboratory directions are furnished the students in some of the courses; in others textbooks are required. The department library contains textbooks on bacteriology and allied subjects, also the current files of the important technical periodicals relating to bacteriology. These are at the constant disposal of the students

for reference. To those who desire graduate work the department offers excellent facilities.

Bacteriology is presented to the students as a biological science and as a practical factor in everyday life. In this subject only the simplest forms of life, consisting almost invariably of one-celled organisms, are studied. It is now possible to study these microscopical forms with ease and accuracy, thus paving the way for a more complete study and better understanding of cells in the aggregate. The second point of view from which this subject is approached is that of its practical application in agriculture, medicine, domestic science, and sanitation.

This department owns equipment valued at \$20,774.

COURSES IN BACTERIOLOGY

FOR UNDERGRADUATE CREDIT

101. GENERAL MICROBIOLOGY. 3(1-6); I, II, and SS.* Not open to students who have credit in Bact. 106 or 121. Prerequisite: Chemistry II or General Chemistry. Dr. Gainey and Mr. Foltz.

Morphological and biological characters, classification and distribution of bacteria, factors necessary for the development of bacteria, culture media, cultural features, staining values, and fundamental principles of applied bacteriology.

Laboratory.—The student prepares culture media and becomes familiar with principles of sterilization and incubation, and with general laboratory technic. Deposit, \$8.

106. AGRICULTURAL MICROBIOLOGY. 3(1-6); I and II. Not open to students who have credit in Bact. 101 and 121. Prerequisite: Chem. 122. Dr. Gainey and Dr. Fay.

A general course emphasizing particularly the relation of microorganisms to agriculture.

Laboratory.—Methods of cultivating and studying bacteria, yeasts, and molds; methods for quantitative and qualitative analysis of water, milk, etc.; methods of sterilization and use of germicidal agents. Deposit, \$8.

111, 116. PATHOGENIC BACTERIOLOGY I and II. 4(2-6) each; II and I, respectively. Prerequisite: Chem. 123. Dr. Bushnell and Dr. Brandly.

I: Distribution and morphological and biochemical features of microorganisms; factors necessary for the development and cultivation of bacteria; fundamental principles of bacteriology as applied to veterinary medicine. II: Morphology, powers of resistance, pathogenesis, distribution, channels of infection, and means of dissemination of pathogenic bacteria; epizootic and epidemic diseases of unknown etiology; manufacture, standardization, preparation for the market, and use of vaccines, antitoxins, and other biological products related to diagnosis, prevention, and treatment of specific infectious diseases; and various other topics.

Laboratory.—I: General laboratory technic; pathogenic microorganisms studied morphologically, culturally, and biochemically; quantitative and qualitative examinations of milk and of water. II: Microscopical and cultural characteristics of pathogenic microorganisms continued; laboratory animal inoculation, autopsy, and diagnosis; prevention and treatment of specific infectious diseases; experimental production of antitoxins, agglutinins, precipitins, and cytolytins, etc. Deposit, \$8 for each course.

121. HOUSEHOLD MICROBIOLOGY. 3(1-6); I, II, and SS. Not open to students who have credit in Bact. 101 or 106. Prerequisite: Chem. 122. Mr. Foltz.

* The number before the parenthesis indicates the number of hours of credit; the first number within the parentheses indicates the number of hours of recitation each week; the second shows the number of hours to be spent in laboratory work each week; and the third, where there is one, indicates the number of hours of outside work in connection with the laboratory required each week. I, II, and SS indicate that the course is given the first semester, second semester, and summer school, respectively.

Classification, distribution, and relative importance of bacteria; morphological and biochemical studies of microorganisms; factors necessary for the proper development of bacteria; fundamental principles of the science as applied to household economics.

Laboratory.—Practical applications of theories discussed in the classroom, such as bacteriological study of water, milk, and foods; determination of the potability of water; microscopical study of yeasts and molds; methods of food preservation; the germicidal action of various disinfectants, etc. Deposit, \$8.

125. WATER AND SEWAGE BACTERIOLOGY. 2(0-6); I. Prerequisite: Chemistry E-II. Dr. Gainey.

A course designed to acquaint the student of engineering with the fundamentals of water purification and sewage disposal, as affected by the action of microorganisms; quantitative and qualitative analyses of water supplies; laboratory study of some of the important microbial changes involved in the disposal of sewage. Deposit, \$5.

FOR GRADUATE AND UNDERGRADUATE CREDIT

202. SOIL MICROBIOLOGY. 3(3-0); II. Prerequisite: Course 101 or 106. Offered in 1936-'37 and alternate years thereafter. Dr. Gainey.

The influences of depth and character of soil, temperature, moisture, chemical action, aëration, and other factors upon the activities of soil microorganisms; the influence of such phenomena as ammonification, nitrification, denitrification, symbiotic and nonsymbiotic nitrogen fixation upon crop production. Various texts are recommended as reference books.

204. SOIL MICROBIOLOGY LABORATORY. 2(0-6); II. Prerequisite: Course 101 or 106. Offered in 1936-'37 and alternate years thereafter. To accompany or follow course 202. Dr. Gainey.

The preparation of various special culture media and reagents necessary to conduct bacteriological analyses of the soil; qualitative and quantitative analyses and the laboratory study of nitrification, denitrification, and nitrogen fixation; plot experiments and field work illustrating the influence of various factors upon the bacterial flora and the inoculation of soil with nitrogen-fixing bacteria. Deposit, \$8.

206. HYGIENIC BACTERIOLOGY. 4(2-6); I. Prerequisite: Course 101, 106, or 121. Offered in 1935-'36 and alternate years thereafter. Dr. Bushnell.

Pathogenic bacteria, especially those related to disease in man; channels of infection, and means of dissemination of pathogenic bacteria; epidemics, their cause and control; and other topics dealing with bacteria in connection with health. Various books recommended as textbooks.

Laboratory.—Microscopical and cultural study of pathogenic bacteria, technique involved in the diagnosis of various infectious diseases; culture of pathogenic anaërobic bacteria; the isolation and identification of pathogenic bacteria; and other practical studies of theories discussed in the classroom. Deposit, \$8.

211. DAIRY BACTERIOLOGY. 3(1-6); II. Prerequisite: Bact. 101, 106, 111, or 121. Dr. Fay.

Bacterial flora of milk, butter, and cheese; infectious diseases conveyed through dairy products; bacterial contaminations of milk by air, water, utensils, etc.; normal and abnormal fermentations in milk, their significance and control.

Laboratory.—Preparation of culture media necessary for dairy bacteriological work; bacteriological analysis of milk; microscopical and cultural characters of the types of microorganisms representing the flora of milk, butter, and cheese; and kindred practical bacteriological studies relating to dairy products. Deposit, \$8.

216. POULTRY BACTERIOLOGY. 3(1-6); II. Prerequisites: Course 101, 106, or 111. Dr. Brandly.

Etiology, sources, and modes of infection of diseases of poultry; microbial content of freshly laid eggs, cold-storage eggs, and egg products; conditions tending toward increase or decrease of this microbial content.

Laboratory.—Study of microörganisms pathogenic for poultry; microbial content of eggs and egg preparations handled and produced under various conditions. Deposit, \$8.

217. **POULTRY DISEASES.** 2(2-0); II. Prerequisites: Courses 111 and 116 and Therapeutics (Surg. and Med. 163). Dr. Brandly.

Anatomy of the fowl; poultry sanitation and hygiene; a complete systematic study of the infectious diseases of all classes of domestic fowl; general diseases of noninfectious nature; external and internal parasites of domestic fowl; minor surgical operations.

222. **PHYSIOLOGY OF MICROÖRGANISMS.** 3(3-0); I. Prerequisite: Bact. 101, 106, 111, 116, or 121. Offered in 1935-'36 and alternate years thereafter. Dr. Fay.

A general survey of the chemistry and physics of microbial processes. Textbook and other assigned readings.

225. **BACTERIOLOGICAL TECHNIC.** 3(0-9); II. Prerequisite: Bact. 101, 106, 111, 116, or 121. Offered in 1935-'36 and alternate years thereafter. Dr. Gainey.

Advanced training in the technic of laboratory manipulation; fundamental experiments and special experiments selected according to the interest of the student. Printed outlines furnished. Deposit, \$5.

229. **ADVANCED SEROLOGY.** 5(3-6); I. Prerequisite: Bact. 206. Offered in 1936-'37 and alternate years thereafter. Dr. Bushnell.

Theories of immunity and immunization; preparation, purification, and standardization of the various biological products used in human and veterinary medicine. Laboratory arranged according to the material available. Textbook and other assigned readings. Deposit, \$8.

235. **BACTERIOLOGY OF BUTTER CULTURES.** 1(0-3); I. Prerequisite: Course 211. Dr. Fay.

The bacteriological and chemical aspects of butter cultures.

270. **PROBLEMS IN BACTERIOLOGY.** Credit to be arranged; I, II, and SS. Prerequisite: Bact. 101, 106, 111, 116, or 121. Dr. Bushnell, Dr. Gainey, Dr. Fay, Dr. Brandly, and Mr. Foltz.

Special problems assigned, credit depending upon the amount and quality of work done. Deposit, \$3 per credit hour.

275. **BACTERIOLOGY SEMINAR.** 1(1-0); I and II. For prerequisites, consult professor in charge. Dr. Bushnell.

Papers and discussions by members of the department and the more advanced students on various phases of current research work in bacteriology, serology, and related subjects. Graduate students in this department may be assigned to this subject for credit; others interested may visit the meetings at any time by making proper arrangements.

FOR GRADUATE CREDIT

301. **RESEARCH IN BACTERIOLOGY.** Credit to be arranged; I, II and SS. Prerequisites: At least two courses in this department. Dr. Bushnell, Dr. Gainey, Dr. Fay, Dr. Brandly, and Mr. Foltz.

Properly qualified advanced students admitted to this course upon approval of the department head; supervision by a faculty member of the department, and subjects for investigation chosen and outlined in consultation with him; opportunity to do experiment station and advanced research work during vacation periods under faculty supervision; individual research problems for students working toward an advanced degree; upon completion, results presented in form of a thesis which, when accepted, fulfills part of the requirements for the master's or doctor's degree. Deposit, \$3 per credit hour.

Botany and Plant Pathology

Professor MELCHERS
 Professor MILLER
 Professor DAVIS
 Professor HAYMAKER
 Professor GATES

Assistant Professor ELMER
 Assistant Professor LEFEBVRE
 Instructor NEWCOMB
 Graduate Assistant BOWMAN

The instruction given in the Department of Botany and Plant Pathology has a three-fold purpose: To give a training in botany for the general broadening of the student's knowledge; to give a training in the knowledge of plants that will serve as a foundation for the student's further college courses in agricultural subjects; and to instruct and direct those students who desire to investigate such problems in plant life as affect agriculture. Investigations may be undertaken in plant pathology, plant physiology, taxonomy, and ecology of plants.

In the general courses each student is supplied with a compound microscope and with all the other accessories of a modern, well-equipped botanical laboratory. The laboratory for advanced study is provided with the general equipment for investigational work, and additional facilities are readily available for those who desire to pursue special lines of research. The department has an excellent herbarium, especially complete for Kansas, and a botanical library containing the usual standard texts and the principal botanical journals. The equipment owned by the department has a value of \$51,689.

COURSES IN BOTANY

FOR UNDERGRADUATE CREDIT

101, 105. GENERAL BOTANY I AND II. 3(1-4, 2), each; I and SS, and II and SS, respectively. Mr. Melchers, Dr. Miller, Mr. Davis, Dr. Haymaker, Dr. Gates, Dr. Lefebvre, and Miss Newcomb.

I. The principal life functions of plants; response of plants, such as photosynthesis, digestion, respiration, transpiration, and growth; the responses of plants to environmental conditions and physical stimuli; and the anatomy of the plant.

II: The significance of plant morphology to the allied branches of botany, such as plant physiology, taxonomy and ecology; the economic importance of the fungi and other pathogenic plants; the evolution of plants, as developed by morphological criteria.

Laboratory.—I: A series of typical experiments followed out in the laboratory and in the greenhouse. Charge, \$3.75.

II: Study of the morphology of the typical representatives of the great groups of the plant kingdom, the ecological factors affecting plants, and their identification under both winter and summer conditions by use of an identification key. Charge, \$3.75.

110. NATURE AND DEVELOPMENT OF PLANTS. 3(3-0); II. Dr. Haymaker.

A general survey of the plant kingdom emphasizing structure, life processes, identification, classification, evolutionary development, geographical distribution, economic importance, etc.

126. MEDICAL BOTANY. 2(1-3); I. Prerequisite: High-school botany or its equivalent. Dr. Gates.

The principal stock-poisoning plants of the range; habitat, poisonous properties, and methods of control and elimination of native poisonous plants.

Laboratory.—A study of the native poisonous plants of the United States, but chiefly of the Western states. Charge, \$2.

FOR GRADUATE AND UNDERGRADUATE CREDIT

202. FRUIT CROP DISEASES. 2(1-2, 1); I. Prerequisite: Course 205. Offered in 1935-'36 and in alternate years thereafter. Dr. Haymaker.

Diseases affecting fruit crops of all kinds; methods and measures for controlling these diseases; preparation and practical application of standard sprays.

Laboratory.—A detailed study of each disease affecting the major fruit crops; a detailed microscopic study of the organism causing the disease. Charge, \$2.

205. PLANT PATHOLOGY I (or ECONOMIC PLANT DISEASES.) 3(1-4, 2) or 3(2-3); I and SS. Prerequisites: Courses 101 and 105. Mr. Melchers and Dr. Haymaker.

Cause and symptoms of plant diseases, infection phenomena, control of plant diseases, breeding for resistance, and plant quarantine.

Laboratory.—Work in the recognition of all the more common plant diseases of the farm, orchard, and garden, detailed microscopic studies of diseased tissues and identification of the fungous pathogens which cause them. Charge, \$2.

206. MORPHOLOGY OF THE FUNGI. 3(1-6); I. Prerequisite: Course 205. Offered in 1934-'35 and in alternate years thereafter. Dr. Lefebvre.

Structure of slime molds, moldlike bacteria, and fungi studied to determine taxonomic relationships; especial attention to organisms capable of causing disease in plants.

208. PLANT PHYSIOLOGY I. 3(3-0); I. Prerequisites: Courses 101 and 105 and Chemistry 101 and 102 or 110. Dr. Miller.

A detailed study of the plant cell, solutions and membranes in relation to the cell, root systems, intake of water, intake of solutes, elements used, and loss of water.

210. PLANT PHYSIOLOGY II. 3(1-6); II. Prerequisite: Course 208. Dr. Miller.

Methods used in obtaining experimental data in regard to the more common functions of plants. Charge, \$5.

211. PLANT PHYSIOLOGY III. 3(3-0); II. Prerequisite: Course 208. Dr. Miller.

A continuation of course 208, including a detailed study of photosynthesis, nitrogen metabolism, fat metabolism, digestion, translocation, respiration, and growth.

212. PROBLEMS IN BOTANICAL INSTRUCTION. 3(2-3); SS. Prerequisite: Ten credit hours in botany or in courses of botanical nature. Dr. Haymaker.

Advanced work in the morphology, anatomy, physiology, taxonomy, and diseases of plants; technic in presenting botany to high school and college students. Charge, \$2.

217. MICROTECHNIC. 3(1-6); II. Prerequisite: Botany 101 or 105. Offered in 1935-'36 and in alternate years thereafter. Dr. Lefebvre.

Training in the principles and methods of preparing plant materials for histological or cytological study; interpretation of structures shown in the preparations made in this course. Charge, \$4.

218. FIELD BOTANY. 3 credits; SS. Prerequisites: Courses 101 and 105. Dr. Haymaker.

A study of the technical terms used in different keys and texts for the identification of various plants; the different systems of classification and nomenclature considered from historical and utilitarian standpoints; history of the higher plants from an evolutionary viewpoint.

Laboratory.—Study and identification of the vegetation of near-by prairies, woodland, and swamps; morphological characteristics, distribution, habits of plants, and their relation to different environmental conditions; poisonous or medicinal properties of native plants; and allied subjects. Charge, \$2.

220. BOTANICAL SEMINAR. 1(1-0); I and II. Prerequisite: Consult professor in charge.

Presentation of investigational work in botany, including plant pathology, plant physiology, plant ecology, taxonomy, morphology, and genetics; fundamental papers along botanical lines reviewed and a digest presented. Grad-

uate students taking major or minor work in the Department of Botany are expected to attend these sessions and take part in the programs.

225. TAXONOMIC BOTANY OF THE FLOWERING PLANTS. 3(1-4, 2); I. Prerequisites: Courses 101 and 105. Dr. Gates.

Terms employed; development of the more important systems of classification; and consideration of families of plants.

Laboratory.—Study of selected flower types representing the principal orders and families of plants; identification of plants in field and in the laboratory. Charge, \$2.

228. PLANT ECOLOGY. 2(2-0); II. Prerequisites: Courses 101 and 105. Dr. Gates.

The structure and dynamics of vegetation.

Laboratory.—With the opening of vegetation in the spring, field trips are taken to selected places. Additional credit in ecology may be secured by arranging for additional work and by registering for Problems in Botany, course 232.

232. PROBLEMS IN BOTANY. Credit to be arranged; I, II, and SS. Prerequisites: Courses 101 and 105, and approval of the head of the department. Mr. Melchers, Dr. Miller, Mr. Davis, Dr. Haymaker, Dr. Gates, Dr. Lefebvre, Dr. Elmer, and Miss Newcomb.

A student wishing to pursue a special field of work not definitely represented by one of the undergraduate elective courses may do so upon consultation with the instructor. Charge, \$2.

241. FIELD CROP DISEASES. 3(1-6); II. Prerequisite: Botany 105. Offered in 1935-'36 and in alternate years thereafter. Mr. Melchers.

The historical development of phytopathology; the various factors entering into the problem of disease resistance in plants; breeding for resistance; the most important literature on the subject.

Laboratory.—A detailed microscopic and symptom study of the fungous, bacterial, and nonparasitic plant diseases attacking cereal and forage crops other than those considered in Plant Pathology I. Charge, \$2.

251. ANATOMY OF THE HIGHER PLANTS. 3(1-6); II. Prerequisites: Botany 101 and 105. Offered in 1936-'37 and in alternate years thereafter. Miss Newcomb.

A study of the structure and development of the various tissues and organs of the seed plants. Charge, \$4.

266. LITERATURE OF BOTANY. 2(2-0); I. Prerequisites: Botany 101, 105, and 205. Mr. Davis.

Aims of the course: (1) A general survey of the field of botanical literature, with special reference to the foundational works and authors that students of botany should know. (2) To study current botanical publications and review works of modern botanists appearing in the current serials. (3) To learn the use of keys to botanical literature and standard methods for preparation of special bibliographies and papers. (4) To gain some knowledge of the more important botanical classics and biographies.

268. PLANT CYTOLOGY. 3(1-6); II. Prerequisite: Course 101 or Zoölogy 105. Offered in 1935-'36 and alternate years thereafter. Miss Newcomb.

The structure, development, and functions of the plant cell with special reference to chromosome behavior and its bearing upon genetic results. Charge, \$3.

FOR GRADUATE CREDIT

301. PLANT PATHOLOGY III. 3(1-4, 2); I. Prerequisite: Course 205. Offered in 1934-'35 and in alternate years thereafter. Dr. Elmer.

A course in phytopathological technic; a close and extended study of the pathogenic organisms which cause plant disease; preparation of various kinds of culture media, isolation and culture of pathogenic organisms, nutrition of

fungi, studies in enzyme secretion and action, micrometry, incubation and infection phenomena, etc. Charge, \$5.

310. RESEARCH IN BOTANY. Credit to be arranged; I, II, and SS.

Research in the various fields of botany may be outlined. A member of the department staff is chosen by the student as his major instructor in the line of work which he wishes to pursue. Upon the completion of the work it may be submitted in part or as a whole towards the master's thesis. Work is offered in the following lines:

Plant Pathology. Mr. Melchers, Dr. Haymaker, Dr. Elmer, and Dr. Lefebvre.

Plant Physiology. Mr. Davis and Dr. Miller.

Taxonomy and Ecology. Dr. Gates.

Cytology and Anatomy. Miss Newcomb.

Mycology. Dr. Lefebvre.

Chemistry

Professor KING
 Professor HUGHES
 Professor BRUBAKER
 Professor COLVER
 Associate Professor KEITH
 Associate Professor VAN WINKLE
 Associate Professor BARHAM
 Associate Professor PERKINS
 Assistant Professor HALL
 Assistant Professor HARRISS
 Assistant Professor WHITNAH
 Assistant Professor LASH
 Assistant Professor MARLOW
 Assistant Professor SMITS

Assistant Professor FAITH
 Instructor ANDREWS
 Instructor McDOWELL
 Instructor REED
 Instructor BENNE
 Instructor SHENK
 Instructor CALDWELL
 Instructor MILLER
 Instructor HOSTETTER
 Graduate Assistant DORF
 Graduate Assistant McGEHEE
 Graduate Assistant WARNER
 Graduate Assistant WOODRUFF

All of the industries are becoming more and more dependent for their highest success upon intelligent application of the physical and biological sciences, and the social sciences are making their greatest progress by tracing their phenomena back to the physical and chemical changes that accompany them. A study of chemistry and physics is therefore essential to any understanding of the processes of nature or of human industry. In the instruction in chemistry the aim is to insist upon a mastery of the chief concepts of the pure science through the agency of textbook drill, accompanied by demonstrations in the lecture room, and experimental observation by the student himself in the laboratory. As the course proceeds, illustrations of chemical principles are drawn from the industrial processes of the chemical, agricultural, domestic, and other arts, thus impressing upon the mind the practical nature of the study. The ultimate object of instruction in this science is to develop in the student the power to form independent judgment upon the manifold problems of daily life in which chemistry plays a part.

Due to the loss of Denison Hall by fire on August 3, 1934, the work of the department is scattered about the campus. The advanced laboratory courses are given in Chemistry Annex 2; the main lecture room is established on the second floor of West Waters Hall; and the experiment station work is carried on in two small laboratories, one located with the Department of Dairy Husbandry and the other with the Department of Agronomy. In all the laboratory work the student is required to give the designated amount of time, and at least a certain amount of work must be satisfactorily performed in order to obtain credit.

The Department of Chemistry possesses equipment valued at about \$35,000. The difference between this value and that of former figures is due largely to loss in research equipment and not ordinary laboratory material.

COURSES IN CHEMISTRY

FOR UNDERGRADUATE CREDIT

101, 102. CHEMISTRY I AND II. 5(3-6) each; I, II, and SS each. Not open to students who have credit in Chem. 107, 108, or 110. Prerequisite: For II, Chem. 101. Dr. King, Dr. Brubaker, Dr. Keith, Dr. Van Winkle, Miss Harriss, Dr. McDowell, Mr. Benne, Mr. Caldwell, Mr. Hostetter, Mr. Dorf, Mr. McGehee, Mr. Warner, and Mr. Woodruff.

I: The principal theoretical conceptions of chemistry, principles of nomenclature, significance of formulas, chemical equations, etc.; practical uses of the substances and processes used in metallurgy, engineering, agriculture, and other arts.

II: Completion of the study of general chemistry; general principles of qualitative analysis.

Laboratory.—I: Experiments touching preparation and properties of the more important substances performed independently by the student, the objects being here as in other courses to illustrate chemical phenomena, to teach care in manipulation, attentive observation, logical deduction, and discrimination and accuracy in recording results and conclusions. Deposit, \$10.

II: Ordinary methods of separation and detection of the more common metals, nonmetals, acids, bases, and salts. Deposit, \$10.

107, 108. CHEMISTRY E-I and E-II. 4(3-3) each; I, II, and SS, respectively. Not open to students who have credit in Chem. 101 and 102, respectively. Dr. Van Winkle, Mr. Andrews, Mr. Hostetter, and Mr. Warner.

I: General chemistry; fundamental principles of chemistry which have a special bearing upon engineering and engineering material.

II: General chemistry and qualitative analysis.

Laboratory.—I: Experimental work on the topics considered in the classroom. Deposit, \$7.50.

II: Qualitative analysis; a systematic study of the chemistry of the more common metals and acids; analysis of alloys, minerals, and ores. Deposit, \$7.50.

110. GENERAL CHEMISTRY. 5(3-6); I. Not open to students having credit in any college course in inorganic chemistry. Dr. King, Dr. Lash, Dr. Marlow, Mr. Benne, Dr. McDowell, Mr. Caldwell, Dr. Miller, Mr. Dorf, Mr. McGehee, Mr. Warner, and Mr. Woodruff.

A general treatment of some of the principal laws and theories of chemistry; preparation, properties, and uses of some of the important metallic and non-metallic substances.

Laboratory.—Actual preparation and study of the properties of many of the elements and compounds mentioned in the lectures; applications of some of the laws. Deposit, \$10.

122. GENERAL ORGANIC CHEMISTRY. 5(3-6); I, II, and SS. Not open to students who have college credit in organic chemistry, except that it may be taken for two hours credit by students who have completed Chem. 123. Prerequisite: Chem. 110. Dr. Colver, Dr. Barham, Dr. Lash, Dr. Marlow, Mr. Reed, Dr. Miller, Dr. McDowell, and Mr. Caldwell.

General study of some of the more important classes of organic compounds; a more detailed study of those hydrocarbons, alcohols, ethers, aldehydes, ketones, organic acids, waxes, fats, carbohydrates, and proteins which are of general interest.

Laboratory.—Preparation of a few organic compounds and the study of their physical and chemical properties. Deposit, \$10.

123. ELEMENTARY ORGANIC CHEMISTRY. 3(2-3); II. Not open to students who have college credit in organic chemistry. Prerequisite: Chem. 105 or 110. Miss Harriss.

An elementary outline dealing with some of the more important hydrocar-

bons, alcohols, aldehydes, ketones, organic acids, and various esters, waxes, fats, carbohydrates, and proteins, with special emphasis on their toxological and physiological properties.

Laboratory.—Preparation of a few organic compounds and the study of their physical and chemical properties. Deposit, \$7.50.

130. INSPECTION TRIP. No credit hours. Dr. Faith.

A large number of manufacturing plants of chemical and chemical engineering nature are visited. Different types of plants are selected, only one of each type being visited. An effort is made to vary the trip from year to year and to include such manufacturing centers as Kansas City, St. Louis, and Chicago. The cost of the trip varies from about \$30 to not more than \$50, depending on the places visited.

FOR GRADUATE AND UNDERGRADUATE CREDIT

202. INORGANIC PREPARATIONS. 1 credit for each 3 hours of laboratory; I and II. Prerequisite: Chemistry II. Dr. Brubaker.

Preparation and purification of some typical inorganic compounds, of those of more complex composition, and compounds of the rarer elements. Charge, \$10.

203, 204. INDUSTRIAL CHEMISTRY I and II. 5(3-6) each; I and II, respectively. Prerequisite or concurrent: Physical Chemistry. Dr. Faith and Mr. Caldwell.

The fundamental course in industrial chemistry, dealing with the problems of the chemical industries, and placing stress upon the economic questions involved in chemical manufacturing, materials of plant construction, as well as the engineering operations involved in chemical engineering, and the principles underlying the application of chemistry and engineering to a selected number of chemical industries.

Laboratory.—An introduction to industrial chemical research through assigned manufacturing problems, beginning with the general chemical industries. Deposit, \$10.

205. INDUSTRIAL ELECTROCHEMISTRY. 2(2-0); II. Offered in case of sufficient demand. Prerequisites: College courses in general chemistry and physics. Dr. Faith.

The principles of coulometers, electrochemical methods and analysis, electroplating, electrotyping, and the production of metallic objects by electroplating methods, electrolytic refining of metals, manufacture of various industrial products by electrolytic and electrothermic methods, etc.

206. PHYSICAL CHEMISTRY I. 5(3-6); I. Prerequisites: Organic Chemistry and Quantitative Analysis; Calculus, though not a prerequisite, is recommended. Dr. King and Dr. Hall.

The modern conception of the atom and radioactive phenomena; relations with matter in the gaseous, liquid, and solid states; emphasis placed upon osmosis, solution including colloids, surface tension; adsorption, equilibria, ionization, electrical nature of matter, and hydrogen ion concentration.

Laboratory.—The laboratory follows the subject matter of the lectures very closely. Deposit, \$10.

207. ADVANCED INORGANIC CHEMISTRY. 3(3-0); I. Prerequisite: Chemistry II. Dr. Keith.

A thorough study of the facts of chemistry and their theoretical interpretations according to the views of the present; special stress upon the properties of the elements as a basis for methods of classification, and upon the rarer elements and compounds. Students electing this course are advised to take course 202.

208. HISTORY OF CHEMISTRY. 1(1-0); II. Prerequisite: Chem. 206. Dr. Van Winkle.

History of the development of the principal laws and theories of chemistry,

with special emphasis upon the failures and triumphs of the founders of chemical science.

209. SURFACE TENSION AND RELATED PHENOMENA. 2(2-0); I or II, when requested by a sufficient number. Prerequisite: Chem. 206. Dr. King.

Methods of measuring surface tension; surface energetics; relation of surface tension to adsorption; and colloidal formation.

211. PAINT OILS AND PIGMENTS. 2(2-0); I, by appointment. Prerequisites: Satisfactory courses in organic chemistry and qualitative analysis. Dr. King.

Extraction, purification, and properties of the oils commonly used in paints; manufacture and properties of paint pigments; the products employed as protective coverings for both wood and metal.

213. COLLOIDAL CHEMISTRY. 2(2-0); II, when requested by a sufficient number. Prerequisite: Chem. 206. Dr. King.

Suspensoids and emulsoids, optical and electrical properties of colloids, Brownian movement, action of electrolytes on colloids, adsorption and surface phenomena, and short review of the method for the preparation of colloids.

215. CHEMICAL THERMODYNAMICS. 3(3-0); II, when requested by a sufficient number. Prerequisites: Approved courses in physical chemistry and calculus. Dr. Keith.

Those fundamental principles of thermodynamics which are particularly applicable to chemistry, such as the first and second laws of thermodynamics and their application to fusion, evaporation, phase rule, chemical equilibrium, chemical affinity, electromotive force, surface tension and activity.

216. THEORETICAL ELECTROCHEMISTRY. 3(3-0); I, when requested by a sufficient number. Prerequisites: Approved courses in physical chemistry. Dr. Keith.

The theory of electrolytic cells, the electrochemical series of metals, electrodes, potentials, polarization, overvoltage, and deposition of metals by electrolysis.

217. ELECTROCHEMISTRY LABORATORY. 2(0-6); II. Prerequisite: Physical Chemistry I or equivalent. Dr. Hall.

A laboratory course designed and recommended to accompany or follow Theoretical Electrochemistry. Selected experiments in electrometric titrations, storage battery efficiency, polarization, overvoltage, electrode potentials, and related subjects. Deposit, \$10.

218, 219. ORGANIC CHEMISTRY I and II. 4(2-6); each; I and II, respectively. Prerequisite: Chemistry II. Dr. Colver, Dr. Marlow, and Mr. Reed.

I: The aliphatic hydrocarbons, alcohols, ethers, aldehydes, ketones, acids, esters, amides, and related compounds considered particularly from the standpoint of structure, methods of laboratory and commercial preparation, reactions and uses; special attention to such topics as structural, geometrical, and optical isomerism, and the use of acetoacetic ester in organic synthesis.

II: Structure, methods of laboratory and commercial preparation, reactions and uses of the aromatic compounds, orientating influence of various groups; structure and reactions of the diazonium compounds; the different classes of dyes, the alkaloids, the terpenes, and a few heterocyclic compounds.

Laboratory.—I: Preparation, purification, and reactions of one or more typical examples of most of the groups of compounds studied in the classroom. Deposit, \$10.

II: Various preparations that illustrate the reactions characteristic of aromatic compounds; determination of carbon, hydrogen, and nitrogen in pure unknown organic compounds by the combustion method. Deposit, \$10.

220. ORGANIC CHEMISTRY. 5(3-6); I, II, and SS. Prerequisite: Chem. 102. Dr. Colver.

The more important classes of organic compounds, particularly the aliphatic hydrocarbons, alcohols, aldehydes, ketones, acids and esters, the fats, pro-

teins and carbohydrates, and such carbocyclic compounds as the hydrocarbons, phenols, acids and esters that have a general interest.

Laboratory.—Preparation and study of the chemical and physical properties of one or more representative examples of the classes of compounds studied in the classroom. Deposit, \$10.

223. ORGANIC PREPARATIONS. 1(0-3); to 5(0-15); I. Prerequisite: Organic Chemistry II. Dr. Colver.

Such compounds prepared as give a thorough knowledge of the fundamental principles of synthetic organic chemistry. Deposit, \$10.

224. QUALITATIVE ORGANIC ANALYSIS. 2(0-6); II, when requested by a sufficient number. Prerequisite: Course 219. Dr. Colver.

Characteristic reactions of the various classes of organic compounds; class reactions using known compounds; classification and identification of pure, unknown substances and mixtures. Deposit, \$10.

225. STEREOISOMERIC AND TAUTOMERIC COMPOUNDS. 2(2-0); II, when requested by a sufficient number. Prerequisite: Organic Chemistry II. Dr. Colver.

Optical isomerism and methods of determining the configuration of the asymmetric carbon atoms of sugars; geometrical isomerism; and keto-enol tautomerism.

226. CARBOCYCLIC AND HETEROCYCLIC COMPOUNDS. 2(2-0); II, when requested by a sufficient number. Prerequisite: Organic Chemistry II. Dr. Colver.

Structure, orientation, methods of synthesis, and reactions of benzene, naphthalene, anthracene and derivatives; furane, pyrrol, thiophene, pyridine, quino-line, isoquinoline, purine, pyrimidine, hydantoin, and some structurally related substances.

228. SPECIAL REACTIONS OF ORGANIC COMPOUNDS. 2(2-0); I, when requested by a sufficient number. Prerequisite: Organic Chemistry II. Dr. Colver.

Some of the less common reactions which take place with certain aliphatic and aromatic compounds.

230. PRINCIPLES OF ANIMAL NUTRITION. 3(3-0); II. Prerequisite: Organic Chemistry. Dr. Hughes.

The relation of animals to matter and energy, and the physiological principles involved.

231. PHYSIOLOGICAL CHEMISTRY. 5(3-6); I. Prerequisite: An acceptable course in organic chemistry. Dr. Hughes and Dr. Marlow.

The synthetic and analytical chemical changes that accompany the physiological processes of animals and plants.

Laboratory.—Practical work with the compounds and processes discussed in the classroom. Deposit, \$10.

234. BIOCHEMICAL PREPARATIONS. 5(0-15); II. Prerequisites: Organic Chemistry II and Physiological Chemistry. Dr. Hughes.

The isolation, purification, and analysis of a number of compounds which are of importance in biochemistry and nutrition. Deposit, \$10.

235. PATHOLOGICAL CHEMISTRY. 2(2-0); when requested by a sufficient number. Prerequisite: An approved course in physiological chemistry. Dr. Hughes.

The chemical facts involved in the causation, progress, and results of disease discussed under the following heads: Inflammation, degeneration, infection, anæmia, tuberculosis, dyspepsia, typhoid fever, jaundice, nephritis, diabetes, gout, rheumatism, and intoxication.

236A. THE CHEMISTRY OF THE PROTEINS. 3(2-3); I, when requested by a sufficient number. Prerequisite: An approved course in organic chemistry.

The chemistry of the proteins, particularly as regards their sources, isolation, purification and uses, their derivatives and degradation products. Deposit, \$7.50.

237. BIOCHEMICAL ANALYSIS. 2(0-6); I and II. By appointment. Prerequisite: Physiological Chemistry. Dr. Hughes.

Quantitative determinations of the organic and inorganic constituents of blood, urine, and other biological material. Deposit, \$10.

238A. CATALYSIS IN ORGANIC CHEMISTRY. 3(3-0); I. Prerequisites: Organic Chemistry II and Physical Chemistry. Dr. Barham.

The theories of catalysis and its applications along with some of the most recent developments in that field.

239. LABORATORY TECHNIQUE IN ANIMAL NUTRITION. 2(0-6); I and II. Prerequisite: An acceptable course in nutrition or physiological chemistry. Dr. Hughes.

Preparation of diet and the care of experimental animals used in the study of various nutritional problems. Deposit, \$10.

240. ADVANCED QUALITATIVE ANALYSIS. 3(1-6); I and II, when requested by a sufficient number. Prerequisite: Chemistry II. Dr. Van Winkle.

A systematic study of the properties of the acid and basic elements and their compounds as shown in a detailed study of systematic analysis; the application of chemistry theory to analytical reactions. Deposit, \$10.

241. QUANTITATIVE ANALYSIS. 5(1-12); II and SS. Prerequisite: Chemistry II or equivalent. Dr. Brubaker.

Practically the same as courses 250 and 251. Deposit, \$10.

242. FIRE ASSAYING. 2(0-6); I. Prerequisite: Chem. 241. Dr. Faith and Mr. Caldwell.

The ordinary methods of fire assaying, with some attention to wet assaying. Fire assays of ores containing such metals as copper, zinc, lead, bismuth, tin, silver, and gold. Deposit, \$10.

243. GAS ANALYSIS. 1(0-3); I. Prerequisite: Quantitative Analysis. Dr. Faith.

Use of standard apparatus in analysis of gases; analysis of air, flue and furnace gases, and illuminating gas. Deposit, \$7.50.

245. CHEMICAL MICROSCOPY. 1(0-3); I, II, and SS, when requested by a sufficient number. Prerequisites: Organic Chemistry and Quantitative Analysis I. Dr. Brubaker.

The various methods of using the microscope in chemical analysis, both qualitative and quantitative, applied to both inorganic substances and to vegetable and animal products. Deposit, \$7.50.

250, 251. QUANTITATIVE ANALYSIS A AND B. 3(1-6) each; I and II, respectively, and SS. Prerequisites: For A, Chemistry II; for B, course A. Dr. Brubaker.

Course A: General procedure of gravimetric analysis; chemical theory as applied to quantitative reactions. Deposit, \$10.

Course B: General procedures in volumetric analysis; preparation of standard solutions and their uses. Deposit, \$10.

252A. CHEMISTRY OF SOILS AND FERTILIZERS. 2(0-6); I. Prerequisite: Quantitative Analysis I or equivalent. Dr. Perkins.

The most important chemical methods used in the analysis and investigation of soils and fertilizers. Deposit, \$10.

253A. CHEMISTRY OF CROPS. 2(0-6); II. Prerequisites: Organic Chemistry and Quantitative Analysis I, or equivalent. Dr. Perkins.

The most important chemical methods used in the analysis and investigations of substances present in plants and plant products. Deposit, \$10.

254. DAIRY CHEMISTRY. 3(1-6); I. Prerequisites: Organic Chemistry and Chem. 250. Dr. Whitnah.

Chemical compounds present in milk, butter, cheese, and other dairy products; chemical changes effected by conditions of handling dairy products; a review of literature relating to recent investigational work in dairy chemistry.

Laboratory.—The most important chemical methods used in the analysis and investigation of dairy products. Deposit, \$10.

256. INSECTICIDES AND FUNGICIDES. 2(2-0); given when requested by a sufficient number. Prerequisites: Satisfactory courses in organic chemistry and quantitative analysis. Dr. King.

The manufacture of spray materials; the chemistry involved in mixing, and the theory of their toxic actions.

257. FOOD ANALYSIS. 3(0-9); II and SS, when requested by a sufficient number. Prerequisites: Organic Chemistry and course 250. Dr. Brubaker.

The quantitative methods employed in the analysis of foodstuffs, practice in testing for the presence of adulterants, preservatives, and coloring materials. Deposit, \$10.

260. ADVANCED QUANTITATIVE ANALYSIS. 1 credit for each 3 hours of laboratory; I. Prerequisites: Courses 250 and 251. Dr. Brubaker.

Included here, any kind of quantitative chemical work not otherwise designated; a large opportunity for advanced work afforded by the various research and state laboratories. Deposit, \$10.

265. THE CHEMISTRY OF THE CARBOHYDRATES. 2(2-0); I or II, when requested by a sufficient number. Prerequisite: An approved course in organic chemistry. Dr. Whitnah.

The occurrence, structure, reactions, synthesis, and uses of the more important carbohydrates.

268. PROBLEMS IN CHEMICAL ENGINEERING. Credit to be arranged; I and II. Dr. Faith.

An introduction to chemical engineering research. Deposit, \$10.

270. PROBLEMS IN CHEMISTRY. Credit to be arranged; I, II, and SS.

Individual problems to fulfill the thesis requirements of students in agricultural chemistry, chemistry, and industrial curricula. Deposit, \$10.

271. SELECTED TOPICS IN INORGANIC CHEMISTRY. 2(2-0); II. Prerequisite: A course in physical chemistry. Dr. Lash.

Material from such topics as thermal analysis, temperature measurements, atomic hydrogen, the hydrides, the halogens, solutions, and the ammonia system.

272. PHYSICAL CHEMISTRY II. 3(3-0); II. Prerequisite: A beginning course in physical chemistry and calculus. Dr. King.

A continuation of the general principles of physical chemistry, with particular attention given to the elementary principle of thermodynamics, chemical kinetics, homogeneous and heterogeneous equilibrium, electromotive force, photochemistry.

275. CHEMISTRY SEMINAR. Twice a month, throughout the year, the officers of the department, with the more advanced students and such others as wish to, meet for papers and discussions upon topics representing the progress of chemical science, chiefly as found in the current journals. The preparation of subjects for presentation at these meetings may be made a part of the credit work of advanced students.

277. CHEMICAL LITERATURE. 1(1-0); I or II, when requested by a sufficient number. Prerequisite: Organic Chemistry II. Mr. Reed.

A course designed to train the student to make efficient use of chemical literature; and to give him the necessary procedure to follow in collecting available information in our library.

278. ELEMENTS OF CHEMICAL ENGINEERING I. 4(3-3); I. Prerequisites: Calculus II and Physical Chemistry I. Physical Chemistry may be taken concurrently. Dr. Faith.

Fundamentals of chemical engineering operations, with emphasis on flow of fluids and flow of heat; application of these principles to equipment design.

Laboratory.—Development of fundamental chemical engineering generalizations by experimental methods. Deposit, \$10.

279. ELEMENTS OF CHEMICAL ENGINEERING II. 4(3-3); II. Prerequisite: Elements of Chemical Engineering I. Dr. Faith.

A study of unit operations including filtration, evaporation, humidification and drying, absorption, distillation, and crystallization.

Laboratory.—Testing and operation of plant equipment. Deposit, \$10.

281. CHEMICAL ENGINEERING PRINCIPLES. 2(2-0); II. Prerequisites: Same as for Elements of Chemical Engineering II. Dr. Faith.

The principles of plant location, plant layout and design; the principles of organization and control of chemical plants, utilization of fuels and energy, and chemical engineering operation costs; laboratory research and technical development.

287. CORROSION. 3(3-0); I. Prerequisites: Organic Chemistry and Physical Chemistry or concurrent registration. Dr. Van Winkle.

The theories and various factors involved in the corrosion of iron, steel and nonferrous metals; methods of testing for and preventing corrosion.

290. BIOCHEMISTRY OF INTERNAL SECRETIONS. 2(2-0); I or II, when requested by a sufficient number. Prerequisite: Chemistry 231. Dr. Marlow.

The chemistry of the glands of internal secretions.

FOR GRADUATE CREDIT

301. RESEARCH IN CHEMISTRY. Credit to be arranged. Excellent opportunities are offered students to undertake the research work in chemistry. Such work is being constantly conducted in the laboratories of the department in connection with the Agricultural and Engineering Experiment Stations. The State Food Laboratory and the laboratories for analysis of feeds and fertilizers are also accessible to students desiring research along such lines. Much emphasis is placed upon research in the department, and all graduate students whose training is adequate are encouraged to participate. Students working out a thesis in the Department of Chemistry are assigned to this course. Work is offered in the following lines

Agricultural Chemistry. Dr. King and Dr. Perkins.

Industrial Chemistry and Chemical Engineering. Dr. Faith and Dr. Van Winkle.

Analytical Chemistry. Dr. Brubaker and Dr. Perkins.

Organic Chemistry. Dr. Colver, Dr. Barham, and Dr. Whitnah.

Biochemistry. Dr. Hughes, Dr. Whitnah, and Dr. Marlow.

General and Physical Chemistry. Dr. King, Dr. Hall, Dr. Keith, and Dr. Lash.

305. ANIMAL NUTRITION SEMINAR. 1(1-0); I and II. For prerequisites, consult instructor. Dr. Hughes, Dr. McCampbell, Dr. Lienhardt, Dr. Burt, Dr. Kramer, Mr. Payne, and Mr. Fitch.

Experiments in nutrition, the methods employed, and validity of conclusions drawn.

Economics and Sociology

Professor KAMMEYER
Associate Professor HILL
Associate Professor STEWART
Assistant Professor THOMPSON

Assistant Professor HOLTZ
Assistant Professor BEALS
Assistant Professor MURPHY

Some of the courses offered by this department are either required or elective in most of the curricula of the several divisions of the College. In the curriculum in commerce more than thirty-three per cent of the required courses are given by this department; and of the sixteen special electives recommended for students in this curriculum, eleven are courses offered by this department. This shows a wide distribution of courses among the curricula and a concentration of courses in the curriculum in commerce. While special emphasis is placed on the relation of these courses to commerce and industry, their cultural advantage is not neglected. Vocational training is essential and important to students in their preparation for occupational activity, but the state also needs men and women trained for citizenship. It is the purpose of this department to plan and direct its work with these ends in view.

The department has equipment valued at \$1,171.

CERTIFICATE OF CERTIFIED PUBLIC ACCOUNTANT

By act of the Kansas legislature passed March 24, 1915, provision is made for the examination for the certificate of Certified Public Accountant. Applicants must be citizens of the United States or must have declared their intention to become citizens. They must be at least twenty-one years of age; must have good moral character; must have a high-school education or the equivalent thereof; must have four years of experience and study in accountancy, at least three of which must have been in the office of a public accountant or on their own account; and must pass an examination in auditing, accounting, and business law given by the State Board of Examiners.

Examination questions are prepared and graded by the American Institute of Accountants and examinations are held in May and November of each year.

COURSES IN ECONOMICS

FOR UNDERGRADUATE CREDIT

101. **ECONOMICS I.** 3(3-0); I, II and SS. Not open to students who have credit in Agricultural Economics. Dr. Kammeyer, Mr. Stewart, Mr. Thompson, and Mr. Beals.

An introductory study of the fundamental facts, concepts, and principles pertaining to modern economic phenomena; a foundation course for all specialized studies in economics.

104. **ECONOMICS II.** 3(3-0); I, II, and SS. Prerequisite: Economics I or Ag. Econ. 101. Dr. Kammeyer, Mr. Stewart, Mr. Thompson, and Mr. Beals.

The most urgent contemporary economic problems in the light of generally accepted economic principles; critical examination of the problems and the various proposed remedies; the solutions which seem to offer the greatest promise of successful operation.

116. **MONEY AND BANKING.** 3(3-0); I, II, and SS. Prerequisite: Economics I. Dr. Kammeyer and Mr. Thompson.

The nature, history, and functions of money; its place as a factor in man's economic progress, and its importance as such in his business activities as organized today; banking in its historic forms; the federal reserve system, the federal farm-loan system, and state banks; savings banks, trust companies, building and loan associations, and other institutional forms of credit.

126. **BUSINESS MANAGEMENT.** 2(2-0); I, II, and SS. Prerequisite: Economics I, or may be taken concurrently. Dr. Kammeyer.

The business structure and executive functions—an analysis of management factors such as personnel, finance, accounting, production, and marketing. An elementary course covering the entire range of business endeavor.

FOR GRADUATE AND UNDERGRADUATE CREDIT

214. PUBLIC FINANCE. 3(3-0); I. Prerequisite: Economics I. Mr. Thompson.

The major facts and principles relative to public expenditures; public revenues, especially taxation; the administration of public funds; fiscal emergencies and public indebtedness; the budget and other means of control over expenditures and revenues. Not open to students taking Taxation and Land Ownership (Ag. Ec. 219).

217. BUSINESS FINANCE. 3(3-0); II. Prerequisites: Econ. 116 and 134 or 136. Mr. Thompson.

Those problems of business finance which actually arise from day to day in the average industrial concern, including both manufacturing and trading enterprises; the relationship of these financial problems to the problems of original construction, purchase, production, distribution, and consumption of goods; analysis of the most recent financial developments.

219. CORPORATION ORGANIZATION AND FINANCE. 2(2-0); I. Prerequisite: Economics I (Econ. 101). Open only to engineering students. Mr. Thompson.

The organization and classification of business enterprises, their financial structure, and internal management; the principal forms of corporate stocks and bonds, underwriting procedure, marketing securities, and other processes of financial management.

222. INVESTMENTS. 3(3-0); II and SS. Prerequisite: Money and Banking (Econ. 116). Mr. Stewart.

Financial types of investment securities; investment risks; effect of economic trends upon investment values; functions of investment banks; investment policies suitable for various investment classes.

223. CREDITS AND COLLECTIONS. 2(2-0); II. Prerequisite: Economics I (Econ. 101). Dr. Kammeyer and Mr. Thompson.

The fundamental principles of credits and collections with special attention given to mercantile credits, credit instruments, the sources of credit information, credit department organization and management, technical and legal aspect of collections, and credit and collection control.

229. TRANSPORTATION PROBLEMS. 2(2-0); II. Prerequisite: Economics I. Mr. Murphy.

A brief review of the development of transportation, followed by a study of the economic characteristics of the railroad industry, results of unrestrained competition in the industry, adoption of public regulation, and the legal and economic phases of regulation.

233. LABOR PROBLEMS. 2(2-0); I and II. Prerequisite: Economics I or Sociology. Dr. Holtz.

Present status and trends in industrial relations; the background in history and activities of labor organizations and employers' associations; legislation bearing upon industrial relations; new problems of personnel administration, coöperation, profit-sharing, industrial partnership, etc.

242. PROPERTY INSURANCE. 2(2-0); I, SS. Prerequisite: Economics I. Mr. Stewart.

Fire, marine, automobile, title, and credit insurance, and corporate bonding; also other forms of property insurance, such as burglary and theft, plate glass, steam boiler, windstorm and tornado, aviation, etc.

244. LIFE INSURANCE. 2(2-0); II, SS. Prerequisite: Economics I. Mr. Stewart.

Nature and uses of life insurance, kinds of policies, determination of premiums, reserves, surrender values, dividends, etc.; the organization and management of legal reserve companies, and important legal phases of life insurance.

246. MARKETING. 3(3-0); I and SS. Prerequisite: Economics I. Mr. Murphy.

Marketing functions, such as assembling and grading of products, storing, transportation, financing and risk taking, stimulation of demand, and merchandising; marketing agencies and methods by means of which products are moved from producer to consumer; basic marketing systems; retailing as carried on by department, specialty, and chain stores, and mail-order houses; marketing problems of the individual business; prices and price policies, sales planning and management, salesmanship, and advertising campaigns.

248. PROBLEMS IN ECONOMICS. Credit to be arranged. Prerequisites: Economics I and a two-hour course in advanced economics. Dr. Kammeyer.

251. ADVANCED ECONOMICS. 3(3-0); I and SS. Open only to seniors and graduates. Dr. Kammeyer or Mr. Thompson.

A critical study of fundamental economic principles and the writings of leading economists of the past and present. The course is designed for mature students in the field of economics.

FOR GRADUATE CREDIT

301. RESEARCH IN ECONOMICS. Credit to be arranged; I, II, and SS. Prerequisites: Such courses as the problem undertaken may require. Dr. Kammeyer and Mr. Thompson.

Graduate students who enroll in this course may elect for original investigation any acceptable problem in the general field of economics.

COURSES IN SOCIOLOGY

FOR UNDERGRADUATE CREDIT

151. SOCIOLOGY. 3(3-0); I, II, and SS. Dr. Hill.

The fundamental principles of social life as related to other scientific principles; their practical application to social action and organization; normal constructive social evolution emphasized; the processes of socialization, social forces, and social control, particularly in their relation to commercial, industrial, and professional leadership.

156. RURAL SOCIOLOGY. 3(3-0); I. Preferably a course in sociology should precede this. Dr. Hill.

The fundamental principles of the science of sociology applied to rural society; social phases of agricultural and economic movements; the relation of nation, state and county to socializing projects in rural society.

FOR GRADUATE AND UNDERGRADUATE CREDIT

257. SOCIAL PROBLEMS. 2(2-0); I, II, and SS. Prerequisite: Sociology. Dr. Hill.

The social phases of population movement, dealing with the problems of quantity and quality; charity and reform organization and technique; professional social work.

267. COMMUNITY ORGANIZATION. 3(3-0); II and SS. Prerequisite: Sociology. Dr. Hill.

A study, on a functional basis, of organizations working in the urban and rural fields; the principles involved and the technique of organization. The student has opportunity to choose for special study an organization or institution in which he hopes to have a position of leadership for his life work. Special assistance will be given in these special studies, which may afford the capable student valuable means of approach to future employment.

270. ADVANCED RURAL SOCIOLOGY. 3 credits. II. Prerequisite: Rural Sociology. Dr. Hill.

A continuation of Rural Sociology; a wide field of reading in the literature of rural life; original research work and a thesis required.

273. ADVANCED SOCIOLOGY. 3 credits. I. Prerequisite: Course 151 (Sociology). Dr. Hill.

A continuation of Sociology, with the view of examining critically the soci-

ological theories of recent writers, and of laying a foundation for a constructive theory of social life.

277. HISTORY OF SOCIAL THOUGHT. 3(3-0); I. Prerequisite: Sociology. Dr. Holtz.

The development of social thought from ancient civilization to the present—the social philosophies of Plato, Aristotle, St. Augustine, Thomas Aquinas, Machiavelli, Hobbes, Locke, Hume, Montesquieu, and Condorcet; and the sociological systems of Comte, Spencer, Gumplowicz, Ratzenhofer, Tarde, Ward, and others.

279. SOCIOLOGY SEMINAR. Credit to be arranged; I, II, and SS. Prerequisite: Sociology. Dr. Hill.

Selected literature and investigation of social problems.

FOR GRADUATE CREDIT

351. RESEARCH IN SOCIOLOGY. Credit to be arranged; I, II, and SS. Prerequisites: Such courses as the problem undertaken may require. Dr. Hill.

Graduate students who enroll in this course may elect for original investigation any acceptable problem in the field of sociology.

COURSES IN ACCOUNTING

FOR UNDERGRADUATE CREDIT

133, 134. ACCOUNTING I AND II. 3(2-3) each; I, II, and SS. Prerequisite: For 134, course 133. Mr. Beals and Mr. Murphy.

I: A study of the principles and structure of accounts designed to give power to analyze commercial accounts and statements; problems and practice sets used as an application of principles to practice.

II: Partnership and corporation accounting and problems peculiar to them; valuation of balance-sheet items with special references to depreciation, inventories, and intangibles; and several other topics.

136. PRINCIPLES OF ACCOUNTING. 3(3-0); II. Not open to students in commerce curricula. Mr. Beals and Mr. Murphy.

The principles of accounting with the major emphasis on the use of accounting records and statements, rather than on the procedure of record keeping. Designed for those who will elect only one course in accounting.

FOR GRADUATE AND UNDERGRADUATE CREDIT

280, 281. ADVANCED ACCOUNTING I AND II. 3(3-0) each; I, II, and SS. Prerequisite: For 280, course 134; for 281, course 280; or Cost Accounting, course 287. Mr. Beals.

I: Advanced course in accounting theory with special emphasis upon content and analysis of accounting statements and the preparation of special reports, such as statements of affairs, and realization and liquidation statements.

II: Special consideration of problems of valuation, consolidated statements for holding companies, and such special subjects as estate accounting, funds and related reserves, and foreign exchange.

282. INCOME-TAX ACCOUNTING. 2(2-0); II. Offered in 1935-'36 and alternate years thereafter. Prerequisite: Advanced Accounting I or Cost Accounting. Mr. Beals.

Preparation of federal income-tax returns, and a study of accounting problems arising in connection with them.

283. ACCOUNTING SYSTEMS. 2(2-0); II. Offered in 1936-'37 and alternate years thereafter. Prerequisite: Advanced Accounting I or Cost Accounting. Mr. Beals.

The construction and installation of accounting systems for commercial enterprises.

284. INSTITUTIONAL ACCOUNTING. 2(2-0); II. Mr. Stewart.

A study of accounting principles and their application to cafeteria, lunch and tea rooms, restaurants, dormitories, clubs, and other institutions.

285. AUDITING. 3(3-0); I. Prerequisite: Advanced Accounting I or Cost Accounting. Mr. Beals.

Auditing accounts of commercial enterprises; attention to balance sheet and detail audits with study of both principles and practice.

287. COST ACCOUNTING. 3(3-0); II and SS. Prerequisite: Course 134. Mr. Beals.

A study of cost accounting principles and the principal types of cost systems now in use; methods of estimating and charging production, administrative, and selling costs.

289. GOVERNMENTAL ACCOUNTING. 2(2-0); I. Prerequisite: Advanced Accounting I or Cost Accounting. Mr. Stewart.

Federal, state, and municipal accounts, and accounts for certain public institutions.

Education

Professor HOLTON
Professor PETERSON
Professor WILLIAMS
Professor STRICKLAND
Professor RUST
Professor DAVIDSON
Professor ALM

Assistant Professor HALL
Assistant Professor LANGFORD
Assistant Professor BAXTER
Instructor LYNESS
Instructor MOGGIE
Assistant QUIST

The courses in this department have been organized with the following objectives in view: (1) to meet the requirements of the Kansas State Board of Education in education and psychology for state certificates for teachers; (2) to give general information in the fields of psychology and public education; (3) to meet the requirements for a major in graduate work for the degree of Master of Science. The department has a well-equipped shop and laboratories for carrying on research in psychology and education. The equipment of this department is valued at \$5,308.

The State Board of Education has set up the following standards or their equivalents for the certification of teachers:

1. Three-year Certificates Renewable for life.

a. Complete four years of college work with degree.

b. At least eighteen hours of the four years' work must be taken in the Department of Education, as follows:

(1) Three hours in General Psychology, three in Educational Administration, three in Educational Psychology, and three in Teaching Participation in High School.

(2) Six hours elected from the following courses in the Department of Education: Rural Life and Education, Extra-curricular Activities, Educational Measurements, The Curriculum, Statistical Methods Applied to Education, Vocational Guidance, Educational Sociology, Vocational Education, History of Education, Psychology of Childhood and Adolescence, Abnormal Psychology, Mental Tests, The Technic of Mental Testing, Social Psychology, Psychology of Art, and Psychology of Exceptional Children.

c. Valid in any elementary or high school in Kansas.

2. Three-year Certificates Renewable for Three-year Periods.

a. Complete at least sixty hours of college work, including three hours in General Psychology, three in School Management, three in Methods of Teaching, and three in Teaching Participation in Grade Schools.

Not more than fifteen hours in any one department will be accepted on transcripts showing only sixty hours of credit, and not more than twenty hours credit presented from correspondence courses will be accepted.

b. Valid in any elementary school.

3. Certificates for Teachers of Vocational Agriculture.

a. Complete four years of college work with degree, including the following:

(1) Not less than fifty hours in technical or practical agriculture.

(2) Not less than twenty-one hours of science related to agriculture.

(3) Eighteen hours in the Department of Education: viz., three in General Psychology, three in Educational Administration, or in Principles of Secondary Education, three in Educational Psychology, three in Vocational Education, three in Methods in Agriculture, and three in Teaching Participation in Agriculture.

(4) Eighteen hours in mechanical lines related to farm-shop problems.

b. Valid for three years and may be renewed for life.

4. Certificate for Teachers of Vocational Home-making.

a. Complete four years of college work with degree, including the following:

(1) Thirty-four hours in technical home economics, as required in the curriculum in Home Economics, three in Child Welfare, and three in Practice Work in Household Management.

(2) Eighteen hours in the Department of Education: viz., three in General Psychology, three in Educational Administration or three in Principles of Secondary Education, three in Educational Psychology, three in Vocational Education, three in Methods in Home Economics, and three in Teaching Participation in Home Economics.

b. Valid for three years and may be renewed for life.

5. To comply with the regulations of the State Board of Education regarding teachers' certificates based on four years of college work, the student must complete at least twenty-four of the last thirty semester hours or fifty of the last sixty semester hours, in residence at the college granting the degree.

COURSES IN EDUCATION**FOR UNDERGRADUATE CREDIT**

107. SCHOOL MANAGEMENT. 3(3-0); I, II, and SS. Limited to freshmen and sophomores. Mr. Davidson.

A survey of classroom and school administration and management of pupils in groups; problems of discipline, school sanitation and hygiene and school health, and general classroom efficiency. The student is shown how to develop an efficient classroom routine and class program.

109. EDUCATIONAL PSYCHOLOGY. 3(3-0); I, II, and SS. Prerequisites: General Psychology and junior or senior standing. Mr. Moggie.

The native equipment of human beings, individual differences, the psychology of learning, motivation, and the psychology of the school subjects.

111. METHODS OF TEACHING. 3(3-0); I, II, and SS. Prerequisite: General Psychology. Open to freshmen and sophomores only. Mr. Moggie.

Problems of general method in classroom procedure in grades and junior high school. Required of candidates for three-year certificate renewable for three-year periods.

129. TEACHING PARTICIPATION IN GRADE SCHOOL. 1 to 4 hours. I, II, and SS. Prerequisites: General Psychology, Methods of Teaching, and School Management. Not open to students below sophomore standing. Dr. Strickland and Miss Hartman.

The work in this course is done in an elementary school of Manhattan. Appointment must be made at the time of registration for the semester during which it is done.

132. METHODS OF TEACHING HOME ECONOMICS. 3(3-0); I, II, and SS. Prerequisites: Foods I and II, Clothing I and II, and General Psychology. Mrs. Rust and Mrs. Baxter.

The principles of teaching applied to the selection and development of home-economics subject matter in lessons for all types of pupils, and to the conduct of laboratory and classroom exercises.

136. METHODS OF TEACHING AGRICULTURE. 3(3-0); I, II, and SS. Prerequisite: General Psychology. Mr. Davidson.

Training in planning lessons, organizing materials, and conducting class, laboratory, and field instructional work in vocational agriculture is the purpose of this course. The individual and class project are studied, as well as the problem of coördinating farm mechanics work.

160. TEACHING PARTICIPATION IN HOME ECONOMICS. 3 hours. I, II, and SS. Prerequisites: Foods I and II, and Clothing I and II. Prerequisite or parallel: Educ. 132. Mrs. Rust and Mrs. Baxter.

Supervised teaching carried on in the home economics classes of the Manhattan high school.

161. TEACHING PARTICIPATION IN AGRICULTURE. 3 hours. I and II. Prerequisites: Courses 109 and 136. Mr. Davidson.

Three weeks of observation and practice teaching in vocational agriculture classes in Manhattan high school and other high schools by arrangement; group study of classroom problems; lesson plans and presentation criticized by the College instructor and the vocational teacher in the practice department.

163. TEACHING PARTICIPATION IN HIGH SCHOOL. 1 to 4 hours. I, II, and SS. Prerequisites: Educational Psychology and senior standing. Dr. Strickland, Mr. Washburn, and Miss Saum.

Work is done in classes in the Manhattan high school, and special appointment must be made at the time of registration for the semester in which it is done. The work may be elected in biology, English, mathematics, modern languages, physical science, social science, art, physical education, and music.

FOR GRADUATE AND UNDERGRADUATE CREDIT

201. RURAL LIFE AND EDUCATION. 3(3-0); I, II, and SS. Prerequisite: Educational Administration. Mr. Davidson.

Historical and social study of rural life; institutions and organizations that have contributed to rural life development; evolution from the one-room rural school to the rural high school and consolidated schools; farmers' organizations and all forms of organized community life in the open country, in relation to the problems of public education.

202. EXTRACURRICULAR ACTIVITIES. 3(3-0); I, II, and SS. Prerequisite: Educational Administration. Mr. Moggie.

A careful survey of the extracurricular activities of the junior and senior high schools; determination of the educational objectives of these activities and the most effective methods and means employed in the accomplishment of the objectives.

206. PHILOSOPHY OF EDUCATION. 3(3-0); II and SS. Prerequisite: Educational Psychology. Dr. Holton.

A critical study of the controlling and unifying philosophy of the American public school system and its European background.

210. EDUCATIONAL ADMINISTRATION. 3(3-0); I, II, and SS. Prerequisites: For undergraduate credit, senior standing; for graduate credit, General Psychology and Educational Psychology. Dr. Strickland.

The organization of state, city, and county school systems; organization of school systems in Kansas, both rural and city; the school laws of Kansas.

212. EDUCATIONAL MEASUREMENTS. 3(3-0); I, II, and SS. Prerequisites: General Psychology and Educational Psychology. Dr. Strickland.

The scientific measurement of achievement as distinguished from intelligence testing.

219. **THE CURRICULUM.** 3(3-0); SS. Prerequisites: Six hours in education and junior standing. Dr. Holton.

The fundamental requirements of our modern life upon the schools; educational objectives in the light of these requirements; each subject in the curriculum examined for its minimum essentials both in the elementary school and in the high school.

220. **INTRODUCTION TO PHILOSOPHY.** 3(3-0). Prerequisite: Junior standing or better. Not offered in 1935-'36.

A study of the more important interpretations of experience and an examination of the bases of values in modern life.

223. **STATISTICAL METHODS APPLIED TO EDUCATION.** 3(3-0); I, II, and SS. Prerequisite: Junior standing. Not open to students who have credit in Math. 203. Mr. Moggie.

Organization of the data of educational and biological experience and research for statistical interpretation; graphical representation and interpretation; facility in the calculation of statistical constants; a general consideration of experimental and research methods.

230A. **VOCATIONAL GUIDANCE.** 3(3-0); I, II, and SS. Prerequisites: Educational Administration and General Psychology. Dr. Williams.

The best methods and practices now used in the field of pupil guidance in study of vocations and career planning; analysis of a number of the more desirable trades, professions, and business callings; guidance problems of the elementary, junior high school, senior high school and continuation schools.

232. **TEACHING SUBJECTS RELATED TO HOME ECONOMICS.** 1 to 3 hours; I, II, and SS. Prerequisites: General Psychology and Methods of Teaching Home Economics. Mrs. Rust.

Objectives and principles involved in teaching subjects related to home economics; planning of courses of study which are based upon the problem methods of teaching. (Designed for teachers of vocational home-making in the Smith-Hughes high-school courses.)

234. **METHODS IN ADULT HOME-MAKING CLASSES.** 1 to 3 hours; SS. Prerequisites: General Psychology and Methods of Teaching Home Economics, or their equivalent. Miss Lyness.

The principles of teaching applied to adult classes and a demonstration class in one or more phases of home making.

236. **PRINCIPLES OF SECONDARY EDUCATION.** 3(3-0); I, II, and SS. Prerequisites: General Psychology and junior or senior standing. Dr. Williams.

A brief historical study of secondary education following the origin and development of present-day principles in the field of secondary education; objectives of junior and senior high-school organization, administration, and supervision; curriculum and methods of organizing and conducting secondary education; field problems in junior and senior high school. A limited amount of field work is required.

239. **EDUCATIONAL SOCIOLOGY.** 3(3-0); I, II, and SS. Prerequisites: General Psychology and junior or senior standing. Dr. Holton.

The group activities of the school in relation to personality traits; psychology of personality; the school's responsibility in the development of socialized personality traits.

241. **VOCATIONAL EDUCATION.** 3(3-0); I, II, and SS. Prerequisites: Educational Administration or Principles of Secondary Education, and junior or senior standing. Dr. Williams.

A comparative study of the provisions for the different phases of vocational education in Kansas and other states and countries, and of the principles underlying such education, with emphasis upon the relation of vocational educa-

tion to the community, county, state, and nation, and the part to be played by each in its development. The aim is to fit the student to plan, teach, and administer or supervise vocational work, especially in high schools.

244. HISTORY OF EDUCATION. 3(3-0); I, II, and SS. Dr. Williams.

The history of education in the United States, with a consideration of the more important present-day problems in the organization, administration, and adjustment of public education in the light of historical development.

249. PROBLEMS IN EXTENSION EDUCATION. Credit to be arranged. Prerequisites: Econ. 151 or CS 3; Educ. 184 or CP 8, or EXT. 5. Dr. Gemmell and Dr. Fleenor.*

Problems in extension met by director, supervisor, county agricultural agent, county home demonstration agent, 4-H club leader, or specialist.

FOR GRADUATE CREDIT

306. ADVANCED EDUCATIONAL ADMINISTRATION. 3(3-0); SS. Prerequisite: Educ. 210 or its equivalent. Dr. Strickland.

The constitutional and legal basis of public-school administration, study of judicial decisions in order to discover the legal principles involved. Major topics: Creation of school districts; rules and authority of boards of education; control of school property; management of funds; liability of districts and district officers; taxation; employment and dismissal of teachers; rights and duties of parents and pupils; discipline and punishment; curriculum and textbooks. Intended primarily for school executives.

309. PROBLEMS IN EDUCATIONAL PSYCHOLOGY. Credit to be arranged; I, II, and SS. Prerequisites: General Psychology and Educational Psychology. Mr. Moggie.

A study of problems, recent experimentations, and applications of the principles of educational psychology.

311. PROBLEMS IN EDUCATIONAL MEASUREMENT. Credit to be arranged; I, II, and SS. Prerequisites: Educational Psychology and Educational Measurement. Dr. Strickland.

Problems in refining educational measurement and using its results.

312. PROBLEMS IN TEACHING METHODS. Credit to be arranged; I, II, and SS. Prerequisites: Educational Psychology and senior or graduate standing. Dr. Strickland.

Individual problems in development and definition of effective teaching procedure.

313. RESEARCH IN ORGANIZATION AND PRESENTATION OF HOME ECONOMICS. Credit to be arranged; I, II, and SS. Prerequisite: Graduate standing. Dr. Justin, dean of the Division of Home Economics, and Mrs. Rust.

Individual research problems in phases of organization and administration for home economics. May be chosen as the basis for thesis for the master's degree. The nature of the problem will depend upon the student's major interest.

314. PROBLEMS IN ORGANIZATION AND PRESENTATION OF HOME ECONOMICS. Credit to be arranged; I, II, and SS. Prerequisite: Senior or graduate standing. Dr. Justin, dean of the Division of Home Economics, and Mrs. Rust.

This course permits opportunity for study of problems of organization and administration in this field.

315. SUPERVISION IN HOME ECONOMICS. 2(2-0); II and SS, by appointment. Prerequisites: General Psychology, Methods of Teaching Home Economics, and experience in teaching home economics. Mrs. Rust.

Problems met by a supervisor or director of home economics in the public schools; standardization of work; relation of supervisor to teacher; modernization of plant and equipment; course of study, etc.

* From the staff of the Department of Home-study Service.

317. PROBLEMS IN EDUCATIONAL ADMINISTRATION. Credit to be arranged; I, II, and SS. Prerequisites: Educational Administration and one year of teaching experience. Dr. Strickland.

Two types of problems are considered: (1) The income of the public schools; taxation inequalities and equalization devices; the state and federal unit; possible solutions of revenue problems; (2) The administration of the teaching staff, including training, certification, recruiting, placement, promotion, training in service, tenure, rating, teaching load, salary schedules, professional ethics, legal and social status, professional organizations, health and leisure, retirement and the organization of the teaching staff. The course is primarily for school executives.

322. PROBLEMS IN STATISTICAL METHODS APPLIED TO EDUCATION. Credit to be arranged; I, II, and SS. Prerequisites: Course 223 or equivalent, 8 hours of college mathematics, and full graduate standing. Mr. Moggie.

The solution of some statistical problem in research or thesis preparation; the theory of statistics from a more advanced point of view; regression curves and various methods of correlation; the literature of statistics.

325. RESEARCH IN EDUCATION. Credit to be arranged; I and II. Members of Graduate Faculty.

Individual research problems in the general field of education and in the fields of psychology—mental testing, administration, and vocational education.

330. AGRICULTURAL EDUCATION B. 3(3-0); I or II. Dr. Williams

A research survey course in the field of agricultural education required of all candidates for the degree of Master of Science whose major work in the Department of Education is in the field of agricultural education.

333. PROBLEMS IN EDUCATIONAL SOCIOLOGY. Credit to be arranged; I, II, and SS. Prerequisites: General Psychology, Educational Psychology, and graduate standing. Dr. Holton.

Research problems in the social organization of the school and the social inheritance of school populations, with special reference to the development of desirable personality traits.

337. PROBLEMS IN VOCATIONAL EDUCATION. Credit to be arranged; I, II, and SS. Prerequisites: Vocational Education, and Educational Administration or Principles of Secondary Education. Dr. Williams.

The solution of some vocational education problem in research or in thesis preparation. Problems in administration, supervision, or curriculum building in the varied vocational fields to meet community needs.

COURSES IN PSYCHOLOGY

FOR UNDERGRADUATE CREDIT

184. GENERAL PSYCHOLOGY. 3(3-0); I, II, and SS. Dr. Peterson, Dr. Alm, and Mr. Langford.

An introduction to the fundamental facts and principles of general psychology. The physiological and neural basis of behavior; innate and acquired tendencies to reaction; the nature of the learning process, and the methods and conditions which favor rapid and effective learning; individual differences as related to vocational and personal efficiency.

188. ANIMAL PSYCHOLOGY. 3(3-0); I. Not to be substituted for General Psychology. Dr. Alm.

Animal behavior from the standpoint of sensory capacities, perception, adaptive behavior, learning, insight and higher functions. A comprehensive survey of psychological apparatus and the better experimental contributions to animal psychology.

FOR GRADUATE AND UNDERGRADUATE CREDIT

250. THE PSYCHOLOGY OF CHILDHOOD AND ADOLESCENCE. 3(3-0); I, II, and SS. Prerequisite: General Psychology. Dr. Alm.

A genetic study of the developing child, with applications valuable to parents and teachers. The course is conducted in two sections: Section A,

with emphasis on the psychology of childhood; and section B, with emphasis on the psychology of adolescence.

254. ABNORMAL PSYCHOLOGY. 3(3-0); II. Prerequisite: General Psychology. Dr. Alm.

Such manifestations of faulty integration of bodily activities and mental functions as are found in hysteria, dreams, hypnotism, trances, multiple personality, etc.; certain questionable concepts of abnormal psychology in current literature; prevalent practices in dealing with mental disorders.

257. ADVANCED GENERAL PSYCHOLOGY. 3(3-0); II. Prerequisite: General Psychology. Mr. Langford.

Fundamental problems, methods, and interpretations of general psychology.

259. EXPERIMENTAL PSYCHOLOGY. 3(3-0); I or II. Prerequisite: General Psychology. Dr. Peterson.

A few representative experiments in animal and sensorimotor learning, as an introduction to the types of problems encountered and to the basis methods of procedure essential to the analysis of the thought processes; a survey of the experimental literature on the higher mental processes, with special attention to the more objective studies in the experimental analyses of the thought processes.

260. MENTAL TESTS. 3(3-0); I. Prerequisite: General Psychology. Dr. Peterson.

Current mental tests involving the selection of the best tests for particular purposes at various age and school levels; approved methods of conducting and scoring tests and of utilizing test results.

261. THE TECHNIC OF MENTAL TESTING. 3(1-6); I or II. Prerequisite or parallels: Courses 223 and 260. Dr. Peterson.

Methods of giving and scoring the Stanford Revision of the Binet Scale, with practice under the observation of the instructor until sufficient reliability is secured; the principal standard group tests of intelligence and special abilities analyzed and finally given and scored under observation; choice of tests for specific purposes; tabulation and interpretation of scores.

265. PSYCHOLOGY OF ADVERTISING AND SELLING. 3(3-0); II. Prerequisite: General Psychology. Dr. Peterson.

Psychological factors underlying effective selling and advertising, including a survey of experimental results and of present advertising and selling practices in the light of the principles of psychology.

266. PSYCHOLOGY OF EXCEPTIONAL CHILDREN. 3(3-0); I and SS. Prerequisite: General Psychology. Dr. Alm.

Mental giftedness, mental subnormality, speech disorder, handedness, psychoneurotic and psychopathic personality trends and delinquency in children, with emphasis on causes, diagnostic tests, and behavioral adjustments.

270. SOCIAL PSYCHOLOGY. 3(3-0); II. Prerequisite: General Psychology. Mr. Langford.

The individual as a member of the group, including results of experiments upon and observations of the individual in the group situation.

273. PSYCHOLOGY AND PERSONNEL MANAGEMENT. 3(3-0); I. Prerequisite: General Psychology.

Scientific principles and procedures involved in employment; promotion, motivation of work, measurement and reward of achievements, etc.

276. PSYCHOLOGY OF ART. 3(3-0); I, II, and SS. Prerequisite: General Psychology. Mr. Langford.

Brief introduction to the philosophy of art; interpretation of psychological principles used in production and appreciation of art; review of experimental aesthetics in pictorial art and music, with special emphasis on the former.

FOR GRADUATE CREDIT

370. PROBLEMS IN PSYCHOLOGY. Credit to be arranged; I, II, and SS, by appointment. Prerequisite: Consult instructor. Dr. Peterson, Dr. Alm, and Mr. Langford.

Each student studies an individual problem appropriate to his degree of advancement in the field of psychology. A written report is required. The amount of credit depends upon the work done. Enrollment by recommendation of the instructor not later than mid-semester.

373. PSYCHOLOGY OF TEACHING AND LEARNING. 3(3-0); I or II. Prerequisite: General Psychology. Dr. Peterson.

An analysis of the various forms of learning and of the conditions favorable to the rapid development and effective functioning of knowledge, skills, attitudes, and purposes.

376. RESEARCH IN PSYCHOLOGY. Credit to be arranged; I, II, and SS. Members of graduate faculty.

Individual research problems in the field of psychology.

COURSES FOR FOUR-WEEK SUMMER SCHOOL

FOR GRADUATE AND UNDERGRADUATE CREDIT

283. ADMINISTRATION AND SUPERVISION OF SECONDARY SCHOOLS. 2(10-0); four-week SS. Prerequisites: Educ. 109, 184, and 210. Dr. Williams.

Problems of organization, administration, and supervision covering the complete program of an administrative head of a school system in a small city. (Designed for principals of rural high schools, and superintendents of small city systems.)

285. THE PROJECT METHOD IN AGRICULTURAL EDUCATION. 2(10-0); four-week SS. Prerequisites: Educ. 136 and 161. Mr. Davidson or Mr. Hall.

The project as a teaching device, with intensive treatment of project values, project analysis, project accounting, project supervision, project types, project results, project records, project reports, etc. The course is conducted on the problem basis.

287. ORGANIZATION AND CONDUCT OF CLASS PROJECTS. 2(10-0); four-week SS. Prerequisites: Educ. 236 and 241. Mr. Davidson or Mr. Hall.

Fundamentals and principles on which productive class projects should be organized. Research and field work in class project study will be undertaken.

289. ADMINISTRATION AND SUPERVISION OF VOCATIONAL EDUCATION. 2(10-0); four-week SS. Prerequisites: Educ. 109, 184, and 210. Dr. Williams.

Objectives, curriculum organization and content, administrative and supervisory problems from the viewpoint of the city superintendent—leadership needs which must be met in a school system offering vocational education. The problem basis of treatment is used.

291. COMMUNITY PROBLEMS IN VOCATIONAL AGRICULTURE. 2(10-0); four-week SS. Dr. Williams or Mr. Davidson.

Methods, organization, and conduct of club work, junior project work, class projects, and community projects in general—a course conducted on the problem basis and designed specifically for teachers, supervisors, and directors of agricultural work.

293. PROBLEMS IN EVENING SCHOOL CLASSES. 2(10-0); four-week SS. Open to college graduates who have taught one year of vocational agriculture. Mr. Davidson or Mr. Hall.

Problems of organization, curriculum, and methods of teaching evening schools and classes sponsored by the national vocational education act. Designed for teachers in service.

295. ORGANIZATION PROBLEMS IN TEACHING FARM MECHANICS. 2(10-0); four-week SS. Prerequisites: Educ. 136 and 161. Mr. Davidson or Mr. Hall.

An analysis of the farm mechanics' course of study; needs and interests of boys, learning difficulties, skills and technical knowledge required. Correlation with agriculture. Application of laws of learning to the teaching process. Determining objectives.

English

Professor DAVIS
 Professor CONOVER
 Professor ROCKEY
 Professor MATTHEWS
 Professor RICE
 Professor FAULKNER
 Associate Professor STURMER

Associate Professor ELCOCK
 Associate Professor BREEDEN
 Associate Professor CALLAHAN
 Assistant Professor GARVEY
 Assistant Professor PARKER
 Instructor ABERLE
 Instructor SCOTT

Ability to think accurately and speak well, and capacity to appreciate the world's best literature are recognized essentials of a liberal education. The work of the Department of English is to acquaint the student with the best standards of English practice and appreciation and to encourage him to maintain these standards in all his work. To this end the department offers studies in cultural and technical English and special drills in expressing thought freely and effectively in matters touching the vital interests of the student. The study of the English language and literature is thus made the means of increasing his power and efficiency.

The equipment owned by the department is valued at \$2,119.

COURSES IN ENGLISH LANGUAGE

FOR UNDERGRADUATE CREDIT

101. COLLEGE RHETORIC I. 3(3-0); I, II, and SS. Prerequisites: Three units of high-school English. Mr. Davis, Mr. Conover, Mr. Rockey, Mr. Matthews, Miss Rice, Mr. Faulkner, Miss Sturmer, Miss Elcock, Mr. Breeden, Mr. Callahan, Miss Garvey, Mrs. Parker, Miss Aberle, and Miss Scott.

The improvement of students' written and spoken English by reviewing the principles of correct and effective diction, grammar, and sentence structure; by discussing models of good contemporary writing; by studying and practicing various types of paragraph; and by writing expository themes with guidance in selecting material, planning, writing, and revision.

104. COLLEGE RHETORIC II. 3(3-0); I, II, and SS. Prerequisite: Course 101. Mr. Davis, Mr. Conover, Mr. Rockey, Mr. Matthews, Miss Rice, Mr. Faulkner, Miss Sturmer, Miss Elcock, Mr. Breeden, Mr. Callahan, Miss Garvey, Mrs. Parker, Miss Aberle, and Miss Scott.

The principles of argument, description, and narration, illustrated by standard and contemporary literature, and applied in frequent themes; correct form, structure, and diction of some common business letters; organization and writing of one extended composition.

110. ENGINEERING ENGLISH. 2(2-0); I and II. Prerequisites: College Rhetoric II and junior standing. Mr. Rockey, Mr. Matthews, and Mr. Faulkner.

The general problems of engineering writing: technical descriptions, and the exposition of ideas, mechanisms, and processes; the preparation of engineering talks, business letters, technical manuscripts, and reports. A brief review of composition essentials is included.

122. COMMERCIAL CORRESPONDENCE. 3(3-0); I, II, and SS. Prerequisite: College Rhetoric II. Mr. Davis, Mr. Faulkner, and Mr. Callahan.

A thorough review of the routine types of business correspondence; the writing of adjustment, credit, collection, and sales letters; the principles of effective writing as seen in the best writing in the commercial world.

123. WRITTEN AND ORAL SALESMANSHIP. 3(3-0); I and II. Prerequisite: College Rhetoric II. Mr. Faulkner.

Special attention to the writing of follow-up systems of sales letters and to the composition and display of circular material and catalogues; the basic principles of advertising and the psychology of selling; special practice in the various forms of sales talks; arrangement made for actual sales practice with commercial concerns.

125. BUSINESS ENGLISH AND SALESMANSHIP. 3(3-0); II. Prerequisite: College Rhetoric II. Mr. Callahan.

The basic principles of business letter writing and salesmanship as they apply in the field of engineering, with practice in writing of different kinds of business letters and the preparation of sales material, both oral and written.

137. AGRICULTURAL ENGLISH. 3(3-0); I. Prerequisite: College Rhetoric II. Mr. Davis, Mr. Conover, Mr. Matthews, and Mr. Faulkner.

A brief review of the composition essentials, business correspondence, bulletin writing, the organization of short business talks, the principles of farm advertising; and writing the problems that confront the county agent, the high-school teacher of agriculture, and the farm manager.

140. LITERATURE FROM THE READERS. 3(3-0); SS. Miss Aberle, and Mrs. Parker.

Reading considered both as a fundamental means of acquiring knowledge and as a stepping stone to the appreciation of literature. (Planned to meet the needs of teachers of rural and graded schools.)

143. ADVANCED GRAMMAR. 3(3-0); II and SS. Miss Aberle and Mrs. Parker.

A systematic study of grammar with emphasis on English etymology, inflections, syntax, and modern usage in both England and America. Those details of grammar closely related to the use of English as a tool are stressed.

FOR GRADUATE AND UNDERGRADUATE CREDIT

207. TECHNICAL WRITING. 2(2-0); II. Prerequisite: One of the following courses: 113, 116, 122. Mr. Davis, Mr. Conover, Mr. Matthews, and Mr. Faulkner.

Fundamental principles of technical and scientific writing, with such practice as will necessitate clearness, accuracy, and effectiveness.

219. ADVANCED COMPOSITION I. 3(3-0); I. Prerequisite: English 104. Mr. Davis, Mr. Conover, and Mr. Matthews.

Special emphasis given to exposition; subjects selected from the student's particular field of work; exposition of mechanisms, processes, and general expository writing carefully studied. For graduate students especial practice is given in thesis organization and style.

220. ADVANCED COMPOSITION II. 3(3-0); II. Prerequisite: English 104. Mr. Davis, Mr. Conover, and Mr. Matthews.

Narrative writing both in its relation to the other forms of composition and as an independent form; practical forms of the narrative; special attention to the short story. Direction and criticism of thesis work is offered to graduate students.

223. ADVANCED PROBLEMS IN COMMERCIAL CORRESPONDENCE. 3(3-0); II. Prerequisite: Commercial Correspondence. Mr. Faulkner.

Problems in special types of business letters; writing of adjustment, credit, and collection letters; specialized study and writing of sales and business promotion letters; composition of form paragraphs, circular letters, and business reports; correspondence supervision.

228, 230. THE SHORT STORY I and II. 3(3-0) each; I and II, respectively. Prerequisites: For I, English Literature; for II, The Short Story I. Miss Rice.

I: The world's best short stories; practice in writing sketches and short stories; special emphasis on the elements of the story—plot, setting, action, and characterization.

II: Special stress on the preparation of the short story for publication; the short story in America, with special attention to types, characteristics, and tendencies; standards set by the leading magazines; market problems.

232. ORAL ENGLISH. 3(3-0); I, II, and SS. Prerequisite: English 104. Mr. Rockey and Mr. Matthews.

The principles of oral composition as applied to conversation and informal discussions; the correction of errors in grammar, pronunciation, and idiom in everyday speech; a brief history of English sounds. Subjects selected from the field of science, politics, painting, music, and literature. Special investigations in phonology for graduate students.

COURSES IN ENGLISH LITERATURE

FOR UNDERGRADUATE CREDIT

172. ENGLISH LITERATURE. 3(3-0); I, II, and SS. Prerequisite: College Rhetoric II. Mr. Davis, Mr. Conover, Mr. Rockey, Mr. Matthews, Miss Rice, Mr. Faulkner, Miss Sturmer, Miss Elcock, Mr. Breeden, Mr. Callahan, Miss Garvey, Mrs. Parker, Miss Aberle, and Miss Scott.

The application of principles of literary appreciation to representative texts in narrative, lyric, and dramatic poetry, and to examples of the essay and the novel.

175. AMERICAN LITERATURE. 3(3-0); I, II, and SS. Prerequisite: English Literature. Mr. Davis, Mr. Conover, Mr. Rockey, Mr. Matthews, Miss Rice, Mr. Faulkner, Miss Sturmer, Miss Elcock, Mr. Breeden, Mr. Callahan, Miss Garvey, Mrs. Parker, Miss Aberle, and Miss Scott.

A study of American prose and poetry, the purpose being to acquaint the student with representative American writers by intensive study of illustrative selections, and to present the historical background and the tendencies of American literature.

181. HISTORY OF ENGLISH LITERATURE. 3(3-0); I, II, and SS. Prerequisite: English Literature. Mr. Davis, Mr. Conover, Mr. Rockey, Mr. Matthews, Miss Rice, Mr. Faulkner, Miss Sturmer, Miss Elcock, and Miss Aberle.

A study in the history of English literature, the object being to give the student a prospective of the field of English letters, and to study the works of authors in relation to their own periods.

FOR GRADUATE AND UNDERGRADUATE CREDIT

255. CULTURAL READINGS. 3(3-0); I and II. Not open to students having credit in English 172, 175, or 181. Prerequisite: College Rhetoric II. Mr. Conover, Mr. Davis, and Mr. Matthews.

A reading course in English and American literature, designed for students in agriculture, engineering, and other technical curricula. Lectures on literature of general cultural value, and reports on assigned readings of especial interest to the technically trained man.

260. CHAUCER. 3(3-0); I. Prerequisite: English Literature. Miss Elcock.

The life, times, works, and characteristic language of Chaucer, with the emphasis upon the study of his principal works.

262. MILTON AND THE PURITAN REVOLT. 3(3-0); II. Prerequisite: English Literature. Miss Elcock.

The life and times of Milton and his chief works; the conflict in the seventeenth century between the reverence for authority in government, religion, and literature, and the growing spirit of intellectual inquiry.

265. AMERICAN SURVEY. 2(2-0); II. Prerequisites: Courses 172 and 175. Mr. Davis and Mr. Breeden.

An advanced study in the history of American literature beginning with colonial literature and continuing through the period of the Civil War down to the present time.

268. THE LITERATURE OF THE MIDDLE WEST. 3(3-0); I. Prerequisite: English Literature. Mr. Callahan.

A study of the literature produced in that section of America known as the Middle West, particularly Kansas and the surrounding territory; its backgrounds, authors, and literature since the close of the Civil War.

271. THE ENGLISH BIBLE. 3(3-0); I, II, and SS. Prerequisite: English Literature. Mr. Conover.

The Bible as literature, with special stress on the narratives of the Old Testament, poetry, wisdom literature, and the book of Job.

273, 274. SHAKESPEAREAN DRAMA I AND II. 3(3-0) each; I and II, respectively. Prerequisite for each: English Literature. Mr. Davis and Miss Sturmer.

I: The life and times of Shakespeare and the background of Shakespearean tragedy; intensive study of five of Shakespeare's tragedies: *Macbeth* or *Othello*, *Hamlet*, *King Lear*, *Coriolanus*, and *Romeo and Juliet*.

II: An intensive study of five of Shakespeare's comedies: *The Winter's Tale*, *As You Like It*, *Twelfth Night*, *Cymbeline*, and *The Tempest*; collateral readings of earlier comedy, Shakespearean comedy, that of his contemporaries, and present-day criticism of Shakespeare.

276. ENGLISH ESSAYISTS OF THE EIGHTEENTH AND NINETEENTH CENTURIES. 3(3-0); II. Prerequisite: English Literature. Mr. Davis and Mr. Conover.

Two periods of especially notable English prose. Among the authors discussed are Swift, Addison, Steele, Johnson, Burke, Lamb, Hazlitt, DeQuincey, Wilson, Newman, Ruskin, Spencer, Huxley, Pater, and Wilde.

278. WORDSWORTH, SHELLEY, AND KEATS. 3(3-0); I. Prerequisite: English Literature. Mr. Rockey.

A study of the chief works of Wordsworth, Shelly, Keats, Coleridge, and Byron, with some consideration of the period as a revival of romanticism.

280, 281. WORLD CLASSICS I AND II. 3(3-0) each; I and II, respectively. Prerequisite for each: English Literature. Mr. Faulkner.

I: The literary masterpieces (in translation) of early times, particular attention being paid to Greek and Latin classics.

II: The literary masterpieces (in translation) of Western Europe, with particular attention to the works of Italian, Spanish, French, and German writings that have attained lasting world fame.

283. CONTEMPORARY FICTION. 3(3-0); I and SS. Prerequisite: English Literature. Mr. Conover.

The more important British and American fiction since Hardy.

284. CONTEMPORARY DRAMA. 3(3-0); II. Prerequisite: English Literature. Mr. Conover.

Development of the drama since Ibsen; types of modern drama; works of important English, Irish, and American dramatists.

286, 287. THE NOVEL I AND II. 3(3-0) each; I and II, respectively. Prerequisite: English Literature. Mr. Breeden.

I: The English novel, its historical development, its relation to other forms of fiction, and its place in contemporary literature; especial attention to representative works of modern English and American writers.

II: Continuation of the Novel I. Review of essentials in study of the novel; readings of representative modern novels continued; class reports.

288, 290. ENGLISH SURVEY I AND II. 2(2-0) each; I and II, respectively. Prerequisite: English Literature. Mr. Davis, Mr. Conover, and Mr. Matthews.

I: An advanced study in the history of English literature from Anglo-Saxon times down to the close of the Elizabethan period.

II: The rise of Puritanism and its influence on English literature; the classical movement emphasized; romanticism and its development.

293. BROWNING AND TENNYSON. 3(3-0); II. Prerequisite: English Literature. Mr. Rockey.

Interpretation of the most important poetic and dramatic works of Alfred Tennyson and of Robert Browning.

297. CONTEMPORARY POETRY. 3(3-0); II and SS. Prerequisite: English Literature. Mr. Davis and Mr. Conover.

FOR GRADUATE CREDIT

Classes in courses listed under the graduate group are organized whenever the demand for them is sufficient. When the demand does not justify the organization of a class, the work may be arranged for by appointment. Special arrangements for work should be made with the head of the department.

301, 302. HISTORY OF THE ENGLISH LANGUAGE I AND II. 2(2-0) each; I and

II, respectively. Prerequisite: History of English Literature. Mr. Conover and Miss Sturmer.

I: The origin and development of the English language, with special stress on Old English.

II: A continuation of course 301, with special emphasis on Middle English and Modern English.

304. RESEARCH IN APPLIED ENGLISH. Credit to be arranged; II. Prerequisite: English 181. Mr. Davis.

Individual assignments in fundamental fields of research in applied English, an original investigation, and an acceptable report thereon being required.

305. RESEARCH IN ENGLISH. Credit to be arranged; I, II, and SS. Prerequisites: Consult head of department and instructors concerned.

Advanced students with acceptable fundamental training may, with the approval of the head of the department, undertake original investigation in some definitely prescribed field of English literature or applied English. Such work must be pursued under the direct supervision of some member of the faculty of the department, and the final results may be used to fulfill the thesis requirements for the master's degree. Students doing research in English will be required to give evidence of approved training in the subject and to have a broad general knowledge of English literature.

315. RESEARCH IN THE LITERATURE OF INDUSTRY. Credit to be arranged; I. Prerequisite: English 181. Mr. Davis and Mr. Conover.

This is an investigation and research course based on a careful study of the development of the distinctive literature of industry.

Entomology

Professor DEAN
Professor SMITH
Professor PARKER

Associate Professor PAINTER
Assistant Professor BRYSON
Assistant Professor WILBUR

In all courses a special effort is made to make the student realize that he is studying living things which form a part of his daily environment, and upon which his welfare in many cases vitally depends. In courses in which both class and laboratory instruction is given, the closest correlation is striven for, and whenever possible the same form is studied simultaneously in laboratory and class. The student is led to integrate his classroom knowledge with local animal life by means of frequent and carefully planned field excursions and by the free use of vivaria in laboratory and museum. The courses offered are intended to awaken in the student a keen appreciation of the general principles underlying insect life, of the life economy of the more beneficial as well as the more injurious species, and of the general principles governing methods for their control.

Standard anatomical charts, a representative collection (especially of local species), a high-grade lantern for the projection of lantern and microscope slides, a large and excellent series of lantern slides (many of them colored), and a series of microscope slides are available for illustration. Compound and dissecting microscopes sufficient for the needs of laboratory classes have been provided.

Facilities for advanced work are provided for graduate students and others who expect to pursue the subject professionally. An advanced laboratory is equipped with individual desks, binocular microscopes, compound microscopes, rotary microtome, imbedding ovens, drawing apparatus, and a supply of glassware and reagents, sufficient for histological work and for research. Three well equipped insectaries are available for training in insectary methods. The department has a well-classified library containing the frequently used books and bulletins in the various courses. Two acres of experimental plots and field stations with all the necessary equipment provide means for the study of insects under normal field conditions. The department owns equipment valued at \$31,924.

COURSES IN ENTOMOLOGY

FOR UNDERGRADUATE CREDIT

101. GENERAL ENTOMOLOGY. 3(3-0) or 4(3-3); I and II. Dr. Smith.

A popular, general course dealing with insects and related arthropods in their varied relations to plants and animals, including man. The subject matter is given a biological emphasis and is particularly selected to fill a place in the general cultural education of all classes of students and of prospective teachers and writers in the field of biology who will, in most cases, take only this one course in entomology.

Students expecting to use this course as a prerequisite to other courses in entomology should register also for the laboratory, which is the same as for course 203. General Zoölogy is a prerequisite for all other courses in entomology, except Milling Entomology. Charge, when the laboratory is elected, \$1.

116. MILLING ENTOMOLOGY. 1(1-0); I. Offered in 1934-'35 and alternate years thereafter. Mr. Dean.

Insect pests of flour mills, elevators, granaries, warehouses, and bakeries and standard methods of dealing with them; inspection trips to flour mills and warehouses.

FOR GRADUATE AND UNDERGRADUATE CREDIT

201. HORTICULTURAL ENTOMOLOGY. 2(2-0); I. Prerequisite: General Economic Entomology, or General Entomology with the laboratory and General Zoölogy. Dr. Parker.

The most important insect pests of orchard, garden, and forest, and standard methods of controlling their ravages.

203. GENERAL ECONOMIC ENTOMOLOGY. 3(2-3); I and II. Prerequisite: General Zoölogy. Mr. Dean and Mr. Bryson.

The elementary anatomy and physiology of insects, complete enough to give a thorough understanding of the life history and habits of the most important species and the general principles upon which the control of these economic forms is based; the more important general facts about insects as a class; main characters of the different orders and groups; how they survive and multiply; and why measures of control differ for different groups. Charge, \$1.

206. STAPLE CROP ENTOMOLOGY. 3(2-3); II. Prerequisite: General Economic Entomology, or General Entomology with the laboratory and General Zoölogy. Mr. Dean and Mr. Wilbur.

The life history of the more important economic insects of field crops, methods to be used in dealing with them, and the literature of economic entomology.

Laboratory.—Practical problems in insect surveys, control, rearing, collecting, and life histories, in the course of which the student gains a first-hand acquaintance with the more important injurious insects at home in nature. Charge, 50 cents.

208. GENERAL APICULTURE. 3(2-3); I and II. Prerequisite: General Economic Entomology. Dr. Parker.

A general study of the structure, life history, general behavior, activities, and products of the honeybee; practice beekeeping and best methods used among beekeepers; bee diseases and the standard methods to be used in their eradication and control; relation of bees to agriculture and horticulture. Charge, \$1.

211. EXTERNAL INSECT MORPHOLOGY. 3(1-6); I. Prerequisite: General Economic Entomology. Mr. Wilbur.

The external anatomy of representative insects belonging to a number of orders, the types studied being selected to represent the essentials of the structure of the exoskeleton and to afford a basis for the courses in taxonomy and for professional studies in hexapod morphology. Charge, \$1.50.

212. INTERNAL INSECT MORPHOLOGY. 3(0-9); II. Prerequisite: Course 211. Dr. Painter.

The internal anatomy of representative insects, the dissections of which present the general plan and structure of the internal systems; one conference each week, with assigned readings in selected texts and papers. Charge, \$1.

216. PRINCIPLES OF TAXONOMY. 1(1-0); II. Prerequisites: (1) For students taking course 217, courses 203 and 211; (2) for students taking General Zoölogy, this course must be taken with course 217 or with one of the taxonomic courses in Zoölogy. Dr. Painter.

Fundamental principles of zoölogical taxonomy. In detail: Systems of classification; terminology of taxonomic groups; criteria of species and genera; binomial nomenclature, pre-Linnæan and modern nomenclature; international code of zoölogical nomenclature, and other codes; laws of priority; professional ethics and modern tendencies in taxonomy.

217. TAXONOMY OF INSECTS I. 2(0-6); II. Prerequisites: General Economic Entomology and External Insect Morphology; Principles of Taxonomy must be taken with the course. Dr. Painter.

Practice in the determination of insects, at least of all the major orders to genera, sometimes species; an acquaintance with the most useful taxonomic literature in each group and the use of catalogues. Charge, \$1.

218. TAXONOMY OF INSECTS II. 3(0-9); II. Prerequisite: Taxonomy of Insects I. Dr. Painter or other specialist.

A group is selected, and intensive study of the insects and literature of the group is made so that the student may become proficient in their determination. Charge, \$1.

221. ADVANCED GENERAL ENTOMOLOGY. 3(3-0); II. Prerequisite: General Economic Entomology, or General Entomology with the laboratory and General Zoölogy. Mr. Wilbur.

A comprehensive view of the broad biological aspects of the subject and an understanding of the relation of insects to the complex of environmental factors; the various subdivisions of entomology correlated and used as a basis in the presentation of general principles as well as illustrating the problems of maintenance and the various ways in which insects have solved them.

226. MEDICAL ENTOMOLOGY. 3(2-3); I. Prerequisites: General Economic Entomology or General Entomology with the laboratory and General Zoölogy. Dr. Smith.

Insects and other arthropods as parasites and disseminators of diseases of man and domestic animals; the life cycles, biology and control of insect parasites.

Laboratory.—A detailed study in order to recognize the various stages of the insect parasites of man and domestic animals; a study of the organisms of insect-borne diseases; house fumigation and observation of local sanitation problems bearing on the subject. Charge, \$1.

229. ADVANCED APICULTURE. 3(2-3); I and II. Prerequisite: General Apiculture. Dr. Parker.

A continuation of General Apiculture. The principles of bee behavior in relation to the production of a honey crop and good beekeeping practices; swarm-control methods and increase; queen rearing; preparation for wintering, feeding for winter, and winter protection; merits and demerits of different systems of wintering; extracting honey, preparing it for market, marketing and other advanced subjects. Charge, \$1.

231. ENTOMOLOGICAL AND ZOÖLOGICAL LITERATURE. 2(2-0); I. Prerequisite: Introductory courses in zoölogy and entomology or in biology. Dr. Smith.

The literature of entomology which is inseparably associated with that of zoölogy and hence of equal importance to students of both subjects; general and special biographical sources, foreign and American scientific journals and serials; the construction of special bibliographies according to approved methods; a study of the biographies of leading world biologists of all ages and

their publications, particularly of those in the College library. All advanced students of entomology and zoölogy are expected to take this course.

233. INSECT ECOLOGY. 2(2-0); II. Prerequisite: General Economic Entomology, or General Entomology with the laboratory and General Zoölogy. Field Entomology recommended. Mr. Bryson.

Environment and adaptations of animals, with special reference to insects. The influence of light, temperature, pressure, moisture, evaporation, air movements, food relations, biotic and other conditions of soil and atmosphere.

235. FIELD ENTOMOLOGY. 2(0-6); I. Prerequisite: General Economic Entomology. Dr. Painter.

Study of insects in the field, methods of collecting, mounting, preserving, and rearing; identification of some of the commoner insects in the field; ecological phases stressed, especially with regard to communities and apparatus for measuring factors. It is recommended that students taking this course follow it with Insect Ecology, course 233. Charge, \$1.

236. ZOÖLOGY AND ENTOMOLOGY SEMINAR. 1(2-0); I and II. For prerequisites, consult seminar committee.

Presentation of original investigations, reviews of papers appearing in current journals, summaries of recent advances in various fields and discussion of various aspects of the fundamental problems of modern biology.

238. PROBLEMS IN ENTOMOLOGY. Credit to be arranged; I, II and SS. For prerequisites, consult instructors. Mr. Dean, Dr. Smith, Dr. Parker, Dr. Painter, Mr. Bryson, and Mr. Wilbur.

Students having sufficient training may, with approval of the head of the department, pursue under the direct supervision of some members of the departmental staff a special problem in one of the following subjects: Insect life history, insect control, insect classification, apiculture, insects injurious to stored grain and milled products, and household insects.

241. INSECT PHYSIOLOGY. 2(2-0); II. Prerequisite: External Insect Morphology. Dr. Parker.

An elementary study of the more important physiological processes in insects with emphasis on the relation of form and function in the life of these animals. Lectures and assigned readings.

FOR GRADUATE CREDIT

305. ADVANCED INSECT PHYSIOLOGY. 2(2-0); II. Offered in 1934-'35 and alternate years thereafter. Prerequisites: Internal Insect Morphology, Cytology or Histology, and Physiological Chemistry. Dr. Parker.

Physiology of the cell, respiration, metabolism, reproduction, muscular activity, nervous responses, sense organs and senses, circulation, glandular system, and the metamorphosis of insects. Assigned readings and reports.

316. RESEARCH IN ENTOMOLOGY. Credit to be arranged; I, II, and SS. Prerequisites: (1) For research in taxonomy and morphology, Entomology 203, 211, 217, and Cytology; (2) for research in economic entomology, Entomology 203, 206, and 217. Mr. Dean, Dr. Smith, Dr. Parker, Dr. Painter, Mr. Bryson, and Mr. Wilbur.

With the approval of the head of the department, advanced students having sufficient fundamental training may undertake original investigation in one of the following fields of entomology: Taxonomy, morphology, economic entomology. Such work is pursued under the direct supervision of some member of the departmental faculty, and the final results, if of sufficient merit, may be used to fulfill the thesis requirement for the master's degree. If willing and capable, special students may be drawn into the research work of the Agricultural Experiment Station during the summer vacation and receive training in the investigation of entomological problems.

Geology

Professor SPERRY
Instructor BYRNE

The courses offered in geology are designed to meet the needs of three kinds of students: The technical student in agriculture, civil engineering, or chemistry, who must know something of the relationship of geology to his particular field; the general student who desires some knowledge of the world about him, and who realizes the cultural and economic value of understanding his physical environment; and, finally, the student who wishes to major in geology.

The equipment consists of collections of rocks, fossils, and minerals and the laboratory instruments necessary to study these materials. The country around Manhattan, in addition to splendid Permian and Late Pennsylvanian invertebrate fossils, offers considerable variety of geologic phenomena, such as limestone outcrops, sand dunes, glacial drift, a small volcanic plug, and the physiographic features characteristic of the prairie-plains. To take advantage of this outdoor laboratory, field trips are given in most courses as a regular part of the laboratory work.

COURSES IN GEOLOGY

FOR UNDERGRADUATE CREDIT

102. ENGINEERING GEOLOGY. 4(3-3); I. Prerequisite: Chemistry 110 or equivalent. Mr. Sperry and Mr. Byrne.

The general principles of geology and their application to engineering problems.

Laboratory.—Observation and description of the structural and dynamic features of this locality; the study of topographic and geologic maps. Charge, \$1.50.

103. GENERAL GEOLOGY. 3(3-0); I, II, and SS. Three or four field trips are taken during the semester. Not open to students having credit in Geology 102. Mr. Sperry and Mr. Byrne.

The structural and dynamic features of the earth; the rock-forming minerals; the rocks and their decay; a short history of the earth. Charge, \$1.50.

110. PHYSIOGRAPHIC GEOLOGY. 3(3-0); II. Prerequisite: Course 102 or 103. Mr. Sperry and Mr. Byrne.

The topography of the earth and forces that have produced it. Stress is laid on the origin of the topographic features of North America. Charge, \$1.50.

FOR GRADUATE AND UNDERGRADUATE CREDIT

203. HISTORICAL GEOLOGY. 4(3-3); I, II, and SS. Prerequisite: Course 102 or 103. Mr. Sperry and Mr. Byrne.

The procession of physical and biological events through which the earth has gone, with stress on the philosophical side of earth history.

Laboratory.—Collection and study of local fossils, and their application in the identification of the rock measures; study of museum specimens and of paleogeographic maps. Charge, \$1.50.

207. ECONOMIC GEOLOGY. 4(3-3); I. Prerequisites: Course 102 or 103 and General Chemistry. Mr. Sperry.

The origin and mode of occurrence of nonmetallic minerals, including coal and petroleum, and of metallic mineral deposits.

Laboratory.—Identification and study of the ore-forming minerals; map studies of the economic areas. Charge, \$1.50.

209. CRYSTALLOGRAPHY AND MINERALOGY. 4(2-6); I. Prerequisite: General Chemistry. Mr. Sperry.

The fundamentals of crystallography and mineralogy.

Laboratory.—The measurements of crystal angles and the determination of crystal constants; identification of minerals by physical characters and with the blowpipe. Charge, \$1.50.

210. FIELD GEOLOGY. SS. Credit to depend upon the amount of work done. Opportunity is offered students to do field work in the Rocky Mountains. Students interested should consult Mr. Sperry.

215. STRUCTURAL GEOLOGY. 4(3-3); II. Prerequisites: Courses 102 or 103 and 203. Mr. Sperry.

The mechanics of the earth's crust. The aim is to give a means of interpreting the structures found in the earth.

Laboratory.—Study of joints, faults, and folds produced artificially; a few field trips for the purpose of observing the structures found near Manhattan. Charge, \$1.50.

220. INVERTEBRATE PALEONTOLOGY. 4(3-3); I. Prerequisites: Courses 102 or 103 and 203. Mr. Byrne.

Evolution and geologic history of the invertebrate animals.

Laboratory.—The classification and identification of invertebrate fossils. Charge, \$1.50.

230. FIELD METHODS IN GEOLOGY. 3(1-6); II. Prerequisites: Courses 103 and 203. Mr. Byrne.

The construction of geologic maps, including a complete map of the Manhattan area; the application of field methods to the problems of geology. Charge, \$1.50.

235. OPTICAL MINERALOGY. 4(2-6); II. Prerequisite: Course 209. Mr. Sperry.

The use of the polarizing microscope in identifying crystal fragments, powders, sediments, and thin sections; optical methods of microscopic research. Charge, \$1.50.

240. PRINCIPLES OF GEOGRAPHY. 3(3-0); I and SS. Mr. Sperry and Mr. Byrne.

An introductory course in college geography, emphasizing the relationships between human activities and the geologic environment. Charge, \$1.50.

255. VERTEBRATE PALEONTOLOGY. 3(3-0); II. Prerequisites: Course 203 or ten hours of zoölogy. Mr. Byrne.

The evolution, geologic history, and classification of the vertebrates. Charge, \$1.50.

275. PROBLEMS IN GEOLOGY. Credit to be arranged; I, II, and SS. Mr. Sperry and Mr. Byrne.

An individual problem in a particular phase of geology investigated under the guidance of an instructor.

FOR GRADUATE CREDIT

301. RESEARCH IN GEOLOGY. Credit to be arranged; I, II, and SS.

Students with adequate preparation may undertake original investigations in geology.

History and Government

Professor PRICE
Professor ILES
Professor JAMES
Professor CORRELL

Professor SHANNON
Associate Professor WILLIAMS
Associate Professor PARRISH
Assistant Professor ALSOP

Training for citizenship, breadth of view, historic-mindedness, fairness of judgment, and general culture are constant and specific aims of each course offered by the Department of History and Government. As a result of the training received in these courses the student is better prepared to understand and appreciate the institutions in the midst of which he lives and of which he is a part. He is also prepared to act more wisely his part as a leader in good citizenship wherever his lot may be cast. In our modern age and self-governing nation, and in an institution supported by the state and nation, it would seem to be the imperative duty of every student to secure specific training for wise and effective leadership in the governmental affairs of the state and nation that are thus preparing him for life and its duties.

Equipment valued at \$1,660 is owned by this department.

COURSES IN HISTORY

FOR UNDERGRADUATE STUDY

101. ANCIENT CIVILIZATIONS. 3(3-0); I and SS. Mr. Parrish.

The beginnings and growth of western culture; early civilizations of the Near East and Mediterranean regions, from the rise of Egypt and Babylonia to the decline of the Roman Empire (395 A.D.). Special attention is given to the achievements of the Greeks and Romans.

102. MEDIEVAL EUROPE. 3(3-0); II and SS. Mr. Parrish.

The development of civilization in Europe, from the decline of the Roman Empire (395 A.D.) to the discovery of the new world (1500 A.D.). Changes which laid the foundation for modern Europe: Interaction of forces of Roman Empire, organized Christianity, barbarians, Islam, Arabic and Byzantine culture; monasticism, feudalism; beginnings of modern states; universities and cathedrals; towns and trade; the intellectual awakening and a new world.

104. AMERICAN HISTORY SURVEY. 3(3-0); I and SS. Not open for credit to students who have credit in courses 105, 201, or 202. Mr. Price.

A survey of American history and institutions from the newer viewpoint. Based on lectures, with special library studies of assigned topics. Combines constitutional, political, diplomatic, economics and social phases of the growth of our republic, with background and interpretation. Charge, \$1.

105. AMERICAN INDUSTRIAL HISTORY. 3(3-0); I, II, and SS. Not open for credit to students who have credit in course 104. Dr. Shannon, Mr. Correll, and Miss Alsop.

History of American agriculture, manufactures, and commerce with related activities from their colonial beginnings to the present; survey of the physical basis of American history, the growth of population and its expansion across the continent, and the reflection of these things on our industrial, social and political life; European developments, as a side light on American history; growth of our national industrial organization and its present-day aspects.

110. HISTORY OF COMMERCE AND INDUSTRY. 3(3-0); I. Dr. Shannon.

The evolution of industry and commerce from primitive beginnings to present-day organization, traced in broad outline, and economic survey of world history, with special stress on the modern period.

115. MODERN EUROPE I. 3(3-0); I. Miss Alsop.

The evolution of modern institutions from the renaissance to the opening of the nineteenth century, the principal movements being the commercial revolution through which European trade turned from Mediterranean to Atlantic

ports; the Reformation; the earlier phases of the development of political democracy through the Puritan revolt in England and the French Revolution; and the Napoleonic era.

121. ENGLISH HISTORY. 3(3-0); I, II, and SS. Mr. James.

A general survey of the whole field of English history, including the outlines of political history and the essentials of English constitutional development and stressing the development of the empire, the English background of American history, and the industrial and social development of the English people.

126. CURRENT HISTORY. 1(1-0); I, II, and SS. May not be taken more than four semesters for credit. Mr. Price, Mr. Iles, Mr. James, Mr. Correll, Dr. Shannon, Mr. Williams, Mr. Parrish, and Miss Alsop.

The essentials of American and foreign governments, of international relations, of international law, of biography, of industrial developments, and of the larger world issues as they appear in current news reports giving a wide outlook on the world of to-day and a better understanding of conditions and institutions in the midst of which we live.

FOR GRADUATE AND UNDERGRADUATE CREDIT

201. AMERICAN HISTORY I. 3(3-0); I, II, and SS. Not open for credit to students who have credit in course 104. Prerequisite, when taken for graduate credit: Six hours of college history. Mr. Price.

Beginning of the American nation: The origin and development of American nationality and democracy to the War of 1812, with special stress on the industrial phases, but including our constitutional and political development, with the European background in each case. Charge, \$1.

202. AMERICAN HISTORY II. 3(3-0); I, II and SS. Prerequisite, when taken for graduate credit: Six hours of college history. Mr. Price.

Western expansion and sectionalism: The industrial conditions, the political issues, and the leaders of the middle period of our history, from the War of 1812 to the Civil War. Charge, \$1.

203. AMERICAN HISTORY III. 3(3-0); I, II, and SS. Prerequisite, when taken for graduate credit: Six hours of college history. Mr. Price, Mr. Iles, or Dr. Shannon.

The new industrial age: Review of the industrial conditions in America just before the Civil War; the effects of that war; the political and governmental activities of the period since 1860 in the light of the industrial conditions and developments of that period.

204. AMERICAN AGRICULTURAL HISTORY. 3(3-0); I. Prerequisite, when taken for graduate credit: Six hours of college history. Dr. Shannon.

European background and Indian beginnings; agricultural development during the colonial period; the westward movement into the prairie regions of the Mississippi valley, with the distinctive American developments in methods, live stock, and especially farm machinery; the last quarter century with its varied industries, more intensive farming, and higher cost of living.

206. AMERICAN POLITICAL PARTIES. 2(2-0); I. Prerequisite, when taken for graduate credit: Six hours of college history. Mr. Iles.

Origin, development, leaders, and function of political parties in America; issues and results of the more important presidential elections; growth of nationality and development of self-government through American history, with special reference to present tendencies. This course is intended to supplement course 105 or 204.

208. LATIN AMERICA. 3(3-0); I, II, and SS. Prerequisite, when taken for graduate credit: Six hours of college history. Mr. James.

European background, discovery, exploration, and settlement of Spanish and Portuguese colonies in America; development of the Spanish administrative system; Spanish-American wars for independence; liberation of Brazil;

rise of the Hispanic-American republics; their relations with each other and with the United States; social and economic conditions; present-day problems of the republican period.

223. MODERN EUROPE II. 3(3-0); I, II, and SS. Prerequisite, when taken for graduate credit: Course 115 or equivalent. Mr. Parrish.

European adjustments following the period of the industrial revolution, the French revolution, and the fall of the Napoleonic Empire; the rising tide of nationalism and democracy; political and social reforms; progress of science; social and economic movements; expansion of the European influence in Asia and Africa; the World War, and briefly, the new Europe.

225. HISTORY OF THE HOME. 3(3-0); II. Prerequisite, when taken for graduate credit: Six hours of college history. Miss Alsop.

The primitive family; the Hebrew family; family life of the Greeks and of the Romans; the home and family life during the Middle Ages, including the influence of the Christian church; the English family since 1485; the American colonial home; the industrial revolution and its effects upon family life; the family during the nineteenth century; the present situation and tendencies.

226. THE BRITISH EMPIRE. 2(2-0); II and SS. Prerequisite, when taken for graduate credit: Six hours of college history. Mr. James.

The English phases of the European expansion movement, with consideration to the forces and influences promoting the "swarming of the English" overseas; growth and development of the English provinces into self-governing colonies and the union of these into practically independent dominions; the drawing together of the widely scattered English people into a British commonwealth of nations, and the significance of this fact in the struggle for democracy.

228. IMMIGRATION AND INTERNATIONAL RELATIONS. 2(2-0); I and SS. Prerequisite, when taken for graduate credit: Six hours of college history. Mr. Price and Mr. James.

Causes and effects—economic, social, and political—of the coming of the foreigner to our shores, from the colonial period to the present, with special reference to recent changes as to the character of the immigrants and as to the conditions in Europe and in America that affect the number and quality of immigrants; a clear survey of the important epochs in our diplomatic history.

231. HISTORY OF RELIGIONS. 2(2-0); I or II, and SS. Prerequisite, when taken for graduate credit: Six hours of college history. Mr. Parrish.

Rise and growth of historic religions which influence most of the peoples of the world today; relation of each religion to race, physical environment, and advance in culture; the leading personalities, religious conceptions, and historic events and movements which modify life and thought in Hinduism, Buddhism, Confucianism, Taoism, Zoroastrianism, Mohammedanism, Judaism, and Christianity.

234. TWENTIETH CENTURY EUROPE. 3(3-0); I, II, and SS. Prerequisite, when taken for graduate credit: Course 223 or equivalent. Mr. Correll.

A study of the peace treaties of 1919, the political and social reconstruction of Europe since the World War, and the new instruments of international organization, such as the League of Nations, the World Court, and international conferences.

236. THE FAR EAST. 3(3-0); II and SS. Prerequisite, when taken for graduate credit: Six hours of college history. Mr. Parrish.

Rise, development and spread of Chinese civilization in the Far East; achievements in politics, economics, philosophy, science, art, literature; impact of the modern West, including the United States; especial attention is given to China's economic, social and diplomatic problems since 1840; rise of Japan; partial dismemberment of China under the Manchus, and rise of the republic; new rôle of China and Japan in world commerce, trade, and politics.

250. SEMINAR IN HISTORY AND GOVERNMENT. 2 to 5 credits; I, II, and SS. Prerequisite: Six hours of college history of a type that will serve as a proper background for the subject to be studied. Mr. Price, Mr. Iles, Mr. James, Mr. Correll, Dr. Shannon, and Mr. Parrish.

Preference given to special fields connected with the history of agriculture, of industry, or of commerce, though other fields may be studied at the discretion of the department.

290. HISTORICAL METHOD AND BIBLIOGRAPHY. 2(2-0); I and SS. Prerequisite, when taken for graduate credit: Six hours of college history. Dr. Shannon, assisted by other teachers of the department.

A study of historians and of historical works, together with instruction as to methods employed in the writing of history or of historical articles or theses. Required of all graduates majoring in history, and recommended to undergraduates majoring in history.

FOR GRADUATE CREDIT

301. RESEARCH IN HISTORY. Credit to be arranged; I, II, and SS. Prerequisite or contemporary: Course 290, and consult instructors. Mr. Price, Mr. Iles, Mr. James, Mr. Correll, Dr. Shannon, and Mr. Parrish.

Individual research problems in European or American history, including international relations. Conclusions will generally take the form of a thesis.

COURSES IN GOVERNMENT

FOR UNDERGRADUATE CREDIT

151. AMERICAN GOVERNMENT. 3(3-0); I, II, and SS. Mr. Iles.

A definite review of the fundamental principles and operations of our state and national governments, including the principles of constitutional law, but giving special emphasis to present-day conditions and movements in our governmental and political life.

152. AMERICAN NATIONAL GOVERNMENT. 3(3-0); I. No credit for students having credit in course 151. Mr. Iles.

The mechanism, functions, and control of the government of the United States, with considerable attention to principles and problems. With course 153, this course affords a comprehensive study of American national, state, and local government.

153. AMERICAN STATE GOVERNMENT. 3(3-0); II. No credit for students having credit in course 151. Mr. Iles.

State and local government, with special attention to functions and problems.

160. COMMERCIAL LAW. 1(1-0); I. Mr. Williams.

The elementary principles of contracts, agency, sales, and negotiable instruments. Business Law I may be substituted for Commercial Law, where the requirements of the curricula permit, and the extra credit used as an elective.

163, 164. BUSINESS LAW I AND II. 3(3-0) each; I and II. Prerequisite for II: Course 163 or 167. Mr. Williams.

I: Contracts, agency, and sales.

II: Negotiable instruments, partnership, and corporations.

167. LAW FOR ENGINEERS. 2(2-0); I and II. Mr. Williams.

A study, chiefly through cases, of such rules of law as will prove most useful to engineers and architects, with special emphasis on the law of contracts.

175. FARM LAW. 2(2-0); I. Offered in 1935-'36 and alternate years thereafter. Not open to students having credit in History 276. Mr. Williams.

A study, chiefly through Kansas cases, of the rules in various branches of the law a knowledge of which is most useful to a farmer, with special emphasis on the law of real property, including deeds, mortgages, and the relation of landlord and tenant.

FOR GRADUATE AND UNDERGRADUATE CREDIT

252. COMPARATIVE GOVERNMENT. 2(2-0); I or II, and SS. Mr. Iles or Mr. Williams.

The leading features, especially with regard to administration, of certain European governments, such as England, France, and Germany, and a comparison of essential features with government in the United States. (A supplement to the course in American Government.)

256. INTERNATIONAL LAW. 2(2-0); I. Mr. James.

Fundamental principles of international law and international relations; public and private rights and obligations in time of peace and in time of war, especially in the light of recent developments, such as the Hague conference.

260. GOVERNMENT REGULATION OF BUSINESS. 2(2-0); II. Prerequisite, when taken for graduate credit, History 151, 160, 163, 167, 175, or 276. Mr. Williams.

Government powers; vested rights; business affected with a public interest; trade regulations and prohibitions; labor unions; protection of debtors; conservation and natural resources; emergency legislation; and certain positive governmental activities.

276. LAND LAW. 2(2-0); I. Planned to supplement Agricultural Land Problems (Ag. Ec. 218). Offered in 1934-'35 and alternate years thereafter. Not open to students who have credit in History 175. Mr. Williams.

A study, chiefly through Kansas cases, of the estates, interests, and rights in land, including relation of landlord and tenant, future interests, joint estates, easements, equitable interests, and mortgages; acquisition of land, including conveyances, descent, devise, and adverse possession; notice of rights of the owner and the incumbrancer, including notice by recording.

FOR GRADUATE CREDIT

351. RESEARCH IN GOVERNMENT. Credit to be arranged; I, II, and SS. For prerequisites in each case, consult instructor. Mr. Price, Mr. Iles, Mr. James, Dr. Shannon, and Mr. Williams.

Individual research problems in national or local government, American or European, including studies in comparative government or international law. The conclusions generally take the form of a thesis.

Industrial Journalism and Printing

Professor ROGERS
Professor KEITH
Associate Professor CHARLES
Assistant Professor AMOS

Assistant Professor HOSTETTER
Assistant Professor THACKREY
Instructor LASHBROOK

The work in industrial journalism and printing is designed to accomplish two purposes—the preparation of students in other fields to do occasional writing for newspapers and other periodicals on subjects of special interest; and the training of students fundamentally interested in journalism for positions on farm journals, newspapers, and other publications, particularly where writing on agriculture and other industrial subjects is in demand. The instruction considers the requirements of newspapers, agricultural papers, trade publications, and general magazines, and the ethical problems of the profession of journalism. *The Kansas Industrialist*, the official paper of the College, is under the editorial and mechanical direction of the department. The office of *The Kansas State Collegian*, the student semiweekly newspaper, is in the department practice room. Students write, also, for general newspapers, farm journals, and magazines.

Attention is given to the mechanical side of the profession in the instruction in printing, which is required of all students taking the curriculum in industrial journalism. Printing has been taught in the institution continuously since

1873—the longest period during which instruction in the subject has been given in any American college.

The equipment for instruction in journalism and printing is that of a practical publishing and printing plant. This department owns equipment valued at \$10,190.

A large amount of timely agricultural and other information is furnished regularly to Kansas newspapers, farm journals, and other publications. Special assignments are covered for these periodicals, and special inquiries are answered.

All students enrolled in the curriculum in industrial journalism, and all other students who take Journalism Lectures or courses designated "Journalism fee charged," pay a charge of \$1.50 a semester. Only one journalism fee is charged a student in a given semester.

COURSES IN PRINTING

FOR UNDERGRADUATE CREDIT

101. PRINCIPLES OF TYPOGRAPHY. 3(2-3); I and II. Mr. Amos.

The case, the point system, and the measurement of type and stock; the history of printing; development of the various typographical styles; practice in setting straight matter, with emphasis on accuracy. The type faces and the typography of advertisements and head display; principles of effective make-up. Journalism fee charged.

102. PRINTING PRACTICE. 2(0-6); SS. Mr. Amos.

A study of general printing-shop practice, including cost finding—a course intended particularly for high-school teachers of printing and for those who expect to have editorial supervision of publications, including high-school papers.

108, 111, 112. AD COMPOSITION I, II, AND III. 2(0-6) each; I and II each. Prerequisite: For I, course 101; for II, course 108; for III, course 111. Mr. Amos.

I: Principles of display and design as applied to newspaper and magazine advertisements; practical work in setting ads for magazines. Journalism fee charged.

II and III: Course 108 continued; more complicated work studied. Journalism fee charged.

114, 118, 120. JOB COMPOSITION I, II, AND III. 2(0-6) each; I and II each. Prerequisite: For I, course 101; for II, course 114; and for III, course 118. Mr. Amos.

I: Emphasis on differences in requirements for job composition and ad composition; proper selection of type faces, borders, and ornaments; setting jobs and locking them up for the pressroom. Journalism fee charged.

II and III: Color work, tabular forms, and other complicated kinds of job work. Journalism fee charged.

122, 126. PRESS WORK I AND II. 2(0-6) each; I and II each. Prerequisite: For I, course 108 or 114; for II, course 122. Mr. Amos.

I: Practical platen presswork under ordinary printing-office conditions; feeding of the press and preparation of the jobs by the student; selection of inks and care of printing rollers. Journalism fee charged.

II: I continued, with more advanced work in mixing inks and in color work. Journalism fee charged.

COURSES IN INDUSTRIAL JOURNALISM

FOR UNDERGRADUATE CREDIT

140. JOURNALISTIC VOCATIONS. 2(2-0); II. Mr. Rogers.

The publishing field, daily and weekly newspapers, news agencies and syndicates, trade and business press, agricultural press, women in journalism, the field of advertising, circulation, magazines, free-lance writing, publicity, photog-

raphy and art, the labor press, and religious journalism. Journalism fee charged.

151. ELEMENTARY JOURNALISM. 2(2-0); I, II, and SS. Prerequisite: Course 140. Mr. Thackrey and Miss Hostetter.

Methods of obtaining news of various types, the writing of the lead, and the general styles of the news story. Journalism fee charged.

153. KANSAS STATE COLLEGIAN JOURNALISM. 1(0-3); I, II, and SS. Prerequisite: Permission of instructor. Mr. Thackrey.

The gathering and writing of news, or advertising practice, on *The Kansas State Collegian* under the supervision of the instructor.

160. AGRICULTURAL JOURNALISM. 3(2-3); I and II. Mr. Charles.

The course is intended to supply sufficient knowledge of the principles of news writing as applied to agriculture to enable students in agriculture to become occasional contributors to newspapers and farm journals, and to give them an understanding of the needs and problems of editors. Much practice given in agricultural writing. Journalism fee charged.

161. INDUSTRIAL WRITING. 2(2-0); I and II. Prerequisite: Course 151. Mr. Thackrey and Miss Hostetter.

Application of the principles of journalism to the treatment of industrial subjects, such as are found in agriculture, engineering, home economics, and more general scientific research. Journalism fee charged.

163. ADVANCED REPORTING. 3(3-0); I. Prerequisite: Course 161. Mr. Thackrey.

Recitation and practice covering the work of the reporter in connection with local, state, and national government; the reporting of conventions, exhibitions, and large public gatherings. Special assignments in connection with industrial and scientific news. (For students who are familiar with the fundamentals of news reporting.) Journalism fee charged.

167. INDUSTRIAL FEATURE WRITING. 2(2-0); I and SS. Prerequisite: Course 161. Mr. Rogers.

The feature article; its underlying principles applied to writing on agricultural and other industrial subjects; demands of newspapers, farm journals, and general magazines for writing of this character; agricultural journals, trade journals, and other publications of highly specialized character; actual writing for publications of these types and submission of material to editors: Journalism fee charged.

172. JOURNALISM FOR WOMEN. 2(2-0); II. Prerequisite: Course 167. Miss Hostetter.

A course for women students in news and feature writing for women's pages and women's magazines and consideration of specialized fields for the woman writer. Journalism fee charged.

175. INDUSTRIAL, TRADE, AND BUSINESS PUBLICATIONS. 3(2-3); II. Mr. Rogers.

Survey of that field of journalism which concerns itself with the subject matter and the specialized interests of industry, trade, and business; practice writing for papers in this field.

178. PRINCIPLES OF ADVERTISING. 4(4-0); I and II. Prerequisite: For industrial journalism students, course 161; for commerce students, Written and Oral Salesmanship. Mr. Keith.

Study of goods to be advertised, analysis of the market, psychology of advertising, preparation of advertising copy, and other important matters; application of the principles involved; building up of circulation of periodical publications; soliciting advertising; premiums and other plans for increasing circulation; the advertising agency, circulation analysis and fixing of advertising rates. Journalism fee charged.

181. THE RURAL PRESS. 2(2-0); I and II. Prerequisite: Course 151. Mr. Charles.

Nature and needs of the community newspaper, with emphasis on its presentation of the agriculture and rural life in its field; actual writing of news stories and items gathered on the campus for publication in Kansas community newspapers. Journalism fee charged.

183. NEWS BUREAU METHODS. 2(2-0); I. Prerequisite: Course 151. Mr. Charles.

A study of publicity methods, accepted and condemned practices, the psychology of the press agent's copy, its effect on the editor and the reader. Lecture and recitation supplemented with practice writing for the College news bureau. Journalism fee charged.

199. INDUSTRIAL JOURNALISM LECTURE. R; I and II.

Prominent men and women in the field of journalism or in activities of interest to journalism students are brought in for talks to all journalism students. Attendance is required of all enrolled in Industrial Journalism.

FOR GRADUATE AND UNDERGRADUATE CREDIT

225. ADVERTISING PRACTICE. 2(2-0); II. Prerequisite: Course 178. Mr. Keith.

Practice in advertising writing, with special attention to copy and display problems; practical problems in the advertising of student activities and of local merchants; actual commercial work; the making of layouts and consideration of such advertising production methods as art work, typography, engraving processes.

254. COPY READING. 2(0-6); II. Prerequisite: Course 163. Mr. Thackrey.

Practice in the work required of a copy reader, whether on a newspaper, an agricultural journal, or some other publication. Journalism fee charged.

255. CONTEMPORARY THOUGHT. 3(3-0); I. Prerequisite: For industrial journalism students, course 254; for others, Economics I or equivalent. Mr. Rogers.

Correlation and unification of various subjects previously pursued in college; unbiased presentation of contemporary development and contemporary figures in science, the arts, and philosophy.

257. EDITORIAL PRACTICE. 2(2-0); I. Prerequisite: Course 254. Miss Hostetter.

The writing of editorials suitable for farm papers, trade papers, and newspapers; the shaping of editorial policies. Journalism fee charged.

265. MATERIALS OF JOURNALISM. 2(2-0); I. Prerequisite: Copy Reading. Mr. Thackrey.

The principal newspapers and magazines; accuracy and adequacy of news reports and other published matter; materials handled by the publications; methods of treatment; character of editorial comment.

270. MAGAZINE FEATURES. 2(2-0); I, II, and SS. Prerequisite: For industrial journalism students, course 167; for others, Engl. 104. Mr. Rogers and Mr. Charles.

The matter of the course is varied to suit the needs and desires of the students, emphasis being laid upon such types of magazine writing as members of the class wish to practice. Journalism fee charged.

273. HISTORY AND ETHICS OF JOURNALISM. 3(3-0); II. Prerequisite: Course 255. Mr. Thackrey.

The history of journalism from its beginning and the history of printing as far as this is concerned with periodical publications. The ethics of journalism as exemplified in the use of contributed matter, in the work of the reporter or staff writer, in the editorial conduct of the paper, and in the handling of circulation and advertising; federal and state laws relating to periodical publications to advertising, to libel, and to author's rights.

278. JOURNALISM SURVEYS. 2(0-6); II. Prerequisite: Ind. Jour. 254 or equivalent. Mr. Rogers and Miss Hostetter.

Careful investigation of the periodical reading matter of communities; tabulation of information obtained; relation of the reading matter to the industrial, economic, social and moral life of the communities.

282. COLUMN CONDUCTING. 2(2-0); II, when requested by a sufficient number. Prerequisite: Engl. 104. Mr. Davis, of the Department of English.

The conducting of the so-called column, humorous or semi-serious; writing paragraphs, light verse, and similar material, with stress on practice in writing humor.

287. CURRENT PERIODICALS. 3(3-0); II. Prerequisite: Engl. 104. Miss Hostetter.

The material contained in current periodicals of various types, and the nature of its appeal to the reader.

FOR GRADUATE CREDIT

351. RESEARCH IN INDUSTRIAL JOURNALISM. Credit to be arranged; I and II. Mr. Rogers.

Several courses embodying creative literary work or detailed research in specialized journalism are arranged to meet the specific needs and desires of the individual graduate students.

Library Economics

Librarian SMITH
Associate Librarian DERBY
Reference Librarian DAVIS
Loan Librarian CAMP

Reference Assistant SWENSON
Documents Librarian HOFF
Loan Assistant CULLIPHER

The Library supplements the work of every department of the College. It is a storehouse of knowledge for every student. It supplies information and the latest results of scientific research for every instructor. The Library is thus essential to the College, forming, as it were, a center from which its various activities radiate.

In order that the Library may perform its functions with the highest degree of efficiency it is necessary that instruction be given regarding its use. With this thought in mind a course is offered, the purpose of which is to familiarize the student with scientific, up-to-date methods in the use of books and to acquaint him with the best general reference books, as well as with standard works on various subjects. Placed at the beginning of his College course it tends to increase largely his efficiency in study throughout the entire course.

The books and pamphlets in the library are valued at \$318,555.00; other equipment is valued at \$67,113.90.

COURSES IN LIBRARY ECONOMICS

FOR UNDERGRADUATE CREDIT

101. LIBRARY METHODS. 1(1-0); I and II. Miss Derby, Miss Hoff, Miss Davis, Miss Camp, Miss Swenson, and Miss Cullipher.

Classification and arrangement of books in the library; card catalogues; the principal works of reference, such as dictionaries, encyclopedias, atlases, and standard works in history, literature, economics, quotations, statistics, etc.; public documents and their indexes; indexes to periodicals, etc.; methods of indexing current reading for purposes of future reference.

Mathematics

Professor REMICK
 Professor WHITE
 Professor STRATTON
 Associate Professor HYDE
 Associate Professor LEWIS

Associate Professor LYONS
 Assistant Professor JANES
 Assistant Professor MOSSMAN
 Assistant Professor HOLROYD
 Assistant Professor DAUGHERTY

In an institution that stands as an exponent of the industrial type of education, mathematics should occupy an important place. Training in this exact science is valuable, not only for its own sake, but also on account of its manifold applications. On this basis the courses in mathematics are offered primarily with the following ends in view: (1) The attainment of mental power and accuracy in the interest both of general culture and special application; (2) the acquirement of facts and processes that will provide the student with an indispensable tool for further scientific and technical study.

As several of the curricula of the College are formulated on the assumption that a half-year of solid geometry will have been taken in high school, classes in this subject are provided for students who are deficient in this respect. College credit on electives is allowed for this work.

The equipment owned by this department is valued at \$792.

COURSES IN MATHEMATICS

FOR UNDERGRADUATE CREDIT

101. PLANE TRIGONOMETRY. 3(3-0); I, II, and SS. Prerequisites: Plane Geometry and one and one-half years of high-school algebra. Dr. Stratton, Miss Hyde, Mr. Lewis, Mr. Lyons, Miss Holroyd, Mr. Janes, Miss Mossman, and Mr. Daugherty.

Functions of acute right triangles, goniometry, oblique triangles, practical problems.

102. SOLID GEOMETRY. 2(2-0); I, II, and SS. Prerequisites: Plane geometry and one year of high-school algebra. Mr. Lewis, Mrs. Janes, Miss Holroyd, and Mr. Daugherty.

Principal theorems, numerical exercises, and mensurational problems.

104. COLLEGE ALGEBRA. 3(3-0); I, II, and SS. Duplicates latter part of Math. 107. Prerequisites: Plane geometry and one and one-half years of high-school algebra. Dr. Stratton, Miss Hyde, Mr. Lewis, Mr. Lyons, Miss Holroyd, Mr. Janes, Miss Mossman, and Mr. Daugherty.

Elementary topics, functions and their graphs, and quadratic equations rapidly reviewed; complex numbers, theory of equations, permutations and combinations, partial fractions, and determinants.

107. COLLEGE ALGEBRA A. 5(5-0); I, II, and SS. Includes Math. 104. Prerequisite: Plane geometry and one year of high-school algebra. Dr. Stratton, Miss Hyde, Mr. Lewis, Mr. Lyons, Miss Holroyd, Mr. Janes, Miss Mossman, and Mr. Daugherty.

Brief review of elementary subjects; a thorough treatment of quadratics, ratio, proportion, progressions, and the binomial theorem for positive exponents; the chief content of course 104.

110. PLANE ANALYTICAL GEOMETRY. 4(4-0); I, II, and SS. Prerequisites: Plane Trigonometry and College Algebra. Mr. White, Dr. Stratton, Miss Hyde, Mr. Lyons, Mr. Lewis, Mr. Janes, Miss Mossman, and Miss Holroyd.

Coördinate systems, projections, loci, straight line conics, parametric and empirical equations, with a discussion of the general equation of the second degree.

126. ELEMENTS OF STATISTICS. 3(3-0); I and II. Not open to students having credit in Educ. 223. Mr. White.

The parts of algebra most needed as a basis for statistical work; development of the secondary principles used in analysis of statistical data.

150. MATHEMATICS OF INVESTMENT. 3(3-0); I and II. Prerequisite: Accounting I (Econ. 133). Mr. Janes.

Problems relating to interest, annuities, sinking funds, amortization and valuation of bonds, depreciation, building and loan, and life insurance.

FOR GRADUATE AND UNDERGRADUATE CREDIT

The following courses are available on request by a sufficient number of students. Numbers 201, 203, 205, 206, 210, 213, and 216 are offered each year.

201. DIFFERENTIAL EQUATIONS. 3(3-0); I. Prerequisite: Calculus II. Mr. Remick.

The various standard types of differential equations, with the usual applications.

202. HIGHER ALGEBRA. 3(3-0); I, II, and SS. Prerequisite: Plane Analytical Geometry. Dr. Stratton, Miss Hyde, Mr. Lewis, Mr. Lyons, Mr. Janes, Miss Mossman, Miss Holroyd, and Mr. Daugherty.

Probability, partial fractions, binomial theorem for any exponent, transcendental and parametric equations, determinants, and introduction to limits and infinite series.

203. THEORY OF STATISTICS. 3(3-0); II. Prerequisite: Elements of Statistics or equivalent. Mr. White.

The theory of probability applied to statistical problems; statistical curves, correlation theory, curve fitting, and problems of random sampling, actual practice with data from biology, agronomy, physics, etc.

205. CALCULUS I. 5(5-0); I, II, and SS. Prerequisite: Plane Analytical Geometry. Mr. Remick, Mr. White, Dr. Stratton, Miss Hyde, Mr. Lewis, Mr. Lyons, Mr. Janes, Miss Mossman, and Mr. Daugherty.

The usual topics of differential calculus, with integration of standard forms, definite integrals, rational fractions, and integration by parts.

206. CALCULUS II. 3(3-0); I and II. Prerequisite: Calculus I. Mr. Remick, Mr. White, Dr. Stratton, Miss Hyde, Mr. Lewis, Mr. Lyons, Mr. Janes, and Miss Mossman.

Problems involving areas, lengths, surfaces, and volumes treated by processes of single integration; idea of successive and partial integration applied to areas, moments, centers of gravity, surfaces, volumes; series.

206A. CALCULUS IIA. 4(4-0); I and II. Prerequisite: Calculus I. Mr. Remick, Mr. White, Miss Hyde, Mr. Lewis, Mr. Lyons, and Mr. Janes.

Similar to course 206, with the addition of a brief treatment of some of the more common types of differential equations likely to be met in engineering applications.

207. SOLID ANALYTICAL GEOMETRY. 3(3-0); II. Prerequisites: Courses 110 and 206. Mr. White.

Coördinates of points in space and their transformation involving discussion of lines and planes; standard types of quadratic surfaces, their classification and principal properties.

210. ADVANCED CALCULUS I. 3(3-0); I. Prerequisite: Calculus II. Mr. White.

Special topics in integral calculus, including various methods of integrating elementary forms, definite integrals with attention to gamma and beta functions, and applications to lengths and areas.

213. ADVANCED CALCULUS II. 3(3-0); II. Prerequisite: Course 210. Mr. White.

Continuation of course 210, including further application to geometry and mechanics, a treatment of line, surface, and space integrals, and a discussion of elliptic integrals.

216. THEORY OF EQUATIONS. 3(3-0); I. Prerequisite: Calculus II. Mr. Remick.

The elements of the classical theory, including the general cubic and quartic equation and the complete solution of numerical equations; discussion of symmetric functions, resultants, and discriminants.

221. HISTORY OF MATHEMATICS. 3(3-0); I, II, and SS. Prerequisite: Plane Analytical Geometry. Dr. Stratton, Miss Hyde, Mr. Lewis, Mr. Janes, Miss Holroyd, and Mr. Daugherty.

Historical development of elementary mathematics through the calculus.

223. FOURIER'S SERIES AND PARTIAL DIFFERENTIAL EQUATIONS. 3(3-0); II. Prerequisite: Differential Equations. Mr. White.

An introduction to Fourier's integrals and series with applications to problems in physics involving partial differential equations.

225. MODERN PLANE GEOMETRY. 3(3-0); II. Prerequisite: Plane Analytical Geometry. Dr. Stratton.

Properties of a triangle and its circles, harmonic ranges and pencils, inversion, poles and polars, etc.

230. VECTOR ANALYSIS. 3(3-0); I or II. Prerequisite: Calculus II. Dr. Babcock.

An introduction to the methods of vector algebra and geometry, with applications, and to the elements of tensors.

231. SURVEY OF APPLIED MATHEMATICS I. 3(3-0); I. Prerequisite: Calculus II. Offered in 1935-'36 and alternate years thereafter. Dr. Babcock.

An introduction to such subjects as determinants and matrices; infinite series; Fourier series; multiple, line, and improper integrals; and elliptic integrals.

232. SURVEY OF APPLIED MATHEMATICS II. 3(3-0); II. Prerequisite: Calculus II. Offered in 1935-'36 and alternate years thereafter. Dr. Babcock.

A continuation of courses 231, including ordinary and partial differential equations; vector analysis; probability; and curve fitting.

FOR GRADUATE CREDIT

The following courses are available by appointment:

301. THEORY OF FUNCTIONS OF A COMPLEX VARIABLE. 3 (3-0); II. Prerequisites: Advanced Calculus II and Differential Equations. Mr. Remick.

An introductory course with the usual line of topics.

306. THEORETICAL MECHANICS. 3(3-0); I. Prerequisite: Calculus II. Dr. Stratton.

Mechanics in its relation to mathematical analysis.

312. HIGHER GEOMETRY. 3(3-0); II. Prerequisite: Modern Plane Geometry. Dr. Stratton.

Linear dependence, homogeneous coördinates, cross ratio, properties of conics, elements of projective geometry.

316. ADVANCED DIFFERENTIAL EQUATIONS. 3(3-0); I. Prerequisite: Course 201. Mr. Remick.

Treatment of special topics, such as the equations of Legendre, Bessel, and Ricatti, with applications.

326. CALCULUS OF VARIATIONS. 3(3-0); I. Prerequisite: Course 201. Mr. Remick.

Some of the standard problems of maxima and minima wherein a definite integral affords the fundamental form of expression.

331. RESEARCH IN MATHEMATICS. Credit to be arranged; I and II. Required of all candidates for the master's degree whose major work is in the Department of Mathematics.

Military Science and Tactics

Professor SULLIVAN, Lieut. Colonel, Inf., U. S. A.
Associate Professor LOHMANN, Major, C. A. C., U. S. A.
Associate Professor SWIFT, Captain, Inf., U. S. A.
Assistant Professor CREWS, Captain, C. A. C., U. S. A.
Assistant Professor REHM, Captain, Inf., U. S. A.
Assistant Professor RYDER, Captain, Inf., U. S. A.
Assistant Professor MYRAH, 1st Lieut., C. A. C., U. S. A.
Military Property Custodian CLAEREN, Major U. S. A., retired.
Instructor LARSON, Staff Sergeant, D. E. M. L., U. S. A.
Instructor WILLIAMS, Staff Sergeant, D. E. M. L., U. S. A.
Instructor McDONALD, Sergeant, D. E. M. L., U. S. A.
Instructor WILSON, Sergeant, D. E. M. L., U. S. A.

This College is one of the beneficiaries of the act of Congress of July 2, 1862, known as the Land Grant College Act. Military tactics is required in the College curricula. All male students who are citizens of the United States, and not physically disqualified, are required to take military training three hours a week for two years. Students entering with 25 hours of advanced credit are excused from one year of military training; those entering with 59 hours of advanced credit are excused from all military requirements.

Requests for excuse from military science, or for postponement of the work, are acted upon by the president of the College. Such requests are presented through the student's dean, and the president obtains the advice of the professor of military science and tactics, who thoroughly investigates each case on its merits and makes his recommendation to the president. Requests based on physical condition must be accompanied by a recommendation made by the College physician. Students excused from military science for any reason are assigned to an equivalent amount of some other College work instead. Students permitted to postpone military science are not thereby excused, but must make it up later.

Students enrolling in military courses who were members of junior units, R. O. T. C., at military academies or high schools, or those receiving military training while enrolled in government-aided schools (section 55c, national defense act, and section 1225, Revised Statutes) may apply for advanced-credit examinations on the basis of one semester for each year of training at a high school or government-aided school; provided there is stationed at these schools a regular officer of the United States Army; and provided further, that no credit will be given beyond the basic course, which comprises the first four semesters of the College curricula (freshman and sophomore years). (See "Advanced Credits.")

The act of congress of June 3, 1916, known as the national defense act, provides for the establishment in civil institutions of a Reserve Officers' Training Corps (R. O. T. C.).

The object of this provision is stated as follows:

"The primary object of establishing units of the Reserve Officers' Training Corps is to qualify, by systematic and standard methods of training, students at civil institutions for reserve officers. The system of instruction, herein prescribed, presents to these students a standard measure of that military training which is necessary in order to prepare them to perform intelligently the duties of commissioned officers in the military forces of the United States, and it enables them to be thus trained with the least practicable interference with their civil careers.

"Units of the senior division may be organized at civil institutions which require four years of collegiate study for a degree, including state universities and those state institutions that are required to provide instruction in military tactics under the provisions of the act of congress approved July 2, 1862, donating lands for the establishment of colleges where the leading object shall be practical instruction in agriculture and the mechanic arts, including military tactics.

"Units of the junior division may be organized at any other public or private educational institution."

An infantry unit and a coast artillery unit of the Reserve Officers' Training Corps have been established in this College.

Members of the R. O. T. C. will receive the benefits mentioned below:

1. SENIOR DIVISION, BASIC COURSE (freshmen, sophomores). Each student of these classes will be furnished with complete uniform, and equipment for his use during the course. The articles remain the property of the United States and must be accounted for and turned in by each student at the close of each college year or upon withdrawal from the R.O.T.C. Shoes are not furnished. Each student will provide himself with a pair of tan shoes (not laced boots), before entering College, as they will be required immediately upon his admission.

Any article of uniform clothing requiring repairs because of improper use or manifest lack of care will be repaired at the expense of the student concerned. Any such article damaged sufficiently to make reissue undesirable will be paid for by the student concerned. In either instance the extent and cause of the damage will be determined by the commandant or by a member of the regular military faculty designated by him.

As the proper care and prompt return of uniform clothing and other government property is considered an important part of military training, no course in that subject will be regarded as completed by any student who is indebted to the College for loss of, or damage to, government property.

A laboratory fee of 50 cents per semester is charged all students assigned to military training.

Corporals are selected from sophomores and specially qualified freshmen.

2. SENIOR DIVISION, ADVANCED COURSE. (Students who have completed the two years' Basic Course.) The student who continues in the R. O. T. C. after completing the Basic Course will receive the following benefits:

He will receive a special uniform allowance.

He will receive commutation of subsistence at the rate of 30 cents per day, provided he executes an agreement to complete the Advanced Course, or to continue in the course during the remainder of his time in College, and to take the course in camp training during such period as prescribed by the Secretary of War. The camps referred to involve no expense on the part of the student. In addition, a complete summer uniform will be issued and he will be paid at the rate of 70 cents per day for not to exceed six weeks, and five cents per mile to and from camp to cover travel expenses.

After graduation he will be eligible for appointment by the President of the United States as a reserve officer of the army, and if so appointed he may, under certain conditions, be appointed and commissioned a second lieutenant in the regular army with pay at the rate of \$125 per month, with the usual allowances. (Ration allowance is \$18 and allowance for quarters \$40 per month.)

In order to elect the Advanced Course, R. O. T. C., a student must have the recommendation of the president of the College, his dean, and the professor of military science and tactics.

The corps of cadets at present is organized as one regiment. A military band is also provided for. Assignments to the military band are made upon recommendation of the bandmaster, who has charge of the technical instruction.

Officers and higher noncommissioned officers are selected from the students taking the Advanced Course, R. O. T. C., according to class standing. This selection is made from among those cadets who have been most studious and soldierlike in the performance of their duties, and the most exemplary in their general deportment.

Students who are regularly enrolled in the Advanced Course of the Senior Division normally receive three semester credits of elective work toward graduation for each semester of military training taken beyond the Basic Course.

This department possesses equipment valued at \$2,770. In addition, the department is the custodian of federal government equipment valued at \$300,000.

COURSES IN MILITARY SCIENCE AND TACTICS

FOR UNDERGRADUATE CREDIT

Senior Division R. O. T. C.

BASIC COURSE, INFANTRY

(For students not in the Division of Engineering.)

101A. INFANTRY I. 1(0-3); I. Capt. Swift, Capt. Rehm, and Capt. Ryder.

(a) *Practical*. Leadership, infantry drill, ceremonies, and rifle marksmanship.

(b) *Theoretical*. Leadership, infantry drill, National Defense Act and reserve officers' training corps, obligations of citizenship, military history and policy, current international situation, military discipline, courtesies and customs of the service, and military organization.

102A. INFANTRY II. 1(0-3); II. Prerequisite: Course 101A. Capt. Swift, Capt. Rehm, and Capt. Ryder.

(a) *Practical*. Leadership, infantry drill, ceremonies, map reading, rifle marksmanship, and first aid.

(b) *Theoretical*. Leadership, military sanitation, first aid, military organization, map reading, and rifle marksmanship.

103A. INFANTRY III. 1(0-3); I. Prerequisite: Course 102A. Capt. Rehm.

(a) *Practical*. Leadership, infantry drill, ceremonies, and combat training.

(b) *Theoretical*. Leadership, infantry drill, military history, and combat training.

104A. INFANTRY IV. 1(0-3); II. Prerequisite: Course 103A. Capt. Rehm.

(a) *Practical*. Leadership, infantry drill, weapons, and combat training.

(b) *Theoretical*. Leadership, weapons, and combat training.

ADVANCED COURSE, INFANTRY

(For students not in the Division of Engineering.)

109. INFANTRY V. 3(2-3); I. Prerequisite: Infantry IV. Capt. Ryder.

(a) *Practical*. Leadership, infantry drill, ceremonies, aerial photograph reading, and combat training.

(b) *Theoretical*. Leadership, infantry drill, ceremonies, aerial photograph reading, and combat training.

110. INFANTRY VI. 3(2-3); II. Prerequisite: Infantry V. Capt. Ryder.

(a) *Practical*. Leadership, infantry drill, ceremonies, weapons, and combat training.

(b) *Theoretical*. Leadership, infantry drill, weapons, and combat training.

111. INFANTRY VII. 3(2-3); I. Prerequisite: Infantry VI. Capt. Swift.

(a) *Practical*. Leadership, infantry drill, ceremonies, and combat training.

(b) *Theoretical*. Leadership, infantry drill, ceremonies, military law, company administration and supply, combat training, and military history and policy.

112. INFANTRY VIII. 3(2-3); II. Prerequisite: Infantry VII. Capt. Swift.

(a) *Practical*. Leadership, infantry drill, ceremonies, and combat training.

(b) *Theoretical*. Leadership, combat training, tanks, mechanization, and officers' reserve corps regulations.

NOTE.—Advanced-course students are required to attend one camp. This comes normally at the end of the junior year, and is held normally at Fort Leavenworth, Kan.

BASIC COURSE, COAST ARTILLERY

(For students of the Division of Engineering only.)

113A. ARTILLERY I. 1(0-3); I and II. Maj. Lohmann, Capt. Crews, and Lieut. Myrah.

(a) *Practical*. First aid, rifle marksmanship, mechanical maneuvers, close-order infantry and artillery drill.

(b) *Theoretical*. Military fundamentals, organization of the army, organization of the coast artillery corps, military discipline, courtesies and customs of the service, military sanitation and first aid, military history and policy, National Defense Act and R. O. T. C., military obligations of citizenship and the current international situation; leadership, the theory of close-order drill, to include the platoon; and primary coast artillery instruction, rifle marksmanship, coast artillery ammunition, weapons and materiel.

114A. ARTILLERY II. 1(0-3); I and II. Prerequisite: Artillery I or Infantry I. Maj. Lohmann, Capt. Crews, and Lieut. Myrah.

(a) *Practical*. Continuation of Artillery I.

(b) *Theoretical*. Continuation of Artillery I.

115A. ARTILLERY III. 1(0-3); I and II. Prerequisite: Artillery I. Capt. Crews.

(a) *Practical*. Close-order infantry drill and artillery drill.

(b) *Theoretical*. Leadership, a review of Artillery I and II and coast artillery instruction, including fire control and position finding for seacoast and antiaircraft artillery, identification of aircraft and characteristics of naval targets.

116A. ARTILLERY IV. 1(0-3); I and II. Prerequisite: Artillery III. Capt. Crews.

(a) *Practical*. Continuation of Artillery III.

(b) *Theoretical*. Continuation of Artillery III.

ADVANCED COURSE, COAST ARTILLERY

(For students of the Division of Engineering only.)

117. ARTILLERY V. 3(2-3); I. Prerequisite: Artillery IV. Lieut. Myrah.

(a) *Practical*. Formulation of orders, map problems, orientation, calculation of firing data for antiaircraft and machine guns, map reading, basic gunnery, close-order infantry and artillery drill.

(b) *Theoretical*. Leadership, a review of Artillery I to IV, inclusive, and principles of instructional methods, map and aerial photograph reading, combat orders and the solution of problems, and coast artillery instruction, basic gunnery, fire control and position finding for seacoast and antiaircraft artillery.

118. ARTILLERY VI. 3(2-3); II. Prerequisite: Artillery V. Lieut. Myrah.

(a) *Practical*. Continuation of Artillery V.

(b) *Theoretical*. Continuation of Artillery V.

119. ARTILLERY VII. 3(2-3); I. Prerequisite: Artillery VI. Maj. Lohmann.

(a) *Practical*. Military law, leadership, infantry drill, ceremonies, artillery drill, orientation, and motor transportation.

(b) *Theoretical*. Military law and administration, military history and policy of the United States, leadership, principles of and instructional methods, military motor transportation, and coast artillery instruction, artillery tactics, orientation, materiel, and field engineering.

120. ARTILLERY VIII. 3(2-3); II. Prerequisite: Artillery VII. Maj. Lohmann.

(a) *Practical*. Continuation of Artillery VII.

(b) *Theoretical*. Continuation of Artillery VII.

NOTE.—Advanced-course students are required to attend one camp. This comes normally at the end of the junior year, and is held normally at Fort Sheridan, Ill.

Modern Languages

Professor MOORE
Professor LIMPER
Associate Professor CRITTENDEN

Assistant Professor PETTIS
Instructor TOWNSEND

The aim of foreign language study is twofold. Its primary objective here is a practical one: to furnish the student with an instrument definitely useful in the fields of commerce and science. Incidentally, it also gives him a better knowledge of the English language. The broader purpose might be called cultural: to acquaint the student with the literature of other countries and thus to stimulate his curiosity about foreign customs and philosophies.

A number of literary and scientific periodicals published in French, Spanish, and German are received by the College Library, and afford the student excellent opportunity to amplify his reading knowledge of these languages.

Students who have had French, Spanish, or German in high school are required, as a rule, to take more advanced courses as their elective or required work in that language. Those who have had one year of a foreign language in high school should be assigned to the second course here; those who have had two years in high school should consult the head of the department regarding assignment to advanced work here.

The department equipment is valued at \$547.

COURSES IN GERMAN

FOR UNDERGRADUATE CREDIT

101, 102. GERMAN I AND II. 3(3-0) each; I and II, respectively. Prerequisite: For II, I or equivalent. Dr. Moore and Dr. Limper.

Fundamentals of German grammar; easy reading and conversation.

111. GERMAN READINGS. 3(3-0); I. Prerequisite: German II or equivalent. Dr. Moore and Dr. Limper.

Selections from modern authors; grammar drill, sight reading, and conversation.

FOR GRADUATE AND UNDERGRADUATE CREDIT

201. GERMAN SHORT STORIES. 3(3-0); I or II. Prerequisite: German Readings or equivalent. Dr. Moore and Dr. Limper.

Short stories by modern authors.

206. GERMAN COMEDIES. 3(3-0); I or II. Prerequisite: Mod. Lang. 111 or equivalent. Dr. Moore and Dr. Limper.

Comedies selected from such writers as Leasing, Grillparzer, and Freytag.

209. SCHILLER. 3(3-0); I or II. Prerequisite: German Short Stories or German Comedies. Dr. Moore and Dr. Limper.

An introduction to the dramas of Schiller.

237. SCIENTIFIC GERMAN. 4(4-0); I. Prerequisite: German II. Dr. Moore.

An introduction to the vast field of scientific publications appearing in German, with especial emphasis on chemistry and physics.

COURSES IN FRENCH

FOR UNDERGRADUATE CREDIT

151, 152. FRENCH I AND II. 3(3-0) each; I, II, and SS, each. Prerequisite: For II, I or one year of high-school French. Dr. Limper and Miss Pettis.

The fundamentals of French grammar; emphasis on reading.

161. FRENCH READINGS. 3(3-0); I and SS. Prerequisite: French II or equivalent. Dr. Limper and Miss Pettis.

Primarily a reading course; grammar reviewed; conversation.

FOR GRADUATE AND UNDERGRADUATE CREDIT

251. FRENCH SHORT STORIES. 3(3-0); I and II. Prerequisite: French Readings or two years of high-school French. Dr. Limper and Miss Pettis.

Modern short stories by such writers as Daudet, Maupassant, and Zola.

257. FRENCH DRAMA I. 3(3-0); I or II. Prerequisite: 12 hours of college French or equivalent. Dr. Limper and Miss Pettis.

French classic drama—Corneille, Molière, Racine, Marivaux, and others.

258. FRENCH DRAMA II. 3(3-0); I or II. Prerequisite: 12 hours of college French or equivalent. Dr. Limper and Miss Pettis.

Modern French drama—Brieux, Hervieu, Maeterlinck, Rostand, and others.

261. FRENCH COMPOSITION AND CONVERSATION. 3(3-0); II, when requested by a sufficient number. Prerequisite: 12 hours of college French or equivalent. Miss Pettis.

Class period devoted to practice in speaking French; written themes required as preparation for each recitation.

263. THE FRENCH NOVEL. 3(3-0); I, II, and SS, by appointment. Prerequisites: Courses 257 and 258 or equivalent. Dr. Limper and Miss Pettis.

A panoramic view of the French novel in the various periods of literary production.

COURSES IN SPANISH

FOR UNDERGRADUATE CREDIT

176, 177. SPANISH I AND II. 3(3-0) each; I, II, and SS. Prerequisite: For II, I or one year of high-school Spanish. Dr. Moore, Miss Crittenden, and Miss Townsend.

The fundamentals of Spanish grammar, stress on training to understand spoken Spanish.

180. SPANISH READINGS. 3(3-0); I, II, and SS. Prerequisite: Spanish II or equivalent. Miss Crittenden and Miss Townsend.

Readings from such representative Spanish authors as Alarcón, Pérez Galdós, and Palacio Valdés.

194. SPANISH COMPOSITION AND CONVERSATION I. 3(3-0); I. Prerequisite: Spanish Readings or equivalent. Miss Townsend.

Written composition with review of Spanish grammar; practice in taking Spanish dictation and in speaking Spanish.

197. SPANISH COMPOSITION AND CONVERSATION II. 3(3-0); II. Prerequisite: Course 194 or equivalent. Miss Townsend.

A continuation of course 194 with written themes, giving the student an opportunity to express his own ideas in Spanish.

FOR GRADUATE AND UNDERGRADUATE CREDIT

272. SPANISH SHORT STORIES. 3(3-0); I and II, by appointment. Prerequisite: Spanish Readings. Miss Crittenden.

Stories from the most eminent of modern Spanish authors, such as Béquer, Trueba, Alarcón, Palacio Valdés, and Blasco Ibañez.

275. THE SPANISH NOVEL. 3(3-0); I. Prerequisite: Course 272 or equivalent. Miss Crittenden.

A panoramic view of the Spanish novel in the several periods of Spanish literary production.

280. THE SPANISH DRAMA. 3(3-0); II. Prerequisite: Course 272 or equivalent. Miss Crittenden.

A general view of the drama produced in Spain's best literary periods.

Music

Professor LINDQUIST
Associate Professor SAYRE
Assistant Professor HARTMAN
Assistant Professor PAINTER
Assistant Professor JEFFERSON
Assistant Professor DOWNEY

Assistant Professor MARTIN
Assistant Professor STRATTON
Assistant Professor PELTON
Assistant Professor JESSON
Assistant Professor GROSSMANN
Instructor HENRY

To be a vital factor in the life of every student is the aim of the Department of Music. It strives to create and foster a love for and an appreciation of the best in music, and to give to students that broader culture and more complete education which is gained through academic, professional, and vocational training combined with musical and artistic study. Believing that this can be accomplished to a much greater degree by having a teaching staff of musicians who are not only capable instructors but also artistic performers, courses are offered which will prepare the student not only for the teaching profession, but for an artistic career as well. Students enrolled in the department participate in the musical contributions to the public programs of the College, and such participation is a part of their training and study. The Department of Music is provided with equipment valued at \$26,185.

METHODS OF INSTRUCTION

Instruction in piano, organ, violin, violoncello, double-bass, and other instruments, also in voice, is given in private lessons. No two students have the same mental, physical, or artistic capacity, and their individual capabilities can be neither properly nor fully developed without painstaking personal attention. The best results are dependent on a close adaptation to the needs of the individual student, and such adaptation is, of course, impracticable unless the instruction be given in private lessons.

All theoretical subjects are taught in classes.

CREDITS

Students taking work in the Department of Music to a sufficient extent are allowed credits on their electives in the Divisions of General Science, Home Economics, and Agriculture, while substitutions in music, with the approval of the dean, may be made in the Division of Engineering, as follows: For Voice or some instrument, two hours each semester; for History and Appreciation of Music, two hours each semester; for Harmony, two hours each semester; for Counterpoint, two hours each semester; for Musical Form and Analysis, one hour each semester; for Orchestra or Band, one-half hour each semester; for School Music methods, two hours each semester. Any student having a full assignment may, upon recommendation of the director of the Department of Music together with the approval of the student's dean, take music without credit.

Students coming from other schools to enter our courses in music may be sufficiently advanced as players or singers to enter the second or third year of the regular music curricula but prohibited therefrom owing to their lack of knowledge of theory. If such students enter the first year of a theoretical course, their progress as players and singers is not retarded, but it would be much to their advantage to make special theoretical preparation in the hope of qualifying for more advanced standing.

PRELIMINARY MUSICAL TRAINING

Preliminary training in music is undertaken by two classes of students. The first class consists of college students not able to meet the college entrance requirements for freshman standing in the four-year music curricula. The second consists of grade-school and high-school students whose parents desire to secure for their children the kind of "conservatory" instruction that the Department of Music is in a position to offer.

Special training is given in rhythm, ear training, sight reading, scale building, melody writing, and appreciation. This work aims to develop in the student a natural means of expression through music and to furnish the right foundation for a music education.

Applicants for freshman standing in the four-year music curricula must pass an examination over certain requirements, which are as follows:

CURRICULUM IN APPLIED MUSIC

Voice majors: A voice of superior quality, ability to sing in time and in tune, and a practical knowledge of music notation.

Piano and Organ majors: A considerable degree of proficiency in the fundamentals of piano technic and in the playing of the easier classics.

Other instrumental majors: A practicable knowledge of the fundamental technique of playing the instrument in the study of which the student desires to major, and a considerable degree of proficiency in the playing of the easier classics written for that instrument.

CURRICULUM IN MUSIC EDUCATION

School Music majors: A practicable degree of proficiency in the fundamentals of piano technic and sight reading, and the ability to sing in time and in tune.

Band and Orchestra majors: A practicable degree of proficiency in the fundamentals of piano technic.

A complete and detailed list of the requirements for freshman standing in the music curricula, including examination material, may be had by writing to the office of the vice president of the College.

COURSES IN THE THEORY OF MUSIC

The aim of theoretical courses is to give the student an intelligent conception of music through the study of its historical development and scientific construction.

FOR UNDERGRADUATE CREDIT

101, 102. HARMONY I AND II. 2(2-0) each; I, II, and SS. Prerequisite: Music Fundamentals or equivalent. Mr. Stratton and Mr. Jesson.

I: A study of the major and minor scales, intervals, construction and progression of the primary triads and their inversions; the dominant seventh and its progressions and inversions; harmonizing melodies and basses.

II: Subordinate triads and their sevenths in progressions and inversions; the beginnings of modulation; writing of original exercises.

103, 104. HARMONY III AND IV. 2(2-0) each; I and II, respectively, and SS. Prerequisite: Harmony II. Mr. Stratton and Mr. Jesson.

III: Modulation completed; altered and mixed chords; embellishments.

IV: Works of the masters; writing of original exercises and small compositions.

105, 106, 107, 108. EAR TRAINING AND SIGHT SINGING. I, II, III, and IV. 2(1-3) each, but no credit outside the music curricula; I, II, I and II, respectively. Prerequisite: Music Fundamentals or equivalent. Miss Hartman.

The reading and hearing of intervals, chords, and rhythmical forms.

108A. COUNTERPOINT. 2(2-0); I, II, and SS. Prerequisite: Harmony IV. Miss Jefferson.

A study of melody writing, the association of melodies in simple counterpoint, leading to the writing of original two- and three-part inventions.

111. MUSICAL FORM AND ANALYSIS. 1(1-0); I, II, and SS. Prerequisites: Harmony IV and Counterpoint. Mr. Jesson.

The various forms used in composition; the music of Bach, Hadyn, Mozart, Beethoven, Schumann, Chopin, Brahms, Wagner, and others.

115. RADIO MUSIC APPRECIATION PROGRAMS. 1(1-1); I, II, and SS. Prerequisite: History and Appreciation of Music I. Miss Grossmann.

A study of program building, and practical experience in the planning and presentation of music appreciation programs.

116. MUSIC FUNDAMENTALS. 1(2-0); I, II, and SS. Mr. Sayre.

A study of music notation, rhythm, scales and intervals, and keys; and a brief survey of acoustics, form, design, expression, interpretation, and the melodic, harmonic, and polyphonic elements in music.

A basic course designed to meet the needs of students who desire elementary instruction in the theory of music.

130, 131. HISTORY AND APPRECIATION OF MUSIC I AND II. 2(3-0) each; I and II, respectively. Mr. Lindquist.

Aim of these courses: To give definite knowledge of each of the three periods in the history of music, the style of music peculiar to each, and musical contact with the great composers.

132. HISTORY AND APPRECIATION OF MUSIC. 2(3-0); SS.

A condensation of courses 130 and 131.

133. CHORAL CONDUCTING. 1(2-0); I, II, and SS. Prerequisite: Music Fundamentals or equivalent. Mr. Lindquist.

Practical training in the essentials of conducting choirs, glee clubs, and choruses.

134. INSTRUMENTAL CONDUCTING. 1(2-0); I, II, and SS. Prerequisites: Harmony I to IV and Choral Conducting. Mr. Downey.

Practical training in the essentials of conducting bands and orchestras.

136. INSTRUMENTATION AND ORCHESTRATION. 3(3-0); I, II, and SS. Prerequisites: Harmony I to IV and Counterpoint. Mr. Downey.

All of the instruments of the band and orchestra studied with relation to tone color, range and function; simple and familiar compositions scored for all forms of ensemble, including full orchestra.

138, 139. SCHOOL MUSIC I AND II. 2(2-0) each; I and II, respectively, and SS. Prerequisites: Ear Training and Sight Singing I and II. Miss Hartman.

I: Methods and materials for teaching music in kindergarten and the primary grades.

II: Methods and materials for teaching music in the elementary grades.

143. SCHOOL MUSIC III. 2(2-0); I, II, and SS. Prerequisites: School Music I and II. Miss Hartman.

Methods and teaching materials suitable for junior and senior high school.

149. METHODS AND MATERIALS FOR THE STUDIO. 1(2-0); I and II. Mr. Lindquist, Mr. Stratton, Mr. Downey, Mr. Martin, and Mr. Jesson.

Methods of teaching fundamental technic, selection of teaching materials, and the outlining of courses of study; discussion of principles and processes involved in the various phases of vocal and instrumental study as a means of music education. Designed for students majoring in voice or some instrument in the Curriculum in Applied Music; taught in separate divisions for voice, piano, organ, violin, etc.

151A to 151H. ORCHESTRAL INSTRUMENTS I TO VIII. $\frac{1}{2}$ (1-0) each; I, II, and SS. Mr. Downey, Mr. Martin, and assistants.

A course designed to acquaint the student with the methods of tone production of the most important instruments of the orchestra. Fee, \$2.

COURSES IN APPLIED MUSIC

153. INSTRUMENT. 0 to 4 hours a semester, maximum of 32 hours allowed; I, II, and SS. Offered to students taking work in the Curriculum in Applied Music and to students who desire special training in band or orchestra in the Curriculum in Music Education. Elective in other curricula. Mr. Downey, Mr. Martin, and assistants. For fees, see table following course 198.

156. VOICE. 0 to 4 hours a semester, maximum of 32 hours allowed; I, II, and SS. For the Curricula in Applied Music and Music Education, and elective in other curricula. Mr. Lindquist, Mr. Sayre, and Miss Grossmann.

Since production of tone in singing is governed by certain fundamental, explainable laws of phonetics and breath control, teaching the intelligent use of these laws is the constant objective of these courses. Coaching is given in the singing of French, Italian, and German songs; but the greater part of the work is in English, and pure enunciation of the mother tongue is constantly stressed. For fees, see table following course 198.

158. VIOLIN. 0 to 4 hours a semester, maximum of 32 hours allowed; I, II, and SS. For the Curricula in Applied Music and Music Education, and elective in other curricula. Mr. Martin and assistants. For fees, see table following course 198.

161. PIANO. 0 to 4 hours a semester, maximum of 32 hours allowed; I, II, and SS. For the Curricula in Applied Music and Music Education, and elective in other curricula. Mr. Stratton, Miss Painter, Miss Jefferson, and Mr. Jesson.

Instruction outlined for each semester is a conservative estimate of what a student of average talent is expected to accomplish. Every two weeks a one-hour auxiliary playing class is held, which all students majoring in piano are required to attend, and which is also open to all piano students recommended for admission by their teachers. Opportunity is given for frequent playing, study of music terminology, discussion of how to study, and acquiring a knowledge of the development of piano literature. For fees, see table following course 198.

163. VIOLONCELLO. 0 to 4 hours a semester, maximum of 32 hours allowed; I, II, and SS. For the Curricula in Applied Music and Music Education, and elective in other curricula. Mr. Downey. For fees, see table following course 198.

167. DOUBLE-BASS. 0 to 4 hours a semester, maximum of 32 hours allowed; I, II, and SS. For the Curricula in Applied Music and Music Education, and elective in other curricula. Mr. Downey. For fees, see table following course 198.

169A to 169H. VIOLIN ENSEMBLE I TO VIII. 1(0-3) each; I (courses A, C, E, G) and II (courses B, D, F, H). Elective for students of superior talent. Prerequisites: Four semesters of violin, viola, or violoncello, or the equivalent. Mr. Downey.

A practical course in the playing of string duets, trios, and quartets. Fee, \$2.

172. ORGAN. 0 to 4 hours a semester, maximum of 32 hours allowed; I, II, and SS. For the Curricula in Applied Music and Music Education, and elective in other curricula. Mr. Jesson. For fees, see table following course 198.

174. VOCAL ENSEMBLE. No credit (0-2); I, II, and SS. Elective for students of superior vocal talent. Mr. Lindquist, Mr. Sayre, Miss Grossmann, and Miss Hartman.

A practical course in the singing of duets, trios, and quartets. Fee, \$2.

176A to 176H. PIANO ENSEMBLE I TO VIII. R(1-0); I (courses A, C, E, G) and II (courses B, D, F, H). Required of all students majoring in piano or organ in the Curriculum in Applied Music. Miss Painter.

During the first two years this work is in classes of four, for practice in sight reading and ensemble playing, the chief material used being orchestral music arranged for eight hands. During the last two years the work is done partly in classes of four, but develops into two-piano work and training for accompaniment and ensemble with various groups of orchestral instruments. Fee, \$2.

181A to 181F. RECITAL I TO VI. R(-); I (courses A, C, and E) and II (courses B, D, and F). Required of all students taking work in the Curriculum in Applied Music. A joint solo recital appearance in course IV, and an individual solo recital in course VI.

183. **ENSEMBLE.** $\frac{1}{2}$ (0-2) each semester. For the curricula in Applied Music and Music Education, and elective in other curricula. Mr. Lindquist, Miss Grossmann, Mr. Sayre, and Mr. Downey.

Required ensemble work may be taken in Choral Ensemble (course 194), Orchestra (course 195), or Band (course 198).

187. **PRACTICE TEACHING OF MUSIC.** R(1-0); II. Mr. Lindquist, Mr. Downey, Mr. Martin, Mr. Stratton, and Mr. Jesson.

Practice teaching in private classes for students in the Curriculum in Applied Music.

194. **CHORAL ENSEMBLE.** $\frac{1}{2}$ (0-2) each semester. Weekly rehearsals, all special rehearsals, and public performances. Prerequisites: A voice of good quality, a knowledge of musical notation, and the ability to sing in time and in tune. Mr. Lindquist, Mr. Sayre, and Miss Grossmann.

Membership in both the College Chorus and the Men's Glee Club or the College Chorus and the Women's Glee Club.

MUSICAL ORGANIZATIONS

The existence of an organization of individuals is justified by the service such a body renders. The musical organizations at this college are second to none in the colleges of America. Students are here given a rare opportunity to study the great musical compositions that have been written for various ensemble combinations, and to render excellent service to the College and community as well as to themselves in the presentation of public programs.

191. **CHORUS.** Weekly rehearsals, all special rehearsals, and public performances; I and II. Prerequisites: Ability to read musical notation and to sing in time and in tune. Membership is open to the entire student body, and to others who may qualify. Approval of the head of the department of music must be obtained. Mr. Lindquist.

The College Chorus presents two or more standard cantatas or oratorios each year.

THE MEN'S GLEE CLUB. The Men's Glee Club is composed of about forty-five of the best male voices in the College. Membership is open to the entire student body, including graduate students, and vacancies in the club are filled by competitive tryouts. This organization is available for a limited number of concert engagements throughout the state. Mr. Lindquist.

THE WOMEN'S GLEE CLUB. This is an organization of the young women of the College. Two separate divisions are maintained: the Study Club, the membership of which is selected by competitive tryouts, and the Concert Club, to which members of the Study Club may be elected after one year's service. Membership is open to the entire student body, including graduate students, and vacancies in the club are filled by competitive trial. This organization is also available for a limited number of concert engagements throughout the state. Mr. Sayre and Miss Grossmann.

195. **ORCHESTRA.** $\frac{1}{2}$ (0-2) each semester. Weekly rehearsals, all special rehearsals, and public performances. Mr. Downey.

The College Orchestra, composed of about fifty players, maintains a correct and well-balanced instrumentation, including all of the instruments of the modern symphony orchestra; and, in the preparation of programs of symphonic music, opera and oratorio accompaniments, offers the actual routine experience necessary for the development of efficient orchestra playing. Vacancies are filled by competitive tryouts, and membership is open to the entire student body and to others who may qualify.

198. **BAND.** $\frac{1}{2}$ (0-2) each semester. Weekly rehearsals, all special rehearsals, and public performances. Mr. Downey and Mr. Martin.

The College Band plays for all military functions and major athletic events, and makes several concert appearances on the campus during the year. It is

also available for a limited number of concert engagements throughout the state. Membership is open to the entire student body, and vacancies are filled by competitive trial.

FEES IN MUSIC

| COURSE | GRADATION OF TEACHERS | | | | | | | |
|---------------------------------------|-----------------------|------|------|------|------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Two lessons each week for a semester: | | | | | | | | |
| Voice | \$38 | \$36 | .. | \$32 | .. | \$30* | \$24* | \$14† |
| Piano | .. | 36 | \$34 | 32 | .. | 30* | 24* | 14† |
| Organ | .. | 36 | .. | .. | .. | 30* | 24* | 14† |
| Violin | .. | 36 | .. | .. | .. | 30* | 24* | 14† |
| Violoncello | .. | 36 | .. | .. | .. | 30* | 24* | 14† |
| Other orchestral instruments | .. | .. | .. | .. | \$30 | 30* | 24* | 14† |
| One lesson each week for a semester: | | | | | | | | |
| Voice | 21 | 20 | .. | 18 | .. | 17* | 14* | 9† |
| Piano | .. | 20 | 19 | 18 | .. | 17* | 14* | 9† |
| Organ | .. | 20 | .. | .. | .. | 17* | 14* | 9† |
| Violin | .. | 20 | .. | .. | .. | 17* | 14* | 9† |
| Violoncello | .. | 20 | .. | .. | .. | 17* | 14* | 9† |
| Other orchestral instruments | .. | .. | .. | .. | 17 | 17* | 14* | 9† |

Piano rent, one hour daily—\$4 a semester.
Piano rent, two hours daily—\$6 a semester.
Organ rent, one hour weekly—\$3 a semester.

Physical Education and Athletics

Professor AHEARN
Professor WALDORF
Professor SAUM ‡
Professor WASHBURN
Assistant Professor ROOT
Instructor GEYER
Instructor HAYLETT

Instructor MOLL
Instructor MAYTUM
Instructor FRY
Assistant MYERS
Assistant PATTERSON
Assistant WOOD
Assistant BROPHY

The purpose of the Department of Physical Education and Athletics is to assist the students of the College to live to the best advantage, and so to aid them in the formation of hygienic habits that during their college course they may make a profitable physical preparation for life.

All young men and all young women of the College are entitled to the privileges of the gymnasium, which is large and well equipped with all sorts of apparatus for physical training, with locker, plunge baths, shower baths, and other accommodations.

In courses requiring a change of clothing, lockers may be obtained by making a locker deposit of \$3. Upon return of lock and key, a refund of \$1 is made in each case. Only one locker fee is required of a student in any one semester.

Men taking the physical education courses 103, 104, 105, 106 are required to furnish their own uniforms consisting of white sleeveless shirt, short white gym pants, and rubber-soled shoes.

Men majoring in physical education are required to wear a special uniform for their gymnasium class work, which costs approximately \$9.

Equipment is furnished to acceptable candidates for varsity and freshman athletic teams. It is checked out to individual candidates and they are held responsible for it. It must be returned when called for by the property clerk. Failure to return or replace equipment when called for subjects the offender to a fine or to other disciplinary action.

Physical education is required of all freshmen and sophomores unless excused for disability on recommendation of the College physician. Students entering with 15, 25, 44 or 59 hours of advanced credit are excused from one, two, three or four semesters, respectively, of physical education, no substitution being required.

The work of the department is based largely upon a physical examination given each student when he enters upon the work of the department. All

* Fees for children.

† Student assistant fees.

‡ On leave, 1934-'35.

students, whether taking work in the department or not, are entitled to receive a physical examination and advice as to their physical condition.

A diagnosis is made of the vital organs to ascertain their functional condition, and a complete inspection of the whole body is made to detect any weakness or deformity that may exist. Based upon the information thus obtained, advice is given and work assigned to students in accordance with their physical needs, tastes, and capabilities. All candidates for athletic teams are expected to pass a thorough physical examination. The department owns equipment valued at \$8,615.

COURSES IN PHYSICAL EDUCATION

FOR UNDERGRADUATE CREDIT—MEN

A deposit of \$3 is required of each student enrolled in any course designated "Deposit." Only one deposit is required from any student in a given semester.

103, 104, 105, 106. **PHYSICAL EDUCATION M.** R(0-2) each semester of freshman and sophomore years. Mr. Washburn, Mr. Root, Mr. Moll, and Mr. Patterson.

Personal hygiene and social problems; marching, calisthenics, apparatus and games, selected with the object of obtaining the best hygienic, educational and recreative results for the student.

The following activities may be elected by students in place of the gymnasium work: (a) **Swimming**: Beginning, advanced, and Red Cross life-saving. (Beginning swimming is a prerequisite for advanced swimming and for Red Cross life-saving. Students must pass a preliminary test before entering the Red Cross life-saving class unless they have passed the test given in the advanced swimming class.) (b) **Boxing**, (c) **Wrestling**, and (d) **Corrective Gymnastics**. Deposit.

109. **APPARATUS**. 1(0-3); I. Prerequisites: **Gymnastics I and II**. Mr. Moll. Carefully selected and graded exercises on the various pieces of apparatus, fundamental apparatus stunts, mat exercises and tumbling. Deposit.

113A. **FIRST AID AND MASSAGE**. 3(3-0); I and SS. Prerequisite: **Human Anatomy**. Mr. Moll.

Different forms of injuries and their temporary protection, including dressing, bandaging, transportation of the injured, etc., aid in case of accident, preparation of solutions, bandages, splints, etc., the methods of massage.

115A, 117A. **GYMNASTICS I AND II**. 2(1-3) and 2(0-6), respectively; I and II, respectively, and SS. Mr. Washburn and Mr. Moll.

I: Theory and practice of marching and calisthenics; principles of the gymnastic lesson; nomenclature and arrangement of exercises; light apparatus; games. Deposit.

II: Continuation of course 115A, with the addition of gymnastic dancing, the composition and teaching of model lessons, fundamental exercises on the apparatus and mat work. Deposit.

119. **PERSONAL HYGIENE**. 2(2-0); I and SS. Mr. Washburn.

This course deals with health from the standpoint of the individual; care of the body, its organs, and vital processes.

121, 122. **SWIMMING M-I AND M-II**. 1(0-3 each); I and II, respectively, and SS. **Swimming M-I** is a prerequisite for **Swimming M-II**. Mr. Patterson and Mr. Moll.

I: Instruction and practice of breast, back and crawl strokes, of diving, treading water, and floating, land exercises and methods of breathing. Deposit.

II: Continuation of **Swimming M-I**. Advanced swimming and diving, water games and stunts, Red Cross life-saving methods. Methods of teaching and conduct of swimming meets and programs are discussed. Deposit.

123. **PHYSIOLOGY OF EXERCISE.** 2(2-0); I. Prerequisites: Human Anatomy and Physiology. Mr. Washburn.

The effect of exercise on the tissues, systems, and organs of the body.

124A. **PHYSICAL DIAGNOSIS AND PRESCRIPTION.** 3(3-0); I. Prerequisites: Gymnastics I and II and Kinesiology. Mr. Washburn.

Students are taught to diagnose faulty conditions and, in cases that can be remedied by exercise, to give directions and write prescriptions of exercise.

125. **FOOTBALL.** 3(2-3); II and SS. Mr. Waldorf.

Study of the rules, theory, and practice for fundamentals and equipment; various positions on a football team, generalship and field tactics; systems of offensive and defensive football. Deposit.

128. **WRESTLING.** 1(0-3); I. Mr. Patterson.

Rules, and the method of attack and defense in catch-as-catch-can wrestling; theories of wrestling, and wrestling psychology. Deposit.

130A. **BASKET BALL.** 2(1-3); I and SS. Mr. Root.

The rules, technic of basket shooting, foul throwing, catching, and passing, dribbling, reverse turn, different styles of play, offense, defense, team work, selection of players, training and equipment. Deposit.

132. **BOXING.** 1(0-3); II. Mr. Patterson.

Instruction in various modes of attack and defense; discussion of training, wrestling and boxing tournaments, and related topics. Deposit.

133. **BASEBALL.** 2(1-3); II and SS. Mr. Ahearn.

Theory and technic, each position being studied separately; rules, schedules, equipment, strategy, signals, team organization, plays, and players. Deposit.

135, 136B. **PRACTICE TEACHING IN PHYSICAL EDUCATION I AND II.** 1(0-3) and 2(0-6), respectively. I and II, respectively. Prerequisite: Junior standing. Mr. Washburn.

Under immediate supervision of the teachers and coaches, students assist in the physical education classes, athletic squads, and intramural teams, and officiate in intramural games. The theory of teaching and officiating is also discussed. Deposit.

136C. **PRACTICE TEACHING IN PHYSICAL EDUCATION III.** 2(0-6). Mr. Washburn. Continuation of courses 135 and 136B. Deposit.

140A. **TRACK AND FIELD SPORTS.** 2(1-3); II. Mr. Haylett.

Rules and theory of track and field events; organization, conduct, officiating of meets, construction of all track equipment, training, dieting, equipment, and selection of material. Fundamentals of track and field sports. Deposit.

141B. **KINESIOLOGY M.** 3(3-0); II. Prerequisite: Human Anatomy. Mr. Washburn.

The mechanics of movements; elemental body movements analyzed, and principles involved applied to teaching of physical education.

142. **PUBLIC-SCHOOL PROGRAM IN PHYSICAL EDUCATION.** 2(2-0); II. Prerequisite: Senior standing. Mr. Washburn.

The objectives of physical education; the educational, health and recreative significance; content of the school program; types of activity to be emphasized in grades, high school, and college.

145A. **PLAYGROUND MANAGEMENT AND GAMES M.** 2(2-0); II. Mr. Washburn.

Management and activities of the playground; equipment of playgrounds, arrangement of apparatus and places for games, track work, wading pools, etc.; municipal and industrial recreation centers, mass athletics.

146B. **ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION M.** 2(2-0); I. Prerequisite: Junior standing. Mr. Washburn.

Organization and administration of the physical education department in various types of institutions; intercollegiate, interscholastic and intramural athletics.

148. SCHOOL HYGIENE. 3(3-0); II. Prerequisites: Personal Hygiene, Human Anatomy, and Physiology. Mr. Washburn.

Hygiene of the building and of the teacher; principles, content, and methods of health education.

FOR UNDERGRADUATE CREDIT—WOMEN

A deposit of \$2.50 is required of each student enrolled in any course designated "Deposit." Only one deposit is required from any student in a given semester.

151A, 152A, 153, 154. PHYSICAL EDUCATION W. R(0-3) each; I, II, and SS. Miss Saum, Miss Geyer, Miss Maytum, Miss Wood, and Miss Brophy.

Natural dancing, swimming and corrective gymnastics offered throughout the year; hockey, field ball, soccer, volley ball, tennis, basket ball, archery, baseball, track and field sports given in season. Deposit. A refund of 50 cents, each semester, is made upon return of key.

Recreational swimming hour. There is an open hour in the pool, on Tuesdays and Thursdays at 4 o'clock. No instruction is given. This hour is open to those who have registered in the College and paid the necessary fees. Swimming fee, \$1 each semester.

157A. GENERAL TECHNIC I. 2(1-3); I. Miss Wood.

Theory and practice of child rhythms and folk dancing. Deposit.

157B. GENERAL TECHNIC II. 2(1-3); II. Miss Geyer.

Theory and practice of advanced gymnastics. Deposit.

157C. GENERAL TECHNIC III. 2(1-3); I. Miss Geyer.

Theory and practice of hockey, soccer, and volley ball. Deposit.

157D. GENERAL TECHNIC IV. 2(1-3) II. Miss Geyer.

Theory and practice of baseball, and field and track. Deposit.

157E. GENERAL TECHNIC V. 2(1-3); I. Miss Saum and Miss Maytum.

Theory and practice of archery, pyramids, stunts, and tumbling. Deposit.

157F. GENERAL TECHNIC VI. 2(1-3); II. Miss Geyer.

Methods of teaching basket ball, gymnastics, and tennis. Deposit.

157G. GENERAL TECHNIC VII. 2(1-3); I. Miss Wood.

Methods of teaching natural dancing. Deposit.

157H. GENERAL TECHNIC VIII. 2(1-3); II. Miss Saum.

Methods of teaching swimming. Deposit.

158. FIRST-AID. 1(1-0); SS.

The prevention of accidents and the treatment of injuries in an emergency.

160. FOLK DANCING I. 1(0-3); I. Prerequisites: Courses 151A to 154. Miss Maytum.

Singing games for gymnasium, classroom, and playground; selected and graded list of simple folk dances. Material adapted for use in elementary schools. Deposit.

161. FOLK DANCING II. 1(0-3); II. Prerequisite: Course 160. Miss Maytum.

A selected list of folk dances and clog dances for use in junior and senior high schools. Deposit.

163. PRINCIPLES OF HEALTH EDUCATION W. 3(3-0); I and SS. Prerequisite: Personal Health. Miss Geyer.

General program of health work; daily health inspection; health examinations; and evaluation of health education material for grades and high schools.

164. CLOG AND CHARACTER DANCING W. 1(0-3); SS.

Principles of teaching clog and character dancing; lectures and practical work; a notebook is required.

165. TUMBLING, PYRAMIDS, AND STUNTS W. 1(0-3); SS.

Instruction in tumbling, pyramids and stunts in line with the ability of the class. Material presented may be used in grades and high school.

166. INTRAMURAL ATHLETICS FOR WOMEN. 1(1-0); SS.

This course is offered for teachers who direct intramural activities. Types and methods of conducting intramural athletics in high schools will be considered.

167. CAMP CRAFT W. 1(0-3); SS.

Fire building, outdoor cooking, day and overnight trips, and handicraft. Lectures, reports and practical work.

170. PHYSICAL DIAGNOSIS W. 3(3-0); I. Prerequisites: Anatomy, Kinesiology, and Physiology. Miss Maytum.

Causes and symptoms of common diseases, deformities, and other abnormal conditions; methods of giving physical examinations.

173. THERAPEUTICS AND MASSAGE. 3(2-3); II. Prerequisites. Anatomy, Kinesiology, and Physical Diagnosis. Miss Maytum.

Postural defects studied and exercises given for correction of each; general and local massage practiced for cases which can be treated by the Department of Physical Education. Deposit.

176. ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION W. 2(2-0); II. Prerequisites: Courses 157A to 157H, 182A, 186 and 188. Miss Saum.

Administrative policies of physical education departments: the staff, activities, basic principles. Construction, equipment, and care of plant.

178. FOLK DANCING. 1(0-3); SS. Miss Maytum.

Lectures on origin and values of folk dancing, principles of teaching folk dances, use of folk dances in festivals; practical work consisting of graded folk dances and some practice teaching; a notebook required. Deposit.

182A. PLAYGROUND MANAGEMENT AND GAMES W. 2(1-3); I, and SS. Prerequisites: Courses 151A and 152A. Miss Maytum.

Organization and administration of playground activities and equipment; history of the playground movement and the various theories of play. Types of games suitable for different age periods, methods of coaching and managing group contests. Deposit.

184. KINESIOLOGY W. 2(2-0); II. Prerequisite: Human Anatomy (Zoöl. 123). Miss Geyer.

The mechanics of movement; elemental body movements analyzed and principles involved applied to the teaching of physical education.

187A. TECHNIC OF BASKET BALL, BASEBALL, AND VOLLEY BALL. 1(0-3); SS.

Rules, duties of officials, organization of squads and teams, equipment. Methods of coaching and conducting of tournaments. Deposit.

188. TEACHING AND ADAPTATION OF PHYSICAL EDUCATION. 3(3-0); I. Prerequisites: Courses 161, 157A to 157F, 168 to 182A. Miss Maytum.

Problems of physical education and general principles of leadership; adaptation of material to meet needs of various groups and to meet aims and ideals of physical education.

FOR UNDERGRADUATE CREDIT—MEN AND WOMEN

192. HISTORY AND PRINCIPLES OF PHYSICAL EDUCATION. 3(3-0); II. Prerequisite: Sophomore standing. Miss Wood.

A survey of the field of physical education from ancient to modern times; aims and ideals of physical education and its relation to general education.

Physics

Professor HAMILTON
 Professor RABURN
 Professor FLOYD
 Associate Professor BRACKETT
 Associate Professor LYON
 Associate Professor CHAPIN

Assistant Professor HARTEL
 Assistant Professor MAXWELL
 Assistant Professor AVERY
 Assistant Professor HUDIBURG
 Assistant MARTINEZ

The inventions derived from physics are intimately involved in modern life. The principles of physics underlie the sciences and philosophy, and are widely applied in the curricula in which physics is required. Educated men and women require acquaintance with physics for its cultural value, as well as for its practical uses. The physics courses provide instruction in theory and its laboratory applications. Courses marked SS are available every summer. Many other courses are offered every second or third summer as demand arises. In the destruction of Denison Hall by fire, August 3, 1934, the Department of Physics lost equipment valued at \$36,994. The Department is now located in the west wing of Waters Hall, and new apparatus costing \$12,000 has been installed.

COURSES IN PHYSICS

FOR UNDERGRADUATE CREDIT

101. HOUSEHOLD PHYSICS. 4(3-3); I, II, and SS. Mr. Hamilton, Mr. Floyd, and Miss Avery.

Lectures and demonstrations in which the laws and principles involved in household appliances are explained and illustrated. Charge, \$3.

110. DESCRIPTIVE PHYSICS. 3(3-0); I, II, and SS. Mr. Brackett, Mr. Hartel, Mr. Lyon, and Mr. Maxwell.

Nonmathematical explanations and experimental demonstrations of selected principles in physics, with attention directed to the contribution of physics to man's progress; adapted to the needs of students of journalism, commerce, and physical education. Not for credit if following Physics 135, 140 or 145, 150.

120. PHOTOGRAPHY. 2(1-3); II. Mr. Hamilton and Mr. Hudiburg.

Chemical and physical principles involved in photography; practice in making good negatives and prints. Charge, \$3.

131. GENERAL RADIO. 2(2-0); I. Alternate years. Mr. Lyon.

Elementary, nonmathematical explanation of radio.

133. METEOROLOGY. 3(3-0); I. Mr. Hamilton and Mr. Raburn.

Weather phenomena and principles of forecasting; climatic factors; relation of weather studies to agriculture, general science, and physiography.

134. AGRICULTURAL PHYSICS. 3(3-0); II. Mr. Brackett.

Fundamental principles as related to agriculture. Required of students in agriculture who enter without high-school physics.

135, 140. GENERAL PHYSICS I AND II. 4(3-3) each; I, II, and SS each. Not open for full credit to students who have credit in Physics 101, or in 145 or 150. Prerequisite: Plane Trigonometry. Mr. Floyd, Mr. Brackett, Mr. Lyon, Mr. Chapin, and Mr. Hartel.

I: General principles involved in mechanics, heat, and sound.

II: General principles involved in magnetism, electricity, and light. Charge, \$3 for each course.

145, 150. ENGINEERING PHYSICS I AND II. 5(4-3) each; I, II, and SS each. Prerequisites: For I, Plane Trigonometry; for II, Physics 145. Not open for full credit to students who have credit in Physics 101, 135, or 140. Mr. Hamilton, Mr. Raburn, Mr. Brackett, Mr. Lyon, Mr. Chapin, Mr. Maxwell, and Mr. Hudiburg.

I: Principles of mechanics, heat, and sound for technical students.

II: Principles of magnetism, electricity, and light for technical students. Charge, \$3 for each course.

155. DESCRIPTIVE ASTRONOMY. 3(3-0); II. Mr. Hartel.

Introductory course. Constellation studies and observations with the five-inch refracting telescope.

158. PHYSICS FOR MUSICIANS I. 5(4-3); I. Prerequisites: Harmony I and II. Mr. Floyd and Mr. Chapin.

Laws and principles necessary to an understanding of the physics of scales, chords, and musical instruments, including the human voice. Charge, \$3.

159. PHYSICS FOR MUSICIANS II. 3(3-0); II. Prerequisites: Physics 158 or 135 or 145. Mr. Floyd and Mr. Chapin.

Lectures and demonstrations dealing with the applications of the material presented in Physics 158 to scales, chords, and musical instruments, including the human voice.

FOR GRADUATE AND UNDERGRADUATE CREDIT

204. APPARATUS DESIGN, CONSTRUCTION, AND CALIBRATION. 1(0-3) or 2(0-6); I, II, and SS. Prerequisite: Physics 140 or 150. Mr. Floyd, Mr. Brackett, and Mr. Hudiburg.

A course in the design, construction, and calibration of apparatus, open to students to whom research problems have been assigned in any department of the college, to teachers of science, and to others. Deposit, \$3.

214. ARCHITECTURAL ACOUSTICS. 1(1-0); II. Prerequisite: Physics 140 or 150. Mr. Floyd and Mr. Chapin.

Prediction of acoustic properties of buildings in advance of construction and the correction of acoustic defects.

216. THEORETICAL ASTRONOMY. 3(3-0); I. Prerequisites: Physics 155 and Mathematics 101. Mr. Hartel.

Calculations concerning distances and motions of bodies in the solar system and of the stars, and applications of laws of gravitation leading to the study of celestial mechanics.

219. HEAT. 3(3-0); I. Prerequisites: Physics 140 or 150 and Mathematics 205. Mr. Floyd, Mr. Raburn, and Mr. Chapin.

A critical study of the general field of heat.

222. HEAT LABORATORY. 1(0-3); I. Physics 219 is prerequisite or concurrent. Mr. Floyd and Mr. Chapin. Charge, \$3.

226. X-RAYS. 2(2-3); I or II. Prerequisites: Physics 101, 140, 150, or equivalent. Mr. Hamilton.

Radiology, theory of short waves and of the equipment used in their production in various types of X-ray tubes. Laboratory work involving the use and operation of X-ray equipment, and making exposures and development of X-ray plates and films. Charge, \$3.

229. SPECTROSCOPY. 3(2-3); I. Prerequisites: Physics 140 or 150 and Chemistry 102 or 110. Mr. Hamilton and Mr. Raburn.

Theory and use of the spectrometer for identification of elements and compounds.

Laboratory.—Calibration of prisms and gratings and the measurement of wave lengths. Charge, \$3.

230. LIGHT. 3(3-0); II. Prerequisites: Physics 140 or 150 and Mathematics 205. Mr. Hamilton, Mr. Floyd, and Mr. Chapin.

A critical study of the general field of light from the wave point of view.

232. LIGHT LABORATORY. 1(0-3); II. Physics 230 is prerequisite or concurrent. Mr. Floyd and Mr. Chapin.

234. ELECTRON THEORY. 3(3-0); II. Prerequisites: Physics 140 or 150. Chemistry 102 or 110 and Mathematics 205. Mr. Raburn, Mr. Brackett, and Mr. Lyon.

An interpretation of matter, radioactivity, and electricity in terms of the electron.

245. RADIO MEASUREMENTS. 2(1-3); I or II. Prerequisites: Physics 140 or 150 and adequate knowledge of radio. Mr. Lyon and Mr. Hudiburg.

Tube characteristics, inductance, capacity, and use of wave meter and decimeter.

247. HISTORY OF PHYSICS. 2(2-0); II. Prerequisite: One course in physics. Mr. Brackett and Mr. Lyon.

Development of physics, and interactions of physical science and philosophy; the influence of modern physics and its effect on contemporary thought.

249. MODERN PHYSICS. 3(3-0); I. Prerequisites: Course in physics and chemistry. It is recommended but not required that Physics 247 be taken first. Mr. Brackett and Mr. Lyon.

Theories involved in recent advances in physics reviewed critically; each member of the class is assigned to read selections from different texts and articles and to report and discuss his findings.

252. ADVANCED MECHANICS LABORATORY. 1(0-3) or 2(0-6); I. Prerequisite: Physics 140 or 150. Mr. Hamilton and Mr. Hartel.

Surface tension, viscosity, simple harmonic motion, torsion, pendulum, flexure, moment of inertia, and rigidity.

257. ELECTRICITY AND MAGNETISM. 2(2-0); I or II. Prerequisites: Physics 140 or 150 and Mathematics 206. Mr. Lyon and Mr. Hudiburg.

Electricity and magnetism discussed in terms of calculus.

259. ELECTRICITY LABORATORY. 1(0-3) or 2(0-6); I or II. Prerequisite: Physics 140 or 150. Mr. Hudiburg, Mr. Lyon, and Mr. Maxwell.

Experiments selected to meet the needs of the student.

261. PROBLEMS IN PHYSICS. Credit to be arranged; I, II, and SS. Prerequisite: Physics 140 or 150. Mr. Hamilton, Mr. Floyd, Mr. Brackett, Mr. Lyon, and Mr. Chapin.

COURSES AVAILABLE BY APPOINTMENT

275. ELECTRIC OSCILLATIONS AND ELECTRIC WAVES. 3(3-0). Prerequisites: Physics 140 or 150, Mathematics 201, and adequate knowledge of radio. Mr. Lyon.

278. KINETIC THEORY OF GASES. 3(3-0). Prerequisites: Physics 219 and Mathematics 201. Mr. Floyd and Mr. Raburn.

280. QUANTUM THEORY AND WAVE MECHANICS. 3(3-0). Prerequisites: Physics 140 or 150 and Mathematics 201. Mr. Lyon and Mr. Chapin.

285. GENERAL THERMODYNAMICS. 3(3-0). Prerequisites: Physics 219 and Mathematics 201. Mr. Floyd and Mr. Chapin.

FOR GRADUATE CREDIT

301. RESEARCH IN PHYSICS. Credit to be arranged; I, II, and SS. Prerequisite: Consent of instructor. The Staff.

315. VECTOR MECHANICS. 3(3-0). Prerequisite: Mathematics 230. Dr. Babcock.

Public Speaking

Professor HILL
Professor SUMMERS

Associate Professor HEBERER
Associate Professor GIVEN

It is the constant effort of the Department of Public Speaking to relate the training in public speaking to the work of all other departments of the College and to harmonize it with the spirit of the College. With this object in view, students are trained in the presentation and discussion of the valuable ideas acquired in their various fields of study. The method pursued in this training is that of actual practice on the platform before an audience.

The department seeks to place itself at the service of those various organizations of the College which desire or need its assistance, and at the service of the communities of the state. In addition to its regular courses, it aims to make itself available, as far as possible for individual rehearsals. It trains the orators of the College, coaches and directs college plays, and prepares inter-collegiate debating teams. Students are urged to ally themselves with the organizations representing those various activities.

The equipment of this department has a value of \$234.

COURSES IN PUBLIC SPEAKING

FOR UNDERGRADUATE CREDIT

101. ORAL INTERPRETATION. 2(2-0); I and II. Mr. Given.

Purpose to enable the student to attain some proficiency in the art of oral interpretation; training to develop a natural style; points of theory and routine drill necessary for the development and use of the voice and for proper platform deportment.

102. DRAMATIC READING. 2(2-0); I and II. Prerequisite: Course 101 or by arrangement with head of department. Mr. Given.

A continuation of course 101, involving more advanced study of the principles of oral interpretation and their application to platform reading.

106, 108. EXTEMPORE SPEECH I AND II. 2(2-0) each; I and II each. Prerequisite: For II, I. Dr. Hill, Dr. Summers, Mr. Heberer, and Mr. Given.

I: Preparation and delivery of short addresses based on prepared outlines.

II: Course 106 continued, with special attention to specific application of the principles of that course to particular occasions.

115. LECTURE RECITAL. 2 credits; I and II. Prerequisites: Courses 101 and 102 or by special arrangement with the head of the department. Dr. Hill.

Preparation and delivery by the student of one extended lecture recital, lecture, or preparation and delivery of short recitals; a study of types.

121. ARGUMENTATION AND DEBATE. 2(2-0); II. Prerequisite: Course 106 or by arrangement with instructor. Dr. Summers.

Fundamentals of argumentation as applied to debate, with special attention to the making of outlines, collection and organization of material, structure and style of the debate speech, and methods of refutation. Opportunity will be given to participate in a number of classroom debates for criticism.

123, 124. INTERCOLLEGIATE DEBATE I AND II. 2 credits each. Prerequisite for I: Course 121; for II: Course 122 and permission of the head of the department. Dr. Summers.

I: Practical experience in intercollegiate contest debating.

II: Practical experience in intercollegiate debates of the discussion type.

126. PARLIAMENTARY PROCEDURE. 1(1-0); II. Dr. Summers.

How to organize and conduct meetings and take part in deliberative assemblies, with stress on three phases: How to conduct a meeting as chairman; how to take part from the floor; and how to organize and work in committee.

130, 135. DRAMATIC PRODUCTION I AND II. 2(2-0) each; I, II, and SS each. Prerequisite for II: I or consent of the instructor. Mr. Heberer.

I: The fundamentals of acting both in theory and practice. Lecture, discussions, and exercises in pantomime, and participation in dramatic productions presented by the Department of Public Speaking, if the ability of the student warrants his appearance in public performances.

II: Lectures and discussion of the fundamentals of stagecraft, including direction, lighting, and scene design. Participation in the production staff of the major performances of the Department of Public Speaking and the preparation of a Director's Prompt Book is required.

138. PUBLIC SPEAKING FOR TEACHERS. 1(1-0); I and SS. Dr. Hill and Mr. Heberer.

A course designed to give the teacher training in the art of reading and speaking from the public platform, and a knowledge of the principles of public speaking as they apply to pedagogy.

142. ORATORICAL CONTEST. 2(-); II. Prerequisite: Course 101 or the permission of the head of the department.

Practical experience in modern types of intercollegiate and recognized intersociety contest oratory. Limit of credits for contest participation, four hours.

150, 152. DEVELOPMENT OF THE THEATER I AND II. 2(2-0) each; I and II, respectively. Mr. Heberer.

I: The theater from its beginning down to the end of the nineteenth century; types of plays, theaters, acting and production, and their relations to the time.

II: The modern theater, its problems, plays, actors, artists, and producers—a study of the American theater principally, and a survey of the contemporary stage.

160. RADIO SPEAKING AND ANNOUNCING. 2(1-3); I and II. Prerequisites: Course 106 and permission of the instructor. Dr. Summers.

The essentials of radio speaking voice, preparation of material for broadcast, announcing, and customary studio regulations. Offered by the department of Public Speaking in conjunction with the staff of the College radio station. The equipment of the College broadcasting station is used for laboratory work. Fee, \$2.

164. THE RADIO PROGRAM. 2(2-0); II. Prerequisite: Course 160 or permission of instructor. Dr. Summers.

Analysis of program types, with particular attention to educational, dramatic, and advertising programs; experience in the planning of programs and in the construction and presentation of original features.

168. RADIO PROGRAM PARTICIPATION. 1(1-1); I and II. Prerequisite: Public Speaking 160. May not be taken more than three semesters for credit.

Preparation of programs for presentation over the College radio station, and presentation of the material prepared, for criticism.

FOR GRADUATE AND UNDERGRADUATE CREDIT

201. PHONETICS. 4(3-3); I. Prerequisites: Courses 101, 106, and 108.

The science of speech sounds with special emphasis upon the formation of sounds by the human voice mechanism.

205. PAGEANTRY. 3(3-0); I and II. Prerequisites: English Literature and Extempore Speech I.

History of community drama and pageantry; finding and arranging materials; organization of pageant groups; methods of financing; the adaptation of costuming, dancing, music, and setting to pageant production. Students during the course write a complete pageant manuscript, and produce a pageant in reality or in miniature under laboratory conditions.

222. ADVANCED DEBATE. 2(2-0); I. Prerequisite: Course 121 or by arrangement with the instructor. Dr. Summers.

Practical application of debate theory in public discussion, with particular attention to the use of various methods of persuasion. Opportunity to participate in classroom discussion debates for criticism.

225. THE PUBLIC PROGRAM. 2(2-0); II and SS. Prerequisite: Public speaking 106 or permission of the instructor. Dr. Hill.

The theory and practice of planning, building, and presenting various types of public programs, for the conference, the convention, the public assembly, the educational institute, the after dinner occasion.

FOR GRADUATE CREDIT

301. RESEARCH IN SPEECH. Credit to be arranged. I, II, and SS. Prerequisite: Consult instructor. Dr. Hill and Mr. Given.

Individual research problems in the general field of speech and in the fields of the drama and pageantry, speech defects, speech psychology, speech types, lecture recital, and lecture.

305. CLINICAL PROBLEMS OF DEFECTIVE SPEAKING. 4(2-6); II. Prerequisites: Courses 101, 106, 108, and 201.

A study of corrective methods. Practical problems assigned when defective cases are available.

Zoölogy

Professor NABOURS
 Professor ACKERT
 Professor HARMAN
 Professor JOHNSON
 Assistant Professor WIMMER
 Assistant Professor HARBAUGH
 Instructor GOODRICH

Instructor DOBROVOLNY
 Assistant STEBBINS
 Graduate Research Assistant BAKER
 Graduate Research Assistant PRATT
 Graduate Research Assistant TABOR
 Graduate Research Assistant WHITLOCK

The courses have been planned to give a fundamental knowledge of the structures, functions, and relations of animals; information concerning the manner in which animals respond to the conditions of the environment; an appreciation of their human values; and a consideration of the problem of heredity and evolution.

The classrooms and laboratories are equipped with charts, models, microscopes, microtomes, paraffin baths and other apparatus both for elementary and advanced work, and a good natural history museum is available. A specially trained technician is in charge of equipment and available in matters connected with zoölogical technique. The equipment belonging to the department is valued at \$50,143.

COURSES IN ZOOLOGY

FOR UNDERGRADUATE CREDIT

105. GENERAL ZOOLOGY. 5(3-6); I, II, and SS. Dr. Nabours, Dr. Ackert, Dr. Johnson, Mr. Harbaugh, and Mr. Goodrich.

Structures, functions, relations and evolution of types of both invertebrates and vertebrates in the class, laboratory and in nature. Charge, \$3.

123A. HUMAN ANATOMY. 5(3-6); I. Prerequisite: General Zoölogy (Zoöl. 105) or equivalent. Dr. Wimmer.

Special attention to the human skeleton, musculature, and organs; study of dissectible models, skeletons, and charts. Charge, \$3.

130. PHYSIOLOGY. 4(3-3); I, II, and SS. Prerequisites: Zoöl. 105 or equivalent, and General Chemistry or equivalent. Dr. Wimmer.

A general study of the functions of the organs and organ systems of the body and their relationship and coördinations. Charge, \$3.

135. EMBRYOLOGY A. 3(2-3); I and SS. Prerequisite: Zoöl. 105 or equivalent. Dr. Harman.

Development of the germ cells, fertilization, origin of the germ layers, initiation and growth of systems of organs, establishment of fetal relations, and nutrition and growth of mammals. The chick and pig are used principally as laboratory materials. Charge, \$3.

FOR GRADUATE AND UNDERGRADUATE CREDIT

203. PROBLEMS IN ZOÖLOGY. Credit to be arranged; II and SS. Dr. Nabours, Dr. Ackert, Dr. Harman, Dr. Johnson, Dr. Wimmer, Mr. Harbaugh, Mr. Goodrich, and Mr. Dobrovolsky.

Individual problems in heredity, parasitology, physiology, cytology, embryology, protozoölogy, ecology, ornithology, endocrinology, and neurology assigned by the instructors in charge.

205. FIELD ZOÖLOGY. 2(1-3) or 3(1-6); I, II, and SS. Prerequisite: Zoöl. 105 or equivalent. Mr. Harbaugh.

A general survey of the animal kingdom with emphasis on local forms; notes on their life histories, distribution, and relationship. Charge, \$3.

206. ZOÖLOGICAL TECHNIC. 1(0-3) or 2(0-6); II. Prerequisite, General Zoölogy or equivalent. Mr. Dobrovolsky.

Methods of killing, fixing, imbedding, using microtome, staining, dehydrating, and other processes in preparation of microscopical slides, principles of photomicrography. Charge, \$3.

208. PARASITOLOGY. 3(2-3); I. Prerequisite: Zoöl. 105 or equivalent. Dr. Ackert.

A study of the biology, pathology, and prophylaxis of the principal external and internal parasites of the domestic animals. Charge, \$2.

212. INVERTEBRATE ZOÖLOGY. 4(2-6); I. Prerequisite: Zoöl. 105 or equivalent. Mr. Goodrich.

The main groups of invertebrates, with emphasis on anatomy and biological principles. Charge, \$3.

214. CYTOLOGY. 4(2-6); I. Prerequisite: Zoöl. 105 or equivalent. Dr. Harman.

Methods of preparing material for cytological study, development of the germ cells and theories of structures and functions of the different parts of the cell. Charge, \$3.

216. HEREDITY AND EUGENICS. 2(2-0); I. Prerequisite: Zoöl. 105 or equivalent. Dr. Nabours.

Human inheritance and the interactions of nature and heredity.

217. EVOLUTION AND HEREDITY. 3(2-3) or 4(2-6); II. Prerequisite: Zoöl. 105 or equivalent. Dr. Nabours.

Development of the idea of evolution; evidence and principal theories of the causes of evolution; problems of variation, heredity, and experimental evolution.

218. HUMAN PARASITOLOGY. 3(3-0); II. Prerequisite: Zoöl. 105 or equivalent. Dr. Ackert.

Biological, pathological, and prophylactic phases of the principal parasitic maladies of man.

219A. EMBRYOLOGY B. 4(3-3); I, II, and SS. Prerequisite: Zoöl. 105 or equivalent. Dr. Harman.

The physiology of reproduction, developmental anatomy and physiology of mammals, with special reference to man. Charge, \$3.

220. ADVANCED EMBRYOLOGY. 4(2-6); I or II or SS. Prerequisites: Zoöl. 105 and 219A or 135, or equivalent. Dr. Harman.

Further study of the main facts of embryology, with special reference to their bearings upon biological theories, and a comparative study of the physiology of reproduction in mammals, including man. Charge, \$3.

225. ZOÖLOGY AND ENTOMOLOGY SEMINAR. 1(1-0); I and II. Prerequisite: Zoöl. 105 or equivalent.

Presentation of original investigations, reviews of papers appearing in current journals, summaries of recent advances in various fields, and discussion of various aspects of the fundamental problems of modern biology.

227. GENETICS SEMINAR. 1(1-0); I and II. Prerequisite: Zoöl. 105 or equivalent. Dr. Nabours, Dr. Warren, Dr. Parker, and Dr. Ibsen.

Study and criticism of genetic experiments in plants and animals, biological and mathematical methods employed, validity of conclusions drawn.

231. ENDOCRINOLOGY. 2(2-0); I and SS. Prerequisites: Zoöl. 105 and 130, 135, or 246; consult instructor. Dr. Johnson.

The biology of the ductless glands, with emphasis on the recent work on the functions and interrelations of the pituitary, adrenal, thyroid, and sex glands in higher vertebrates, including man.

235. HUMAN PHYSIOLOGY. 4(3-3); I. Prerequisites: Zoöl. 105 and Organic Chemistry. For upperclassmen, with the consent of the instructor, and graduate students. Dr. Wimmer.

Similar to Physiology (Zoöl. 130) in treatment but more intensive. Charge, \$3.

240. TAXONOMY OF PARASITES. 2(1-3); I. Prerequisites: Zoöl 105 and 208 or 218. Dr. Ackert and Mr. Goodrich.

Structure of animal parasites; relation of certain animal groups; principles of classification; identification of parasites of man and of domestic animals. Charge, \$2.

244. ORNITHOLOGY. 2(1-3) or 3(1-6); II and SS. Prerequisite: Zoöl. 105 or equivalent. Mr. Goodrich.

Recitation, field, and laboratory study of bird anatomy, adaptations, and habits. Charge, \$2.

246. COMPARATIVE ANATOMY OF VERTEBRATES. 4(2-6); II. Prerequisite: Zoöl. 105 or equivalent. Dr. Johnson.

A comparative consideration of the skeletal, muscular, nervous, digestive, respiratory, circulatory, and urogenital systems and the sensory organs of vertebrates. Charge, \$3.

250. COMPARATIVE AND HUMAN NEUROLOGY. 3(2-3); I. Prerequisite: Zoöl. 105. Dr. Johnson.

Structure, functions, and evolution of the nervous system. Charge, \$2.

FOR GRADUATE CREDIT

301. RESEARCH IN ZOÖLOGY. Credit to be arranged; I, II, and SS. Prerequisite: consult instructor. Dr. Nabours, Dr. Ackert, Dr. Harman, Dr. Johnson, Dr. Wimmer, Mr. Harbaugh, Mr. Goodrich, and Mr. Dobrovolsky.

Individual research problems are assigned in the fields of heredity and experimental evolution, parasitology, cytology, embryology, ecology, physiology, neurology, endocrinology, and protozoölogy.

The Division of Home Economics

MARGARET M. JUSTIN, *Dean*

Modern research in the sciences and present-day development of the industries, arts, and professions have brought a recognition of the value of technical training as a part of the preparation for life's work. An educational plan which combines industrial, technical, and scientific subjects with the older general studies results to the students in the power to express, in everyday activities, the knowledge acquired in the classroom. It increases the capacity for productive work and develops the desire to realize in practical form the theories and principles studied. The aim of a collegiate course in home economics is not merely to increase the student's stock of information, but to stimulate interest in continued study or research, to train in accuracy in detail, to teach discrimination with regard to criteria by which to interpret results, and to cultivate an attitude of economic and social responsibility.

The curricula as outlined below are arranged to meet the needs of the following groups of students: Those who wish to teach, those who wish to enter graduate courses leading to technical or professional work, and those who wish to apply their knowledge to various problems of home life or in fields of industry and social service in which an understanding of home-economics subjects is essential to intelligent action. The training given is as varied as it is broad. It includes a knowledge of the laws of health; an understanding of the sanitary requirements of the home; the study of values, both absolute and relative, of the various articles used in the home; the wise expenditure of money, time, and energy; the scientific principles underlying the selection and preparation of food; the right care of children; and the ability to secure efficient service from others. Instruction is methodical and thorough, and is suited to the circumstances of the students. Life in the residence hall, in which the student participates in the numerous duties pertaining to the routine of living is recognized as a sustaining influence in the mastery of instruction offered in the classroom and laboratory, and is suggested as desirable for all students not participating otherwise in group life. Experience shows that such training teaches contentment, industry, order, and cleanliness, and fosters a woman's independence and feeling of responsibility.

The four four-year curricula in this division lead to the degree of Bachelor of Science in Home Economics, and a five-year curriculum leads to the degree of Bachelor of Science in Home Economics and Nursing.

CURRICULUM IN HOME ECONOMICS

The training in this curriculum is both general and specific. Since scientific training is fundamental in the intelligent and successful administration of the home, strong courses in the sciences are given as a foundation for the special training in home economics. To the end that well-rounded culture may be attained, courses in English, history, economics, and psychology receive due prominence. The time of the student is about equally divided among the purely technical subjects, the fundamental sciences, and studies of general interest. The courses in the related subjects are given in the different departments of the College, while the technical courses are given in the Division of Home Economics. In the junior and senior years opportunity is given for choice of electives, which makes it possible for students to specialize in some chosen line. To this end provision has been made for both options and electives to be chosen in groups combined logically in courses approved by the faculty or by the student's dean. This choice of electives will be made during the first semester of the sophomore year.

This curriculum is recommended for all who desire general training in home economics or who have not yet determined the special field in which they wish to major. It is the curriculum to be chosen by those who wish to teach home economics or to engage in home demonstration work.

CURRICULUM IN HOME ECONOMICS AND ART

The curriculum offering special training in art is designed to meet the need of students especially interested in this field. The courses give background for professional work in the art field, for teaching of art and for the general culture afforded by art study.

CURRICULUM IN HOME ECONOMICS AND INSTITUTIONAL ECONOMICS AND DIETETICS

This curriculum is designed to meet the needs of the student who wishes to become a dietitian or director of food services in college residence hall, cafeteria, tea room, or hotel. It meets the requirements set by the American Dietetic Association for entrance to accredited hospitals and at the same time provides practical training for the management of the food unit of various types of institutions. As a part of the training received, residence in the college residence hall for one semester will be required. Usually after graduation the student serves an apprenticeship in a recommended establishment to round out her training and experience.

CURRICULUM IN HOME ECONOMICS AND JOURNALISM

This curriculum is planned for those students having special aptitude and interest in writing as a vocation. The broad field of home economics and its intimate bearing on the daily lives of people makes the combination of home economics subject matter with technical training in journalism peculiarly desirable for the woman journalist. The basic courses in home economics supply assurance in their knowledge and approach to the subject and the journalism courses assist in the successful, popular presentation of the facts. In the business world, in foods, textiles, and in household equipment, persons having received such training are in demand for many varied positions.

CURRICULUM IN HOME ECONOMICS AND NURSING

The five-year curriculum, offered in affiliation with the Charlotte Swift Hospital of Manhattan, enables the student wishing to take the Bachelor of Science degree and the full professional training in nursing to complete this work in five years. The first two years are spent at the College. The third and fourth years are spent at the Nursing School of the hospital, where both theoretical and practical training in nursing is given. During the fifth year required courses for the Bachelor of Science degree are completed at the College and electives are chosen which will prepare the student for the field of nursing in which she is most interested.

The demand for trained women to fill administrative and teaching positions in schools of nursing and to enter the various branches of public-health nursing is greater than the supply and offers a growing and attractive field of work for the college graduate.

Before entering upon this curriculum the student must report to the superintendent of the hospital for a physical examination, and she must have her plan of study approved by the dean of the Division of Home Economics.

Further information concerning the work at the hospital may be obtained from the director of the Training School for Nurses of the Charlotte Swift Hospital, Manhattan.

The College does not assume the responsibility of insuring employment to graduates, but the latter rarely experience difficulty in obtaining remunerative positions.

OPTIONS FOR STUDENTS IN THE DIVISION OF HOME ECONOMICS

In order that the student's interest and efforts be directed toward the exploration and mastery of some field, instead of being scattered in a casual manner, options of 15 semester hours, one of which must be filled to meet the requirements for graduation have been established in the fields of Social Science, Modern Language, and Mathematics. The student selects courses in one of these three fields with the advice and approval of the dean.

Option I—Social Science: Courses in Economics, Sociology, American History, and American Government are basic courses. In addition, World History or its equivalent is advised. A three-semester-hour course in English may be included instead of the course in Economics, which is required.

Option II—Modern Language: Courses in German, French, or Spanish may be chosen. If the student has had one year of language in high school she will be held for 12 hours of the same language in advance of the previous work; if two years of language have been taken in high school, the student will be held for 9 hours of the same language in advance of that taken. Three hours of the hours thus released may be used to secure an additional three-semester-hour course in English.

Option III—Mathematics: Plane Trigonometry, College Algebra, Plane Analytical Geometry, and Calculus I comprise the fifteen-hour option. If only one year of algebra has been taken in high school the student must take the five-hour course, College Algebra A.

CERTIFICATE FOR TEACHING HOME ECONOMICS

The student who, in addition to securing the Bachelor of Science degree, is desirous of qualifying for the three-year Kansas state teacher's certificate, renewable for life and valid in any high school or other public school in the state, should elect certain courses in the Department of Education and other technical courses which are deemed essential for vocational home economics and desirable for all teaching of home economics. These courses are as follows:

| EDUCATIONAL SUBJECTS | | TECHNICAL SUBJECTS | |
|--------------------------------------------------------|--------|-----------------------------------|--------|
| Educ. Psychology, Educ. 109..... | 3(3-0) | Child Guidance I, Child Welf. 201 | 3(1-6) |
| Prin. of Secondary Educ., Educ. 236, | 3(3-0) | Home Managt., Hshld. Econ. 116.. | 3(1-6) |
| Vocational Educ., Educ. 241..... | 3(3-0) | Adv. Clothing, Clo. and Text. 123 | 4(1-9) |
| Methods of Teach. Home Econom- ics, Educ. 132 | 3(3-0) | | |
| Teach. Particip. in Home Economics, Educ. 160 | 3(-) | | |

HOME ECONOMICS IN THE SUMMER SCHOOL

In addition to the regular instruction in various branches of home economics the Division offers numerous courses in this subject in the Summer School. These courses apply directly on the curriculum in home economics, or on graduate credit.

Full information concerning the courses offered is contained in the Summer School number of the Kansas State College *Bulletin*, which may be obtained upon application to the vice president of the College.

Curriculum in Home Economics

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|---------------------|-------------------------------------------------|-------------------|
| College Rhetoric I, Engl. 101..... | 3(3-0) ¹ | College Rhetoric II, Engl. 104..... | 3(3-0) |
| Gen. Chemistry, Chem. 110..... | 5(3-6) | Gen. Organic Chemistry, Chem. 122 | 5(3-6) |
| Elementary Design I, Art 101A.... | 2(0-6) | Costume Design I, Art 130..... | 2(0-6) |
| Foods I, Food & Nutr. 102..... | 5(3-6) <i>or</i> | Gen. Psychology, Educ. 184..... | 3(3-0) <i>and</i> |
| Gen. Psychology, Educ. 184..... | 3(3-0) <i>and</i> | Personal Health, Child Welf. 101.. | 2(2-0) <i>or</i> |
| Personal Health, Child Welf. 101.. | 2(2-0) | Foods I, Food & Nutr. 102..... | 5(3-6) |
| H. E. Fr. Lectures, Gen. H. E. 101, | R(1-0) | H. E. Lectures ² , Gen. H. E. 121... | R |
| Phys. Educ. W, Phys. Ed. 151A... | R(0-3) | Phys. Educ. W, Phys. Ed. 152A... | R(0-3) |
| Total | 15 | Total | 15 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|---------------------------------------|------------------|------------------------------------------------|------------------|
| English Literature, Engl. 172..... | 3(3-0) | American Literature, Engl. 175.... | 3(3-0) |
| General Zoölogy, Zoöl. 105..... | 5(3-6) | Embryology B, Zoöl. 219A..... | 4(3-3) <i>or</i> |
| Elementary Design II, Art 101B.... | 2(0-6) | Physiology, Zoöl. 130..... | 4(3-3) |
| Foods II, Food & Nutr. 107..... | 3(1-6) <i>or</i> | Clothing for the Individual, | |
| Clothing for the Individual, Clo. and | | Clo. and Text. 103..... | 4(1-9) <i>or</i> |
| Text. 103 | 4(1-9) | Foods II, Food & Nutr. 107..... | 3(1-6) |
| Economics I, Econ. 101..... | 3(3-0) | Current History, Hist. 126..... | 1(1-0) |
| H. E. Lectures, Gen. H. E. 121.... | R | Household Physics, ³ Physics 101... | 4(3-3) |
| Phys. Educ. W, Phys. Ed. 153.... | R(0-3) | H. E. Lectures, Gen. H. E. 121.... | R |
| Total | 16 or 17 | Phys. Educ. W, Phys. Ed. 154.... | R(0-3) |
| | | Total | 15 or 16 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-----------------------------------------|--------|------------------------------------|--------|
| Human Nutr., Food & Nutr. 112.. | 3(3-0) | Textiles, Clo. & Text. 116..... | 3(2-3) |
| The House, Household Econ. 107.. | 3(2-3) | Household Microb., Bact. 121.... | 3(1-6) |
| Interior Decoration, Art 113..... | 2(0-6) | Option I, II, or III..... | 3(-) |
| Option I, II, or III ⁴ | 6(-) | Elective | 6(-) |
| Elective ⁵ | 2(-) | H. E. Lectures, Gen. H. E. 121.... | R |
| H. E. Lectures, Gen. H. E. 121.... | R | Total | 15 |
| Total | 16 | | |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|-------------------------------------|--------|
| Dietetics, Food & Nutr. 202..... | 4(3-3) | Family Health, Child Welf. 211... | 3(3-0) |
| The Family, Child Welf. 216..... | 2(2-0) | Option I, II, or III..... | 3(-) |
| Option I, II, or III..... | 3(-) | Elective | 9(-) |
| Elective | 7(-) | H. E. Sr. Lectures, Gen. H. E. 151, | R(1-0) |
| H. E. Lectures, Gen. H. E. 121.... | R | Total | 15 |
| Total | 16 | | |

Total requirements for degree of Bachelor of Science in Home Economics, 124 hours.

1. The number before the parenthesis indicates the number of hours of credit; the first number within the parentheses indicates the number of hours of recitation each week; the second shows the number of hours to be spent in laboratory work each week; and the third, where there is one, indicates the number of hours of outside work in connection with the laboratory each week.

2. Four meetings each semester.

3. General Physics may be substituted if a student plans to pursue research later.

4. See options listed on preceding page.

5. Electives are chosen with the approval of the dean during the sophomore year. They give opportunity for special training in the various fields. If the teaching of home economics is elected, certain educational and technical subjects are required as given under "Certification for Teaching Home Economics."

Curriculum in Home Economics with Special Training in Art

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|-----------|-----------------------------------------------|-----------|
| College Rhetoric I, Engl. 101..... | 3(3-0) | College Rhetoric II, Engl. 104.... | 3(3-0) |
| Gen. Chemistry, Chem. 110..... | 5(3-6) | Gen. Organic Chemistry, Chem. 122, | 5(3-6) |
| Elementary Design I, Art 101A... | 2(0-6) | Costume Design I, Art 130..... | 2(0-6) |
| Foods I, Food & Nutr. 102..... | 5(3-6)or | Gen. Psychology, Educ. 184..... | 3(3-0)and |
| Gen. Psychology, Educ. 184..... | 3(3-0)and | Personal Health, Child Welf. 101.. | 2(2-0)or |
| Personal Health, Child Welf. 101.. | 2(2-0) | Foods I, Food & Nutr. 102..... | 5(3-6) |
| H. E. Lectures, Gen. H. E. 101, | R(1-0) | H. E. Lectures, ¹ Gen. H. E. 121.. | R |
| Phys. Educ. W, Phys. Ed. 151A... | R(0-3) | Phys. Educ. W, Phys. Ed. 152A... | R(0-3) |
| Total | 15 | Total | 15 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|----------------------------------------------|----------|---------------------------------------|----------|
| English Literature, Engl. 172..... | 3(3-0) | American Literature, Engl. 175.... | 3(3-0) |
| General Zoölogy, ² Zoöl. 105..... | 5(3-6) | Intermediate Design, Art 103..... | 2(0-6) |
| Elementary Design II, Art 101B... | 2(0-6) | Drawing I, Art 120..... | 2(0-6) |
| Clothing for the Individual, Clo. and | | Foods II, Food & Nutr. 107..... | 3(1-6)or |
| Text. 103..... | 4(1-9)or | Clothing for the Individual, Clo. and | |
| Foods II, Food & Nutr. 107..... | 3(1-6) | Text. 103..... | 4(1-9) |
| Ancient Civilizations, Hist. 101.... | 3(3-0) | Extens. Speech I, Pub. Spk. 106... | 2(2-0) |
| H. E. Lectures, Gen. H. E. 121.... | R | Medieval Europe, Hist. 102..... | 3(3-0) |
| Phys. Educ. W, Phys. Ed. 153.... | R(0-3) | H. E. Lectures, Gen. H. E. 121.... | R |
| | | Phys. Educ. W, Phys. Ed. 154.... | R(0-3) |
| Total | 16 or 17 | Total | 15 or 16 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|-------------|-----------------------------------------|--------|
| Human Nutr., Food & Nutr. 112.. | 3(3-0)or | Costume Design III, Art 138..... | 2(0-6) |
| Applied Nutr., Food & Nutr. 121.. | 2(2-0) | Interior Decoration I, Art 113.... | 2(0-6) |
| Advanced Design A, Art 105..... | 2(0-6) | Option I, II, or III ¹ | 6(-) |
| Costume Design II, Art 134..... | 2(0-6) | Elective | 6(-) |
| Hist. & Ap. of Music I, Mus. 130.. | 2(2-0) | H. E. Lectures, Gen. H. E. 121.... | R |
| The House, Household Econ. 107 .. | 3(2-3) | | |
| Elective ¹ | 3 or 4(-) | | |
| H. E. Lectures, Gen. H. E. 121.... | R | | |
| Total | 15 | Total | 16 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|-------------------------------------|--------|
| Child Guidance I, Child Welf. 201, | 3(1-6) | Principles of Art II, Art 126..... | 3(3-0) |
| Principles of Art I, Art 124..... | 3(3-0) | Interior Decoration III, Art 117... | 2(0-6) |
| Interior Decoration II, Art 115.... | 2(0-6) | Option I, II, or III..... | 3(-) |
| Option I, II, or III..... | 3(-) | Elective | 7(-) |
| Elective | 5(-) | H. E. Sr. Lectures, Gen. H. E. | |
| H. E. Lectures, Gen. H. E. 121.... | R | 151 | R(1-0) |
| Total | 16 | Total | 15 |

Number of hours required for graduation, 124

1. See respective footnote under Curriculum in Home Economics.

2. General Botany I and II may be taken as an option for General Zoölogy and the necessary adjustment made in providing the required number of hours each semester and in lessening the electives one hour if the option is desired.

Curriculum in Home Economics with Special Training in Institutional Economics and Dietetics

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|-------------------|-----------------------------------------------|-------------------|
| College Rhetoric I, Engl. 101..... | 3(3-0) | College Rhetoric II, Engl. 104..... | 3(3-0) |
| Gen. Chemistry, Chem. 110..... | 5(3-6) | Gen. Organic Chemistry, Chem. 122 | 5(3-6) |
| Elementary Design I, Art 101A.... | 2(0-6) | Costume Design I, Art 130..... | 2(0-6) |
| Foods I, Food & Nutr. 102..... | 5(3-6) <i>or</i> | Gen. Psychology, Educ. 184..... | 3(3-0) <i>and</i> |
| Gen. Psychology, Educ. 184..... | 3(3-0) <i>and</i> | Personal Health, Child Welf. 101 | 2(2-0) <i>or</i> |
| Personal Health, Child Welf. 101.. | 2(2-0) | Foods I, Food & Nutr. 102..... | 5(3-6) |
| H. E. Fr. Lectures, Gen. H. E. 101. | R(1-0) | H. E. Lectures, ¹ Gen. H. E. 121.. | R |
| Phys. Educ. W, Phys. Ed. 151A.... | R(0-3) | Phys. Educ. W, Phys. Ed. 152A.... | R(0-3) |
| Total | 15 | Total | 15 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------------------------|------------------|------------------------------------------------------|------------------|
| English Literature, Engl. 172..... | 3(3-0) | American Literature, Engl. 175.... | 3(3-0) |
| General Zoölogy, Zoöl. 105..... | 5(3-6) | Embryology B, Zoöl. 219A..... | 4(3-3) <i>or</i> |
| Elementary Design II, Art 101B.... | 2(0-6) | Physiology, Zoöl. 130..... | 4(3-3) |
| Clothing for the Individual, Clo. and Text. 103..... | 4(1-9) <i>or</i> | Foods II, Food & Nutr. 107..... | 3(1-6) |
| Household Physics, ¹ Physics 101.. | 4(3-3) | Household Physics, Physics 101.... | 4(3-3) <i>or</i> |
| Economics I, Econ. 101..... | 3(3-0) | Clothing for the Individual, Clo. and Text. 103..... | 4(1-9) |
| H. E. Lectures, Gen. H. E. 121.... | R | Current History, Hist. 126..... | 1(1-0) |
| Phys. Educ. W, Phys. Ed. 153.... | R(0-3) | H. E. Lectures, Gen. H. E. 121.... | R |
| Total | 17 | Phys. Educ. W, Phys. Ed. 154.... | R(0-3) |
| | | Total | 15 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|--------------------------------------------------------------|------------------|-------------------------------------------------------|------------------|
| German I and II, ^{2, 3} Mod. Lang. 101 and 102..... | 6(6-0) <i>or</i> | German Readings, ^{2, 3} Mod. Lang. 111 | 3(3-0) <i>or</i> |
| French I and II, ^{2, 3} Mod. Lang. 151 and 152..... | 6(6-0) | French Readings, ^{2, 3} Mod. Lang. 161 | 3(3-0) |
| Human Nutr., Food & Nutr. 112.. | 3(3-0) | Phys. Chemistry, Chem. 231..... | 5(3-6) |
| Sociology, Econ. 151..... | 3(3-0) | Inst. Econ. I, Inst. Econ. 202..... | 4(1-9) |
| Household Micro., Bact. 121..... | 3(1-6) | Inst. Purchasing, Inst. Econ. 215.... | 2(2-0) |
| Meats H. E., An. Husb. 176..... | 1(0-3) | Inst. Equipment, Inst. Econ. 230.... | 2(2-0) |
| H. E. Lectures, Gen. H. E. 121.... | R | H. E. Lectures, Gen. H. E. 121.... | R |
| Total | 16 | Total | 16 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------------------|--------|-------------------------------------------------------|--------------------|
| Dietetics, Food & Nutr. 202..... | 4(3-3) | Dietetics for Abn. Conditions, Food & Nutr. 205 | 2(1-3) <i>or</i> |
| American History I, ³ Hist. 201.... | 3(3-0) | Tea Room Managt., Inst. Econ. 225 | 3(0-9) |
| Meth. of Teaching H. E., Educ. 132 | 3(3-0) | Field Work in Nutr., Food & Nutr. 215 | 3(2-3) |
| Exper. Cookery, Food & Nutr. 255. | 2(0-6) | Food Econ. & Nutr. Seminar, Food & Nutr. 251..... | 2(2-0) |
| Inst. Econ. II, Inst. Econ. 206.... | 2(2-0) | Inst. Accounting, Econ. 284..... | 2(2-0) |
| Elective ¹ | 1(-) | Elective | 5 <i>or</i> 6(-) |
| H. E. Lectures, Gen. H. E. 121.... | R | H. E. Sr. Lectures, Gen. H. E. 151 | R(1-0) |
| Total | 15 | Total | 15 |

Number of hours required for graduation, 124

1. See respective footnote under curriculum in Home Economics.

2. Students in the Division of Home Economics take a minimum of nine hours of French or German unless they have had one or more years of either language in high school. In case one year of language has been taken in high school, the student will be held for six hours of the same language in advance of the previous work; if two years of language have been taken in high school, the student will be held for three hours of the same language. The requirement of three or six hours of language not taken because of language study in high school may be met by advanced language courses or by electives chosen with the approval of the dean.

3. An option of equivalent hours in the fields of mathematics, chemistry, physics, botany, zoölogy, economics, or agricultural economics may be taken instead of the course marked, with the advice and approval of the dean.

Curriculum in Home Economics with Special Training in Journalism

FRESHMAN

FIRST SEMESTER

| | |
|-------------------------------------|-------------------|
| College Rhetoric I, Engl. 101..... | 3(3-0) |
| Gen. Chemistry, Chem. 110..... | 5(3-6) |
| Elementary Design I, Art 101A.... | 2(0-6) |
| Foods I, Food & Nutr. 102..... | 5(3-6) <i>or</i> |
| Gen. Psychology, Educ. 184..... | 3(3-0) <i>and</i> |
| Personal Health, Child Welf. 101.. | 2(2-0) |
| H. E. Fr. Lectures, Gen. H. E. 101. | R(1-0) |
| Phys. Educ. W, Phys. Ed. 151A... | R(0-3) |

Total 15

SECOND SEMESTER

| | |
|-----------------------------------------------|-------------------|
| College Rhetoric II, Engl. 104.... | 3(3-0) |
| Gen. Organic Chemistry, Chem. 122 | 5(3-6) |
| Costume Design I, Art 130..... | 2(0-6) |
| Gen. Psychology, Educ. 184..... | 3(3-0) <i>and</i> |
| Personal Health, Child Welf. 101 | 2(2-0) <i>or</i> |
| Foods I, Food & Nutr. 102..... | 5(3-6) |
| H. E. Lectures, ¹ Gen. H. E. 121.. | R |
| Phys. Educ. W, Phys. Ed. 152A... | R(0-3) |

Total 15

SOPHOMORE

FIRST SEMESTER

| | |
|------------------------------------------------------|------------------|
| English Literature, Engl. 172..... | 3(3-0) |
| General Zoölogy, Zoöl. 105..... | 5(3-6) |
| Elementary Design II, Art 101B.... | 2(0-6) |
| Clothing for the Individual, Clo. and Text. 103..... | 4(1-9) <i>or</i> |
| Household Physics, ¹ Physics 101... | 4(3-3) |
| El. Journalism, Ind. Jour. 151.... | 2(2-0) |
| H. E. Lectures, Gen. H. E. 121.... | R |
| Phys. Educ. W, Phys. Ed. 153.... | R(0-3) |

Total 16

SECOND SEMESTER

| | |
|------------------------------------------------------|------------------|
| American Literature, Engl. 175.... | 3(3-0) |
| Embryology B, Zoöl. 219A..... | 4(3-3) <i>or</i> |
| Physiology, Zoöl. 130..... | 4(3-3) |
| Foods II, Food & Nutr. 107..... | 3(1-6) |
| Household Physics, Physics 101.... | 4(3-3) <i>or</i> |
| Clothing for the Individual, Clo. and Text. 103..... | 4(1-9) |
| Jour. for Women, Ind. Jour. 172.. | 2(2-0) |
| H. E. Lectures, Gen. H. E. 121.... | R |
| Phys. Educ. W, Phys. Ed. 153.... | R(0-3) |

Total 16

JUNIOR

FIRST SEMESTER

| | |
|-----------------------------------------------------------|------------------|
| German I and II, ² Mod. Lang. 101 and 102..... | 6(6-0) <i>or</i> |
| French I and II, ² Mod. Lang. 151 and 152..... | 6(6-0) |
| Human Nutr., Food & Nutr. 112.. | 3(3-0) |
| Ind. Feat. Writing, Ind. Jour. 167. | 2(2-0) |
| Elective ¹ | 5(-) |
| H. E. Lectures, Gen. H. E. 121.... | R |

Total 16

SECOND SEMESTER

| | |
|----------------------------------------------------|------------------|
| German Readings, ² Mod. Lang. 111 | 3(3-0) <i>or</i> |
| French Readings, ² Mod. Lang. 161 | 3(3-0) |
| The House, Hshld. Econ. 107..... | 3(2-3) |
| Prin. of Adv., Ind. Jour. 178.... | 4(4-0) |
| Current History, Hist. 126..... | 1(1-0) |
| Elective | 5(-) |
| H. E. Lectures, Gen. H. E. | R |

Total 16

SENIOR

FIRST SEMESTER

| | |
|--------------------------------------------------|--------|
| Dietetics, Food & Nutr. 202..... | 4(3-3) |
| Child Guidance I, Child Welf. 201. | 3(1-6) |
| Sociology, Econ. 151..... | 3(3-0) |
| Am. Gov't., ² Hist. 151, 152, or 153. | 3(3-0) |
| Elective | 2(-) |
| H. E. Lectures, Gen. H. E. 121.... | R |

Total 15

SECOND SEMESTER

| | |
|------------------------------------------------|---------|
| American History I, ² Hist. 201.... | 3(3-0) |
| The Family, Child Welf. 216..... | 2(2-0) |
| Elective | 10(-) |
| H. E. Sr. Lectures, Gen. H. E. 151 | R(1-0) |

Total 15

Number of hours required for graduation, 124.

1. See respective footnote under curriculum in Home Economics.

2. See respective footnotes under curriculum in Home Economics with Special Training in Institutional Economics and Dietetics.

Curriculum in Home Economics and Nursing

FRESHMAN

| FIRST SEMESTER | | SECOND SEMESTER | |
|--------------------------------------|--------|----------------------------------------------|--------|
| College Rhetoric I, Engl. 101..... | 3(3-0) | College Rhetoric II, Engl. 104.... | 3(3-0) |
| Gen. Chemistry, Chem. 110..... | 5(3-6) | Gen. Org. Chemistry, Chem. 122... | 5(3-6) |
| Foods I, Food & Nutr. 102..... | 5(3-6) | German I and II, ¹ Mod. Lang. 101 | |
| Gen. Psychology, Educ. 184..... | 3(3-0) | and 102..... | 6(6-0) |
| H. E. Fr. Lectures, Gen. H. E. 101.. | R(1-0) | Current History, Hist. 126..... | 1(1-0) |
| | | H. E. Lectures, Gen. H. E. 121... | R |
| Phys. Educ. W, Phys. Ed. 151A... | R(0-3) | Phys. Educ. W, Phys. Ed. 152A... | R(0-3) |
| Total | 16 | Total | 15 |

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|-------------------------------------------------|----------|
| English Literature, Engl. 172..... | 3(3-0) | American Literature, Engl. 175.... | 3(3-0) |
| General Zoölogy, Zoöl. 105..... | 5(3-6) | Embryology B, Zoöl. 219A..... | 4(3-3)or |
| Phys. Chemistry, Chem. 231..... | 5(3-6) | Physiology, Zoöl. 130..... | 4(3-3) |
| Foods II, Food & Nutr. 107..... | 3(1-6) | Gen. Microbiology, Bact. 101..... | 3(1-6) |
| H. E. Lectures, Gen. H. E. 121... | R | Am. Gov't, ¹ Hist. 151, 152, or 153. | 3(3-0) |
| Phys. Educ. W, Phys. Ed. 153.... | R(0-3) | Elective | 2(-) |
| | | H. E. Lectures, Gen. H. E. 121... | R |
| Total | 16 | Total | 15 |

JUNIOR

(Replaced by two years at Charlotte Swift Hospital)

Theoretical and practical work during the time includes:

| FIRST YEAR | SECOND YEAR |
|-----------------------------------|--------------------------------------------|
| History and Ethics of Nursing. | Surgery and Surgical Nursing and Bandaging |
| Hospital Economics. | Obstetrics and Gynecology. |
| Nursing Methods. | Pediatrics. |
| Medical Nursing. | Diseases of Eye, Ear, Nose and Throat. |
| Communicable Diseases. | Nervous and Mental Diseases. |
| Special Therapeutics and Massage. | Materia Medica. |
| | Problems in Nursing. |

Equivalent to 31 college hours.

SENIOR

| FIRST SEMESTER | SECOND SEMESTER |
|---------------------------------------------|------------------------------------------------|
| (Specialized work in affiliated hospitals). | American History I, ¹ Hist. 201.... |
| Equivalent to 15 college hours. | Dietetics, Food & Nutr. 202..... |
| | The Family, Child Welf. 216..... |
| | H. E. Sr. Lectures, Gen. H. E. 151. |
| | Elective |
| | Total |

Number of hours required for graduation, 124.

1. See respective footnotes under Curriculum in Home Economics, with Special Training in Institutional Economics and Dietetics.

Groups of Electives for Students in the Division of Home Economics

The groups given below are selected with a view to training students for the vocations in which home economics may be directly applied.

A sufficient number of hours may be chosen from any group to fill the elective requirement, or a smaller number of hours may be taken from a group and, for the remaining elective hours, advanced courses of related subject matter may be chosen.

Music may be added to any group, in a minimum of six hours.

Child Care and Training

| | | | |
|-------------------------------------|--------|-------------------------------------|--------|
| Sociology, Econ. 151..... | 3(3-0) | History of the Home, Hist. 225.... | 3(3-0) |
| Social Problems, Econ. 257..... | 2(2-0) | Psyc. of Childhood and Adolescence, | |
| The Family, Child Welf. 216..... | 2(2-0) | Educ. 250..... | 3(3-0) |
| Field Work in Nutr., Food & Nutr. | | Child Guidance II, Child Welf. 206, | 3(3-0) |
| 215 | 3(2-3) | Problems in Child Welfare and Eu- | |
| Heredity & Eugenics, Zoöl. 216..... | 2(2-0) | thenics, Child Welf. 221..... | 1 to 5 |
| Child Guidance I, Child Welf. 201, | 3(1-6) | | |
| Seminar in Child Welfare and Eu- | | | |
| thenics, Child Welf. 226..... | 1 or 2 | | |

Costuming

| | | | |
|--------------------------------------|--------|------------------------------------|--------|
| Hist. of Costume, Clo. & Text. 225.. | 2(2-0) | Prin. of Adv., Ind. Jour. 178..... | 4(4-0) |
| Adv. Clothing, Clo. & Text. 123... | 4(1-9) | Prin. of Art I, Art 124..... | 3(3-0) |
| Clothing Econ., Clo. & Text. 201... | 3(3-0) | Medieval Europe, Hist. 102..... | 3(3-0) |
| Sociology, Econ. 151..... | 3(3-0) | Problems in Clothing & Textiles, | |
| Costume Design II, Art 134..... | 2(0-6) | Clo. & Text. 215..... | 1 to 3 |
| Intermediate Design, Art 103..... | 2(0-6) | Modern Europe I, Hist. 115..... | 3(3-0) |

Food and Nutrition

| | | | |
|-------------------------------------|--------|-----------------------------------|---------|
| Physical Chemistry I, Chem. 206.. | 5(3-6) | College Algebra, Math. 104..... | 3(3-0) |
| Chemical Microscopy, Chem. 245.. | 1(0-3) | Plane Trigonometry, Math. 101.... | 3(3-0) |
| Human Physiology, Zoöl. 235..... | 4(3-3) | Phys. Chemistry, Chem. 231..... | 5(3-6) |
| Hygienic Bacteriology, Bact. 206.. | 4(2-6) | Biochem. Prep., Chem. 234..... | 5(0-15) |
| Problems in Food Econ. & Nutrition, | | Quan. Analysis, Chem. 241..... | 5(1-12) |
| Food & Nutr. 248..... | 1 to 5 | Food Analysis, Chem. 257..... | 3(0-9) |
| Food Econ. & Nutrition Seminar, | | Histology I, Path. 102..... | 4(2-6) |
| Food & Nutr. 251..... | 1 to 2 | Human Parasitology, Zoöl. 218.... | 3(3-0) |
| Field Work in Nutr., Food & Nutr. | | Nutr. of Dev., Food & Nutr. 210.. | 2(2-0) |
| 215 | 3(2-3) | | |
| Bact. Problems, Bact. 270..... | 1 to 4 | | |
| Stat. Meth. Ap. to Educ., Educ. | | | |
| 223 | 3(3-0) | | |

Home Making

| | | | |
|------------------------------------|--------|-------------------------------------|--------|
| Child Guidance I, Child Welf. 201, | 3(1-6) | Child Guidance II, Child Welf. 206, | 3(3-0) |
| The Family, Child Welf. 216..... | 2(2-0) | Principles of Art I, Art 124..... | 3(3-0) |
| Sociology, Econ. 151..... | 3(3-0) | Econ. of Hshld., Hshld. Econ. 265.. | 2(2-0) |
| Com. Organization, Econ. 267..... | 3(3-0) | Adv. Clothing, Clo. & Text. 123... | 4(1-9) |
| Problems in Foods, Food & Nutr. | | Meats (HE), An. Husb. 176..... | 1(0-3) |
| 310 | 1 to 3 | Hist. of Engl. Lit., Engl. 181..... | 3(3-0) |
| Home Managt., Hshld. Econ. 116.. | 3(1-6) | Psyc. of Childhood and Adolescence, | |
| World Classics I, Engl. 280..... | 3(3-0) | Educ. 250..... | 3(3-0) |
| The Nutr. of Dev., Food & Nutr. | | | |
| 210 | 2(2-0) | | |

Lecturing and Demonstrating

| | | | |
|--------------------------------------|--------|------------------------------------|--------|
| Oral English, Engl. 128..... | 3(3-0) | Dramatic Reading, Pub. Spk. 102.. | 2(2-0) |
| Extern. Speech I, Pub. Spk. 106... | 2(2-0) | Extern. Speech II, Pub. Spk. 108.. | 2(2-0) |
| Oral Interp., Pub. Spk. 101..... | 2(2-0) | Rural Sociology, Econ. 156..... | 3(3-0) |
| Sociology, Econ. 151..... | 3(3-0) | Com. Organization, Econ. 267..... | 3(3-0) |
| Technical Writing, Engl. 207..... | 2(2-0) | Ind. Writing, Ind. Jour. 161..... | 2(2-0) |
| Meats (HE), An. Husb. 176..... | 1(0-3) | | |
| Ind. Feat. Writing, Ind. Jour. 167.. | 2(2-0) | | |

Social and Welfare Work

| | | | |
|------------------------------------|--------|-------------------------------------|--------|
| Child Guidance I, Child Welf. 201, | 3(1-6) | Child Guidance II, Child Welf. 206, | 3(3-0) |
| The Family, Child Welf. 216..... | 2(2-0) | Labor Problems, Econ. 233..... | 2(2-0) |
| Econ. of the Hshld., Hshld. Econ. | | Rural Sociology, Econ. 156..... | 3(3-0) |
| 265 | 2(2-0) | Social Problems, Econ. 257..... | 2(2-0) |
| Sociology, Econ. 151..... | 3(3-0) | Modern Europe II, Hist. 223..... | 3(3-0) |
| Latin America, Hist. 208..... | 3(3-0) | Immi. & Int. Rel., Hist. 228..... | 2(2-0) |
| Com. Organization, Econ. 267..... | 3(3-0) | Prob. in Child Welfare and Eu- | |
| Field Work in Nutrition, Food & | | thenics, Child Welf. 221..... | 1 to 5 |
| Nutr. 215..... | 3(2-3) | | |

Textiles

| | | | |
|--------------------------------------|--------|-------------------------------------|--------|
| College Algebra, Math. 104..... | 3(3-0) | Physical Chemistry I, Chem. 206.. | 5(3-6) |
| General Physics I, Physics 135.... | 4(3-3) | Qual. Organ. Analysis, Chem. 224.. | 2(0-6) |
| General Physics II, Physics 140.... | 4(3-3) | Prob. in Clo. & Text., Clo. & Text. | |
| Plane Trigonometry, Math. 101.... | 3(3-0) | 215 | 1 to 3 |
| Clothing Econ., Clo. & Text. 201.. | 3(3-0) | Human Physiology, Zoöl. 235..... | 4(3-3) |
| Experi. Textiles, Clo. & Text. 312.. | 2 to 5 | Statis. Meth. Ap. to Educ., Educ. | |
| | | 223 | 3(3-0) |
| | | Bact. Problems, Bact. 270..... | 1 to 4 |
| | | Adv. Textiles, Clo. & Text. 205.... | 3(1-6) |

Art

Associate Professor BARFOOT
Associate Professor EVERHARDY
Assistant Professor HARRIS

Assistant Professor MORRIS
Instructor DUTTON
Assistant DARST

There is an increasing realization of the need for a usable knowledge of art. The curriculum in art is designed to develop the general culture afforded by art study, and to provide an art background for homemaking or other professional work. Depending upon the interests of the students they may specialize in design, interior decoration, costume design, or teaching of art.

This department owns equipment valued at \$8,362.

COURSES IN ART**FOR UNDERGRADUATE CREDIT**

101A. ELEMENTARY DESIGN I. 2(0-6); I, II, and SS.* Miss Barfoot, Miss Everhardy, Miss Harris, Miss Morris, Miss Dutton, and Miss Darst.

A fundamental course in the study of color and form and the application of their principles to daily living. Charge, 50 cents; deposit, 25 cents.

101B. ELEMENTARY DESIGN II. 2(0-6); I, II, and SS. Prerequisite: Course 101A. Miss Barfoot, Miss Everhardy, Miss Harris, Miss Morris, Miss Dutton, and Miss Darst.

A continuation of course 101A incorporating a unit in history and appreciation of art. Charge, 50 cents; deposit, 25 cents.

103. INTERMEDIATE DESIGN. 2(0-6); I, II, and SS. Prerequisite: Course 101B. Miss Barfoot, Miss Everhardy, Miss Harris, and Miss Morris.

A continuation of course 101B with special emphasis on color possibilities and different design media. Charge, 50 cents; deposit, 25 cents.

105. ADVANCED DESIGN A. 2(0-6); I, and II. Prerequisite: Course 103. Miss Barfoot, Miss Everhardy, and Miss Morris.

A continuation of course 103, with emphasis on art structure. Charge, 50 cents; deposit, 25 cents.

107. DESIGN FOR CAMP COUNSELORS. 2(0-6); II. Prerequisite: Course 101B. Miss Barfoot, Miss Everhardy, and Miss Harris.

* The number before the parenthesis indicates the number of hours of credit; the first number within the parentheses indicates the number of hours of recitation each week; the second shows the number of hours to be spent in laboratory work each week; and the third, where there is one, indicates the number of hours of outside work in connection with the laboratory required each week. I, II, and SS indicate that the course is given the first semester, second semester, and summer school, respectively.

A course to meet the needs of camp directors and students interested in industrial arts. Theory and practice in design and processes. Charge, 50 cents; deposit, 25 cents.

110. PUBLIC-SCHOOL ART. 2(1-3); SS. Prerequisite: Course 101B. Miss Barfoot, Miss Everhardy, Miss Harris, Miss Morris, Miss Dutton, and Miss Darst.

Methods and problems in art as aids for the public-school teacher. Charge, 50 cents; deposit, 25 cents.

112. INDIAN ART OF THE SOUTHWEST CULTURE AREA. 2(0-6); I, II, and SS. Prerequisite: Course 101B. Miss Everhardy.

Discussions and laboratory work designed to familiarize the student with the origin and development of the decorative arts and ceremonials of the Southwest area from prehistoric times to the present. Charge, 50 cents; deposit, 25 cents.

113. INTERIOR DECORATION I. 2(0-6); I, II, and SS. Prerequisite: Course 101B. Miss Barfoot, Miss Everhardy, Miss Harris, Miss Morris, Miss Dutton, and Miss Darst.

A study of the design of the small modern home. Charge, 50 cents; deposit, 25 cents.

115. INTERIOR DECORATION II. 2(0-6); I. Prerequisite: Course 113. Miss Everhardy, Miss Harris, Miss Morris, and Miss Darst.

A continuation of course 113, with attention paid especially to the relationship between the American home and modern culture and art. Charge, 50 cents; deposit, 25 cents.

117. INTERIOR DECORATION III. 2(0-6); II. Prerequisite: Course 115. Miss Everhardy, Miss Morris, and Miss Harris.

A continuation of course 115 with a study also of the historic background of architecture and furniture. Charge, 50 cents; deposit, 25 cents.

120. DRAWING I. 2(0-6); I and II. Prerequisite: Course 101B. Miss Barfoot, Miss Harris, Miss Morris, and Miss Dutton.

Representative sketching, decorative illustrating, and creative designing in which a variety of mediums and technique is employed. Charge, \$1.50; deposit, 25 cents.

122. DRAWING II. 2(0-6); I and II. Prerequisite: Course 120. Miss Barfoot, Miss Harris, Miss Morris, and Miss Dutton.

A continuation of course 120 with study of the figure. Charge, \$1.50; deposit, 25 cents.

124. PRINCIPLES OF ART I. 3(3-0); I. Prerequisite: Course 101B. Miss Barfoot, Miss Harris, and Miss Morris.

A study of color and form with relation to the history of architecture and the minor arts.

126. PRINCIPLES OF ART II. 3(3-0); II. Prerequisite: Course 124. Miss Barfoot, Miss Harris, and Miss Morris.

A continuation of course 124 with emphasis on the history of painting and sculpture.

127. LETTERING. 2(0-6); I, II, and SS. Prerequisite: Course 101B. Miss Harris, Miss Morris, and Miss Darst.

A course to develop skill in lettering, using historic and creative forms in letters. Charge, 50 cents; deposit, 25 cents.

130. COSTUME DESIGN I. 2(0-6); I, II, and SS. Prerequisite: Course 101A. Miss Barfoot, Miss Everhardy, Miss Harris, Miss Morris, Miss Dutton, and Miss Darst.

Line, form, color, texture in costume design and selection as related to the requirements of the individual. This course is a design basis for garment selection and construction. Charge, 50 cents; deposit, 25 cents.

134. **COSTUME DESIGN II.** 2(0-6); I and II. Prerequisite: Course 130. Miss Morris, Miss Harris, and Miss Dutton.

Review and application of the art principles in modern costume in relation to the human figure as the structural basis for costume; the Hambidge Theory of Dynamic Symmetry. Charge, 50 cents; deposit, 25 cents.

138. **COSTUME DESIGN III.** 2(0-6); I and II. Prerequisite: Course 134. Miss Harris, Miss Morris, and Miss Dutton.

A continuation of course 134, particularly in relation to figure difficulties. It is expected that each student complete an entire costume ensemble. Charge, 50 cents; deposit, 25 cents.

FOR GRADUATE AND UNDERGRADUATE CREDIT

203. **ADVANCED DESIGN B.** 2(0-6); I, II, and SS. Prerequisite: Course 105, 120, or permission of instructor. Miss Barfoot, Miss Everhardy, and Miss Harris.

A continuation of advanced design, emphasizing creative skill and the development of style. Charge, 50 cents; deposit, 25 cents.

207. **COSTUME DESIGN IV.** 2(0-6); I, II, and SS. Prerequisite: Course 138 or permission of the instructor. Miss Harris and Miss Morris.

A course to develop skill and further creative expression in dress design. Charge, 50 cents; deposit, 25 cents.

220. **PROBLEMS IN ELEMENTARY DESIGN.** Credit to be arranged; I, II, and SS. Prerequisites: 8 hours in art or permission of instructor. Miss Barfoot, Miss Everhardy, Miss Harris, Miss Morris, Miss Dutton, and Miss Darst.

Problems in design planned with the student to meet her particular needs. Charge, 50 cents; deposit, 25 cents.

225. **PROBLEMS IN INTERMEDIATE DESIGN.** Credit to be arranged; I, II, and SS. Prerequisite: Course 220 or permission of instructor. Miss Barfoot, Miss Everhardy, Miss Harris, and Miss Morris.

Problems in advance of course 220. Charge, 50 cents; deposit, 25 cents.

230. **PROBLEMS IN TEACHING ART.** Credit to be arranged; SS. Prerequisites: Course 101B, and Education, course 132 or its equivalent. Miss Barfoot and Miss Everhardy.

For the high-school teacher who is correlating art with home economics subjects, particularly for the teacher of art subjects connected with vocational training; training given through lectures and class discussions of methods, consideration of suitable laboratory equipment, use of illustrative material, and preparation of courses of study. Charge, 50 cents; deposit, 25 cents.

232. **PROBLEMS IN INTERIOR DECORATION.** Credit to be arranged; I, II, and SS. Prerequisite: Course 117 or permission of instructor. Miss Harris, Miss Morris, and Miss Darst.

Problems in interior decoration planned with the students to meet their particular needs. Charge, 50 cents; deposit, 25 cents.

235. **PROBLEMS IN COSTUME DESIGN.** Credit to be arranged; I, II, and SS. Prerequisites: 8 hours in art or permission of instructor. Miss Harris, Miss Morris, and Miss Dutton.

Problems in costume design planned with the student to meet her particular needs. Charge, 50 cents; deposit, 25 cents.

FOR GRADUATE CREDIT

301. **RESEARCH IN ART.** Credit to be arranged; I, II, and SS. Prerequisites: consult instructors. Miss Barfoot, Miss Everhardy, Miss Harris, Miss Morris, Miss Dutton, and Miss Darst.

A problem in art selected from some of the following fields: (a) Historic research; (b) organization of curriculum; (c) methods of teaching; and (d) theoretical aspects of art education.

305. PROBLEMS IN ADVANCED DESIGN. Credit to be arranged; I, II, and SS. For prerequisites, consult instructors. Miss Barfoot, Miss Everhardy, Miss Morris, Miss Harris, Miss Dutton, and Miss Darst.

Problems in advance of course 225 designed primarily for the graduate student. Charge, 50 cents; deposit, 25 cents.

Child Welfare and Euthenics

Professor FORD
Associate Professor TRIPLETT
Instructor KELL

Instructor WILLIAMS
Assistant FISHER

Home economics must always be chiefly concerned with the individuals in the homes, and the various phases of home economics gain in importance only as they contribute something of value to the lives of individuals. If homes are to prepare their members to help in the progress of society and to receive the highest satisfaction from life, they must insure three things.

They must first of all insure a childhood safeguarded by the wise application of the latest principles of science. The environment must be such as to foster the fullest development of desirable qualities and to suppress the development of undesirable qualities. In the second place, through right family relationships and family living based on sound principles and high ideals, the home must insure such help and sense of security to the individual as can come in no other way. In the third place, the home must lay a sure foundation for both the physical and mental health of its members. We realize now that health is much more than the absence of disease. It is positive, buoyant health that homes must strive to give individuals to-day.

To help educate in right living, from the standpoint both of individual and family well-being, and to further whatever is of benefit to children are the aims of the courses offered in this department.

This department has equipment valued at \$2,594.

COURSES IN CHILD WELFARE AND EUTHENICS

FOR UNDERGRADUATE CREDIT

101. PERSONAL HEALTH. 2(2-0); I, II. No prerequisite. Dr. Triplett and Miss Williams. Personal hygiene as a means of maintaining and improving health.

FOR GRADUATE AND UNDERGRADUATE CREDIT

201. CHILD GUIDANCE I. 3(1-6); I, II, and SS. Prerequisite: Junior or senior standing or consult instructors. Dr. Ford, Dr. Triplett, Mrs. Kell, Mrs. Fisher.

Giving children the right start toward obtaining important life objectives.

Laboratory.—Directed observations and assisting in the nursery school. Charge, \$1.

206. CHILD GUIDANCE II. 3(3-0); II. Prerequisite: Consult instructor. Dr. Ford.

Community and home problems in child welfare.

211. FAMILY HEALTH. 3(3-0); I, II. Prerequisite: Junior or senior standing or consult instructors. Dr. Ford and Miss Williams.

Physical and mental health of individuals in the family; the importance of preventive medicine; the household as a factor in health conservation; the interrelation of home and community health; simple nursing procedures.

216. THE FAMILY. 2(2-0); I, II, and SS. Prerequisite: General Psychology or consult instructor. Dr. Ford.

Factors that play a part in successful family life to-day.

221. PROBLEMS IN CHILD WELFARE AND EUTHENICS. Credit to be arranged; I, II, and SS. Prerequisite: Child Guidance I; consult instructors. Dr. Ford, Dr. Triplett, and Mrs. Kell.

Individual investigation of a special problem in some phase of child welfare or euthenics; conferences and reports at appointed hours.

226. SEMINAR IN CHILD WELFARE AND EUTHENICS. 1 or 2 hours; I and II. Prerequisite: Child Guidance I. Dr. Ford.

Discussions and reports dealing with important publications and activities in the field of child welfare and euthenics.

FOR GRADUATE CREDIT

301. RESEARCH IN CHILD WELFARE AND EUTHENICS. Credit to be arranged; I and II. Prerequisites: Consult instructors. Dr. Ford and Dr. Triplett.

Opportunity for original research in the field of child welfare and euthenics which may form the basis of work for a master's thesis.

Clothing and Textiles

Associate Professor LATZKE
Associate Professor COWLES
Associate Professor HESS

Assistant Professor BRUNER
Assistant Professor QUINLAN
Assistant ROBERTS

Clothing is an important factor in both the physiological and psychological well-being of the individual and of the family. The wise selection of clothing requires a high degree of skill in the application of hygienic, economic, and æsthetic principles. The preservation of clothing is based upon a practical knowledge of chemistry, entomology, and bacteriology. In the construction of garments, art and technic are presented in their proper relations in order to train students in fundamental principles and enable them to utilize these principles in their everyday practices. In this department advanced courses are offered for students who wish to prepare for vocational, professional, and business positions such as college teachers, research workers, textile chemists, clothing consultants, purchasing agents for institutions and department stores, and extension workers.

The equipment belonging to this department is valued at \$7,782.

COURSES IN CLOTHING AND TEXTILES

FOR UNDERGRADUATE CREDIT

103. CLOTHING FOR THE INDIVIDUAL. 4(1-9); I, II, and SS. Prerequisite: Costume Design I. Miss Latzke, Miss Cowles, Mrs. Hess, and Miss Bruner.

The factors that influence the individual in the selection and purchase of clothing; self-analysis as a basis of clothing choices; knowledge of clothing fabrics; the use of the clothing budget; knowledge of buying procedures; the care of clothing.

Laboratory.—Design and construction of costumes that express individuality through the correct use of line and color. Charge, \$2; deposit, 25 cents.

110. CLOTHING SELECTION. 2(2-0); I and II. Miss Latzke and Miss Quinlan.

A study of the fundamentals of clothing selection, with self-analysis as a basis; economic considerations for being suitably and tastefully dressed. Designed for students not majoring in home economics.

116. TEXTILES. 3(2-3); I, II, and SS. Prerequisite: Organic Chemistry. Mrs. Hess and Miss Bruner.

Fabrics and the factors that influence their wearing qualities and appearance; practical application of this knowledge to the everyday problems of the consumer.

Laboratory.—Becoming acquainted with fabrics and their uses; identification of fabrics microscopically and chemically; test the effect on fabrics of various methods of cleaning. Charge, \$2; deposit, 25 cents.

123. ADVANCED CLOTHING. 4(1-9); I, II, and SS. Prerequisite: Clothing for the Individual. Open to juniors and seniors. Miss Quinlan and Miss Cowles.

Development of understanding and appreciation of the use of line, form, texture and color by draping garments to express the characteristics of the individual. A study of the social significance of fashion as explained through its origin and function.

Laboratory.—Designs are worked out first in muslin and then in silk or wool. Charge, \$2.50; deposit, 25 cents.

FOR GRADUATE AND UNDERGRADUATE CREDIT

201. CLOTHING ECONOMICS. 3(3-0); I and SS. Prerequisites: Clothing for the Individual, Textiles, and Economics. Miss Latzke.

The organization of textile industries and markets; the consumer problem in relation to existing market conditions from an economic and psychological viewpoint; standardization of clothing and textiles.

205. ADVANCED TEXTILES. 3(1-6); I and SS. Prerequisites: Textiles. Mrs. Hess and Miss Bruner.

Consumer problems in textiles; approved methods and techniques suited to routine testing and research; equipment and apparatus used; sources of information concerning textile testing laboratories and persons connected with textile research.

Laboratory.—Charge, \$3; deposit, 25 cents.

215. PROBLEMS IN CLOTHING AND TEXTILES. Credit to be arranged; I, II, and SS. For prerequisites, consult instructors. Miss Latzke, Mrs. Hess, Miss Bruner, and Miss Quinlan.

An assigned problem in some phase of clothing or textiles. Charge, to be arranged with the instructor.

225. HISTORY OF COSTUME. 2(2-0); I and II. Prerequisite: Hist. 101 or consult instructor. Miss Cowles.

History of ancient and modern costume in its various phases of development and in relation to the life of the people and the growth of civilization.

FOR GRADUATE CREDIT

301. RESEARCH IN CLOTHING AND TEXTILES. Credit to be arranged; I, II, and SS. For prerequisites, consult instructors. Miss Latzke, Mrs. Hess, and Miss Bruner.

A research problem considering the hygienic or economic aspects of textiles, or an investigation of clothing as it is related to art, psychology, and other sciences may be chosen as the problem, depending on the courses elected. Charge, to be arranged with the instructor.

304. CLOTHING AND TEXTILES SEMINAR. 1(1-0); II. Prerequisite: Graduate standing. Miss Latzke, Mrs. Hess, Miss Bruner, and Miss Quinlan.

A study of the field of clothing and textiles through assigned readings and discussions; special attention is given recent literature bearing on progress in the field.

312. EXPERIMENTAL TEXTILES. 2 to 5 hours; I, II, and SS. Prerequisite: Advanced Textiles. Mrs. Hess and Miss Bruner.

The work covered in this course consists primarily of experimental work with textiles. Written reports of all work done will be required before a student will receive credit for the course. Fee arranged by instructor.

Food Economics and Nutrition

Professor PITTMAN
 Professor KRAMER
 Professor AHLBORN
 Instructor TUCKER
 Instructor VAIL

Instructor BROWNING
 Instructor McMILLAN
 Technician KUNERTH
 Grad. Research Asst. ———.
 Grad. Research Asst. ———.

Food is an important factor in health of the individual and the family. Selection of wholesome and economical food requires the application of chemistry, physiology, sanitary science, and economics. Preparation and preservation of food involve processes dependent upon physics, chemistry, and bacteriology. In the modern science of nutrition and dietetics, the student learns the chemical and physiological principles involved in the nutrition of the body and applies these to planning the food for the individual and the group.

Advanced courses in this department provide training for teachers of foods, dietitians, demonstrators, extension workers and similar professions.

The equipment belonging to this department is valued at \$18,673.

COURSES IN FOOD ECONOMICS AND NUTRITION

FOR UNDERGRADUATE CREDIT

102. FOODS I. 5(3-6); I and II. Miss Tucker, Miss Vail, Miss Browning, and Miss McMillan.

A study of fundamentals of elementary nutrition and food economics. Practice in food preparation and meal service. Charge, \$5; deposit, 25 cents.

107. FOODS II. 3(1-6); I and II. Prerequisites: Organic Chemistry and Foods I or equivalent.

Practice in testing, formulating, and stating food principles as applied to food preparation. Charge, \$4; deposit, 25 cents.

112. HUMAN NUTRITION. 3(3-0); I and II. Prerequisites: Organic Chemistry, Embryology or Physiology, and Foods II.† Dr. Kramer.

The chemistry of food and nutrition, with emphasis upon the food nutrients, digestion, and metabolism.

121. APPLIED NUTRITION. 2(2-0); I and II. Prerequisite: Organic Chemistry or permission of instructor. Dr. Pittman and Miss Ahlborn.

Practical nutrition for the college student, including food requirements, food selection, and food habits. Designed for men and women students not majoring in home economics.

176. MEATS HE. 1(0-3); I and II.

See Department of Animal Husbandry, Division of Agriculture, course 176.

FOR GRADUATE AND UNDERGRADUATE CREDIT

202. DIETETICS. 4(3-3); I, II, and SS. Prerequisite: Human Nutrition. Dr. Pittman, Miss Ahlborn, and Miss Tucker.

Consideration of food requirements in health throughout infancy, childhood, adolescence, adult life, and old age. Practical application of principles of human nutrition and emphasis on adequate diets at different cost levels.

Laboratory.—Studies of weight, measure, and cost of some common food materials; standard portions of foods; charted recipes; weighed portions of proteins and minerals; vitamin exhibits; shares. Ideal diets for infants, children, and adults, individually and in groups. Charge, \$4.50; deposit, 25 cents.

205. DIETETICS FOR ABNORMAL CONDITIONS. 2(1-3); I and II. Prerequisite: Dietetics. Dr. Kramer.

† Students from other divisions desiring to elect Human Nutrition may substitute an equivalent number of hours in other sciences for Embryology or Physiology, and Foods II.

Varying dietetic requirements in different pathological conditions, such as diabetes, nephritis, gout, gastric ulcer, etc. (For students who expect to qualify as professional dietitians.)

Laboratory.—Demonstrations of special foods used in such conditions, and computation of dietaries. Charge, \$1; deposit, 25 cents.

210. THE NUTRITION OF DEVELOPMENT. 2(2-0); II. Prerequisite: Dietetics. Dr. Pittman.

Detailed study of nutrition of the mother in pregnancy and lactation. Food requirements of the fetus, infant, and preschool child, and the school child through the period of adolescence.

215. FIELD WORK IN NUTRITION. 3(2-3); I and II. Prerequisite: Dietetics. Miss Tucker and Miss Browning.

Survey of field of child nutrition, study of malnutrition, field work with school children, special work with malnourished and normal individuals. Charge to be arranged with instructor.

245. PROBLEMS IN FOODS. Credit to be arranged; I, II, and SS. Prerequisites: Consult instructors. Dr. Pittman, Miss Vail, Miss McMillan, and Miss Browning.

Food problems are assigned for individual study. Charge to be arranged with instructor.

248. PROBLEMS IN FOOD ECONOMICS AND NUTRITION. Credit to be arranged; I, II, and SS. Prerequisite: Senior or graduate standing. Dr. Pittman, Dr. Kramer, Miss Ahlborn, and Miss Tucker.

Problems dealing with the nutritive value of foods; feeding experiments; dietary studies, or practice in the methods commonly used in the simpler experiments in nutrition, are assigned for individual study. Charge to be arranged with instructor.

251. FOOD ECONOMICS AND NUTRITION SEMINAR. 1 to 2 hours a semester; maximum, 4 credits; I, II, and SS. Prerequisite: Human Nutrition. Dr. Kramer.

Assigned reading and discussion of topics in the fields of food economics and nutrition, with special attention to recent literature bearing on problems in dietetics in both normal and pathological conditions, on growth, and on normal and subnormal nutrition in infancy and childhood.

255. EXPERIMENTAL COOKERY. 2 hours; I and II. Prerequisite: Household Physics. Prerequisite or parallel: Dietetics. Miss Vail, Miss McMillan, and Miss Browning.

Presentation of processes of food preparation from the experimental standpoint. Charge, \$1 to \$3.

FOR GRADUATE CREDIT

305. RESEARCH IN FOOD ECONOMICS AND NUTRITION. Credit to be arranged; I, II, and SS. Prerequisites: Consult instructors. Dr. Pittman, Dr. Kramer, Miss Ahlborn, Miss Tucker, Miss Vail, Miss McMillan, and Miss Browning.

Individual research problems which may form the basis for the thesis submitted for the master's degree. Charge to be arranged with instructor.

306. ANIMAL NUTRITION SEMINAR. 1(1-0) per year; I and II. Prerequisite: Consult instructors. Dr. Pittman and Dr. Kramer.

Reports of experiments in nutrition. Methods employed and validity of conclusions discussed.

General Home Economics

Dean JUSTIN
Assistant Dean AHLBORN

COURSES IN GENERAL HOME ECONOMICS**FOR UNDERGRADUATE CREDIT**

101. HOME ECONOMICS FRESHMAN LECTURES. R(1-0); I. Dean Justin, Assistant Dean Ahlborn, department heads of the division, and Professor C. V. Williams.†

The purpose of the seminar is: (1) The orientation of the student to her college environment: (2) The development of the ability to study. (3) Guidance in choice of one of the several fields of home economics for her profession. Charge, 75 cents.

121. HOME ECONOMICS LECTURES. R; (Four meetings each semester).

Discussion of general questions in the field of Home Economics and of Home Economics student affairs. Programs presented by speakers from outside, faculty members, and students. Insofar as possible the course serves as an introduction to the professional aspect of Home Economics. The Home Economics Club is used as an organ for expression and experience. Charge, 75 cents.

151. HOME ECONOMICS SENIOR LECTURES. R(1-0); II. Dean Justin.

The opportunities and responsibilities of the home economist are presented, and means for professional growth and personal advancement of the trained woman are stressed. Charge, 75 cents.

COURSES IN HOME ECONOMICS EDUCATION¹

Professor RUST

Assistant Professor BAXTER

FOR UNDERGRADUATE CREDIT

132. METHODS OF TEACHING HOME ECONOMICS. 3(3-0); I, II, and SS. Mrs. Rust and Mrs. Baxter.

See Department of Education, Division of General Science.

160. TEACHING PARTICIPATION IN HOME ECONOMICS. 3(-); I, II, and SS. By appointment. Mrs. Rust and Mrs. Baxter.

See Department of Education, Division of General Science.

FOR GRADUATE AND UNDERGRADUATE CREDIT

232. TEACHING SUBJECTS RELATED TO HOME ECONOMICS. 1 to 3 hours; I, II, and SS. Prerequisites: Psychology, and Methods of Teaching Home Economics. Mrs. Rust.

See Department of Education, Division of General Science.

FOR GRADUATE CREDIT

313. RESEARCH IN ORGANIZATION AND PRESENTATION OF HOME ECONOMICS. Credit to be arranged; I, II, and SS. Prerequisites: Graduate standing and confirmation of Division of Home Economics. Dean Justin and Mrs. Rust.

See Department of Education, Division of General Science.

314. PROBLEMS IN ORGANIZATION AND PRESENTATION OF HOME ECONOMICS. Credit to be arranged; I, II, and SS. Prerequisite: Senior or graduate standing. Dean Justin and Mrs. Rust.

See Department of Education, Division of General Science.

† Of the Department of Education.

1. The six courses named here are given by the Department of Education for the Division of Home Economics. Professor Rust and Assistant Professor Baxter are appointed coöperatively by that department and the Division of Home Economics.

315. SUPERVISION IN HOME ECONOMICS. 2 hours; I, II, and SS. Prerequisites: Methods of Teaching Home Economics, and experience in teaching home economics. Mrs. Rust.

See Department of Education, Division of General Science.

Household Economics

Dean JUSTIN
Assistant Professor GUNSELMAN

Assistant Professor TAYLOR
Instructor AGAN

The modern home is greatly influenced by social and economic conditions in the world outside. An understanding of the interaction of these forces on the home is fundamental to a grasp of its problems and its successful management. These forces influence the amount of the money income and the available information that will make its wise expenditure possible, as well as the kind and amount of home production carried on. Through the courses in this department an opportunity is offered for studying the effect of social and economic forces on the home and its management. The phases presented for study include housing, household administration, household equipment, and economic problems of the household. Graduate students preparing to become directors of home management houses, specialists in home management, teachers, homemakers, or research workers in this field find suitable courses in this department.

The department owns equipment valued at \$4,263.

COURSES IN HOUSEHOLD ECONOMICS

FOR UNDERGRADUATE CREDIT

107. THE HOUSE. 3(2-3; I, II, and SS. Prerequisites: Foods I and Household Physics. Miss Taylor and Miss Agan.

Criteria for judging the adequacy of certain types of dwellings in meeting the housing needs of the family; management of time, effort, and income—important factors in providing and maintaining family life in the home; choice of equipment.

Laboratory.—Selection, care, and operation of certain equipment for the home. Charge, \$1.

116. HOME MANAGEMENT. 3(1-6); I, II, and SS. Prerequisite: Senior standing. Miss Gunselman and Miss Agan.

Offers opportunity and help to the student in the application of the knowledge received in the basic home economics courses to the management of a home; and helps to develop an understanding of the essential attitudes that bring satisfaction in group living and family life.

Laboratory.—Residence is required in the management houses for a period of six weeks.

FOR GRADUATE AND UNDERGRADUATE CREDIT

203. HOUSEHOLD EQUIPMENT I. 2(0-6); I, II, and SS. Prerequisite: Household Physics. Miss Taylor.

Practical studies which involve care, construction, operation, and repair of various pieces of equipment used in the home. Charge, \$2.50.

206. HOUSEHOLD EQUIPMENT II. 3(1-6); II. Prerequisite: Household Equipment I or consult instructor. Miss Taylor.

Selection, care, construction, operation, and testing of mechanical, electrical, and heat equipment from the standpoint of the physical and chemical principles involved. Charge, \$2.50.

238. PROBLEMS IN HOUSEHOLD EQUIPMENT. Credit to be arranged; I, II, and SS. Prerequisite: Household Physics or consult instructor. Miss Taylor.

Special problems in selection, care, operation, and testing of household equipment. Charge, \$1.

243. PROBLEMS IN HOUSEHOLD ECONOMICS. Credit to be arranged; I, II, and SS. Prerequisites: Consult instructors. Dr. Justin, Miss Gunselman, and Miss Agan.

Special problems for individual investigation in standards of living and family expenditures; housing, household equipment, organization and methods of housework; use of home-makers' leisure time or social aspects of the household and of the family.

265. ECONOMICS OF THE HOUSEHOLD. 2(2-0); I, II, and SS. Prerequisite: Economics. Miss Gunselman.

Problems of household production, problems incident to earning and spending the money income, factors determining the purchasing power of the "dollar of the home," and problems arising in the disbursement of the money income.

FOR GRADUATE CREDIT

301. RESEARCH IN HOUSEHOLD ECONOMICS. Credit to be arranged; I, II, and SS. Prerequisites: Consult instructors. Dr. Justin, Miss Gunselman, and Miss Taylor.

An individual research problem in the field of household economics, housing, or equipment. This may form the basis for a part or all of a master's thesis.

Institutional Economics

Professor WEST
Assistant Professor WOOD
Instructor JAMES

Assistant QUIST
Graduate Assistant O'NEILL
Graduate Assistant NEWTON

The successful administration of the institution involves the wise expenditure of time, energy, and money, in order that requirements of food and shelter may be satisfactorily furnished to large groups. Courses in this department provide training for cafeteria, tea-room, lunch-room managers, dietitians, and directors of residence halls. The equipment of this department is valued at \$11,418.

COURSES IN INSTITUTIONAL ECONOMICS

FOR GRADUATE AND UNDERGRADUATE CREDIT

201. INSTITUTIONAL ECONOMICS I. 4(1-9); I, II, and SS. Prerequisite: Foods II. Miss James.

Food problems of institutions, including preparation and serving of food in large quantities, menu planning, and food costs.

Laboratory.—Carried on in College cafeteria where food is prepared and served in large quantities. Charge, \$2.50.

205. INSTITUTIONAL ECONOMICS II. 2(2-0); I and II. Prerequisite: Institutional Economics I. Graduate students may parallel Institutional Economics I and II. Mrs. West.

A study of the organization and administration problems of the food and house department of certain institutions such as the school lunch, residence halls, hospitals, cafeteria; floor plans of institutional kitchens and dining rooms.

210. PROBLEMS IN INSTITUTIONAL ADMINISTRATION. Credit to be arranged; I, II, and SS. Prerequisite or parallel: Institutional Economics II; consult instructor. Mrs. West.

Individual investigation of problems in the field of institutional economics. Conferences are held and reports made at appointed hours.

215. INSTITUTIONAL PURCHASING. 2(2-0); I and II. Prerequisite: Institutional Economics I. Mrs. West.

Study of producing areas, the distribution of food products, and methods of purchasing food in large quantities.

218. **SCHOOL LUNCH-ROOM MANAGEMENT.** 2(1-3); II and SS. Prerequisite: Foods II. Mrs. West.

Organization, administration, equipment, food purchasing, food costs, and menu planning for the school lunch; banquet service for secondary schools.

225. **TEA-ROOM MANAGEMENT.** 3(0-9); I, II, and SS. Prerequisites or parallel: Institutional Economics II and Institutional Purchasing. Miss James.

Practical experience in the planning, preparation, and serving of food to the public. The College Tea Room serves as a laboratory for this course. Charge, \$2.50.

230. **INSTITUTIONAL EQUIPMENT.** 2(2-0); I and II. Prerequisite: Foods II. Mrs. West.

A study of the different types of equipment for the house and food departments of institutions, including selection, arrangement, installation, and care.

FOR GRADUATE CREDIT

301. **RESEARCH IN INSTITUTIONAL ECONOMICS.** Credit to be arranged; I, II, and SS. Prerequisites: Consult instructor. Mrs. West.

Bureau of Research in Home Economics

BUREAU STAFF

F. D. FARRELL, President of the College
MARGARET M. JUSTIN, Director

CHILD WELFARE AND EUTHENICS—

HELEN WHEELER FORD, in Charge
DOROTHY TRIPLETT, Child Welfare
JENNIE WILLIAMS, Public Health

CLOTHING AND TEXTILES—

ALPHA LATZKE, in Charge
KATHERINE HESS, Physics of Textiles
ESTHER BRUNER, Chemistry of Textiles
HELEN ROBERTS, Assistant

FOOD ECONOMICS AND NUTRITION—

MARTHA S. PITTMAN, in Charge
MARTHA KRAMER, Nutrition
BERNICE KUNERTH, Food and Nutrition
_____, Assistant

HOUSEHOLD ECONOMICS—

MARGARET M. JUSTIN, in Charge
MYRTLE GUNSELMAN, Household Management
MARY TAYLOR, Equipment

INSTITUTIONAL ECONOMICS—

BESSIE B. WEST, Institutional Economics
LE VELLE WOOD, Institutional Economics

Bureau of Research in Home Economics

The Bureau of Research in Home Economics conducts investigations in the scientific, economic, and social problems of the home. The purpose of this research is to discover new facts and new methods of the application of scientific knowledge bearing upon the welfare of the members of the family and the conditions under which they live.

The fields of research included in the bureau are: Child welfare, clothing and textiles, food economics, household administration, institutional economics, human nutrition, dietetics, and public health.

The laboratories of the Division of Home Economics include equipment suitable for work on certain of the problems. Opportunities for surveys and investigations of conditions in the state are found through the coöperation of various educational and social agencies.

The results of all investigations are published from time to time and are available on request to all citizens of the state.

The personnel of the bureau staff includes members of the teaching faculty in home economics. Several of the departments in other divisions of the College advise or collaborate with officers of the bureau on problems of related interest.

Among the investigations in progress are the following:

- * A study of calcium and phosphorus in various forms of milk and cheese.
- * Effect upon the animal body of varying the amount of vitamin in the diet.

* Vitamin content of foods relating to human nutrition:

- a. Fruits.
- b. Vegetables.
- c. Cereals.
- d. Eggs.

Utilization by human subjects of the nitrogen and phosphorus of different cuts of meat.

Factors affecting the quality of cakes.

* Composition of cooked meats.

Dietary studies—group, individual.

A study of electric and other types of stoves commonly used in the farm household for cooking purposes.

* A study of the coefficient of protection of clothing fabrics.

* A study of the silk fiber, weighted and unweighted, as affected by:

- a. Light.
- b. Light and moisture.
- c. Light and perspiration.

Coefficient of absorption of textile materials.

Comparative study of certain body measurements:

- a. With those of selected commercial patterns.
- b. With those of certain commercial made garments.

Methods in parent education.

Behavior records for nursery school.

The ability of individuals to maintain equilibrium under varying conditions.

* The investigations starred are being supported in part by funds from the Agricultural Experiment Station.

The Division of Veterinary Medicine

RALPH R. DYKSTRA, *Dean*

The College has one of the best-equipped schools of veterinary medicine in the West. In addition to giving the student the best possible technical training in veterinary medicine, the course is designed to give the broad culture necessary for men who are to take their places in public affairs. Professional men, such as veterinarians, are placed in a more or less public relation to the communities they serve. They must have a broad groundwork in culture and ethical training, which will win them the confidence and respect of their communities. Success is measured in something more than dollars and cents, and the man whose view of life is no broader than his profession adds but little to the world and its happiness. The training given by the College in veterinary science seeks to emphasize the value of the man as a man, as much as his value as a specialist.

The Division of Veterinary Medicine gives most of the technical work in the curriculum in veterinary medicine, a general description of which is given below. The division is housed in the veterinary buildings, which were erected at a cost of more than \$175,000, and are thoroughly equipped throughout. Veterinary Hall contains modern classrooms, and its laboratories possess the necessary appliances for illustrating the several subjects required. The mode of instruction is more specifically detailed in succeeding sections.

The policy adhered to in the instruction in all the departments is that the science of veterinary medicine is the foundation, and the art merely supplementary. A thorough drill is given in the foundation studies, and later in the curriculum practical application of these is made in actual field work. The result is a thoroughly scientific veterinary education.

In the arrangement of the schedule of the veterinary curriculum it is implied that the courses should be followed in regular sequence, as each year's work depends upon the work done the previous year. Certain courses, however, may be selected as electives if a student has the necessary prerequisites. These courses are mentioned in the list of electives.

CURRICULUM IN VETERINARY MEDICINE

Veterinary medicine has made remarkable advances within recent years, and is taking its place alongside human medicine as a science. In truth, medical science and veterinary science are but specialized branches of the same science, and must be developed together. The modern veterinarian takes his place in the community as a professional man of education and culture. With the general improvement of the live stock on the farms, and with the advance of live stock in value, there is constant increase in the demand for skilled physicians to care for them.

The veterinarian, while primarily trained to conserve the health of farm animals, has yet larger service to render in preventing disease common to both man and beast from being communicated from domestic animals to man. Moreover he must see that the animals slaughtered for meat are healthy and that products are handled under such conditions as to render them suitable for human food. The public is now demanding that milk and other food products be free from contamination and that they be incapable of transmitting dangerous diseases, like tuberculosis, typhoid fever, scarlet fever, and diphtheria. There is ample work for all of the thoroughly competent veterinarians that the colleges of the country will train.

The curriculum in veterinary medicine at Kansas State College was established to give the young men of this state an opportunity to pursue these studies in an agricultural environment, where the facilities offered by other

branches of the College would be at their command. While the instruction in this curriculum is largely technical, enough subjects of a general character are included to give a sound education and a broad outlook. Better to fit the veterinarian to deal wisely with the live-stock problems which he has to meet, he is required to take the work in live-stock feeding, breeding and judging, and in milk inspection, zoölogy, and embryology, in addition to his purely professional work.

The diploma from this school is recognized by the United States Department of Agriculture, by the United States Civil Service Commissions, by the American Veterinary Medical Association, and by the various examining boards of the several states and territories of America where it has been presented.

**CURRICULUM IN ANIMAL HUSBANDRY AND
VETERINARY MEDICINE**

The combined curriculum in animal husbandry and veterinary medicine has been outlined so that students may receive the degree of Bachelor of Science in Agriculture at the end of four years, and the degree of Doctor of Veterinary Medicine at the end of two more years, thus securing both degrees in six years.

This curriculum is prepared especially for students who intend to become managers of live-stock farms or to enter special lines of veterinary practice.

**CURRICULUM IN GENERAL SCIENCE AND
VETERINARY MEDICINE**

The combined curriculum in general science and veterinary medicine has been so arranged that students may receive the degree of Bachelor of Science at the end of four years, and the degree of Doctor of Veterinary Medicine at the end of two years more, thus securing both degrees in six years. The curriculum is intended especially for students who intend to pursue teaching or research work in agricultural experiment stations.

**Curriculum in Veterinary Medicine
PRE-VETERINARY OR FIRST YEAR¹**

(Thirty semester credits of approved college or university work, having the following distribution, are required.)

| | |
|-------------------------------------|-------------------------|
| English | 5 or 6 semester hours |
| General Inorganic Chemistry..... | 5 to 10 semester hours |
| Zoölogy | 5 semester hours |
| Military Science ² | 2 semester hours |
| Optional Courses..... | 9 to 15 semester hours |
| Total | 30 or 32 semester hours |

The optional courses should preferably be selected from a modern language (German or French), physics, and mathematics.

FRESHMAN OR SECOND YEAR

| FIRST SEMESTER | | SECOND SEMESTER | |
|----------------------------------------------|---------|----------------------------------------------|---------|
| Anatomy I, Anat. 104..... | *4(3-3) | Anatomy II, Anat. 110..... | 8(4-12) |
| Histology I, Path. 102..... | 4(2-6) | Histology II, Path. 106..... | 3(1-6) |
| Gen. Org. Chemistry, Chem. 122.. | 5(3-6) | Path. Bact. I, Bact. 111 | 4(2-6) |
| Medical Botany, Bot. 126..... | 2(1-3) | Infantry II, Mil. Sc. 102A..... | 1(0-3) |
| Infantry I, Mil. Sc. 101A..... | 1(0-3) | Phys. Educ. M, ³ Phys. Ed. 104... | R(0-2) |
| Phys. Educ. M, ³ Phys. Ed. 103... | R(0-2) | | |
| Total | 16 | Total | 16 |

See footnotes on page 287.

SOPHOMORE OR THIRD YEAR

FIRST SEMESTER

| | |
|----------------------------------------------|--------|
| Anatomy III, Anat. 112..... | 4(1-9) |
| Comp. Physiology I, Anat. 222.... | 4(3-3) |
| El. of An. Husb., An. Husb. 125.. | 3(2-4) |
| Path. Bact. II, Bact. 116..... | 4(2-6) |
| Dairy Cattle Judg., Dairy Husb. 104 | 1(0-3) |
| Infantry III,* Mil. Sc. 103A..... | 1(0-3) |
| Phys. Educ. M, Phys. Ed. 105..... | R(0-2) |

Total 16 or 17

SECOND SEMESTER

| | |
|------------------------------------|-----------|
| Pathology I, Path. 203..... | 5(3-6) |
| Comp. Physiology II, Anat. 227.... | 4(3-3) |
| Farm Poul. Prod., Poul. Husb. 101. | 2(1-2, 1) |
| Feeds and Feeding, An. Husb. 189.. | 3(3-0) |
| Dairy Inspec. II, Dairy Husb. 119. | 2(1-3) |
| Infantry IV,* Mil. Sc. 104A..... | 1(0-3) |
| Phys. Educ. M, Phys. Ed. 106.... | R(0-2) |

Total 16 or 17

JUNIOR OR FOURTH YEAR

FIRST SEMESTER

| | |
|------------------------------------|--------|
| Surgery I, Surg. & Med. 102..... | 5(5-0) |
| Materia Medica, Surg. & Med. 158.. | 4(3-3) |
| Pathology II, Path. 208..... | 4(3-3) |
| Parasitology, Zoöl. 208..... | 3(2-3) |
| Clinics I, Surg. & Med. 138..... | 2(0-6) |

Total 18

SECOND SEMESTER

| | |
|------------------------------------------------|--------|
| Surgery II, Surg. & Med. 107..... | 5(5-0) |
| Dis. of Lrg. Ans. I, Surg. & Med. 175 | 5(5-0) |
| Pathology III, Path. 211..... | 3(2-3) |
| Therapeutics, Surg. & Med. 163... | 3(3-0) |
| Clinics II, Surg. & Med. 141..... | 2(0-6) |

Total 18

SENIOR OR FIFTH YEAR

FIRST SEMESTER

| | |
|-------------------------------------------------|---------|
| Dis. of Lrg. Ans. II, Surg. & Med. 177 | 5(5-0) |
| Dis. of Small Ans., Surg. & Med. 186 | 2(2-0) |
| Surgical Exercises, Surg. & Med. 112 | 1(0-3) |
| Meat Hygiene, Path. 217..... | 3(3-0) |
| Pathology IV, Path. 214..... | 3(2-3) |
| Clinics III, Surg. & Med. 144..... | 4(0-12) |

Total 18

SECOND SEMESTER

| | |
|---------------------------------------------------|---------|
| Inf. Dis. of Lrg. Ans., Surg. & Med. 181 | 5(5-0) |
| Obst. & Breed. Dis., Surg. & Med. 130 | 5(5-0) |
| Poultry Diseases, Bact. 217..... | 2(2-0) |
| Med. Econ. & Law, Surg. & Med. 191 | 2(2-0) |
| Clinics IV, Surg. & Med. 147..... | 4(0-12) |

Total 18

Number of hours required in the pre-veterinary year..... 32 or 30
Number of hours required in the freshman, sophomore, junior, and senior years.. 136 or 138

Total number of hours required for graduation..... 168

EXTRACURRICULAR ELECTIVES

FIRST SEMESTER

| | |
|----------------------------------|--------|
| Vaccine Manu. I., Path. 228..... | 2(1-3) |
|----------------------------------|--------|

SECOND SEMESTER

| | |
|----------------------------------|--------|
| Vaccine Manu. II, Path. 231..... | 2(1-3) |
|----------------------------------|--------|

FIRST OR SECOND SEMESTER

| | |
|-------------------------------------------------------|-----------------------|
| Special Histology, Path. 252..... | 3(1-6) |
| Pathological Technic and Diagnosis I, Path. 222..... | 2 to 5(-) |
| Pathological Technic and Diagnosis II, Path. 223..... | 2 to 5(-) |
| Special Anatomy, Anat. 202..... | 2 to 4(-) |
| Applied Anatomy, Anat. 206..... | 1(0-3) |
| Research in Pathology, Path. 302..... | Credit to be arranged |
| Problems in Physiology, Anat. 215..... | Credit to be arranged |
| Research in Medicine, Surg. and Med. 310..... | Credit to be arranged |
| Research in Surgery, Surg. and Med. 301..... | Credit to be arranged |

* The number before the parenthesis indicates the number of hours of credit; the first number within the parentheses indicates the number of hours of recitation each week; the second shows the number of hours to be spent in laboratory work each week; and the third, where there is one, indicates the number of hours of outside work in connection with the laboratory each week.

1. The courses of the pre-veterinary year may be taken in Kansas State College or in an approved junior college, college, or university.

2. Military Science 101A-104A shall be taken during the pre-veterinary and freshman years, unless the matriculant enrolls in this college as a freshman, in which event they shall be taken during the freshman and sophomore years.

3. The courses in physical education may be taken during the pre-veterinary and freshman years, unless the matriculant enrolls in this college as a freshman, in which event they shall be taken during the freshman and sophomore years.

4. If basic military science has been completed, it is to be left out of the sophomore year.

Six-year Curriculum in Animal Husbandry and Veterinary Medicine

FRESHMAN

Freshman year of the curriculum in Agriculture

SOPHOMORE

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|--------------------------------------|----------|
| Agric. Econ., Agric. Econ. 101..... | 3(3-0) | Farm Crops, Agron. 101..... | 4(2-6) |
| Soils, Agron. 130..... | 4(3-3) | Feed. Live Stock, An. Hus. 172... | 3(3-0) |
| College Rhetoric II, Engl. 104.... | 3(3-0) | Genetics, An. Husb. 221..... | 3(3-0) |
| General Zoölogy, Zoöl. 105..... | 5(3-6) | Farm Poult. Prod., Pol. Husb. 101, 2 | (1-2, 1) |
| Infantry III, Mil. Sc. 103A..... | 1(0-3) | Gen. Econ. Entomol., Ent. 203.... | 3(2-3) |
| Phys. Educ. M, Phys. Ed. 105.... | R(0-2) | Infantry IV, Mil. Sc. 104A..... | 1(0-3) |
| Agric. Seminar, Gen. Agric. 103... | R | Phys. Educ. M, Phys. Ed. 106.... | R(0-2) |
| | | Agric. Seminar, Gen. Agric. 103... | R |
| Total | 16 | Total | 16 |

JUNIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|-------------------------------------|---------|
| Anatomy I, Anat. 104..... | 4(3-3) | Anatomy II, Anat. 110..... | 8(4-12) |
| Histology I, Path. 102..... | 4(2-6) | Histology II, Path. 106..... | 3(1-6) |
| Medical Botany, Bot. 126..... | 2(1-3) | Path. Bact. I, Bact. 111..... | 4(2-6) |
| Electives | 6 | Electives | 1 |
| Agric. Seminar, Gen. Agric. 103... | R | Agric. Seminar, Gen. Agric. 103.... | R |
| Total | 16 | Total | 16 |

SENIOR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|-------------------------------------|--------|
| Anatomy III, Anat. 112..... | 4(1-9) | Pathology I, Path. 203..... | 5(3-6) |
| Comp. Physiology I, Anat. 222.... | 4(3-3) | Comp. Physiology II, Anat. 227... | 4(3-3) |
| Path. Bact. II, Bact. 116..... | 4(2-6) | Dairy Inspec. II, Dairy Husb. 119.. | 2(1-3) |
| Electives | 4(-) | Electives | 5(-) |
| Agric. Seminar, Gen. Agric. 103.... | R | Agric. Seminar, Gen. Agric. 103... | R |
| Total | 16 | Total | 16 |

FIFTH YEAR

Fourth year of the curriculum in Veterinary Medicine.

SIXTH YEAR

Fifth year of the curriculum in Veterinary Medicine

Number of hours required for completion of six-year curriculum, 200.

The work of the first four years leads to the degree Bachelor of Science in Agriculture. The junior and senior electives provided must be officially approved, before assignment, by the dean of the Division of Agriculture and the head of the Department of Animal Husbandry. Upon the completion of the fifth and sixth years the student is eligible for the degree Doctor of Veterinary Medicine.

Six-year Curriculum in General Science and Veterinary Medicine

FIRST YEAR

Freshman year of curriculum in General Science.

SECOND YEAR

| FIRST SEMESTER | | SECOND SEMESTER | |
|------------------------------------|--------|----------------------------------|--------|
| English Literature, Engl. 172..... | 3(3-0) | Amer. Literature, Engl. 175..... | 3(3-0) |
| Modern Europe II, Hist. 223..... | 3(3-0) | Economics I, Econ. 101..... | 3(3-0) |
| Gen. Physics I, Phys. 135..... | 4(3-3) | Gen. Physics II, Phys. 140..... | 4(3-3) |
| Gen. Org. Chemistry, Chem. 122.. | 5(3-6) | General Zoölogy, Zoöl. 105..... | 5(3-6) |
| Infantry III, Mil. Sc. 103A..... | 1(0-3) | Infantry IV, Mil. Sc. 104A..... | 1(0-3) |
| Phys. Educ. M, Phys. Ed. 105.... | R(0-2) | Phys. Educ. M, Phys. Ed. 106.... | R(0-2) |
| Total | 15 | Total | 16 |

THIRD YEAR

| FIRST SEMESTER | | SECOND SEMESTER | |
|-------------------------------------|--------|------------------------------------|---------|
| American History I, Hist. 201..... | 3(3-0) | Extens. Speech I, Pub. Spk. 106... | 2(2-0) |
| Amer. Gov., Hist. 151, 152, or 153. | 3(3-0) | Path. Bact. I, Bact. 111..... | 4(2-6) |
| Medical Botany, Bot. 126..... | 2(1-3) | Histology II, Path. 106..... | 3(1-6) |
| Histology I, Path. 102..... | 4(2-6) | Anatomy II, Anat. 110..... | 8(4-12) |
| Anatomy I, Anat. 104..... | 4(3-3) | | |
| Total | 16 | Total | 17 |

FOURTH YEAR

Sophomore year of curriculum in Veterinary Medicine, omitting Infantry III-IV, Mil. Sc. 103A, 104A, and Physical Education M, Phys. Ed. 105, 106.

FIFTH YEAR

Fourth year of the curriculum in Veterinary Medicine

SIXTH YEAR

Fifth year of the curriculum in Veterinary Medicine

Number of hours required for completion of six-year curriculum, 200

The work of the first four years leads to the degree Bachelor of Science. Upon the completion of the fifth and sixth years the student is eligible for the degree Doctor of Veterinary Medicine.

Anatomy and Physiology

Professor BURT
Professor McLEOD

This branch of veterinary medicine extends over the freshman year and the first semester of the sophomore year for veterinary students, and one semester is required in the curriculum in agriculture.

The classroom instruction consists of lectures, quizzes and recitations, and special dissection of the part under discussion, also a study of dissected specimens, various models, and the Azoux model of the horse. Mounted skeletons and limbs and loose bones are abundant in the museum. The horse is taken as a type, and the other domestic animals are compared with the horse. As often as necessary parts of other animals are dissected to show the differences.

The courses in anatomy require several lecture rooms, which contain models, skeletons, and bones of all kinds, and a thoroughly sanitary dissecting room equipped with all the latest materials necessary to give a course in anatomy second to none on the continent.

The equipment for instruction in physiology is ample to give the student a thoroughly comprehensive course of laboratory study.

The department owns equipment valued at \$10,347.

COURSES IN ANATOMY

FOR UNDEGRADUATE CREDIT

104. ANATOMY I.* 4(3-3); I. Dr. McLeod.

A detailed study of the bones of the horse, and a comparative study of the bones of other animals and of man. Deposit, \$3.

110. ANATOMY II. 8(4-12); II. Prerequisite: Anatomy I. Drs. Burt and McLeod.

Dissection of the trunk and limbs of the horse; study of the nerves, viscera, and joints, and of the blood and nerve supply of the same. Deposit, \$5.

* The number before the parenthesis indicates the number of hours of credit; the first numeral within the parentheses indicates the number of hours of recitation each week; the second shows the number of hours to be spent in laboratory each week; and the third, where there is one, indicates the number of hours of outside work in connection with the laboratory required each week. I, II, and SS indicate that the course is given the first semester, second semester, and summer school, respectively.

112. ANATOMY III. 4(1-9); I. Prerequisite: Anatomy I. Drs. Burt and McLeod.

Dissection and study of all structures of the head of the horse with exception of the bones of the head; the comparative anatomy of other domestic animals. Deposit, \$5.

FOR GRADUATE AND UNDERGRADUATE CREDIT

202. SPECIAL ANATOMY. 2 to 4 credits; II. Prerequisite: Any course in Anatomy and Physiology (104, 110, 112, or 131), or equivalent. Drs. Burt and McLeod.

Study of any part of the horse, as the digestive system, the genital system, etc., or of similar parts of the ox, sheep, pig, etc., or of poultry anatomy; this course being adaptable to the requirements of the line of work in which the student is specializing. Deposit, \$5.

206. APPLIED ANATOMY. 1(0-3); I. Prerequisite: Anatomy III. Drs. Burt and McLeod.

Dissection of certain areas embraced in performing the various surgical operations, and study of all the structures in each area and their relation to one another as they would present themselves during an operation.

COURSES IN ANATOMY AND PHYSIOLOGY

FOR UNDERGRADUATE CREDIT

131. ANATOMY AND PHYSIOLOGY. 3(2-3); I. Drs. Burt and McLeod.

Physiology of the domestic animals with special emphasis on digestion, absorption, metabolism, and excretion; sufficient anatomy to give a thorough understanding of the correlation between the two subjects and of the physiologic relations existing among the various organs of the body. Charge, \$1.

COURSES IN PHYSIOLOGY

FOR GRADUATE AND UNDERGRADUATE CREDIT

215. PROBLEMS IN PHYSIOLOGY. Credit to be arranged; I and II. Prerequisite: Any course in Anatomy and Physiology (131, 222, or 227), or equivalent. Drs. Burt and McLeod.

Individual investigational problems in the physiology of digestion, reproduction, endocrine glands, etc.

222. COMPARATIVE PHYSIOLOGY I. 4(3-3); I. Prerequisites: For veterinary students, Anatomy I and II and Organic Chemistry (Vet.); for others, an approved course in organic chemistry. Drs. Burt and McLeod.

Physiology of domestic animals and man, beginning with the study of the blood, heart, blood vessels, and continuing with the ductless glands and internal secretions, respiration, digestion, and absorption.

Laboratory.—A practical application of the knowledge derived in the classroom. Laboratory directions furnished the student. Deposit, \$3.

227. COMPARATIVE PHYSIOLOGY II. 4(3-3); II. Prerequisites: Same as for course 222. Drs. Burt and McLeod.

The urine and urinary system, nutrition, animal heat, muscular and nervous systems, locomotion, generation and development, growth and decay. Deposit, \$3.

FOR GRADUATE CREDIT

301. ANIMAL NUTRITION SEMINAR. 1(1-0); I and II. For prerequisite, consult Dr. Burt.

Study and criticism of experimental work in animal nutrition, of the methods employed, and of validity of conclusions drawn.

Pathology

Professor LIENHARDT
Professor SCOTT
Professor KITSELMAN

Assistant Professor LEASURE
Assistant Professor FARLEY

The Department of Pathology presents courses in histology, pathology, and meat inspection. The instruction is presented by lectures or recitations, laboratory periods, and demonstrations which are carried out by the use of the projectoscope and by autopsies.

The laboratory is fully equipped and entirely up to date. The equipment consists of microtomes, paraffin ovens, microphotographic and projection apparatus, centrifuge, shaking machines, sterilizers, etc. Each student is furnished a drawer, microscope, prepared slides for study, and all other essentials needed for study in the laboratory courses.

The department is also in possession of a fairly complete pathological museum, which contains specimens of organs and tissues that show lesions typical of the various infectious, and some noninfectious diseases. These specimens are used in the study of pathology, and together with the specimens sent in from over the state and fresh material from the immediate vicinity, they furnish ample material for the course in pathology.

The department library contains text and reference books on pathology and allied subjects, also the current files of the important technical periodicals relating to pathology. These books are at the constant disposal of the student for reference.

The course in meat inspection together with the allied subjects required for a degree in veterinary medicine make the student eligible to take the civil-service examination for meat inspection. In this course visits are made to packing plants in Topeka and Kansas City.

The equipment owned by the department is valued at \$15,482.

COURSES IN HISTOLOGY

FOR UNDERGRADUATE CREDIT

102. HISTOLOGY I. 4(2-6); I. Prerequisite: Zoölogy 105. Dr. Leasure.

Care and manipulation of the microscope; microscopical examination and study of the cell, the developing embryo, the specialized tissues, blood-forming organs, the digestive tract, etc. Previously prepared specimens are studied with the microscope and drawn by the student. Deposit, \$3.

106. HISTOLOGY II. 3(1-6); II. Prerequisite: Path. 102. Dr. Leasure.

Study of the stomachs of the dog, the horse, and the ox; the intestines, the liver, pancreas, respiratory tract, the urinary organs, genital organs, the skin and appendages, suprarenal gland, the brain, the eye, and the ear; these tissues studied with the microscope and drawn by the student. Deposit, \$3.

FOR GRADUATE AND UNDERGRADUATE CREDIT

252. SPECIAL HISTOLOGY. 3(1-6); I, II, and SS. Dr. Leasure.

A course dealing with special organs, as those concerned with digestion, respiration, etc.; tissues fixed, dehydrated, imbedded, sectioned, stained, mounted and studied. Charge, \$3.

COURSES IN PATHOLOGY

FOR GRADUATE AND UNDERGRADUATE CREDIT

203. PATHOLOGY I. 5(3-6); II. Prerequisites: Anat. 222, Bact. 116, Chem. 122, and Path. 106. Drs. Lienhardt, Scott, and Leasure.

General pathology, treating of the history of pathology, predisposition, immunity, congenital and inherited disease, etiology, course and termination of disease. Deposit, \$3.

208. PATHOLOGY II. 4(3-3); I. Prerequisites: Path. 203 and Anat. 227. Drs. Lienhardt, Scott, and Leasure.

Special pathology, study of specific pathological processes occurring in the various organs of the body. Sectioned and mounted specimens of diseased tissues are studied microscopically and drawn by the student. Deposit, \$3.

211. **PATHOLOGY III.** 3(2-3); II. Prerequisite: Path. 208. Drs. Lienhardt, Scott, and Leasure.

Special pathology; continuation of Pathology II; also clinical pathology. Deposit, \$3.

214. **PATHOLOGY IV.** 3(2-3); I. Prerequisite: Path. 211. Dr. Lienhardt. Pathology of the infectious diseases and laboratory diagnosis. Deposit, \$2.50.

217. **MEAT HYGIENE.** 3(3-0); I. Prerequisite: Path. 211. Dr. Kitselman. Kinds and classes of stock, traffic and transportation of animals, inspection before and after slaughter, disposition of the condemned from economic and hygienic standpoints, different methods of preservation, adulterations, and sanitary laws and regulations dealing with healthful meat production.

222, 223. **PATHOLOGICAL TECHNIC AND DIAGNOSIS I AND II.** 2 to 5 credits each; I and II each. Prerequisites: For I, Path. 203; for II, Path. 211 and 222. Drs. Lienhardt and Leasure.

Pathological technic; collecting, fixing, hardening, embedding in celloidin and paraffin, also freezing and sectioning of tissues; methods of preserving gross specimens; practice in post-mortem and laboratory diagnosis. Deposit, \$3 to \$7.50 for each course.

228, 231. **VACCINE MANUFACTURE I AND II.** 2 to 5 credits each; I and II each. Prerequisite: Bact. 116. Dr. Scott.

I: Theory and practice of immunization as applied to blackleg and hog cholera.

Laboratory.—Isolation and identification of the blackleg organism and of related anaërobcs, and practical production of blackleg biological products and anti-hog-cholera serum and virus. Deposit, \$3 to \$7.50 for each course.

II: Preparation and standardization of various veterinary biological products, such as tuberculin, bacterial vaccines, and bacterins.

Laboratory.—Production of some of the products mentioned and special work on blackleg biological products and anti-hog-cholera serum and virus. Deposit, \$3.

FOR GRADUATE CREDIT

302. **RESEARCH IN PATHOLOGY.** Credit to be arranged; I and II. Prerequisites: Pathology 214 and 222, Bact. 116, and Chem. 235, or equivalent. Drs. Lienhardt, Scott, and Leasure.

Individual research problems in pathology of the nervous system, eye, and ear; investigational work on disease caused by a filterable virus. This work may form the basis for a master's thesis. Deposit, \$1.50 to \$15.

310. **ANIMAL NUTRITION SEMINAR.** 1(1-0); I and II. For prerequisites, consult Dr. Lienhardt.

Study and criticism of experimental work in animal nutrition, of the methods employed, and of validity of conclusions drawn.

Surgery and Medicine

Professor **DIKSTRA**
Professor **FRICK**

Assistant Professor **FRANK**
Assistant Professor **DANKS**

For instruction in surgery and clinics the equipment is excellent. The veterinary hospital, recently completed at a cost of more than \$100,000, is equipped with every modern appliance for surgical operations and diagnosis of animal diseases. The hospital has capacity for more than fifty horses or cattle, and in addition it can accommodate fifty small animals, such as sheep, swine, cats, dogs, etc. In addition to the foregoing, members of the clinical staff, accompanied by students, make trips into the surrounding country to give veterinary attention to ailing patients. In this way the students come in contact every year with the diseases of animals and their treatment. The work is always under the guidance of proficient practitioners.

For the study of materia medica and pharmacy there is a general pharmacy laboratory containing all the drugs used in the practice of veterinary medicine and a practicing pharmacy where medicines are compounded for the everyday practice connected with the College.

This department owns equipment to the value of \$10,881.

COURSES IN SURGERY

FOR UNDERGRADUATE CREDIT

102. **SURGERY I.** 5(5-0); I. Prerequisite: Junior and senior classification in Veterinary Medicine. Dr. Dykstra.

Lectures, recitations, and demonstrations on the fundamental principles of surgery, methods of restraint, asepsis and antisepsis, anæsthesia, division of tissues, union of tissues, control of hemorrhage, neoplasms, and animal dentistry.

107. **SURGERY II.** 5(5-0); II. Prerequisite: Surgery I. Dr. Dykstra.

Lectures, recitations, and demonstrations on the surgical diseases of domesticated animals, and including horseshoeing.

112. **SURGICAL EXERCISES.** 1(0-3); I. Drs. Dykstra, Frank, and Danks.

Major surgical operations on anæsthetized domesticated animals and on cadavers. Charge, \$5.

FOR GRADUATE CREDIT

301. **RESEARCH IN SURGERY.** Credit to be arranged; I and II. Prerequisites: Surgery I and II, Anatomy I, II, and III, and Therapeutics. Dr. Dykstra.

The purpose of this course is to attempt to solve many of the surgical problems confronting the average veterinary practitioner. Offered especially for graduates in veterinary medicine.

COURSES IN OBSTETRICS

FOR UNDERGRADUATE CREDIT

130. **OBSTETRICS AND BREEDING DISEASES.** 5(5-0); II. Prerequisite: Senior classification in Veterinary Medicine. Dr. Frank.

Physiology and reproduction, principles of normal and abnormal parturition, special attention given to handling of reduced fertility.

COURSES IN CLINICS

FOR UNDERGRADUATE CREDIT

138, 141. **CLINICS I AND II.** 2(0-6) each; I and II, respectively. Drs. Dykstra, Frick, Frank, and Danks.

A free clinic is conducted, at which all species of domesticated animals are presented for treatment. In clinics I and II junior students assist in these treatments, become proficient, by practical experience, in the restraint of animals, in bandaging, etc., and have charge of compounding prescriptions,

preparation of antiseptics and other medical agents. Deposit, \$5 for each course.

144, 147. CLINICS III AND IV. 4(0-12) each; I and II, respectively. Prerequisite: Junior or senior veterinary assignment. Drs. Dykstra, Frick, Frank, and Danks.

Diagnosis and treatment of hospital patients, including the keeping of clinic records, the administering of all medicines, changing of dressings on surgical wounds, X-ray technique, etc.; assisting clinicians in out-clinic work. Deposit, \$5 for each course.

150. EXTRA CLINICS. 1(0-3); I, II, and SS. Prerequisite: Clinics 141 or 147. Drs. Dykstra, Frick, Frank, and Danks.

A course in clinics intended for those undergraduate students desiring clinical training in addition to that offered in the curriculum in Veterinary Medicine. Deposit, \$2.50.

COURSES IN MATERIA MEDICA

FOR UNDERGRADUATE CREDIT

158. MATERIA MEDICA. 4(3-3); I. Dr. Danks.

A detailed study of important drugs, their origins, properties, and classification; their physiological actions, clinical administration, and dosage; metrol-ogy, prescription writing, pharmaceutical processes, and pharmaceutical prepa-rations; compounding of prescriptions. Deposit, \$3.

163. THERAPEUTICS. 3(3-0); II. Prerequisite: Materia Medica. Dr. Danks.

History of therapeutics; healing methods; types of therapy, including me-chanical, chemical, electrical, biological, dietetic, and thermal; general study of toxicology as frequently encountered in veterinary practice.

COURSES IN MEDICINE

FOR UNDERGRADUATE CREDIT

175, 177. DISEASES OF LARGE ANIMALS I AND II. 5(5-0) each; II and I, re-spectively. Drs. Frick and Frank.

I: Different diagnostic methods employed for the detection of disease; noninfectious diseases of the digestive, circulatory, and respiratory organs of the larger animals.

II: Noninfectious diseases of the urinary organs, diseases of metabolism, of the nervous system, of the organs of locomotion, of the skin, and of the eye.

181. INFECTIOUS DISEASES OF LARGE ANIMALS. 5(5-0); II. Dr. Frick.

The distinctly infectious and contagious diseases of the large domestic animals.

186. DISEASES OF SMALL ANIMALS. 2(2-0); I. Dr. Frick.

Infectious and noninfectious canine and feline diseases; breeds of dogs, cats, and fur-bearing animals; erection of kennels, the breeding and care of puppies, care and feeding of dogs in general, and the hygienic measures pertaining thereto.

191. MEDICAL ECONOMICS AND LAW. 2(2-0); II. The veterinarian's legal re-sponsibilities; national and state live-stock laws, quarantine regulations, funda-mental and practical business principles, etc.

FOR GRADUATE CREDIT

310. RESEARCH IN MEDICINE. Credit to be arranged; I, II, and SS. Pre-requisites: Materia Medica, Diseases of Large Animals I and II, and Infectious Diseases of Large Animals (Surg. and Med. 158, 175, 177, and 181, respectively). Dr. Frick.

An attempted solution of some of the medical and parasitological problems confronting the practitioner of veterinary medicine. Offered especially for graduates in veterinary medicine.

The Division of College Extension

HARRY UMBERGER, *Dean and Director*

The people of Kansas believe in using their educational institutions to their full capacity, not only for the students privileged to come to them but also for the state at large. They know that the number who complete a College course in agriculture, engineering, or home economics is small in comparison with the great majority who cannot go to college, and it is their wish that this majority also be served. Kansas State College is in full sympathy with this desire and is ambitious not only to give its resident students the best possible training for leadership in life's work but to be of direct service to every community in the state.

The development of extension work results from the desire of the people of the state to keep up to date on information pertaining to the essentials in agriculture and home economics, which are being obtained constantly by experiment stations and the United States Department of Agriculture.

In 1914 the federal government felt that the information on practical subjects in agriculture and home economics, as developed by the experiment stations and by the United States Department of Agriculture, and also by the experience of the best farmers and home makers, should be made more readily available to everyone. In order that this information might be more fully and effectively diffused among the people of the several states, and its practical application encouraged, the United States congress passed the Smith-Lever act, which provides for "coöperative agricultural extension work between the agricultural colleges in the several states receiving the benefits of an act of congress approved July 2, 1862, and of acts supplementary thereto, and the United States Department of Agriculture."

Under this act coöperation of the agricultural colleges and the United States Department of Agriculture is assured and extension work has become a national as well as a state project, and its effectiveness has been greatly increased. During 1934-'35, the following appropriations were available for extension work:

| | |
|-----------------------------------------------------------------------------------------------------------------------|--------------|
| Federal Smith-Lever..... | \$97,695.22 |
| Supplementary Smith-Lever..... | 33,662.59 |
| Capper-Ketcham | 30,652.72 |
| Additional Federal Coöperative..... | 26,500.00 |
| Federal Coöperative Demonstration Funds..... | 8,900.00 |
| State Smith-Lever..... | 80,000.00 |
| College Extension..... | 12,175.00 |
| County appropriation to support supplementary Smith-Lever, Capper-Ketcham, and additional federal coöperative..... | 97,302.50 |
| Total | \$386,888.03 |

The Extension Division is subdivided into six departments, namely: extension schools in agriculture and home economics and the supervision of agricultural extension specialists, county agents, home economics specialists and home demonstration agents, boys' and girls' clubs, rural engineering, and home-study service, each department with its own head and staff. The heads of departments are responsible to the director, who is dean of the Division of College Extension. Through this organization it is possible to reach directly more than 500,000 people in the state each year and to conduct some activity in every county.

Publications covering practical subjects in the field of agriculture, home economics, and rural engineering are issued from time to time by the Division of College Extension. The authors of these publications are the extension specialists or the specialists in other divisions of the College. The regular pub-

lications of the Agricultural Experiment Station are used extensively in extension work. A series of publications in coöperation with the United States Department of Agriculture is receiving special attention. Extension publications are mailed regularly to a list, composed of members of farm and home institutions, homemakers' clubs, extension schools, and farm bureaus; *i. e.*, to members of organizations coöperating closely with the College. Any citizen of the state, on request, may secure copies of individual publications.

While extension work is directed by the Division of College Extension for administrative efficiency, its scope would be limited were it not for the close coöperation of the other divisions of the College, which not only help in supplying lectures for agricultural meetings and extension schools, material for publication, assistance in demonstration work and helpful counsel, but also are responsible for all subject matter taught by the extension specialists.

Since February, 1924, the radio has been used as a means of extending information from the College to those living in distant parts of the state. This service has consisted in the giving of instruction in many subjects, both by means of regular courses of lectures in specialized fields and by general discussions of subjects having timely interest to the people of the state.

The value of the radio station and equipment is \$26,705.

The value of additional equipment in the administrative office amounts to \$5,858.

Extension Schools

In Agriculture and Home Economics and the Supervision of Agricultural Extension Specialists

L. C. WILLIAMS, in Charge

L. C. WILLIAMS, Horticulture
H. L. LOBENSTEIN, Horticulture
L. W. PATTON, Horticulture
C. G. ELLING, Animal Husbandry
J. J. MOXLEY, Animal Husbandry
J. W. LUMB, Veterinary Medicine
E. G. KELLY, Entomology
M. A. SEATON, Poultry Husbandry
E. R. HALBROOK, Poultry Husbandry
E. H. LEKER, Plant Pathology
JAS. W. LINN, Dairy Husbandry
DWIGHT M. SEATH, Dairy Husbandry
VANCE M. RUCKER, Marketing
GLENN S. FOX, Marketing

B. W. WRIGHT, Farm Management
I. N. CHAPMAN, Fieldman, North Central,
Farm Bureau-Farm and Home Mgn.
Assn.
J. H. COOLIDGE, Fieldman, South Central,
Farm Bureau-Farm and Home Mgn.
Assn.
L. E. WILLOUGHBY, Crops
E. B. WELLS, Soils
E. A. CLEAVINGER, Crops
F. L. TIMMONS, Soils
_____, Rural Organization
and Farm Finance

This department has direct supervision over farm and home institute organizations, extension schools in agriculture and home economics, and the work of the extension agricultural specialists. The department also has charge of the program and arrangements for Farm and Home Week, annual state-wide farmers' meetings, and the scheduling of judges for county and local fairs.

This department owns equipment valued at \$1,314.

FARM AND HOME INSTITUTES

Each farm and home institute of the state is an association of farmers and farm home makers with regular officers, constitution and by-laws. Some organizations hold six or more monthly meetings during the year, and practically all of them have no less than three, for no institute organization can obtain state aid unless, in addition to the annual meeting, at which representatives of the College must be present, it also holds at least three local meetings. It is the plan of the College to send two specialists to the annual meeting, one in agriculture and one in home economics, to present certain well-defined lessons and to give the results of demonstration work for the county or locality. The

specialists and their subjects are chosen because of known need or interest of a particular community or a plan to start or encourage certain definite lines of work.

Farm and home institutes have been a very effective agency in bringing information in regard to improved practices in agriculture, rural engineering, and home economics to the people of the state. Many of these institutes have now become units of the local farm bureaus, and are carrying forward the work which they formerly did as a part of the program of that organization.

EXTENSION SCHOOLS

Extension schools are meetings of one or two days' duration conducted for the purpose of giving practical instruction in agriculture, rural engineering and home economics. Most of these schools are organized on the project basis and are an important feature in the yearly program of work conducted by each specialist. Results of demonstrations and experiments are given at these meetings and suggestions are made for their practical application under local conditions.

Extension schools are classified according to the subject matter presented. Each year schools are held in horticulture, animal husbandry, veterinary medicine, entomology, poultry, dairy, agronomy, marketing, farm management and plant pathology. In addition to these specialized meetings, schools of a more general character are held, and these are designed to present the extension program best suited to the communities of the county. Home economics and 4-H club work have an important place on the program of these schools.

Any Kansas community desiring to hold an extension school may obtain full information in regard to the organization necessary by writing the Extension Division or by making application to the county agent in farm-bureau counties.

EXTENSION SCHEDULES

The specialists of this division work in extension schools and institutes during the winter months only, and a portion of this time is devoted to co-operative demonstration work in agriculture and home economics. During the spring, summer, and fall, they conduct special campaigns, such as silo building, poultry culling, wheat improvement, grasshopper control, cow testing, better sires, hog-cholera control, and coöperative demonstration work. The latter phase of the work of the extension specialists is being especially met by the organization of coöperative demonstration work in each branch of agriculture in a certain number of counties each year. In much of the coöperative work each specialist has from 10 to 100 or more coöperators in each county. These men and women work under the direction of the specialist and the county agent. They keep records of the work and call demonstration meetings at their farms on each trip of the specialist. The number of visits which the specialists make to each point varies from two to four, in the case of the specialist in soils, and to six, in the case of the specialists in horticulture and entomology. The aim in all of this coöperative demonstration work is to show as well as to explain. This line of work is especially appreciated, and the representatives of the department have been able to meet only a fraction of the demands for it.

The extension specialist takes to the farm and farm home the newest research work of the Agricultural Experiment Station and the United States Department of Agriculture in a practical, effective and usable form. He is of material assistance to the Agricultural Experiment Station of the College and to the United States Department of Agriculture in reporting the progress and success of demonstration work in the field. He seldom makes a trip without coming in contact with new agricultural problems or old ones requiring the attention of the research workers of the Agricultural Experiment Station. By working in the closest coöperation with the subject-matter departments of the College, the specialists become the carriers of information, not only from the

Agricultural Experiment Station to the farmers, but from the farmers to the research workers of the Experiment Station. The extension specialist is, therefore, a medium through which both the Agricultural Experiment Station and the farmers can function to their mutual advantage.

To reach all the people of the state, the work of the specialist becomes largely a matter of teaching and training leaders, such as the county agricultural agents, home demonstration agents, boys' and girls' club agents, and project leaders. If they are successful in teaching these leaders how to carry forward their various projects, they are most efficient in carrying their message to all the farmers in the state. Each year the specialists are becoming more and more teachers of leaders instead of public speakers at general farmers' meetings as they were in times past.

Through these various leaders a definite check is kept regarding cost of production, need of follow-up work, and the progress made in the demonstration work undertaken. Haphazard, hit-and-miss extension work has no place in the program under the present system.

COUNTY AND LOCAL FAIRS

The agricultural specialists devote some time each year to judging the livestock and agricultural products at county and local fairs. Under such a plan an excellent opportunity for lectures and demonstration work is furnished the specialists. Large numbers of people are reached through the fair judging work. In many cases people become interested in the work of the specialists who have not been interested or reached through farmers' meetings and demonstrations. Each specialist endeavors to make his judging work as practical and instructive as possible.

FARM AND HOME WEEK

The purpose of Farm and Home Week is to interest the farmers of the state in better methods of production and of farm management that will increase farm profits, to demonstrate to farm women methods of household management that will add to the comfort and enjoyment of farm life, and to encourage farm folks in social organization that will enrich the social life of the rural community.

All meetings, lectures, and demonstrations during Farm and Home Week are free of charge, and the expenses of the trip to Manhattan, with reduced railroad rates, should not prevent any farmer from attending. The investment in knowledge and enthusiasm will tend toward more profits on the farm.

During this week the Agricultural Experiment Station, the Extension Service, the United States Department of Agriculture, agricultural specialists, and leading farmers bring to those in attendance the latest results in investigational work in all lines of agriculture, home economics, and rural engineering.

Problems concerning crops and soils, dairying, beef cattle, horses, hogs, sheep, poultry, horticulture, community service, beekeeping, and diseases of animals are discussed by some of the leading agricultural authorities in America. In addition to these lectures and demonstrations there are many other interesting features, such as the display of the livestock of the College, the barns, machinery, buildings, library, museum, dairy, experimental plots, orchards, and gardens.

County Agent Work

H. UMBERGER, Dean and Director
 F. O. BLECHA, District Agent
 C. R. JACCARD, District Agent
 J. V. HEPLER, District Agent
 E. H. TEAGARDEN, District Supervisor
 HARRY C. BAIRD, District Supervisor
 L. M. KNIGHT, District Supervisor
 A. F. TURNER, Field Agent
 HOWARD C. JACKSON,* Supervisor, AAA (Drouth)
 M. L. ROBINSON, District Supervisor (Wheat)
 OTIS B. GLOVER, District Supervisor (Corn-Hog)

DAN M. BRAUM, Allen
 J. A. HENDRIKS, Anderson
 W. A. MEYLE, Atchison
 V. E. McADAMS, Barber
 SHERMAN S. HOAR, Barton
 ALBERT BROWN, Bourbon
 R. L. STOVER, Brown
 L. L. COMPTON, Butler
 F. D. McCAMMON, Chase
 LAT. F. TAYLOR, Chautauqua
 R. T. PATTERSON, Cherokee
 HARVEY J. STEWART, Cheyenne
 LYLE MAYFIELD, Clark
 J. B. TAYLOR, Clay
 PENN THOMPSON, Cloud
 J. A. TERRELL, Coffey
 BRUCE R. TAYLOR, Comanche
 T. F. YOST, Cowley
 S. U. CASE, Crawford
 O. W. GREENE, Dickinson
 C. E. LYNESS, Doniphan
 DEAL D. SIX, Douglas
 GEO. W. SIDWELL, Edwards
 W. J. CONOVER, Ellis
 RALPH O. LEWIS, Ellsworth
 LELAND M. SLOAN, Finney
 ROBT. S. TRUMBULL, Ford
 H. A. BISKIE, Franklin
 PAUL B. GWIN, Geary
 HOWARD VERNON, Graham
 J. EDWARD TAYLOR, Grant
 W. ELLSWORTH GREGORY, Gray
 H. L. MURPHEY, Greeley
 J. W. FARMER, Greenwood
 ANDREW B. ERHART, Hamilton
 J. N. LOWE, Harper
 H. B. HARPER, Harvey
 CLAUDE L. KING, Haskell
 GEO. S. ATWOOD, Hodgeman
 J. F. TRUE, JR., Jackson
 C. T. HALL, Jefferson
 VICTOR F. STUEWE, Jewell
 LEONARD B. HARDEN, Johnson
 C. C. CONGER, Kearny
 C. H. AULT, Kingman
 GLENN B. RAILSBACK, Kiowa
 WILFRED H. PINE, Labette
 W. J. MATTHIAS, Lane
 MERTON L. OTTO, Leavenworth
 R. C. LIND, Lincoln

W. J. DALY, Linn
 V. S. CRIPPEN, Logan
 JOE M. GOODWIN, Lyon
 EARL L. WIER, McPherson
 F. A. HAGANS, Marion
 W. O'CONNELL, Marshall
 A. W. AICHER, Meade
 GLENN C. ISAAC, Miami
 RALPH W. McBURNEY, Mitchell
 A. W. KNOTT, Montgomery
 D. Z. McCORMICK, Morris
 R. L. RAWLINS, Nemaha
 LESTER SHEPARD, Neosho
 LEE TOADVINE, Ness
 FRED J. SYKES, Norton
 E. L. MCINTOSH, Osage
 WAYNE EWING, Osborne
 PAUL EVANS, Ottawa
 TOM D. DICKEN, Pawnee
 J. D. SMERCHEK, Pratt
 W. H. MISSINGER, Rawlins,
 D. W. INGLE, Reno
 H. J. ADAMS, Republic
 O. E. REECE, Rice
 L. M. SCHRUBEN, Riley
 L. R. DANIELS, Rooks
 FRANK ZITNIK, Rush
 ROGER REGNIER, Russell
 RAY L. GRAVES, Saline
 CARL E. ELLING, Scott
 J. D. MONTAGUE, Sedgwick
 T. E. HALL, Seward
 PRESTON O. HALE, Shawnee
 JOHN G. BELL, Sheridan
 L. D. MORGAN, Sherman
 E. O. GRAPER, Smith
 R. W. STUMBO, Stafford
 K. B. DUSENBURY, Stanton
 ROGER STEWART, Stevens
 T. W. KIRTON, Sumner
 M. M. TAYLOR, Thomas
 C. W. MUNGER, Wallace
 L. F. NEFF, Washington
 A. C. THOMSON, ASST. Co. AGT.
 Washington
 ROY E. GWIN, Wichita
 JOHN HAMON, Wilson
 M. C. AXELTON, Woodson
 KIMBALL L. BACKUS, Wyandotte

Provision is made for county-agent work in this state by the federal Smith-Lever act and the state farm-bureau law. The federal Smith-Lever act provides an appropriation which increased each year until 1922 when it reached its maximum and which is distributed among the states according to their rural population. In addition to the regular Smith-Lever appropriations, Kansas receives additional funds from the so-called supplementary Smith-Lever appropriation. This appropriation was made available immediately following the war period in order that permanent work, which had been established during

* Resigned, Feb. 28, 1935.

the war period, need not be discontinued due to the inability of the regular Smith-Lever appropriations to finance it. Before the federal funds are made available to the state, the state must guarantee to duplicate them.

The state legislature appropriates at each session an amount approximately equal to that available to this state from the federal Smith-Lever appropriation. In addition, the state farm-bureau law, effective July 1, 1915, provides that when one-fourth, or as many as 250, of the *bona fide* farmers of a county shall form a farm-bureau organization, adopt a constitution and by-laws and elect officers, and when an equipment fund of at least \$800 has been provided and deposited in a local bank, the county commissioners shall appropriate at least \$1,200 per year (which sum may be raised by a special tax levy), and the College shall appropriate at least \$1,200, so long as funds are available from the state or federal funds above mentioned, for the purpose of hiring a county agent or agents and paying their expenses.

Previous to 1914 county agents were financed by membership dues, private subscription, and a small state appropriation. At that time a membership of at least 100, each paying dues of \$5, was required. In 1914 congress passed the Smith-Lever act, and in 1915 the Kansas legislature passed the farm-bureau law, which has since been the basis of the extension of this work. During the war period, July 1, 1917, to June 30, 1919, supplemental agricultural appropriations were made by congress for more rapid extension of county-agent work.

August 1, 1912, the first county agent in Kansas was employed by the Leavenworth county farm bureau. The number has increased gradually, until at the present time, November 1, 1934, there are ninety-five active farm bureaus in Kansas, as shown in the preceding list of county agents.

The county agents conduct demonstrations of the best production and marketing methods; assist farmers with suggested improvement in plans of farm management and of farm business organization; and aid in the organization of rural activities.

Field demonstrations are conducted for the purpose of introducing improved varieties of crops, testing the relative value of varieties already grown in the county, and of introducing or testing improved tillage and harvesting methods.

Proper live-stock feeding methods, care and management of live stock, the control of insects and diseases of live stock and plants are among the most popular demonstrations.

Surveys of the farm business are made in order to study the conditions prevailing in typical cases, and to determine the proper improvements in farm-management methods that should be adopted.

Improved marketing methods, the promotion of community welfare, and the fostering of better social relations are important features of the work.

The county agent interests himself in practically every farm activity, especially where there is need for improvement.

The value of the equipment belonging to this department is \$1,358.

Home Economics

MISS AMY KELLY, State Home Demonstration Leader, in Charge.

MISS LORETTA McELMURRY, Clothing
and Textiles

MISS M. CHRISTINE WIGGINS, Clothing
and Textiles

MISS RUTH J. PECK, Home Furnishings

MISS W. PEARL MARTIN, Home Health
and Sanitation

MISS CONIE FOOTE, Foods and Nutrition

MISS HELEN BREWER, Foods and
Nutrition

MISS GLYDE ANDERSON, Foods and
Nutrition

MISS BONNIE GOODMAN, Home Manage-
ment

There are approximately eight hundred women who receive instruction each year in home economics at the Kansas State College, and there are several thousand throughout the state who have had the advantage of resident instruction either in this or some other institution. The number is small when compared to the great majority of women and girls in the state to whom

the work has not been available. It is the aim of the Department of Home Economics in the Division of College Extension to give as much assistance as possible to this vast majority of women, and with such a project in view six specialists were regularly employed during the last year.

The extension work in Home Economics is carried on by means of definitely organized programs conducted throughout the year through the agency of the County Farm Bureaus. The instruction is given by the specialists and Home Demonstration Agents to local leaders who in turn pass it on to the women in their respective communities.

This department owns equipment valued at \$1,629.

Home Demonstration Agent Work

MISS AMY KELLY, State Home Demonstration Leader
 MISS ELLEN M. BATCHLOR, District Home Demonstration Agent Leader
 MISS GEORGIANA H. SMURTHWAITE, District Home Demonstration Agent Leader.
 MISS MAUDE E. DEELY, District Home Demonstration Agent Leader.

MRS. MAUD H. GASTON, Allen
 MISS ETHEL DANIELSON, Barton
 ———, Bourbon
 MISS NORA E. BARE, Butler
 MISS ESTHER LOBENSTEIN, Comanche
 MISS RACHEL MARKWELL, Crawford
 MISS MINNIE BELLE PEEBLER, Ford
 MISS EULA MAY NEAL, Franklin
 MISS BLANCHE TOMSON, Greenwood
 MISS RUTH E. CRAWFORD, Harper
 MISS LOIS OBERHELMAN, Harvey
 MISS MARY ELSIE BORDER, Johnson
 MISS OLGA C. LARSEN, Labette

MISS IVA HOLLADAY, Leavenworth
 MISS GERTRUDE ALLEN, Lyon
 MISS CHRISTIANA MARIE SHIELDS, Miami
 MISS VERNETTA FAIRBAIRN, Montgomery
 MISS SARA JANE PATTON, Neosho
 MISS RUTH K. HUFF, Pratt
 ———, Rawlins
 MISS GLADYS MYERS, Reno
 MISS ELLA MEYER, Rice
 MRS. LAURA I. WINTER, Sedgwick
 MRS. MARY D. ZEIGLER, Shawnee
 MISS EDITH PAINTER, Smith
 ———, Wyandotte

Home demonstration work was made possible in August, 1917, through the passage by congress of the emergency bill. This bill provided funds for the employment of county home demonstration agents. These agents were called emergency home demonstration agents. Before the end of the year there were twenty-five of these agents in the state. The emergency fund was discontinued June 30, 1919.

In the early days the work of the emergency home demonstration agents was instituted under the auspices of city or county organizations, but after following this plan for a short time it was determined that it would be advantageous to defer the placing of home demonstration agents until the counties were properly organized for this specific purpose.

Since August, 1918, farm-bureau counties which have requested home demonstration agents have been organized on the basis of an ideal farm bureau; that is, the women have been taken into the farm bureau as regular members, having all the rights and privileges of the organization. In such counties the work of the home demonstration agents is undertaken as part of the regular extension program, which includes the development of farm activities, home activities, and community activities. There are twenty-six counties organized with an extension program which includes the work of the home demonstration agent.

The program of work for the home demonstration agent is based on the needs of the communities in the county and is evolved through the community and committee meetings. To-day each county has a county program of work based on the needs of the communities in the county, and this is a part of the state program. The home demonstration agent, in cooperation with Kansas State College and United States Department of Agriculture, works to carry out the community, county, and state program.

Since July 1, 1921, the counties desiring a home demonstration agent are required to meet the following conditions: A well-equipped office, adequate stenographic help; transportation facilities; and a county appropriation of not less than \$2,400 to the farm bureau for the salary and expenses of the agricultural agent and home demonstration agent.

Boys' and Girls' 4-H Club Work

M. H. COE, State Club Leader
A. J. SCHOTH, Assistant State Club Leader
LORA HILYARD, Assistant State Club Leader
MABEL R. SMITH, Assistant State Club Leader
J. H. JOHNSON, County Club Agent, Sedgwick County

Boys' and girls' 4-H club work is one of the very important phases of Kansas State College extension service. This work is conducted coöperatively with the United States Department of Agriculture, counties and county farm bureaus. The clubs are organized with the help of such organizations as farm and breed associations, business and civic organizations, and other interested groups or individuals. Through these clubs the College is able to reach and serve a large class of young people which it could neither reach nor serve in any other way. A large number of boys and girls receive an incentive for higher training in agriculture and home economics and gain their first acquaintance with the College through 4-H club work. Boys and girls receive frequent visits from the county extension agent, and written material is prepared by the College specialists and sent out by the state club leader, giving the members definite information regarding farm and home practices recommended by the College.

The basis on which club work is founded is the project selected by the 4-H club member. This project is an important piece of work relating to the farm or home, the doing of which will demonstrate better practices in agriculture and home making. A club member receives instructions, keeps a complete record of his work, makes a final report on the entire year's project, explains the work to others, and participates in many related contests. Seventeen projects are offered to 4-H club members in Kansas as follows: beef, swine, sheep, dairy, poultry, colt, sorghum, corn, garden, potato, wheat, clothing, food preparation, food preservation, home improvement, and leadership.

4-H club work is available to all boys and girls between the ages of 10 and 20 years, inclusive. All the young people of one community interested in club work organize into one organization. Such clubs vary in size from five to fifty or more. The club members are allowed a choice of projects, thus making it possible for some members of a club to select one project while others may select others. The importance of unity or group selection is stressed. These clubs elect their own officers, which consist of a president, vice president, secretary-treasurer, and club reporter, together with any other officers they may desire. Each club has at least one adult leader. In clubs that are especially large it is possible that each project represented may have a junior or assistant leader. The clubs meet from time to time, conduct their meetings along parliamentary lines, and have a program consisting of the various matters in which young people are interested.

4-H club work is voluntary in nature. Certain minimum requirements are specified, including age of club members, conducting a project, attendance at club meetings, record keeping, and some others, but aside from these requirements the work is voluntary. No systematic course of instruction is attempted, but each member is given suggestions through printed circulars or by means of leaders trained by college specialists as to the method of handling his project, but he is not required to adopt these methods. Either partial or complete ownership of a project under his own supervision is an essential requirement of 4-H club work. All projects deal with the very essential but common ordinary affairs of rural life and home making. Books are studied incidentally and to supplement the actual work of the project, but club work is primarily learning by doing.

Leadership is another very essential characteristic of 4-H club work. It is of two types, the first being the adult leaders who supervise the club activities. These leaders are usually experienced men and women or former club members who are trained by the extension agents and who know how the thing ought to be done and can tell the members something of the reason why. The

other type of leadership, which is assuming greater importance as time goes on, is that which is developed in club members as a result of their club experiences. Many of these junior leaders assist along with adults in the supervision of the projects selected by 4-H club members.

By means of exhibits, demonstration teams, judging teams, and other public participation, club members pass on their knowledge and information to others, and in so doing these young people secure valuable training for appearance in public. Their exhibits at local and state fairs have been remarkable both from the standpoint of quality and quantity. Prizes which are awarded are based primarily upon the record kept by the club member as well as the excellence of the product itself. Such records include time spent, material used, cost, and other interesting items.

Interspersed with these essentials of 4-H club work are activities which include club tours, contests, field meetings, festivals, annual club round-up at the College, county 4-H club camps during the summer and many other club functions, all of which lend color to the work for young people. These activities bring to them incentives for highest endeavor, not only individually, but also in groups within the communities, counties, states, and finally into national competition. All of this brings to them a wholesome contact which serves to awaken youth, develop and broaden ideals, and stimulate the desire to achieve.

This department owns equipment valued at \$750.

Rural Engineering

WALTER G. WARD, Extension Architect, in Charge
JOHN S. GLASS, Extension Agricultural Engineer
HAL. F. EIER, Extension Agricultural Engineer
EUGENE D. WARNER, Extension Architect

Engineering as applied to agricultural pursuits is, each year, increasing in importance. Its inclusion in the extension service of the Kansas State College began twenty years ago to meet the demands for information on land drainage and irrigation. Later the work of this department was enlarged to include other phases of agricultural engineering.

Kansas farms present numerous problems in engineering. The construction and maintenance of 166,000 sets of farm buildings, valued at more than \$386,000,000, offers a big field for the development of more efficient, more durable, more attractive, and better arranged improvements. Standardized plans are furnished each year for hundreds of farm buildings throughout the state. One-day builders' schools, held annually in a number of the counties, furnish information direct to those interested in the planning and construction of farm buildings.

Modern conveniences in the farm home require an understanding of engineering principles for satisfactory operation and maintenance. Water supply systems, sewage disposal, lighting, and heating bring numerous questions to the Department of Rural Engineering.

More than 53,000 tractors and 21,000 combines comprise a part of the more than \$168,000,000 worth of mechanical equipment on Kansas farms. The selection, adjustment, operation, and repair of this equipment is an important factor in the agriculture of Kansas. Information on the economic selection and management of this equipment is disseminated before groups of distributors and farmers by means of one-day and two-day extension schools.

Assistance is given the farmers of Kansas with their problems of land drainage, irrigation, and the control of soil erosion. More than one-half of the counties in the state are conducting from three to forty-five demonstrations in coöperation with this department.

The control of erosion is being recognized as an important problem in all sections of the state. As a solution to this problem, terracing is a practical, economical farm practice. Kansas now has approximately 100,000 acres of land protected by these demonstration terraces.

In addition to the information furnished through meetings held in the counties, several thousand mail inquiries of an engineering nature are answered each year. The work in the counties is conducted principally in coöperation with the county farm bureaus.

This department owns equipment valued at \$1,122.

Home-Study Service

CORRESPONDENCE STUDY

GEORGE GEMMELL, Head of Department
B. H. FLEENOR, Education
ADA BILLINGS, History and Government

JESSE M. SCHALL, English
FLOYD PATTISON, Industrial Subjects

The Department of Home-study Service is a member of the National University Extension Association comprising forty-eight leading universities in America with whom extension credits are interchangeable. The faculty members employed in the Home-study Service devote their entire time to the work of teaching by correspondence. They keep in close touch with the various departments of the Collège, and all credit courses which are offered by correspondence must first meet the requirements of the regular College departments handling the courses in residence.

THE PURPOSE OF THE HOME-STUDY SERVICE

There are many people in Kansas and elsewhere who for many reasons cannot attend classes on the college campus, or are past the time when this would be advisable, but who can use the facilities of the college to great advantage. The Home-study Service is a part of the Extension Division of the Kansas State College, designed to make the state its campus—to enable the College to come to those who cannot come to it.

Once it was thought that educational problems could be solved only in the classroom where subject matter was chosen from a textbook. To-day it is realized that the home, the farm, and the shop are calling continually for the solution of problems upon which the future of the people of the state depends. A barren soil, an unprofitable herd, an insanitary home, and kitchen wastes are but petty examples of the innumerable difficulties to be overcome. Years of experience and observation have enabled many to solve their problems with some degree of success, but the lack of scientific knowledge is responsible for many individuals experimenting extravagantly and often uselessly. A combination of experience and training in scientific methods is best.

One way of meeting these situations is through correspondence courses. These are no longer an experiment but are a demonstrated success. By utilizing them, odd hours of spare time may be made to count. The gross time required to complete correspondence courses is practically the same as would be necessary for the same courses in school. Correspondence courses may be started at any time. They wait when one is busy. They are instantly ready when one has time. In fact, they are "made to order" for the busy person.

The equipment belonging to this department is valued at \$1,265.

FOR WHOM INTENDED

Though credit courses offered by the Home-study Service are limited, it is the purpose of the department to add courses whenever a demand for them becomes evident. The following groups in particular should profit by the courses offered:

1. Those who have completed a common-school course but who for any reason are unable to attend high school.
2. High-school graduates temporarily or permanently unable to attend college.

3. Students who for any reason have fallen behind in their work and wish to use their spare time catching up.
4. Students whose attendance at high school or college has been interrupted.
5. The strong, aggressive student who does not wish to halt his progress for vacation and other interruptions.
6. High-school and grade classes in practical courses that need supplementing and enrichment.
7. Teachers who wish further professional or other training or who need help in planning and conducting their work.
8. Professional and business men who wish to keep growing along some line of interest, industrial or avocational.
9. Clubs and other organizations that wish to make systematic studies.
10. Men and women who wish effective help in meeting the demands of their vocations for technical and scientific knowledge and training.

HOW THE WORK IS CONDUCTED

In correspondence courses the assignment usually takes the form of assigned readings, studies, problems, and investigations, together with a list of questions and directions for a written report. The correspondence lesson is usually much longer than the common lesson in resident class work, eight such lessons being the equivalent of one semester hour of college credit. When necessary, the lessons are supplemented by lectures prepared by the instructor containing helpful outlines and explanations, additional subject matter, and such special directions as seem desirable. The lessons are modified from time to time as suggested by experience and as new information becomes available.

As soon as an enrollment card and fee are received at the Department of Home-study Service, the first assignments are immediately sent out. As reports are received, additional assignments are mailed. The plan keeps work always at hand for the student and at the same time makes it possible for the instructor to keep in close touch with the student's progress and to offer, from time to time, such suggestions as seem desirable to guide the student in his work. As a rule the student should make careful study of the corrections, comments, and suggestions upon receiving a returned paper before going further with succeeding lessons.

The progress made by the student depends entirely upon his ability, preparedness, and application. As a general suggestion, it might be stated that an hour a day spent in systematic study should enable the average student to complete an assignment a week. Students may work more rapidly if their opportunities permit. Lessons will be received as rapidly as is consistent with good work, provided not more than eight assignments are sent in one week. Under no circumstances will hastily prepared manuscripts, showing superficial knowledge, be accepted.

The questions accompanying each assignment are intended to help the student to a better understanding of the subject. After careful study of the assignment, the student is required to write his manuscript, answering the questions carefully and concisely. The manuscript is then to be mailed to the Department of Home-study Service, where all lesson papers are read carefully, criticized, marked, and returned to the student with such comments, suggestions, advice, and additional references as may be deemed necessary. Each student is invited to ask questions, relate his personal experience, and in every way possible get into close contact with his instructors.

No effort is spared by the department to bring about the nearest possible approach to personal acquaintanceship between each instructor and his students. To this end the student is required to fill out and mail to the department with his first lesson a personal acquaintance blank giving full information about himself, his aims, ambitions, and previous experience and education as well as the conditions of his daily work that necessarily affect his responses to the lessons. This information enables the Home-Study Service faculty to enter at once into cordial, sympathetic, and helpful relations with every student.

EXAMINATION

At the close of each course, before a grade is issued, a final examination is necessary. The final examination may be taken in the office of the Department of Home-study Service at the College, or other arrangements may be made by the student to take it locally under the city or county superintendent of schools or the principal of the local high school. In the latter case, the examination questions and instructions for conducting the examination are mailed from the department to the examiner, and the student's paper is sent in by him.

FEEES

For residents of Kansas there is an initial enrollment fee of \$10 for a course of three semester hours credit or less, with \$3 additional for each added hour of work; for nonresidents of the state an initial enrollment fee of \$15 for a course of three semester hours of credit or less and \$4 for each additional hour of work.

For courses of secondary school (high school) grade there is an initial enrollment fee for residents of the state of \$6 for the first half-unit course and \$5 for each additional half-unit course; for nonresidents of the state an initial enrollment fee of \$9 for the first half-unit course, with a fee of \$7 for each additional half-unit.

Each student is expected to pay postage on lessons, manuscripts, and communications sent in to the department. The office will furnish postage for the return of all such papers to student.

REGULATIONS

1. Enrollments for correspondence-study work will be received at any time during the year, and students may continue their work uninterruptedly throughout the entire year.

2. Correspondence students will be expected to complete any course for which they are enrolled within twelve months from date of enrollment.

3. Not more than two courses are advised by correspondence at any one time. It is recommended that a student carry but one subject at a time, particularly where only part of the time is given to the work.

4. Each subject listed under the various departments constitutes what is known as a correspondence "course."

5. Students enrolling for correspondence courses must meet the prerequisites the same as if undertaking the work in residence.

6. A student may not be enrolled for correspondence work while in attendance at any institution of learning without special permission from the dean or proper authorities in the institution of which he is a student.

7. No correspondence student shall be permitted to complete a three-hour course in less than three weeks; a two-hour course in less than two weeks; a one-hour course in less than one week.

8. A student enrolled for resident work in College, who enrolls in a subject by correspondence, shall be required to take an examination after each eighth lesson before proceeding with the course; *i. e.*, after the eighth, the sixteenth, and the twenty-fourth lessons, respectively.

9. Where there is evidence of any correspondence student copying any part of the lessons from the papers of another student who has previously taken the course, such student is to be automatically and permanently dropped from the course and a failing grade is to be sent to the registrar's office with notation of cause.

10. Credit for correspondence courses is determined by a final examination prepared by the Home-study Department.

REGULATIONS FOR STUDY CENTER EXTENSION CLASSES

Study centers may be established under the direction of the Home-study Service of the Kansas State College of Agriculture and Applied Science on the following conditions:

1. That members of any of the divisional faculties of the College who have the time and are willing to undertake the work may be used as instructors.

2. That College credit may be given for regularly approved courses conducted at study centers when the student meets the college-entrance and prerequisite requirements. Others may, upon approval of the instructor, be admitted to the class without credit standing.

3. That for each semester hour credit in such credit courses there shall be a minimum of six sessions of approximately two hours each with the college instructor; provided, that upon approval of the instructor there may be substituted for three of these sessions six one-hour sessions under the direction of a local leader.

4. That study and preparation, determined and assigned by the instructor, be required of study-center students equivalent to that required for similar resident college classes.

5. That credit for study-center courses be determined by examination approved by the subject-matter department concerned, such credit to be certified to the registrar by the Department of Home-study Service and the dean of the Extension Division.

6. That a minimum of ten enrollments be required for the establishment of a study center, provided that a larger number may be required where the expenses of offering the courses necessitate it.

7. That a fee of \$2.50 for each semester hour of work in the course proposed be paid in advance to the Department of Home-study Service by each person enrolling for the study center work.

HIGH-SCHOOL COURSES

(College Entrance Credit Work)

In offering the following work for high-school credit, there is no intention of competing with high schools of the state. It is not the purpose of those who have planned the work to present a full four-year high-school course. Students who have opportunity to attend local high school should by all means take advantage of the opportunity, for in such attendance they will have the benefits to be derived from association with fellow students as well as many other advantages which will be helpful to immature students of high-school age.

These courses are offered as an aid to those who may, by necessity, be temporarily out of high school, who may not find the work which they desire offered locally, or who wish to carry work for high-school credit during vacation periods. It is not to be expected that a student can progress as rapidly by correspondence-study methods as he can by devoting his full time to his work when attending high school. Any student who completes a half year of high-school work in a year by correspondence may feel that he has done exceedingly well.

The high-school courses will be especially advantageous to prospective college students who have entrance deficiencies and to public school teachers who may not have had the opportunity to do this type of work. No effort has been spared to make the work as nearly as possible parallel with the courses offered by the accredited high schools of the state. The same textbooks have been used wherever feasible, and the credits issued by this department are recognized by the colleges and State Board of Education.

List of High-school Courses

| Course No. | | | Number of assignments | Unit H. S. credit |
|--------------------|-------------------------------------------|--|--------------------------|----------------------|
| AGRICULTURE | | | | |
| PCA 1. | Elementary Agriculture I..... | | 20 | 1/2 |
| PCA 2. | Elementary Agriculture II..... | | 20 | 1/2 |
| DRAWING | | | | |
| PCD 3. | Shop Mechanical Drawing I..... | | 20 | 1/2 |
| PCD 4. | Shop Mechanical Drawing II..... | | 20 | 1/2 |
| ENGLISH | | | | |
| PCE 1C. | Grammar and Composition (first year)..... | | 20 | 1/2 |
| PCE 2L. | Literature (first year)..... | | 20 | 1/2 |
| PCE 3C. | Composition second year..... | | 20 | 1/2 |
| PCE 4L. | Literature (second year)..... | | 20 | 1/2 |
| PCE 5C. | Composition (third year)..... | | 20 | 1/2 |
| PCE 6L. | Literature (third year)..... | | 20 | 1/2 |
| HISTORY AND CIVICS | | | | |
| PCH 1. | Ancient History I..... | | 20 | 1/2 |
| PCH 2. | Ancient History II..... | | 20 | 1/2 |
| PCH 3. | Modern History I..... | | 20 | 1/2 |
| PCH 4. | Modern History II..... | | 20 | 1/2 |
| PCH 5. | American History I..... | | 20 | 1/2 |
| PCH 6. | American History II..... | | 20 | 1/2 |
| PCH 7. | Community Civics..... | | 20 | 1/2 |
| PCH 8. | Constitution of United States..... | | 20 | 1/2 |
| PCH 9. | World History I..... | | 20 | 1/2 |
| PCH 10. | World History II..... | | 20 | 1/2 |
| MATHEMATICS | | | | |
| PCM 1. | Algebra I..... | | 20 | 1/2 |
| PCM 2. | Algebra II..... | | 20 | 1/2 |
| PCM 3. | Algebra III..... | | 20 | 1/2 |
| PCM 4. | Plane Geometry I..... | | 20 | 1/2 |
| PCM 5. | Plane Geometry II..... | | 20 | 1/2 |
| PCM 6. | Solid Geometry..... | | 20 | 1/2 |
| PCM 7. | Bookkeeping..... | | 20 | 1/2 |
| SCIENCE | | | | |
| PCS 1. | Physical Geography..... | | 20 | 1/2 |
| PCS 2. | Botany..... | | 20 | 1/2 |
| PCS 4. | Physiology..... | | 20 | 1/2 |
| PCS 5. | General Science..... | | 20 | 1/2 |
| PCC 1. | Commercial Geography..... | | 20 | 1/2 |
| PCC 2. | Elementary Economics..... | | 20 | 1/2 |
| PCC 3. | Elementary Sociology..... | | 20 | 1/2 |
| PCC 4. | Elementary Psychology..... | | 20 | 1/2 |

COLLEGE CREDIT COURSES

A number of college-credit courses paralleling resident courses and carrying the same credit are offered through the Home-study Service. These will be found especially advantageous for college students who desire to make up deficiencies or to gain certain credits during the vacation season; for teachers who wish to further their professional training; and for men and women who wish to promote their cultural, technical, or vocational interests. The prerequisites are the same as for corresponding courses in resident instruction.

The following course is available through resident enrollment for graduate and undergraduate credit. Graduates may be enrolled for from one to six credit hours of research or problem work *in absentia* on a *pro rata* basis, on the recommendation of a member of the graduate faculty and with the approval of the dean of the Division of Graduate Study.

Educ. 249. PROBLEMS IN EXTENSION EDUCATION. Credit to be arranged. Prerequisites: Econ. 151 or CS 3; Educ. 184 or CP 8, or EXT. 5. Dr. Gemmell and Dr. Flenor.

Problems in extension met by director, supervisor, county agricultural agent, county home demonstration agent, 4-H club leader, or specialist.

List of College Credit Courses

DIVISION OF AGRICULTURE

| <i>Course No.</i> | <i>AGRONOMY</i> | <i>Assignments</i> | <i>Semester credit</i> |
|--------------------------|-------------------------------|--------------------|------------------------|
| CA 3. | Farm Crops..... | 24 | 3 |
| ANIMAL HUSBANDRY | | | |
| CL 2. | History of Breeds..... | 16 | 2 |
| HORTICULTURE | | | |
| CH 1. | Elements of Horticulture..... | 16 | 2 |
| CH 2. | Vegetable Gardening..... | 16 | 2 |
| CH 3. | Floriculture | 16 | 2 |
| CH 5. | Landscape Gardening..... | 8 | 1 |
| CH 6. | Small Fruits..... | 16 | 2 |
| POULTRY HUSBANDRY | | | |
| CPP 1. | Farm Poultry Production..... | 8 | 1 |

DIVISION OF ENGINEERING

| | | | |
|---------------------------------|----------------------------------------------------|----|---|
| MACHINE DESIGN | | | |
| CE 2. | Engineering Drawing..... | 16 | 2 |
| CE 6. | Machine Drawing I..... | 16 | 2 |
| CE 4. | Mechanism | 24 | 3 |
| CE 11. | Descriptive Geometry..... | 16 | 2 |
| CIVIL ENGINEERING | | | |
| CE 1. | Highway Engineering I..... | 16 | 2 |
| SHOP PRACTICE | | | |
| CE 7. | Metallurgy | 16 | 2 |
| AGRICULTURAL ENGINEERING | | | |
| CE 3. | Gas Engines and Tractors..... | 16 | 2 |
| MECHANICAL ENGINEERING | | | |
| CE 9. | Steam Turbines..... | 16 | 2 |
| CE 10. | Essentials of Steam and Gas Power Engineering..... | 16 | 2 |

DIVISION OF HOME ECONOMICS

| | | | |
|------------------------------------|---------------------------------------------|----|---|
| CLOTHING AND TEXTILES | | | |
| CHE 1. | Textile Fabrics..... | 16 | 2 |
| CHE 2. | Applied Nutrition..... | 16 | 2 |
| HOUSEHOLD ECONOMICS | | | |
| CHE 4. | Economics of the Household..... | 16 | 2 |
| CHILD WELFARE AND EUTHENICS | | | |
| CHE 3. | Family Health..... | 24 | 3 |
| CHE 5. | Child Welfare II..... | 24 | 3 |
| CHE 7. | The Child and His Heredity..... | 16 | 2 |
| CHE 8. | The Home and Its Development..... | 24 | 3 |
| CHE 9. | The Home and the Changing Social Order..... | 16 | 2 |
| CHE 10. | Personal Health..... | 16 | 2 |

DIVISION OF GENERAL SCIENCE

| | | | |
|--------------------------------|---------------------------|----|---|
| ECONOMICS AND SOCIOLOGY | | | |
| CEc 1. | Economics | 24 | 3 |
| CS 2. | Rural Sociology..... | 24 | 3 |
| CS 3. | Sociology | 24 | 3 |
| CS 4. | Community Leadership..... | 16 | 2 |

| <i>Course No.</i> | EDUCATION (PROFESSIONAL) | <i>Assignments</i> | <i>Semester credit</i> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------|------------------------|
| CP 2. | Educational Psychology..... | 24 | 3 |
| CP 3. | Educational Sociology..... | 24 | 3 |
| CP 4. | History of Education..... | 24 | 3 |
| CP 5. | School Management..... | 24 | 3 |
| CP 6G. | Methods of Teaching in Elementary Graded Schools and Rural Schools | 24 | 3 |
| CP 6H. | Methods of Teaching in the High School..... | 24 | 3 |
| CP 7. | Education Administration..... | 24 | 3 |
| CP 8. | Psychology | 25 | 3 |
| CP 10. | Agricultural Education..... | 24 | 3 |
| CP 14. | Vocational Education..... | 24 | 3 |
| CP 17. | Introduction to Philosophy..... | 24 | 3 |
| ENGLISH | | | |
| CCE 1. | College Rhetoric I..... | 24 | 3 |
| CCE 2. | College Rhetoric II..... | 24 | 3 |
| CCE 3. | Commercial Correspondence..... | 24 | 3 |
| CCE 4. | The Short Story..... | 24 | 3 |
| CCE 6. | English Literature | 24 | 3 |
| CCE 7. | American Literature..... | 24 | 3 |
| JOURNALISM | | | |
| CCJ 1. | Agricultural Journalism..... | 24 | 3 |
| GEOLOGY | | | |
| CG 1. | Geology | 24 | 3 |
| HISTORY AND CIVICS | | | |
| CHC 1. | Community Civics | 16 | 2 |
| CHC 2. | Modern Europe I..... | 24 | 3 |
| CHC 3. | Modern Europe II..... | 24 | 3 |
| CHC 4. | English History..... | 24 | 3 |
| CHC 5. | Medieval History..... | 24 | 3 |
| CHC 6. | Ancient Civilizations | 24 | 3 |
| MATHEMATICS | | | |
| CM 6. | Solid Geometry..... | 16 | 3 |
| CM 7. | Plane Trigonometry..... | 25 | 3 |
| CM 8. | College Algebra..... | 25 | 3 |
| CM 9. | College Algebra A..... | 40 | 5 |
| DIVISION OF COLLEGE EXTENSION | | | |
| EXT 5. | Extension Education..... | 24 | 3 |
| PREREQUISITES: Educ. 184 and junior standing. Dr. Fleenor. Origin and development of extension work, its aim and purposes, and its relation to other general educational activities; organization and administration of extension work under the Smith-Lever law and the part taken by colleges and the Department of Agriculture; psychological and sociological bases for and various methods employed in extension teaching; achievements and future problems of extension work. | | | |

Degrees and Certificates Conferred

In the Year 1934

Seventy-first Annual Commencement

May 31, 1934

DEGREES CONFERRED

HONORARY DEGREES

DOCTOR OF SCIENCE

Albert Spear Hitchcock, B. S., Iowa State College, 1884; M. S., *ibid.*, 1886; D. S., *ibid.*, 1920, National Museum, Smithsonian Institution, Washington, D. C.

DOCTOR OF LAWS

Martin Mortensen, B. S. A., Iowa State College, 1909, Ames

PROFESSIONAL DEGREES IN ENGINEERING

AGRICULTURAL ENGINEER

Charles Alden Logan, B. S., Kansas State College, 1925; M. S., *ibid.*, 1932, Mankato

CHEMICAL ENGINEER

Walter Newton Epler, B. S., Kansas State College, 1931, Arkansas City

CIVIL ENGINEER

Emil E. Larson, B. S., Kansas State College, 1929, Agenda

Lester William Servis, B. S., Kansas State College, 1926, Ellsworth

Lawrence Francis Whearty, B. S., Kansas State College, 1922, Westmoreland

ELECTRICAL ENGINEER

William Dingess Nyhart, B. S., Kansas State College, 1928, Kansas City

Irwin Roy Stenzel, B. S., Kansas State College, 1930, Wichita

Division of Graduate Study

MASTER OF SCIENCE

Opal Lee Andrews, B. A., Union College, 1932, Junction City

Clarence Joseph Becker, B. S., Washburn College, 1930, Topeka

Bernice Eleanor Bender, B. S., Kansas State College, 1930, Holton

Alfred Lester Clapp, B. S., Kansas State College, 1914, Manhattan

Frances Rebecca Conard, B. S., Kansas State College, 1930, Ottawa

James Romaine Cribbett, B. S., Kansas State College, 1933, Parsons

*Linn Edmund Eberwein, B. S., Kansas State College, 1921, Lawrence

Leslie Lee Eisenbrandt, A. B., College of Emporia, 1932, Chanute

Herman Farley, D. V. M., Kansas State College, 1926, Manhattan

Mary Genevieve Fletcher, B. S., Kansas State College, 1928, Sterling

Lydia Alma Haag, B. S., Kansas State College, 1927, Holton

Keith Harry Hinchcliff, B. S., Kansas State College, 1933, Manhattan

Raymond Hickman Hughes, B. S., Kansas State College, 1933, Manhattan

*Jean Lyons Jackson, B. A., Park College, 1932, Leavenworth

*Merle Marlin Jackson, B. A., Park College, 1931, Leavenworth

*Yun Suh Kim, B. S., Kansas State College, 1933, Shanghai, China

Inge Kallesoe Kjar, Graduate in Agriculture, Royal Veterinary and Agricultural College of Copenhagen, Denmark, 1931, Bakkegaard, Lemvig, Denmark

Margaret Marie Knerr, B. S., Kansas State College, 1933, Manhattan

Myra Caroline Koenig, B. S., Kansas State Teachers College, Pittsburg, 1930, Chanute

Manie Herbert Meyer, B. S., Kansas State College, 1928, Manhattan

Charles William Nauheim, B. S., Kansas State College, 1932, Hoyt

Dale Leora Norris, B. S., Kansas State College, 1932, Raymond

Arlie Edward Paige, B. S., Kansas State College, 1933, Manhattan

Franklin Leonard Parsons, B. S., Kansas State College, 1932, Wichita

* In absentia.

Willard Virgil Redding, B. S., Kansas State College, 1931, Coffeyville
 June Roberts, B. S., Kansas State College, 1933, Manhattan
 Florence Myrtle Sitz, B. A., State University of Iowa, 1924, Manhattan
 *Bruce Ross Taylor, B. S., Kansas State College, 1931, Alma
 George Baldrige Telford, B. S., Kansas State College, 1933, Manhattan
 John Franklin Thackrey, B. S., Kansas State College, 1933, Manhattan
 Wilton Terrence White, B. S., Kansas State College, 1917, Jewell
 George Franklin Wiley, B. S., Kansas State College, 1933, Manhattan
 Donald Manly Williams, B. S., Kansas State College, 1933, Manhattan
 James Herdman Wilmoth, B. S., Monmouth College, 1932, Blue Rapids
 Lillie Margaret Zimmerman, B. S., Fort Hays Kansas State College, 1929, Burrton

Division of Agriculture

BACHELOR OF SCIENCE IN AGRICULTURE

| | |
|-----------------------------------------|---------------------------------------|
| Joseph Shirley Adams, Oak Mills | Clarence Eugene Keith, Ottawa |
| Thomas Burt Avery, Coldwater | Lawrence Lincoln Kelly, Manhattan |
| Vernon Edward Burnet, Manchester, Okla. | John Russell Latta, Holton |
| Frank Sherman Burson, Jr., Monument | Charles Dean McNeal, Boyle |
| Olyn Danford Calhoun, Speed | James Warren Mather, Grinnell |
| William Harley Chilson, Oberlin | John Orville Miller, Meriden |
| Harry Wyant Coberly, Gove | Alvin Morgan, Lebo |
| William Vaughn Combs, Linn | Lee Thomas Morgan, Hugoton |
| Kenneth Sydney Davis, Manhattan | Nevlyn Richard Nelson, Belle Plaine |
| *Phares Decker, Holton | Merwin Edgar Nixon, Manhattan |
| Wallace Reed Dudley, Goodland | James Carr North, Manhattan |
| John Leroy Duncan, Manhattan | Wilfred Harold Pine, Lawrence |
| Dale Henry Edelblute, Keats | Robert Talbot Romine, Jr., Manhattan |
| Charles Emil Fisher, Cuba | Valentine Wright Silkett, Downs |
| Clarence Lee Gish, Abilene | William Richard Smith, Manhattan |
| Paul Wilson Griffith, Edmond | James Willett Taylor, Lawrence |
| Lloyd Oscar Gugler, Woodbine | Dwight Silas Waters, Milford |
| Pius H. Hostetler, Harper | Herschel William Weber, Novinger, Mo. |
| Kenneth Rives Hougland, Olathe | Melvon Hudson Wertzberger, Alma |
| Wayne Worley Jacobs, Harper | William Telford Young, Colony |
| William Henry Juzi, Florence | |

BACHELOR OF SCIENCE IN MILLING INDUSTRY

Harry Clarence Johnson, Marquette

Division of Engineering

BACHELOR OF SCIENCE IN AGRICULTURAL ENGINEERING

| | |
|------------------------------------|-------------------------------|
| John Moses Ferguson, Bazine | Ephraim Orion Schwab, Gridley |
| Walter Clare Hulbert, Wichita | John Emery Veatch, Ozark, Mo. |
| Henry Norbert Luebecke, Marysville | Robert G. White, Manhattan |

BACHELOR OF SCIENCE IN ARCHITECTURE

| | |
|-----------------------------------|------------------------------------|
| Clifford Hibberd Black, Manhattan | George Jackson Davidson, Manhattan |
| Richard Jerome Crowley, Manhattan | Harlan Edwin Rathbun, Manhattan |

BACHELOR OF SCIENCE IN ARCHITECTURAL ENGINEERING

| | |
|------------------------------------|----------------------------------|
| Albert Kilian Bader, Junction City | Eugene Decatur Warner, Manhattan |
| Hal H. McCord, Jr., Manhattan | Burl Zimmerman, Manhattan |

BACHELOR OF SCIENCE IN LANDSCAPE ARCHITECTURE

| | |
|-------------------------------|--------------------------------|
| Johnathan Ralph Bert, Abilene | *Louis Elmer Dobson, Manhattan |
|-------------------------------|--------------------------------|

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

| | |
|----------------------------------------|-----------------------------------|
| Henry Leese Greene, Topeka | Hubert Maxwell Rivers, Hutchinson |
| James Andrew O'Malley, St. Joseph, Mo. | John Leon Sealey, Salina |
| Carl Edward Pate, Parsons | Paul Frank Warner, Whiting |
| *James Cornelius Richards, Manhattan | |

* In absentia.

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

| | |
|---------------------------------------------|-------------------------------------|
| John Sherman Biggs, Washington, D. C. | John Alden Meredith, Wakarusa |
| Floyd William Caldwell, Parsons | Raymond Maurice Nelson, Troy |
| Cornelius Donald Chalmers, Scranton | Gilbert George Noble, Lyons |
| Samuel Prentis Cory, Hutchinson | Howard Benton Palmer, Aulne |
| Gerald Lloyd Cubbison, Gardner | William Philip Simpson, Salina |
| George Wathen Edelen, Jr., Kansas City, Mo. | Lisle LeRoy Smelser, Manhattan |
| Olin Orlando Ediger, Newton | Ernest Rudolph Specht, Emporia |
| Donald George Gentry, Manhattan | William Herman Sunderland, Fairview |
| Harold Francis Harper, Topeka | Harold Clinton Weathers, Haviland |
| Newton Lowell Hinkson, Halstead | *Elbert Eden Wheatley, Gypsum |
| *Kenneth Deardorff McCall, Manhattan | |

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

| | |
|--------------------------------------------|-----------------------------------------|
| Leonard Rusco Adler, Goddard | *Albert Edgar Letts, El Dorado |
| Nathan Lea Axton, El Dorado | John William Loth, Manhattan |
| Richard Sherwood Bean, Schenectady, N. Y. | Virgil Ferdanand Lundberg, Falun |
| John Milan Biddison, Manhattan | Hugh Sickner Maxwell, Wichita |
| Vernon Howard Bohnenblust, Leonardville | Harrison Allen Miller, Cawker City |
| Shirley Pollard Campbell, Wichita | John Rex Morrison, Great Bend |
| Robin Dale Compton, Jackson Heights, N. Y. | Clair Norman Palmer, Kincaid |
| Edgar Alexander Cooper, Stafford | Lloyd Arthur Perry, Essex Junction, Vt. |
| Lawrence Beers Donaldson, Kansas City, Mo. | George Ernest Pinter, Waterbury, Conn. |
| Harvey Phillip Donnell, Manhattan | Harold Walter Poole, Wichita |
| James Drew, Rolla | Wayne Chesly Richards, Manhattan |
| George Harold Ellinger, Abbyville | Nils Ilmari Saven, Manhattan |
| Oran Sylvester Emrich, Wakefield | Lloyd Hoyt Scott, Manhattan |
| Marvin William Freeland, Effingham | Melvin William Shroeder, Grandview, Mo. |
| William Ean Gildersleeve, Kingston, N. Y. | Albert Earnie Siler, Garden City |
| Harold Ray Heckendorn, Cedar Point | Maurice Sheppard Smyth, Manhattan |
| Allen Richard Heidebrecht, Buhler | Harold Arthur Totten, Clifton |
| George Lyons Huyett, Berryton | Olen Trotter, Anthony |
| Amor James Jefferis, Kincaid | Ovitt Melvin Wells, Syracuse |
| Loyt Leland Lathrop, Burlington | Joyce Glick Wright, Topeka |
| Walter John Leemhuis, Rome, N. Y. | |

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

| | |
|-----------------------------------------|----------------------------------------|
| John Stephen Bidnick, Kansas City | Marion Francis Miller, Manhattan |
| Orva Harrison Douglas, Courtland | Leslie Eugene Murphy, Galena |
| Ronald Walter Fleck, Beloit | Harold Milton Nellans, Potwin |
| Howard Homer Greene, Topeka | Lawrence Bertram Noble, Stockton |
| Louis Ernest Hay, Clay Center | Francis Joseph Perrier, Olpe |
| Wilbur Gould Heer, Manhattan | Paul Chadwick Perry, Fredonia |
| William Clarence Higdon, Rich Hill, Mo. | Virgil William Siebert, Pretty Prairie |
| Claude Allen Hodshire, Coffeyville | Earl Raymond Stegman, Plains |
| Bruce Charles Hutchins, Manhattan | Wilfred Nuffer Wallace, Augusta |
| Aloysius Joseph Koster, Manhattan | Ralph Waldo Winget, Garden City |
| Olin Zebediah Leasure, Valley Falls | Clifford Jay Woodley, Tecumseh |
| Hugo Frederick Lucas, Manhattan | |

Division of General Science

BACHELOR OF SCIENCE

| | |
|---------------------------------------------|---------------------------------------|
| Zelda Laurraine Ackenhausen, Manhattan | *Norris R. Meek, Phoenix, Ariz. |
| Lillian Gale Anderson, Lincoln | Dorothea Jeanette Moser, Blue Rapids |
| Marie Rosabelle Appel, Bushton | Ruth Carroll Obenland, Manhattan |
| Dorothy Attol Baldwin, Manhattan | Milo Clair Oberhelman, Randolph |
| Dorothy Velma Blackman, Manhattan | Merton Dennison Olmsted, Perry, N. Y. |
| Eugene Frederick Collins, Wellsville | Miriam Grace Peck, Jewell |
| Marcia Noyes Conrad, Manhattan | Kathryn Ruth Pelton, Manhattan |
| Frank Barker Cookson, Keats | Harriet Martha Reed, Holton |
| Delbert James Jay Costa, Anthony | Helen Marjorie Reed, Circleville |
| Dale D. Dixon, Norcatour | James Hazen Rexroad, Fort Leavenworth |
| Dorothy Rosencrans Donnelly, Manhattan | Dale Servetus Romine, Oswego |
| Frances Lorine Doornbos, El Dorado | Erma Ann Schmedemann, Manhattan |
| Garvin Vernon Hamilton, Kansas City, Mo. | Marlin Charles Schrader, Olivet |
| Susan Robinson Hamilton, Kansas City, Mo. | Jonah Schreiner, Manhattan |
| Lois Elda Howard, Melstone, Mont. | Clifford LaRoy Scott, Norway |
| Edward Guerrant Kelly, Manhattan | Marian Stahlman, Potwin |
| Eunice Velma Kinner, White City | Ernest John Ubelaker, Willis |
| Doris DeEtte Kline, Miltonvale | Paul Burton Vautravers, Centralia |
| Charlotte Louise Leuenberger, Overland Park | John Fletcher Wellemeyer, Kansas City |
| Charles Howard Lockhart, Junction City | Prentice Fay Willis, Manhattan |
| Frank Clemens McCurdy, Leavenworth | Alma Edith Wilsey, Washington |
| Madge Mahoney, Atchison | |

* In absentia.

BACHELOR OF SCIENCE IN COMMERCE

| | |
|-------------------------------------------|--------------------------------------|
| *Ralph Edward Adams, Washington | Grace Marthana Light, Liberal |
| Carl Boyd Anderson, Topeka | Reba Clare Miller, Haviland |
| Samuel Marshall Caughron, Manhattan | John George Mogge, Goodland |
| Ralph William Crouch, Everest | Lillian Kelly Mosshart, Manhattan |
| Marian Edith Evans, Hartford | Norman August Nelson, Jennings |
| Frederick William Hill, Huntington, N. Y. | Lormor Allen Pearman, Holton |
| Otis Horchem, Ransom | Marion K. Salmans, Garden City |
| *Robert Huey, Ogden | Harold J. Scott, Altoona |
| Muriel Imogene Hugunin, Manhattan | Herbert Eugene Somerville, Manhattan |
| Donald Curtis Hutchinson, Hutchinson | Allen Rea Wilson, Rochester, Mich. |
| Doris Jaedicke, Hanover | Mark Joseph Zoeller, Manhattan |
| Liebmann Gordon Langston, Hutchinson | |

BACHELOR OF SCIENCE IN INDUSTRIAL CHEMISTRY

| | |
|-------------------------------------|------------------------------------|
| Carl Crawford Beeson, Wamego | Carl Herman Sartorius, Garden City |
| Merrill Leverm Carter, Smith Center | *Marion Richard Stiles, Manhattan |
| Donald Jay Fox, Longford | Gene Neill Woodruff, Kansas City |
| Hester Marie Perry, Fredonia | |

BACHELOR OF SCIENCE IN INDUSTRIAL JOURNALISM

| | |
|-----------------------------------------|----------------------------------|
| Oma Louise Bishop, Abilene | Henry Clay Reppert, Harris |
| Gertrude Elizabeth Blair, Junction City | Nelson Stanley Reppert, Harris |
| Francis Woodrow Boyd, Phillipsburg | Jean Willard Scheel, Emporia |
| Jessie Gertrude Dean, Baldwin | Sarah Elizabeth Scott, Manhattan |
| Harold Oscar Dendurent, Goodland | Richard Melvin Seaton, Manhattan |
| Kenneth Wilson Harter, El Dorado | Elsie Virginia Speer, Manhattan |
| Genevieve Loban Hoyt, Manhattan | Mabel Sophie Stener, Courtland |
| Helen Louise Leisz, Salina | Edna Greever Van Tuyl, Manhattan |
| Edith Corene Parke, Valley Center | Mary Bessie Whitelaw, Kingman |
| Milfred John Peters, Halstead | |

BACHELOR OF SCIENCE IN MUSIC EDUCATION

| | |
|-----------------------------------|---------------------------------|
| Josephine Alice Baker, Miltonvale | Lesta Lolita Lawrence, Abilene |
| Richard Leo Herzig, Salina | Mabel Esther Russell, Manhattan |

BACHELOR OF MUSIC

Alice Marguerite Bozarth, Lenora

BACHELOR OF SCIENCE IN PHYSICAL EDUCATION

| | |
|---------------------------------------|--------------------------------------------|
| Rita Brown, Edmond | Katheryn Ann McKinney, Bartlesville, Okla. |
| Ralph Dana Gage, Minneapolis | Erma Jean Miller, Manhattan |
| Gilford Eugene Honeycutt, Blue Rapids | Helen Kathryn Morgan, Newton |
| James Buchanan LeClere, Coffeyville | Cora Maurine Oliphant, Offerle |
| Leora Bernice Light, Liberal | D. Alice Wilsey, Washington |

Division of Home Economics

BACHELOR OF SCIENCE IN HOME ECONOMICS

| | |
|--------------------------------------------------|-----------------------------------------------|
| Mary Elizabeth Allman, Manhattan | Katherine Amelia Manker, Vernal, Utah |
| Viola Frances Barron, Kensington | Gladys Edra Mellinger, Milford |
| Ellen Grace Blair, Williamsburg | Marcia Ernestine Merritt, Haven |
| Helen Elizabeth Boler, Dover | Elsie Lee Miller, Manhattan |
| Opal Olive Bowers, Manhattan | Emma Maxine Morehead, Baltimore, Ohio |
| Evelyn Marie Braden, Wichita | Mary Kathryn Morgan, Manhattan |
| *Justina Veronica Brening, Burns | Muriel Frances Morgan, Manhattan |
| Ruth Elizabeth Collins, Ottawa | Irene Morris, Paxico |
| Zelma Nadyne Conn, Kirbyville, Tex. | Mildred Rella Mowery, Salina |
| Julia Marie Davis, Nebraska City, Neb. | Esther Laura Mundell, Nickerson |
| Mary Folwell Dexter, Columbus, Ga. | Ethel Olney, St. Joseph, Mo. |
| Lena Marguerite Edwards, Athol | Audrey Evelyn Osborn, Waverly |
| Leonice Marie Fisher, Fort Scott | Elizabeth Ozment, Manhattan |
| Madge Kent Gibbs, Quinter | Ruth Evelyn Parcells, Hiawatha |
| Leola Olive Green, Garden City | Margaret Virginia Patterson, Kansas City, Mo. |
| Virginia Kay Haggart, Topeka | Erma Juanita Perry, Greenleaf |
| Pearl Elizabeth Hall, Manhattan | Helen Mae Pickrell, Minneapolis |
| Mary Aileen Hanley, Topeka | Lucile May Piper, Kanorado |
| Helen May Hanson, Clifton | Evelyn Ellen Reber, Morrill |
| Mabel Virginia Hodgson, Little River | Maxine Gan Roper, Manhattan |
| Eleanor Jane Irwin, Highland | Sara Frances Rosser, Pratt |
| Daisy Marie Johnson, Columbus | Mildred Erma Ruth Schlickau, Haven |
| Mary Irene Jordan, Beloit | Lois Mae Scriptor, Herington |
| Helen Shell Joseph, Kirwin | Hollis Lee Sexson, Goodland |
| Louise Kinney Krehbiel, Newton | Doris Catherine Streeter, Milford |
| Barbara Lautz, Amarillo, Tex. | Eva Madeline Townsend, Phillipsburg |
| Lois Isabell Lewellen, Newton | Grace Emily Van Scoyoc, Mont Ida |
| Florence Elizabeth McKinney, Bartlesville, Okla. | Esther Loretta Walters, Manhattan |
| Margaret Alice Madaus, Hutchinson | Helen Frances Weygandt, Keats |

* In absentia.

BACHELOR OF SCIENCE IN HOME ECONOMICS AND NURSING

Martha Pearl Betz, Enterprise
Maria Elizabeth Pfuetze, Manhattan

Velma Fern Thompson, Manhattan

Division of Veterinary Medicine

DOCTOR OF VETERINARY MEDICINE

| | |
|----------------------------------------------|------------------------------------------|
| Cirilo Lagmay Adan, Sison, Pangasinan, P. I. | Alvin Rutti McDonald, Bremen |
| Robert Louis Anderes, Kansas City, Mo. | Clarence Charles Merriman, Omaha, Neb. |
| Herbert Willard Avery, Wakefield | Lloyd Jacob Michael, Eudora |
| Marcus Lorenzo Bergsten, Cleburne | Clement Lambert Miller, Clarkson, Neb. |
| Addison Blair, Manhattan | Haldor Thomas Mydland, Horton |
| Marvin James Busby, Wakefield, Neb. | Tillman Harvey Nelson, Holmen, Wis. |
| Duane LeRoy Cady, Arlington, Neb. | James Bernhard Nichols, Superior, Neb. |
| Paul Edward Chleboun, Stanton, Neb. | Henry John William Osterholtz, Manhattan |
| Bradbury Bedell Coale, Manhattan | Culver Willis Rippetoe, Meriden |
| Forrest Oliver Cox, Blue Rapids | Albert Arthur Roby, Jr., Apopka, Fla. |
| Walter Edward Dicke, Louisburg | Carl William Schulz, Independence, Mo. |
| Bernard Eugene Foote, Manhattan | Herbert Franklin Sibert, Nelson, Neb. |
| Frank Donald Gomez, Manhattan | Louise Sklar, Manhattan |
| John Herbert Hensley, Manhattan | Arthur Rheinhardt Thiele, Bremen |
| Ray Christian Jensen, Herington | Carl Edward Wendell, Mulberry |
| Howard Luther Kester, Cambridge, Neb. | Abram Dwight Woodruff, Manhattan |
| Arthur Henry Knost, St. Louis, Mo. | |

COMMISSIONS AWARDED

SECOND LIEUTENANT OFFICERS' RESERVE CORPS

| | |
|------------------------------------------------|----------------------------------------------|
| Cecil Francis Arens, Topeka | *Norris Edward Miller, Kansas City |
| Marcus Lorenzo Bergsten, Cleburne | Virgil Stanton Moore, Altoona |
| *Fred Ewing Brady, Topeka | Haldor Thomas Mydland, Horton |
| Cornelius Donald Chalmers, Scranton | Paul Alwin Neuschwanger, Bloomington |
| Paul Edward Chleboun, Stanton, Neb. | James Bernhard Nichols, Superior, Neb. |
| Forrest Oliver Cox, Blue Rapids | †James Carr North, Manhattan |
| Walter Edward Dicke, Louisburg | Clayton Omar Obenland, Manhattan |
| Dale D. Dixon, Norcatur | Edwin George Orrick, Topeka |
| *Hal Hollingsworth Doolittle, Kansas City, Mo. | Clair Norman Palmer, Kincaid |
| Gerald Franklin Ely, Spivey | Milfred John Peters, Halstead |
| John Moses Ferguson, Bazine | Paul Francis Ragland, Manhattan |
| Donald Jay Fox, Longford | †Rowland Herman Renwanz, Enterprise |
| Donald George Gentry, Manhattan | †James Cornelius Richards, Manhattan |
| *John Elmore Going, Topeka | Culver Willis Rippetoe, Meriden |
| Frank Donald Gomez, Manhattan | Carl William Schulz, Independence, Mo. |
| Richard Otto Hashagen, Leavenworth | Richard Melvin Seaton, Manhattan |
| Louis Ernest Hay, Clay Center | Herbert Franklin Sibert, Nelson, Neb. |
| Frederick William Hayer, Syracuse | Albert Earnie Siler, Garden City |
| Ralph G. Hendrickson, West Alexandria, Ohio | William Philip Simpson, Salina |
| John Herbert Hensley, Manhattan | Lisle LeRoy Smelser, Manhattan |
| Edward Guerrant Kelly, Manhattan | Howard Scott Spear, Leoti |
| Howard Luther Kester, Cambridge, Neb. | Charles William Stewart, Hunter |
| *Howard Maxwell Kindsvater, Wichita | Loran Glenn Stukey, Steamboat Springs, Colo. |
| †Dwight David Klinger, Ashland | Arthur Reinhart Thiele, Bremen |
| *William Carroll Lacy, Everest | Olen Trotter, Anthony |
| Donald Clell Landon, Topeka | Linford Lorin Truax, Peabody |
| Charles Howard Lockhart, Junction City | †John Emery Veatch, Ozark, Mo. |
| Alvin Rutti McDonald, Bremen | *Marvin Arthur Wiehe, Bushton |
| Lloyd Jacob Michael, Eudora | Ovitt Melvin Wells, Syracuse |
| Clement Lambert Miller, Clarkson, Neb. | Elbert Eden Wheatley, Gypsum |

* In absentia.

† Certificates in lieu of commissions until the age of 21 is reached.

Tenth Annual Summer School Commencement

August 3, 1934

DEGREES CONFERRED

PROFESSIONAL DEGREES IN ENGINEERING

ELECTRICAL ENGINEER

George Joseph Fiedler, B. S., Kansas State College, 1926, Schenectady, N. Y.
Kenneth Orval Peters, B. S., Kansas State College, 1931, St. Petersburg, Fla.

Division of Graduate Study

MASTER OF SCIENCE

Joseph Jesse Abernethy, B. S., Kansas State College, 1916, Manhattan
Merle Walter Allen, B. S., Kansas State College, 1933, Manhattan
Harold Lee Anderson, B. S., Kansas State College, 1933, Manhattan
Edgar Lee Barger, B. S., Kansas State College, 1929, Manhattan
George William Boys, B. S., Kansas State College, 1933, Linwood
Carrie Elvard Davis, B. S., Kansas State College, 1928, Herington
Thomas Conway Faris, B. S., Kansas State College, 1926, Arkansas City
Patricia Gill, A. B., Phillips University, 1928, Enid, Okla.
*Dosea Watt Hale, B. S., Texas State College for Women, 1924, Kilgore, Tex.
Ruth Dillon Heckler, A. B., University of California, 1924, Manhattan
George Gerald Hensley, B. S., Kansas State Teachers College, Emporia, 1926, Mankato
Arlie William Higgins, B. S., Kansas State College, 1929, Seneca
Edward C. Jones, B. S., Iowa State College, 1905, Manhattan
Willard Dow Munson, A. B., College of Emporia, 1924, Madison
LeRoy Clay Pasley, B. S., Kansas State College, 1930, Manhattan
Raymond Rollin Roepke, B. S., Kansas State College, 1933, Manhattan
Arthur Warwick Rucker, B. S., Kansas State College, 1933, Americus
Sheridan Howard Settler, B. S., Kansas State College, 1926, Council Grove
Francisco Antonio Sierra de Soto, B. S., Kansas State College, 1932, Manhattan
Sadie Sylvia Sklar, B. S., Kansas State College, 1933, Manhattan
Francisco Rioja Taberner, D. V. M., Kansas State College, 1929, San Juan, Abra, Phillipine Islands
Marcia Edythe Tillman, B. S., Kansas State College, 1916; A. B., Baker University, 1926;
M. A., Colorado State Teachers College, 1926, Manhattan
Rollo Evans Venn, B. S., Kansas State College, 1927, Wichita
Lloyd Lander Woods, A. B., Friends University, 1930, Wichita

Division of Agriculture

BACHELOR OF SCIENCE IN AGRICULTURE

| | |
|-----------------------------------|--------------------------------|
| Eugene Rix Kell, Manhattan | Linford L. Truax, Peabody |
| *William Henry Meissinger, Atwood | Walter Edwin Wilson, Manhattan |
| Dwight Jesse Thompson, Wichita | |

Division of Engineering

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

| | |
|------------------------------------|------------------------------|
| William Henry Berry, Attica | Harry Orin Dutton, Jamestown |
| Vernon Lee Carter, Coffeyville | Ralph Westly Spears, Mulvane |
| Virgil Theodore Chapman, Manhattan | |

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

| | |
|---------------------------------------|---------------------------------------------|
| *Willard Martin Cheney, Abilene | Loran Glenn Stuke, Steamboat Springs, Colo. |
| James Herndon Scott, Kansas City, Mo. | |

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

| | |
|-----------------------------------------------|-----------------------------------|
| Edward Louis Broghamer, Wilkes Barre, Pa. | Wayne Russel Criswell, Manhattan |
| Cesar Baudelio Cardenas, Aguascalientes, Mex. | Blair Clester Forbes, Leavenworth |
| Erick Richard Claassen, Newton | |

* In absentia.

Division of General Science**BACHELOR OF SCIENCE**

Mary Edmona Dudley, Topeka
Louis Bion Earle, Washington
Phil Creager Haggman, Scandia
Sister Lorena Heidrick, Concordia
James Erfert Hyett, St. Marys

Pauline Ethel Jackson, Claudell
Roland Winfield Peterson, Riley
Lola Fay Loomis Totten, Jewell
*Otis Harold Wilson, Grants Pass, Ore.

BACHELOR OF SCIENCE IN COMMERCE

Harry Bernard Brandon, Osawatomie
Harriet Glenn Healy, Manhattan

Philip Dean Rockwood, Parker
Russell Wayne Webb, Hardtner

BACHELOR OF SCIENCE IN INDUSTRIAL CHEMISTRY

Erwin Lynn Kay, Brewster

BACHELOR OF SCIENCE IN INDUSTRIAL JOURNALISM

Nathan Fligstein, Manhattan

Margaret Mary Reddy, Baxter Springs

BACHELOR OF SCIENCE IN MUSIC EDUCATION

Elna Ruth Andrick, Beattie
Dorothea Lillian Bacon, Atchison
Alice Marguerite Bozarth, Lenora

Sister Clement Marie Heidrick, Concordia
Ursula Edith Hiller, Manhattan
Elizabeth Stanley, Wichita

BACHELOR OF SCIENCE IN PHYSICAL EDUCATION

Ralph Melvin Graham, El Dorado
Jack Algernon Lowell, Glen Elder

Lois Elizabeth Rosencrans, Manhattan
Harold Rowe Weller, Manhattan

Division of Home Economics**BACHELOR OF SCIENCE IN HOME ECONOMICS**

Ethel Marie Antrim, Spivey
Mary Margaret Carr, Winfield
Edna Henrietta Fritz, Manhattan
Frances Mae Gordon, De Soto
Gersilda Guthrie, Jetmore
Helen Ruth Harper, Herington
May Beth Herndon, Amy
Zelma Ellen Hockett, Manhattan
Ruth Caroline Johnson, Wamego
Amelia Margaret Kroft, Wilson

Geraldine Frances Lancaster, Parsons
Olga Christene Larsen, Vesper
*Foo Hing Lei, Hong Kong, China
Pauline Margueriete McKenna, Kingman
Charlotte Celestine Nix, Kansas City, Mo.
Emily May Rogler, Topeka
Florence Etta Schwendener, Abilene
*Mary Emma Stewart, Auburn
Marion Thompson, Manhattan
Christine Eloise Vaughan, Scott City

BACHELOR OF SCIENCE IN HOME ECONOMICS AND NURSING

Betty Olive Davison, Tescott

Division of Veterinary Medicine**DOCTOR OF VETERINARY MEDICINE**

Buford Forrest Bridges, Sale City, Ga.
John Mark Hurd, Pawnee City, Neb.
William Edward Ivey, Jakin, Ga.
Otto Walter Ludloff, Honolulu, T. H.

Lucius Elijah McGee, Moultrie, Ga.
Elmer Louis Metcalfe, Manhattan
James Rudolph Whiteman, DeLand, Fla.

* In absentia.

HONORS

PHI KAPPA PHI

1933-1934

Division of Graduate Study

Herman Farley
Keith Harry Hinchcliff
Raymond Hickman Hughes

F. R. Taberner
Rolla Venn
Lillie Margaret Davis Zimmerman

Division of Agriculture

Kenneth Sydney Davis
Charles Emil Fischer
Paul Wilson Griffith

William Henry Juzi
Wilfred Harold Pine

Division of Engineering

Edward Louis Broghamer
Vorras Alexander Elliott
Donald George Gentry
Amor James Jefferis
Hugh Sickner Maxwell
Clair Norman Palmer
George Ernest Pinter

Harold Walter Poole
Lloyd Hoyt Scott
Virgil William Siebert
William Philip Simpson
John Emery Veatch
Burl Zimmerman

Division of General Science

Dorothy Blackman
Alice Marguerite Bozarth
Marcia Noyes Conrad
Jessie Gertrude Dean
Phil Creager Haggman
Frederick William Hill
Ruth Carroll Obenland

Hester Marie Perry
Harriet Reed
Dorothy Rosenerans
Mabel Esther Russell
Jean Willard Scheel
Richard Melvin Seaton
Marian Stahlman

Division of Home Economics

Helen Elizabeth Boler
Julia Marie Davis
Eleanor Jane Irwin
Barbara Lautz

Florence McKinney
Emma Maxine Morehead
Helen Mae Pickrell
Velma Fern Thompson

Division of Veterinary Medicine

Robert Louis Anderes
Paul Edward Chleboun

Bradbury Bedell Coale
Carl William Schulz

SENIOR HONORS

1934

In each Division of the College high honors are awarded at commencement to not more than three per cent of the senior class having the highest standing in scholarship during their junior and senior years. Honors are also awarded to not more than an additional seven per cent of the senior class.

Division of Agriculture

HIGH HONORS

William Henry Juzi

HONORS

*Paul Wilson Griffith

Clarence Lee Gish

*Wilfred Harold Pine

Division of Engineering

HIGH HONORS

*Clair Norman Palmer
George Ernest Pinter

Lloyd Hoyt Scott

HONORS

Amor James Jefferis
Nathan Lea Axton
Hugh Sickner Maxwell
William Philip Simpson

Harold Walter Poole
Walter Clare Hulburt
*Burl Zimmerman
Kenneth Deardorff McCall

Division of General Science

HIGH HONORS

*Oma Louise Bishop
*Harriet Martha Reed

Jean Willard Scheel

HONORS

Gertrude Elizabeth Blair
Ralph Dana Gage
Alice Marguerite Bozarth
Edward Guerrant Kelly
Phil Creager Haggman

Frederick William Hill
Jessie Gertrude Dean
Charles Howard Lockhart
Marian Stahlman
Sister Lorena Heidrick

Division of Home Economics

HIGH HONORS

*Barbara Lautz

Eleanor Jane Irwin

HONORS

*Emma Maxine Morehead
*Helen Elizabeth Boler
Mabel Virginia Hodgson

Julia Marie Davis
Edna Henrietta Fritz

Division of Veterinary Medicine

HIGH HONORS

*Bradbury Bedell Coale

HONORS

Robert Louis Anderes

*Carl William Schulz

* These persons were awarded sophomore honors at the end of their sophomore year.

SOPHOMORE HONORS**1934**

In each Division of the College honors are awarded at commencement to not more than five per cent of the sophomore class having the highest standing up to the close of the sophomore year.

Division of Agriculture

John Edwin McColm
Leonard Fred Miller

Emory Lavern Morgan
Ival James Ramsbottom

Division of Engineering

James Wallace York
Thomas Charles Wherry
Thomas Benton Haines

Elmer Louis Munger
Francis Raymond Arnoldy
Donald Max Bammes

Division of General Science

Ellen Isabel Payne
Betsy Ruth Sesler
Tom Conrad Groody
Marjorie Agnes Lomas
Elma Irene Edwards

Maxine Belle McKinley
Frances El Vera Nelson
Edmund Peter Marx
Delite Martin
James Monroe Siever

Division of Home Economics

Susanne Murry Beeson
Margaret Jean Turner
Betty Marguerite Miller

Frances Erma Farrell
Josephine Elizabeth Miller
Marian Louise Buck

Division of Veterinary Medicine

Arnold Samuel Rosenwald

Sydney Paul Levene

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List of Students†

Students Pursuing Graduate Work

Graduate Students‡

- Joseph Jesse Abernethy; Manhattan
Zelda Laurraine Ackenhausen; Manhattan
*Jerome Melvin Adams; Wichita
Mabel Christmas Adams; Garden City
Sadigh Madjick Ahi; Teheran, Iran
Mildred Laura Ahlstrom; Reading
Clifford Lankford Alcorn; Carbondale
Florence Allen; Valley Falls
John Edmond Anderson; Belvue
Ross Harris Anderson; Richland
Edwin Lee Andrick; Beattie
Ora Joye Ansdell; Jamestown
*Jacob Antelyes; Manhattan
Harold Duane Arnold; Manhattan
Esther Ann Atkinson; McPherson
*John Carr Ayers; Manhattan
*Margaret Dillon Bair; Minneola
Burton Lowell Baker; Manhattan
Alvin Kornelius Banman; Mathiston, Miss.
Paul Willis Barber; Sabetha
Edgar Lee Barger; Manhattan
Robert Claude Barnett; Osborne
Ralph David Barnhart; Manhattan
Oma Irene Barry; Hays
Philip Becker, Jr.; Peoria, Ill.
Erwin John Benne; Manhattan
Loren Richard Berner; Clifton
*Chester Bert Billings; Hays
Dorothy Velma Blackman; Manhattan
Evelyn M. Blades; Edmond, Okla.
Lee Ella Blake; Kansas City
Ralph Bogart; Manhattan
Roy Elmer Bonar; Alta Vista
Donald Houts Bowman; Manhattan
Richard Carlton Brown; Hill City
Nina Browning; Manhattan
Lillian Josephine Brychta; Blue Rapids
Charles Fay Buck; Kansas City, Mo.
*Raymond Cecil Bushland; Manhattan
Everett Leslie Byers; Hepler
Roy Raymond Cameron; Havensville
Marguerite Virginia Chaffin; Caldwell
Helen Louise Church; Osage City
Edna Ellen Circle; Kiowa
Alfred Lester Clapp; Manhattan
Roy Engle Clegg; Altamont
Frank Gillette Craft; Hanston
Leonard Elden Croy; Havensville
Fern Elaine Cunningham; Junction City
*Reynold George Dahms; Manhattan
Dawn Daniels; Manhattan
Rose Marie Darst; Manhattan
Carrie Elvard Davis; Herington
Dorothy Mae Davis; Herington
Merle Alfred Dodge; Manhattan
Dorothy Rosencrans Donnelly; Manhattan
Carl Alfred Dorf; Lindsborg
Opal Dougherty; Manhattan
*Ellen Elizabeth Dunseth; Tulsa, Okla.
Doris Evangeline Ekstrom; Agenda
Leonard Paul Elliott; Manhattan
Delbert Frederick Emery; Parsons
Abner E. Engle; Chapman
*Mary Eleanor Evans; Manhattan
Olive Falls; Hoxie
Thomas Conway Faris; Arkansas City
*Joseph George Feinberg; Manhattan
*Doris Hays Fenton; Manhattan
James Burgess Fitch; Manhattan
Elsie Louise Flinner; Wichita
Vernon Daniel Foltz; Manhattan
Margaret Lansden Foster; Manhattan
Harold Earl Frank; Haddam
Frank R. Freeman; Kirwin
Harold J. Froning; Copeland
Wanie Condit Froning; Copeland
Carol Ruth Gardner; Hartford
Inez Belle Gardner; Hartford
*Emma Lynette Gatten; Ainsworth, Neb.
John Ernest Gilbert; Longford
*Patricia Gill; Enid, Okla.
Clarence Fay Gladfelter; Emporia
*Newell Emanuel Good; Manhattan
George A. Graham; Manhattan
Eunice Rebecca Green; Cawker City
Kenneth D. Grimes; Topeka
Myrtle Annice Gunselman; Manhattan
Pearle Haas; Hutchinson
Phil Creager Haggman; Scandia
Kenneth Morgan Hall; Ford
Pearl Elizabeth Hall; Manhattan
Junieta LuElla Harbes; Manhattan
Florence Lavina Harold; Dresden
Margaret E. Harper; Glasco
Elsie Irene Hartel; Manhattan
Lawrence William Hartel; Manhattan
Ira Miller Hassler; Chapman
Fred William Hayer; Syracuse
Ruth Dillon Heckler; Manhattan
Loren Bryce Hefling; Manhattan
John Hames Heimerich; Clay Center
Carl Heinrich; Burlington
George Gerald Hensley; Mankato
Elmer F. Herman; Carlton
Arlie William Higgins; Seneca
Frederick William Hill; Manhattan
Arthur Delphin Holmes; Enterprise
John Lester Hooper; Robinson
Abram Eldred Hostetter; Hope
Lucile Whan Howells; Manhattan
Walter Clare Hulburt; Wichita
James William Hunter; Manhattan
Bruce Charles Hutchins; Manhattan
Percy Jennings Isaacs; Manhattan
Luther Arthur Jacobson; Horton
William Edwin Jennings; Manhattan
E. Margaretha Joehnek; Rocky Ford, Colo.
Lee Goree Jolly; Manhattan
Elmer W. Jones; Pittsburg
George Clair Jordan; Manhattan
*John Gleason Kennard; Manhattan
M. Mildred Kenyon; Oxford, Ind.
John Humphrey Kerr; Miltonvale
Herbert Henry Kirby; Toronto
*Everett Donald Kirk; Enterprise
Leroy Reginald Kirkpatrick;
El Reno, Okla.
Inge Kallesoe Kjar; Leming, Denmark

* Matriculated 1934-1935.

† Includes 125 registered in Summer School only.

‡ June 4, 1934, to May 27, 1935.

GRADUATE STUDENTS—*Concluded*

- *Ruth Alice Kramer; Maryville, Mo.
Bernice Lydia Kunerth; Manhattan
Helen Katherine Latta; Holton
John Russell Latta; Holton
Elden Emanuel Leasure; Manhattan
Peter R. Linscheid; Attica
*Hazel Gertrude Lovingood;
Maryville, Tenn.
Alvin Ernest Lowe; Argonia
Henry Wilbert Loy, Jr.; Chanute
Hazel Alma Lyness; Walnut
Jeanne Agnes Lyon; Manhattan
Arla Amelia McBurney; Manhattan
Hiram Temple McGehee; Manhattan
Eva Myrtle McMillan; Manhattan
Everett John McNay; Manhattan
Charles Dean McNeal; Boyle
*Hubert Clyde Manis; Bradenton, Fla.
Carl Jesus Martinez; Manhattan
James Warren Mather; Grinnell
Hugh Sickner Maxwell; Wichita
Mary E. Maxwell; Manhattan
Noma Muriel Mears; Wichita
Norman John Mellies; Hutchinson
Alfreda Meyer; Frankfort
M. Mildred Moore; Howard
Clark Leroy Morford; Olsburg
Harriett Plummer Morris; Wichita
*Willard Dow Munson; Madison
Donald Dudley Murphy; Gardner
Harold Edwin Myers; Manhattan
Winifred Ann Nachtrieb; Atchison
James Byron Nash; Wichita
Minnie Louise Neighbours; Osawatomie
Myrtle Georgia Neighbours; Osawatomie
James Thomas Newton; Douglass
*Myra Newton; Manhattan
*Mary Catheryn Niestadt; Wilmette, Ill.
Lawrence Bertram Noble; Stockton
George Daniel Oberle; Carbondale
Lois Marie Oberhelman; Barnes
Milo Claire Oberhelman; Randolph
Martha Luella O'Neill; Winchester
Eleanor Parrot; Manhattan
Harriet Reed Parsons; Holton
Clara Katherine Paulsen; Stafford
*Rosamond Marie Payton; Fort Scott
*Mart G. Pederson; Manhattan
Frederick Adams Peery; Manhattan
Helen M. Peterson; Wichita
Virginia Janette Peterson; Manhattan
Gerald Pickett; Manhattan
Ivan Pratt; Hope
Margaret Schneider Prideaux; Manhattan
Harry Charles Quantic; Riley
Dryden Marie Quist; Manhattan
Mohamed Hassan Radi; Cairo, Egypt
Esther Boell Ragle; Wamego
George Nathan Reed; Manhattan
Helen Marjorie Reed; Circleville
Thomas Russell Reitz; Atchison
Joe Wheeler Rigney; State College, N. Mex.
Hubert Maxwell Rivers; Hutchinson
John Bissell Roberts; Manhattan
June Roberts; Manhattan
Mary Alice Schnacke Roberts; Manhattan
Sarah Helen Roberts; Manhattan
Raymond Rollin Roepke; Manhattan
*Miriam Rogers; Cedar Rapids, Iowa
Frank Leries Rosser; Manhattan
Arthur Warwick Rucker; Americus
Curtis Williams Sabrosky; Manhattan
Carl Herman Sartorius; Garden City
Lester John Schmutz; Wakefield
Marlin Charles Schrader; Olivet
Elmer Philip Schrag; Lincoln
William George Schrenk; Leonardville
La Velle Robert Schruben; Centralia
Sheridan Settler; Council Grove
George Oscar Sharp; Pittsburg
Curtis Daniel Sides; Ramona
Francisco Antonio Sierra de Soto;
Manhattan
Albert Earnie Siler; Garden City
Sister Melania Goracke; Atchison
Sister Ethelburg Leuschen; Atchison
Sister M Bonaventure McKenna; Atchison
Sister Jeanette Obrist; Atchison
Sister Marcella Siela; Atchison
D. Theodore Skinner; Manhattan
Sadie Sylvia Sklar; Manhattan
Howard Dwight Smethers; Haddam
Daphne Vivian Smith; Manhattan
Norman John Sollenberger; Manhattan
Marion Richard Stiles; Manhattan
Ida Walker Summers; Manhattan
Francisco Rioja Taberner; Manhattan
Margaret Jeanne Tabor; Manhattan
Delos Clifton Taylor; Manhattan
Grace Elizabeth Taylor; Manhattan
Altha Tedrow; Salina
Arch Thompson; Blackwell, Okla.
Velma Fern Thompson; Manhattan
Marcia Edythe Tillman; Manhattan
George Edward Truby; Lane
Martha Jane Ulrich; Hamilton
Fred Lewis Van Scoyoc; Oak Hill
Leland Stanford Van Scoyoc; Manhattan
Rollo Evans Venn; Wichita
Edwin Anthony Vossman; Beloit
Forrest Lorenzo Walker; Manhattan
Marvin Jay Wanamaker; Barnes
Paul Frank Warner; Whiting
Rees Conway Warren; Manhattan
Virgil Leland Weaver; Garden City
Henrietta Ella Webb; Kansas City
Leonice Pearl Wells; Meriden
Melvon Wertzberger; Alma
Florence Rilla Whipple; Manhattan
*Fern Elizabeth White; Manhattan
Raymond Francis White; Manhattan
*John Hendrick Whitlock; Manhattan
Carl Williams; Mullinville
James Herdman Wilmoth; Blue Rapids
D. Alice Wilsey; Washington
*Jack Turner Wilson; Emporia
Jessie Helene Winder; Waldo
Elmer Henry Windscheffel; Smith Center
*Chung Mau Wong; Hongkong, China.
Gene Neill Woodruff; Kansas City
Lloyd Lander Woods; Wichita
Bernie William Wright; Manhattan
Myrtle E. Ziebell; Burns
Burl Zimmerman; Manhattan
Frank Jesse Zink; Manhattan

* Matriculated 1934-1935.

Graduate Students Pursuing Work in Absentia

| | |
|------------------------------------------|------------------------------------|
| Edwin Lee Andrick; Glen Elder | Walter Eldridge Matheson; Topeka |
| Irvin Melburn Atkins; Denton, Tex. | Donald Dudley Murphy; Gardner |
| *Esther Ann Atkinson; McPherson | Winifred Ann Nachtrieb; Atchison |
| August Irvin Balzer; Beaumont, Tex. | Wilbur Reginald Pfenninger; Salina |
| Alvin Kornelius Banman; Mathiston, Miss. | Ernest Lee Raines; Mound City |
| Robert Claude Barnett; Osborne | Helen Marjorie Reed; Circleville |
| Silas Solomon Bergsma; Howard | Lester John Schmutz; Wakefield |
| Esther Evangeline Christensen; Randolph | LaVelle Robert Schruben; Centralia |
| Thomas Conway Faris; Arkansas City | Howard Dewight Smethers; Haddam |
| James Burgess Fitch; Manhattan | Arch Thompson; Blackwell, Okla. |
| John Humphrey Kerr; Miltonvale | George Edward Truby; Lane |
| Malcolm Laman; Morrowville | |

Senior Students Pursuing Graduate Study

| | |
|----------------------------------------|-----------------------------------------|
| Orval Jack Abel; Green | Howard Maxwell Kindsvater; Wichita |
| John Henry Barhydt; Hutchinson | Leslie Waterman King; Wichita |
| Paul Everett Blackwood; Talmo | Alton Sawyer Knechtel; Larned |
| Lee Justin Brewer; Hartford | Lloyd Everett McDaniel; Michigan Valley |
| Marjorie Willis Call; Manhattan | Arlene Marshall; Herington |
| Carl James Chappell; Republic | Frances Emma Moss; Lincoln |
| Charles Elbert Cheney; Abilene | Charles Ernest Murphey; Leoti |
| Claude Cyril Cheney; Kanorado | Herbert Truman Niles; Olivet |
| Arnold Joseph Churchill; Junction City | Clayton Oman Obenland; Manhattan |
| Julia Ellen Crow; Manhattan | Donald Baker Parrish; Fort Scott |
| Marvin DeLapp; Cherokee | Paul Phillips; Manhattan |
| Ernest Dobrovolny; Manhattan | Emily May Rogler; Topeka |
| Vorras Alexander Elliott; McPherson | George Alfert Rogler; Matfield Green |
| Robert Lyle Evans; Sabetha | Arthur George Rosenkrans; Dorsey, Neb. |
| Eugene Patrick Farrell; St. Marys | John Monroe Sears; Kanorado |
| James C. Foulds; Hutchinson | Gardner Charles Sellers; Downs |
| John Warren Frazier; Manhattan | Roberta LaVone Shannon; Geneseo |
| Marjorie Christine Fuhrman; Atchison | Gerald Alvin Simpson; Milton |
| Ralph G. Hendrickson; Manhattan | Harry Grant Sitler; Lake City |
| May Beth Herndon; Amy | Eugene Everett Sundgren; Falun |
| Rolland Theodor Hinkle; Carbondale | Elizabeth Daniel Walbert; Columbus |
| Maurice Wilson Horrell; Baldwin City | Harold Wierenga; Cawker City |
| Junior H. Howard; Oberlin | William Alexander Wishart; Manhattan |
| Ruth Elizabeth Jorgenson; Manhattan | |

* Matriculated 1934-1935.

Undergraduate Students

The following lists include seniors, juniors, sophomores, freshmen and special students in College. For students in the Summer Schools see lists following these.

Abbreviations here used denote curricula as follows: AA, agricultural administration; Ag, agriculture; AE, agricultural engineering; AH&V, animal husbandry and veterinary medicine; Ar, architecture; ArE, architectural engineering; C, commerce; C&A, commerce and accounting; CE, civil engineering; ChE, chemical engineering; EE, electrical engineering; GS, general science; GS&V, general science and veterinary medicine; HE, home economics; HE&A, home economics and art; HE&J, home economics and industrial journalism; HE&N, home economics and nursing; IE&D, institutional economics and dietetics; IC, industrial chemistry; IJ, industrial journalism; LA, landscape architecture; LG, landscape gardening; M, applied music; MuE, music education; ME, mechanical engineering; MI, milling industry; PE, physical education; VMP, preveterinary; VM, veterinary medicine.

SENIORS

Lyman Emmett Abbott (PE); Gretna
 †Orval Jack Abel (GS); Green
 Carson Hugh Adams (EE); Sterling
 Robert Francis Adams (CE); Wellington
 Louis Carlyle Aicher, Jr. (EE); Hays
 †Clifford Lankford Alcorn (EE-1; Grad-2);
 Carbondale
 Rosalind Almen (HE); McPherson
 Samuel Edward Alsop (Ag); Wakefield
 Henry Everett Anderson (C); Richland
 Verna Lucille Anderson (PE); Topeka
 Lawrence Alfred Antenen (C); Bazine
 Cecil Francis Arens (EE); Topeka
 Richard Elliott Armstrong (PE); Riley
 Stephen Grieve Asbill (VM); Manhattan
 Donald Maurice Atkins (Ag); Manhattan
 Leonard Maurice Aubuchon (EE); Emporia
 Helen Evelyn Axelton (HE&N); Manhattan
 Buford Dean Baker (CE); Chanute
 Francis Daniel Baker (IJ); Manhattan
 Ottis Elmo Ballinger (VM); Manhattan
 Monroe Balton (VM); Wichita
 John Virgil Baptist (EE); Uniontown
 †John Henry Barhydt (GS); Hutchinson
 Alice Loy Barrier (HE); Topeka
 Harvey Clayton Bates (ME); Augusta
 Buell Wesley Beadle (IC); Talmage
 Clyde Bearden (GS); Manhattan
 Herbert Lewis Beckett (C); Garden City
 Thomas Gilbert Backwith (ME); Hiawatha
 Frederick Elmo Beeler (C); Jewell
 Herbert Wayne Beeman (GS); Hutchinson
 Frances Elaine Bell (HE); Marysville
 Geraldine Mabel Bender (HE); Holton
 Fred Jacob Benson (CE); Grainfield
 Henry Daniel Bentrup (EE); Deerfield
 Esto Ray Berkey (CE); Manhattan
 Ervin William Bevin (AA); Manhattan
 James Kenneth Bigford (Ag); Manhattan
 †Paul Everett Blackwood (GS); Talmage
 Hazle Florence Bland (IE&D);
 Garden City
 Major Guy Bliss (CE); Minneapolis
 Grace Louise Booker (IE&D); Clay Center
 Earl Clarence Borgelt (Ag); Zenda
 Fred Ewing Brady (EE); Kansas City
 Mary Lee Braerton (HE); Denver, Colo.
 Fred Charles Bramlage (C&A);
 Junction City
 Mabel Rebecca Brasche (HE); Volland
 Francis Eastham Brenner (EE); Waterville

Berwyn Yelton Brewer (EE); Wichita
 †Lee Justin Brewer (Ag); Hartford
 Wilma DeNell Brewer (HE); Riley
 George Ralph Brindle (ME); Fredonia
 Ora Elizabeth Bristol (IE&D);
 St. Joseph, Mo.
 Jesse Clyde Brock (VM); Sale City, Ga.
 †Richard Carlton Brown (ArE-1; Grad-2);
 Hill City
 Willis Everett Brown (GS); Junction City
 Eva Brownnewell (PE); Wichita
 Edna Marjorie Brubaker (IE&D);
 Marysville
 Jeanne Virginia Bryan (C); Delia
 Charlotte Lela Buchmann (IJ);
 Clay Center
 Lloyd Richard Burdge (ME); Parsons
 Max Lewis Burk (IJ); Manhattan
 Edith Marion Burt (HE); Manhattan
 †Everett Leslie Byers (Ag-1; Grad-2);
 Hepler
 Wilma Lois Byers (GS); Hepler
 Ethel Irene Call (IE&D); Mound Valley
 †Marjorie Call (IJ); Manhattan
 Wayne Callahan (GS); Coffeyville
 Richard Henry Campbell (AA); Grenola
 Nelda Marion Carson (IJ); Morganville
 Joseph Leo Cavanaugh (VM); Esbon
 †Carl James Chappell (CE); Republic
 †Charles Elbert Cheney (C); Abilene
 †Claude Cyril Cheney (GS); Kanorado
 Hilbrand David Chilen (LG); Miltonvale
 †Arnold Joseph Churchill (ME);
 Junction City
 Mary Jane Frances Clark (IE&D);
 Junction City
 Ralston Clouse (EE); Preston
 James Pratt Coffman (EE); Sedgwick
 Charles Elmer Cole (EE); St. Marys
 Franklin Grimes Colladay (ME);
 Hutchinson
 Wilber Eugene Combs (EE); Manhattan
 Pauline Elizabeth Compton (C); Manhattan
 Lenore Vinneal Converse (HE); Harveyville
 Hildred Ann Cooper (HE); Chase
 Donald Risdon Cornelius (Ag); Wheaton
 Geraldine Cornwell (PE); Topeka
 Bernice Eileen Covey (MuE); Miltonvale
 Wilma Marian Cowdery (HE&A); Lyons
 Chevalier Francis Crandell (EE);
 Falls City, Neb.

† Also pursuing graduate study.

SENIORS—Continued

- Pauline Violet Crawford (HE); Luray
Vada Faye Crawford (GS); Little River
Joe Franklin Creed (PE); Manhattan
David Scott Crippen (EE); Council Grove
Roy Doubt Crist (AE); Brewster
Ruth Elizabeth Crouch (GS); Everest
† Julia Ellen Crow (MuE); Manhattan
Dale Rush Curtis (EE); Manhattan
Donald Curtis (CE); Kansas City
Arthur Henry Lawton Daman (VM);
Manhattan
Robert James Danford (Ag); Hutchinson
Marlene May Dappen (IE&D); McPherson
Lawrence Aldon Darnell (GS); Osborne
Stephen Prema Das (Ag); Bangalore, India
Evan Lloyd Davis (Ar); Topeka
Lamont Don DeCamp (CE); Topeka
Vaughn Eugene DeGeer (AE); Lake City
Willem Dekker van Ghyl (VM); Manhattan
† Marvin De Lapp (ME); Cherokee
Warren William De Lapp (CE); Elk City
Stephen Delladio (EE); Frontenac
John Henry Denham (CE); Pittsburg
Louise Denton (GS); Manhattan
Neil Albert De Vault (IC); Kansas City
John Raymond Dicken (Ag); Winfield
Ferne Lucille Dixon (HE); Agra
† Ernest Dobrovolny (GS); Manhattan
† Merle Alfred Dodge (IC-1; Grad-2);
Manhattan
William Lovejoy Dole (CE); Almena
Raymond Joseph Doll (AA); Ellinwood
Laurence Charles Donat (VM); Manhattan
John Joseph Donnelly (ME); Manhattan
Calvin Elmer Dornberger (Ag); Talmage
Alice Louise Droz (IE&D); Humboldt
Wendell Philip Dubbs (EE); Ransom
* Elsie Duesing (IJ); Morrill
Albert Richard Duree (EE); Perry
Arthur Harold Eberhart (EE); Burlington
Anna Marie Edwards (GS); Athol
Glen Ferrell Egan (CE); Altamont
Elizabeth Fairzena Elledge (IE&D);
Parsons
Loren Wesley Elliott (C&A); Clay Center
† Vorras Alexander Elliott (ME);
McPherson
Vera May Ellithorpe (Ar); Russell
Gerald Franklin Ely (GS); Spivey
Kyle Engler (AE); Burrton
Alburt Cassius Esterly (ArE); Manhattan
Lewis Saxton Evans (Ag); Washington
† Robert Lyle Evans (EE); Sabetha
Evelyn Pauline Ezell (HE); Pratt
Glenn Dungey Farrar (EE); Wichita
† Eugene Patrick Farrell (MI); St. Marys
George Faust (CE); Parsons
Herbert Henry Fechner (VM); Manhattan
Morris Finkelstein (C); Syracuse, N. Y.
Rex Bird Finley (CE); Elk Falls
Oscar Frederick Fischer (VM);
Junction City
Voigt Ray Fisher (CE); Atchison
William David Fitch (MuE); Manhattan
John Leo Flentie (ME); Centralia
Wilburn Rowland Flournoy (ChE);
Kansas City
La Vare June Fossnight (GS); Ottawa
† James C. Foulds (ME); Hutchinson
Richard George Fowler (IJ); Holton
Edward Frahm (VM); Manhattan
Edith Fern Frankenberry (HE); Altoona
Sidney Lorenz Franz (AA); Soldier
† John Warren Frazier (CE); Manhattan
Archie French (EE); Augusta
Lawrence Charles Froelich (C); Abilene
† Marjorie Christine Fuhrman (HE);
Atchison
Elsie Marie Fulks (IE&D); Langdon
Ebbert Eugene Funk (ChE); Arkansas City
Dorothy Marciel Gribble Galley (GS);
Manhattan
Edwin John Gantenbein (Ag); Elmo
Clara Bess Garrison (IE&D); Lincolnville
George William Garrison (Ag); Goodland
Richard Dale Gentry (EE); Garden City
Chester Dale George (GS); Manhattan
Dwight Ivan Gillidett (ArE); Plains
Karl Leonard Goss (IJ); Dwight
Arthur Dwight Graham (CE); Pittsburg
Harry White Grass III (Ag); La Crosse
Ronald George Grebner (CE); Manhattan
Gerald Goodale Green (C); Norton
Harold Ebert Grooger (Ag); Solomon
* Norraena Helen Hall (GS); Coffeyville
John Lawrence Halliday (ME); Pittsburg
Richard Howard Hamilton (EE);
Washington
Mary Louise Hampshire (HE); Manhattan
David Clarence Hanson (EE); Pittsburg
Louis Benton Hanson (Ag); Jamestown
Clifford Lorraine Harding (AA); Wakefield
* Evan Alexis Hart (GS); Cedar Falls, Iowa
Richard Otto Hashagen (IC); Leavenworth
Edward Thomas Haslam (GS);
Council Grove
Irving Bennett Hawk (AA); Effingham
† Fred William Hayer (EE-1 Grad-2);
Syracuse
Hazel Ruth Heikes (GS); Wakefield
Hubert Raymond Hein (VM); Washington
Robert Leroy Heinsohn (EE); Newton
Margaret Anna Hempler (MuE); Almena
Margaret Ratts Hendrickson (MuE);
Atlanta
† Ralph G. Hendrickson (ME); Manhattan
Eldon Howard Hermes (EE); Great Bend
Lucille Evangeline Herndon (MuE); Amy
Lloyd Wayne Herring (Ag); Tulia, Tex.
Harold Crutchfield Hibbs (ArE); Osborne
Leonard Wilbur Hibbs (VM); Manhattan
Margaret Higdon (MuE); South Haven
Neva Inez Hilton (HE); Attica
† Rolland Theodor Hinkle (ME); Carbondale
Homer Orello Hoch (EE); Riley
Arthur Jacob Hochuli (ChE); Holton
Garland Clarence Hoglund (IC); Miller
Rosema Louise Holman (HE); Manhattan
Tom Holmes (EE); Emporia
Crosby Johnson Hook (VM); Manhattan
Boyd Herbert Hope (AA); Moundville, Mo.
Victor Hopeman (AE); Independence
Laura Lou Hopkins (GS); Sabetha
† Maurice Wilson Horrell (EE); Baldwin City
David Marion Howard (VM); Manhattan
† Junior H. Howard (EE); Oberlin
Howard Busby Hudiburg (ChE);
Independence
Edythe Grace Huitt (MuE); Salina
Mary Frances Hurley (HE); Paola
Russell Joseph Hurt (EE); Manhattan
Henry Lee Huston (IC); Fort Scott
Donald Frederick Isaacson (Ag); Topeka
Leonard Barclay Izard (EE); Carthage, Mo.
Shirley Maxine Jacobs (MuE); Lenore
Arthur Randolph James (ArE); Manhattan
Glenn Curtis James (GS); Andover
Homer Jameson (LG); Garrison
Frankie Jamison (GS); Kansas City
Harold Jack Jewell (VM); Manhattan
Charles Wesley Jobs, Jr. (ChE);
Pretty Prairie
Dorothy Etna Jobling (GS); Caldwell
George Loomis Jobling (ChE); Caldwell
Edward Groh Johnson (EE); Emporia
Geneva Johnson (HE); Frankfort
Helen Sylvia Johnson (HE); Hutchinson

* Matriculated 1934-1935.

† Also pursuing graduate study.

SENIORS—Continued

- Howard Walter Johnson (C); Sublette
 Sanford Edwin Johnson (VM); Manhattan
 Vinton Gustaf Johnson (GS); Manhattan
 Ruthana Jones (IJ); Garden City
 Taylor Lewis Jones (Ag); Garden City
 William Cope Jones (EE); Wichita
 Mary Carolyn Jordan (IE&D); Topeka
 †Ruth Elizabeth Jorgenson (HE);
 Manhattan
 Jane Kahl (IJ); Topeka
 DeVere Kay (IJ); Manhattan
 Althea Leonore Keller (HE); Enterprise
 Warren Ferdinand Keller (MI); Great Bend
 Donald Clifford Kelley (VM); Great Bend
 Samuel Kelsall III (VM); Lawrence
 Earle Lewis Kent (EE); Manhattan
 George Miller Kerr (VM); Manhattan
 Oliver Willard Kershaw (AA); Garrison
 James Randle Ketchersid (AH&V);
 Manhattan
 Alice Day Kimball (GS); Manhattan
 Ned William Kimball (GS); Manhattan
 John Godfred Kimen (EE); Manhattan
 †Howard Maxwell Kindsvater (IC); Wichita
 George Wilson King (ME); Burdett
 Inez Vera King (PE); Junction City
 †Leslie Waterman King (MI); Wichita
 Carl Lawrence Kirk (C); Winfield
 Henry Charles Kirk (C); Scott City
 Zelda Mary Kleven (HE); Manhattan
 Joseph Frank Knappenberger (VM);
 Penalosa
 †Alton Sawyer Knechtel (ArE); Larned
 Kathryn Marie Knechtel (HE); Larned
 Jack William Knittle (C); Salina
 Benjamin Christ Kohrs (AA); Elmo
 William Charles Kosinor (GS); Manhattan
 Clark F. Kostner (C); Murdock
 James Kral (VM); Manhattan
 Justina Susie Kroeker (HE); Hutchinson
 Elenor Lee Kubin (IJ); McPherson
 Ethel May Kurz (HE); Coldwater
 William Carroll Lacy (EE); Everest
 Elizabeth C. Lamprecht (IE&D);
 Manhattan
 Leslie Kummer Lancaster (C);
 Junction City
 Ruth Elizabeth Langenwalter (Ar); Wichita
 †Helen Katherine Latta (IE&D-1; Grad-2);
 Holton
 Wilbur Max Lehman (Ag); Wathena
 Guy Hussey Lemon (IC); Manhattan
 Walter Morris Lewis (Ag); Larned
 Ruth M. Linscott (HE); Holton
 Elmer Ira Long (VM); Manhattan
 William Yew Look (ME); Manhattan
 Hugo Frederick Lucas (EE); Manhattan
 Lois Anne Lumb (HE); Wakefield
 Charles Ragland Lutz (C); Hutchinson
 Max Elton McCluggage (MI); Manhattan
 Harold LeRoy McClure (ChE); Kingman
 Myrna Amelia McClure (GS); Manhattan
 George Lester McColm (Ag); Emporia
 Helen Prudence McCord (GS); Topeka
 Neil Arthur McCormick (ChE); Wichita
 †Lloyd Everett McDaniell (GS); Michigan
 Valley
 Vida Edith McDaniel (IE&D); Edson
 Ivan McDougal (C); Chardon
 Glenn Melvin McFadden (VM); Natoma
 Esther Almira McFillen (MuE); Cedar
 Helen M. McGill (MuE); Moscow
 James Lawrence McEntire (ME); Burlingame
 Donald King McKenzie (Ag); Solomon
 Crystal Elaine McNally (GS); Iola
 T. Henry McNary (ME); Manhattan
 Ione Clothier McNay (IJ); Manhattan
 Joe Kenneth McNay (PE); Manhattan
 Don Lee Mace (VM); Manhattan
 Lehman Dedrick Madsen (EE); Corbin
 Joe David Manges (VM); Courtland
 Edna Leona Mann (IE&D); Quinter
 Grace Sadie Mann (GS); White City
 Geneva Marble (IE&D); Troy
 Kathryn Marquart (HE); Hutchinson
 †Arlene Marshall (IE&D); Herington
 Carrie Elizabeth Marshall (HE);
 Westmoreland
 Edmund Peter Marx (GS); Manhattan
 Virginia Maser (IJ); Parsons
 James Daniel Mayden (GS); Junction City
 Georgie Ellen Meece (IE&D); Hutchinson
 Stanley Taylor Merrill (EE); Abilene
 Ray Curtis Messick (CE); Oakley
 Helen Ruth Meyer (HE); Anthony
 Edgar William Millenbruck (VM);
 Herkimer
 Edwin Louis Millenbruck (VM); Herkimer
 Jack David Miller (Ag); Manhattan
 Marion Francis Miller (EE); Norton
 Norris Edward Miller (ME); Kansas City
 Roy Forest Miller (VM); Manhattan
 Kenneth Byron Milliken (CE); Manhattan
 Catherine Mitchell (C); Manhattan
 Ralph Emen Mitchell (Ar); Manhattan
 John Ewing Moore (ME); Muscotah
 Margaret Naida More (GS); Glen Elder
 Howard Anthony Moreen (Ag); Salina
 J. Wade Morey (GS); Narka
 Novella Berniece Morton (IJ); Hutchinson
 †Frances Emma Moss (IE&D); Lincoln
 John Englen Bertis Mouw (VM);
 Manhattan
 †Charles Ernest Murphey (Ag); Leoti
 Charles Cornelius Murphy (IC); Clyde
 Margaret Ann Murphy (IE&D); Wellington
 Ansel Joseph Myers (CE); Lyons
 †James Byron Nash (IC-1; Grad-2);
 Wichita
 Jennie Joy Nelson (HE&A); Holton
 George William Nesbitt (ArE); Manhattan
 Paul A. Neuschwanger (EE); Bloomington
 Thelma Eleanor Nichols (IJ); Manhattan
 Walter William Niemoller (Ag); Wakefield
 Gladys Esther Niles (GS); Liberal
 †Herbert Truman Niles (Ag); Olivet
 Mollie Berthel Nix (HE); Kansas City
 Leon Fred Nixon (EE); Manhattan
 Marion Burns Noland (Ag); Manhattan
 †Clayton Oman Obenland (IC); Manhattan
 Verle Roosevelt Oline (Ag); Sterling
 Lela Ruth Oliver (HE); Iola
 Elna Joyce Olson (HE); Manhattan
 Glenn O. Olson (EE); Opolis
 Francis Justus O'Reilly (ChE); Girard
 Maxine Josephine Osbourne (IE&D);
 Manhattan
 Wilson Marshal Osteen (VM); Manhattan
 Alvin Henry Otte (AA); Great Bend
 Christine Louise Overley (HE); Belle Plaine
 Richard Reese Owen (GS);
 Washington, D. C.
 Marianne Ozment (IJ); Manhattan
 Clifton Walter Pangburn (GS); Luray
 Willard Alden Parker (GS); Clearwater
 Augustus Stanley Parr (Ag); Rossville
 †Donald Baker Parrish (IC); Fort Scott
 Frank George Parsons (Ag); Manhattan
 John Roland Patton (Ag); Columbus
 Charlotte Penny (IJ); Manhattan
 Eusebio Antonio Perez (VM);
 Panama City, Panama
 Melvin George Peterson (EE); Manhattan
 Howard Walter Phelps (EE); Manhattan
 Kenneth James Phelps (C); Manhattan

† Also pursuing graduate study.

SENIORS—Continued

- Robert Emmett Phillips, Jr. (Ag);
Manhattan
- *Allison Glenn Pickett (Ag); Americus
Leonce Louis Picot III (VM); Manhattan
Benjamin David Pile (EE); Ottawa
Floyd Volney Pinnick (AA); Ulysses
Gwendolyn Roberta Planck (HE&J);
Kansas City
- William Elby Polk (ME); Augusta
Gertrude Irene Porter (HE); Sterling
John Donald Porter (C); Mount Hope
Lawrence Allen Pratt (C); Manhattan
Charles Frank Prehal (VM); Manhattan
Leland John Propp (C); Marion
Emerald Glenn Rader (CE); Severy
Paul Francis Ragland (IJ); Manhattan
James Frederick Ransom (ME); Homewood
Louise Ratliff (IJ); Manhattan
Howard Elliott Rivers (Ar); Hutchinson
Leland Roberts (MuE); Ogden
Rachel Edith Roberts (HE&A); Morrill
Sidney Alfred Robinson (C); Parsons
William Henry Rockey (VM); Manhattan
Clinton Gerald Roehman (PE); White City
Melvin Palmer Rogers (Ag); Glasco
- †George Alfert Rogler (Ag); Matfield Green
Paul John Rohm (C); Topeka
- †Arthur George Rosenkrans (ME);
Dorsey, Neb.
- Leonard Anthony Rosner (VM); Bucyrus
Harold Eugene Ross (C); Wamego
Paul Daniel Ross (VM); Otterville, Mo.
Myra May Roth (HE); Ness City
William Hugh Roth (CE); Ness City
Armand Harvey Rousseau (MI);
Seattle, Wash.
- Merritt Roscoe Royer (CE); Newton
Woodrow Wilson Rufener (AA);
Strong City
- Carl Haury Rupp (Ag); Moundridge
Robert Homer Russell (C); Auburn
John McPherson Rutherford (C);
Manhattan
- Mary Catherine Ryan (HE); Manhattan
Mary Lois Rynders (PE); Wichita
Kenneth Earl Sadler (VM); Seneca
Laura Ward Sample (HE); Manhattan
William Ned Samuel (LA); Manhattan
Alan Max Schaible (ChE); Fairview
Clarence Schmidt (VM); Manhattan
Lawrence Ralph Schmutz (C); Chanute
Carl William Schnell (C); Manhattan
- *Lloyd Laverne Schnoor (MuE); Manhattan
Lois Jay Sconce (Ag); Halstead
Beverly Horace Scott (CE); Atwood
Dean Doctor Scott (Ag); Bonner Springs
- †John Monroe Sears (EE); Kanorado
Martin Gerhardt Seibel (CE); Ellis
Elsie Fern Selby (HE); Manhattan
Ben Alfred Sellers (CE); Lyons
- †Gardner Charles Sellers (GS); Downs
Frederick Raymond Senti (ChE);
Cawker City
- Betty Anne Shackelford (MuE);
Cameron, Mo.
Helen Berniece Shackelford (IE&D);
Cameron, Mo.
- †Roberta LaVone Shannon (GS); Geneseo
Edward Temple Sheldon (GS); Topeka
Marjorie Jean Shellenberger (IJ);
Hutchinson
- Wayne David Shier (AA); Gypsum
- *Ralph Danforth Shipp (AA); Agra
Ward Haynes Shurtz (CE); Manhattan
Richard Ray Simmons (GS); Ashland
- †Gerald Alvin Simpson (Ag); Milton
Eugene Schisler Sims (CE); Le Roy
- †Harry Grant Sitler (Ag); Lake City
- Charles Scott Skinner (CE); Tyro
Loren Courtland Skinner (ChE); Tyro
Rose Martha Skradski (IE&D); Kansas City
Arlene Frances Smith (PE); Topeka
Elizabeth Smith (HE&J); Kansas City
- *John Clarence Smith (VM); Manhattan
- †Norman John Sollenberger (CE-1; Grad-2);
Manhattan
- Lola Helena Somers (IE&D); Canton
Fred Joseph Sorenson (ArE); Kansas City
Howard Farnsworth Spainhour (EE);
Nickerson
- LaVerne Herbert Spears (C); Rossville
Jacob Emil Spring (VM); Pittsburg
Mary Ellen Springer (HE); Manhattan
Anselm Ignatius Sramek (EE); Atwood
Charles Dougherty Stafford (VM);
Manhattan
- Irma Lyle Stanbery (GS); Jewell
Carolyn Mary Stark (GS); Topeka
Henry Herman Stark (MI); Wellington
Gwendolyn Louise Starkey (GS);
Hutchinson
- Clarence Melvin Stay (VM); Manhattan
Grover Orin Steele (AA); Barnes
Elsie Mildred Stevens (GS); Manhattan
Charles William Stewart (AE); Hunter
Lois Deming Stingley (PE); Manhattan
Oren Paul Stoner (PE); Sabetha
Frank Allen Story (VM); Manhattan
Hilmar Clinton Stuart (GS); Nickerson
Charles Raymond Stumbo (Ag-1; GS-2);
Lawrence
- †Eugene Everett Sundgren (Ag); Falun
Dean Edwin Swift (CE); Olathe
Ferne Ethelin Tannahill (HE); Manhattan
Homer Otis Taylor (C); Topeka
Robert Ray Teagarden (Ag); La Cygne
Charlie Bailey Team (Ag); Wichita
Dwight Pell Teed (C&A); Weskan
Lewis Ivan Thomas (AA); Garden City
Ruth Thomas (IJ); Baxter Springs
Doris Jenelle Thompson (HE); Marion
James Otis Thompson (GS); Emporia
Kenneth Boyd Thompson (MuE); Wichita
Willis Alexander Thomson (VM);
Coffeyville
- Albert Adam Thornbrough (AA); Lakin
Lloyd Thomas Thorp (CE); Longford
Wallace William Thurston (GS); Elmdale
Leona Zoe Tibbetts (HE); Westmoreland
John Herman Tietze (C); Kansas City
Arthur Duckworth Tindall (IC); Manhattan
John Sherman Todd (Ag); Olathe
Marian Ayres Todd (IE&D); Leavenworth
Ross Edwin Torkelson (ME); Everest
- *James Monroe Troutt (EE); Fort Riley
Margaret Jean Turner (HE); Hartford
Roland Franklin Turner (GS); Manhattan
William Martin Turner (ME); St. Marys
Grace Kolek Umberger (MuE); Manhattan
John David Umberger (CE); Manhattan
John Boyd Underwood (IJ); Manhattan
Virgil Arvid Unruh (AA); Pawnee Rock
Pauline Vail (HE); Plains
James Paul Vandergriff (GS); Douglass
Margaret Van Orsdol (HE); Silver Lake
Francis Arthur Vaughn (CE); Hartford
John Victor Venard (CE); Manhattan
Carl Norton Vickburg (ChE); Talmage
Helen Louise Vickburg (GS); Talmage
Clarence Campbell Vierling (VM);
Manhattan
- William Fernando Waddell (VM);
Manhattan
- †Elizabeth Daniel Walbert (HE); Columbus
Harold Parker Walker (AA); Bucklin
Camilla Jayne Wallace (GS); Ness City
Robert Elston Wallerstedt (EE); Manhattan

* Matriculated 1934-1935.

† Also pursuing graduate study.

SENIORS—*Concluded*

- Esther Elizabeth Walter (HE); Princeton
 William Theodore Walters (CE); Manhattan
 Melvin Orville Ward (C&A); Egbert, Wyo.
 Verne Orville Warner (GS); Osawatomie
 William Victor Warren (ME); Sterling
 Forest Otto Waters (EE); Fort Scott
 Clement Earl Watson (VM); Manhattan
 George William Watson (PE); Clifton
 James Howard Watson (AH&V); Shawnee
 †Virgil Leland Weaver (EE-1; Grad-2);
 Garden City
 Marvin Arthur Weihe (ArE); Bushton
 Lillis Raphael Wempe (VM); Seneca
 Winston Douglas Wetlaufer (PE);
 Manhattan
 Maxine Wickham (HE); Manhattan
 †Harold Wierenga (GS); Cawker City
 Paul Chapman Wilber (GS); Belleville
 Millard Waldo Wilcox (CE); Wichita
 Velma Ruth Wilkerson (GS); Manhattan
 Mary Elizabeth Wilkes (IE&D);
 Leavenworth
 Eleanor May Wilkinson (IE&D);
 Humboldt, Neb.
 Leroy Albert Wilkinson (ArE); Manhattan
 Eunice Carolyn Williams (IE&D);
 Osage City
 Theodore Shields Williams (VM);
 Kansas City
 William Welton Williamson (VM);
 Manhattan
 Luke Avery Wilper (CE); Harris
 Melvin Leckrone Wilson (Ag); Manhattan
 Ruby Alice Wilson (IE&D); Council Grove
 Ruth Wilson (IE&D); Topeka
 Casper Charles Winter (Ar); Dresden
 Edwin Stravel Wiseman (VM); Delphos
 †William Alexander Wishart (Ag);
 Manhattan
 Wilbur Harold Wiswell (VM); Manhattan
 J. Forest Wolf (MI); Manhattan
 Winifred Wolf (IJ); Ottawa
 Donald Henry Woodman (LG); Manhattan
 Rachel Faye Worrel (IJ); Manhattan
 Dorwin Clair Wright (Ag); Bronson
 Spencer Hastings Wyant (GS); Topeka
 Maurice Ivan Wyckoff (Ag); Luray
 William Raymond Yerkes (LG); Hutchinson
 Claude Clayton Young (EE); Utica
 Glenn Mayer Young (EE); Kansas City
 Herman Wilson Zabel (ChE);
 Westmoreland
 Samuel Frederic Zickefoose (VM);
 Rossville

JUNIORS

- Charles Edward Adams (EE); Garden City
 Charles Laurence Allison (ChE); Newton
 Henry Ben Allphine (CE); Dighton
 *Roy Altermatt, Jr. (ChE); Riverton
 Doyle David Andrews (C); Salina
 Jessie Yahn Andrews (GS); Manhattan
 *George Thomas Anton (ChE); Manhattan
 Georgia Amelia Appel (HE); Bushton
 Ralph Armstrong (CE); Manhattan
 Gertrude Elizabeth Arnold (IJ); Newton
 Francis Raymond Arnoldy (EE); Salina
 *Taiichi Asami (GS); Tokyo, Japan
 Lester Joseph Asher (ME); Cheyenne, Wyo.
 R. Elwyn Athey (C); Junction City
 Arthur Clyde Aushman (AA); Elmont
 Dorothy Alice Bacon (HE); Sylvan Grove
 Charles Edgar Baker (MI); Kansas City
 Margaret Louise Ballard (HE); Topeka
 Donald Max Bammes (Ar); Manhattan
 Kenneth Benson Banks (Ar); Gypsum
 Max Monroe Barber (GS); Council Grove
 Kemp Elmo Barley (CE); Burlington
 Charles Benjamin Bayles (CE); Manhattan
 Bernard Frank Beaver (IC); Ottawa
 Hazel Arlene Bebermeyer (IE&D);
 Enterprise
 Susanne Murry Beeson (HE); Wamego
 George Rowan Bell (ME); New Cambria
 Walter Mark Bellairs (CE); Salina
 *Gladys Olive Bergmann (GS); Axtell
 *Frances Marie Bertsche (GS); Hutchinson
 Frank Holyoke Betton (ArE); Bethel
 Matthew Thornton Betton (MuE); Bethel
 Elmer Clarence Betz (Ag); Enterprise
 Byron Woodson Black (IC); Utica
 Kathryn Daisy Black (PE); Council Grove
 Mary Blackman (IJ); Manhattan
 Robert Vincent Blanche (ChE);
 Leavenworth
 *Jack Blasdel (Ag); Woodward, Okla.
 *Virginia Blevans (HE); Webster Grove, Mo.
 Vivian Marie Bloomfield (HE);
 Arkansas City
 Marje Lorraine Blythe (GS); White City
 Arthur August Bocka (Ag); Colby
 Albert Henry Boggs (CE); Emporia
 Charles Randolph Boggs (Ag); Topeka
 Norman Cellars Booth (C); Topeka
 Glen Herbert Boyles (Ag); Manhattan
 Mary Elizabeth Boys (GS); Linwood
 Stewart Boys (Ar); Wichita
 Sidney Oral Brady (ChE); Manhattan
 Kenneth Oliver Brecheisen (PE);
 Garden City
 Gerald James Brown (AA); Circleville
 *Glenn Orrin Brown II (Ag);
 Kansas City, Mo.
 *Helen Renee Brown (GS-1; HE-2);
 Kansas City, Mo.
 Robert Brown (EE); Manhattan
 *Beulah Mae Browning (GS); Abilene
 Anna Lee Evelyn Brubaker (IE&D);
 Aliceville
 Stanley Franklin Brubaker (EE);
 Manhattan
 *Violet Ethel Brunk (IE&D); McPherson
 Marian Buck (IE&D); Abilene
 *Sherman Stanford Burcher (EE); Kinsley
 *Lloyd Clair Burkes (ME); Nickerson
 John Bruce Burrows (ME); Chetopa
 Ona Lee Burson (PE); Manhattan
 Tom Bateman Bushby (PE); Belleville
 *Frances Caldwell (IE&D-1; GS-2);
 El Dorado
 Ray Warren Call (EE); Hoisington
 Nancy Jane Campbell (HE); Lakin
 Helen Chloe Carl (IJ); Kansas City
 *Edward Clyde Caswell (CE); Oakley
 Anna Grace Caughron (HE); Manhattan
 *Marvin Foster Cave (ME); Altamont
 *Helene LaVerne Cavin (IE&D);
 Medicine Lodge
 Raymond Ernest Chitwood (EE); Meriden
 Ralph Durland Churchill (PE);
 Junction City
 Barbara Claassen (IJ); Newton
 George Jay Clark (EE); Riley
 Lucile Clennin (HE); Tulia, Tex.
 Mary Josephine Coffman (GS-1; IE&D-2);
 Sedgwick
 *Louisa Ellen Coldwell (HE); Independence
 Robert Cole (C); Wetmore
 Leonard Thomas Coles (GS); Erie
 Eunice May Coll (HE); Ottawa
 Ethel Iris Collins (IE&D); Dwight
 *Thomas Rodney Collins (GS); Emporia

* Matriculated 1934-1935.

† Also pursuing graduate study.

JUNIORS—Continued

- Robert William Cook (VM); Manhattan
 Warden Harold Cook (CHE); Eskridge
 Louis Herman Cool, Jr. (Ag); Glasco
 Martin Luther Cooley, Jr. (ME);
 Manhattan
 Mary Elizabeth Cooper (IJ); Manhattan
 Russell Parker Cope (VM); Manhattan
 Helen Pauline Copeland (C); Randolph
 Ruby Margaret Corr (HE); Clearwater
 DuFay Hamilton Coryell (EE);
 Junction City.
 *Murice Russell Coulson (C&A); Wichita
 *Mary Warrington Cox (C);
 Washington, D. C.
 Clarence R. Crawford (AE); Luray
 Donna Belle Crawford (C); Little River
 Wilbur Oliver Creighton (ArE); Denison
 *Jane Alice Currier (IJ); Hutchinson
 Doris Marjorie Dalton (MuE); St. George
 *Gene Danford (EE); Hutchinson
 Ivernia Rosetta Danielson (IJ);
 Manhattan
 Lyle Samuel Daugherty (GS); Dodge City
 Russell Thomas Daulton (Ag); Manhattan
 Caldwell Davis, Jr. (AA); Bronson
 Paul Alvin Davis (GS); Emmett
 Caroline Dawley (IJ); Manhattan
 Glenn Howard Dearing (Ag); Wellington
 John Wesley DeMand (GS); Lincolnville
 Claude Holmes Denchfield (Ag);
 Piedmont
 Myron Samuel Dendurent (ChE);
 Goodland
 Wayne Vorine Dexter (IJ); Waterville
 Evelyn Elizabeth Diehlman (IE&D);
 Findlay, Ohio
 Robert Mitchell Dill (AE); Winchester
 Dean Alfred Dillon (EE); Highland
 James Phillip Dodge (C&A); Manhattan
 Virginia Dole (IE&D); Salina
 Laura June Donat (MuE); Manhattan
 *George Robert Donecker (ME); McCracken
 Hal Hollingsworth Doolittle (GS);
 Manhattan
 *Marcella Helen Downie (GS); Garden City
 Homer Eugene Dreier (Ar); Kansas City
 Henry Frederick Dudte (AA); Newton
 Junia Louise Duffin (GS); Kingman
 David Barry Dukelow (ChE); Hutchinson
 *James Stokely Dukelow (ME); Hutchinson
 Alley Hugh Duncan (EE); Andover
 *Helen Kathleen Dunlap (HE); Winfield
 *Mary Jane During (IE&D); Tulsa, Okla.
 Harold Francis Eddington (CE);
 Dodge City
 Elma Irene Edwards (IJ); Athol
 James Bernard Edwards (PE); Phillipsburg
 George Eicholtz (ArE); Abilene
 Frank Hugh Elayer (ArE); Manhattan
 Sam Dixon Elliott (EE); Plains
 Ellurena Pauline Emery (HE); Kansas City
 Harold Thomas Engleman (EE); Manhattan
 Delbert Eugene Eshbaugh (Ag); Manhattan
 Elbert Lee Eshbaugh (Ag); Manhattan
 Alfred Lincoln Evans (C); Barnard
 *George Bondurant Ewald (ME); Manhattan
 *Pearl Faye Fairchild (HE); Manhattan
 Burden Falen (HE); Stafford
 William Ramsdell Farmer (MuE);
 Kansas City
 *Joseph Abraham Farney (GS&V); Kiowa
 Frances Erma Farrell (HE); Manhattan
 Dorothy Myrtle Fearey (IE&D); Anness
 Clifford Leland Feldt (C); Manhattan
 *Madeline Janice Ferris (HE); Conway
 *Herbert James Finley (C); Liberal
 *Karl Frederick Finney (MI); Salina
 Thomas Jefferson Fletcher (C); Parsons
 Thelma Lorena Fleury (HE); Jamestown
 Dudley King Flint (ME); Girard
 Belle Amanda Forney (HE&A); Goodland
 *Robert Odos Fosmire (ChE); Kansas City
 Gayle Herbert Foster (GS); Emmett
 Annie Elizabeth Fraser (MuE); Manhattan
 *George Lemuel Fugitt (CE); Hoisington
 Herbert Funk (Ag); Marion
 *Mark E. Gale (VM); Concordia
 Townsend Galley (ChE); Manhattan
 *Gordon Lawson Gamble (EE); Coffeyville
 Donald Emerson Garr (EE); Wichita
 Fred Earl Garrison, Jr. (C); Parsons
 Sarah Florence Garrison (IE&D); Parsons
 Dale Martin Garvey (IJ); Waverly
 James Garnet Gaume (GS); Salina
 Gilbert Lee Gaumer (ArE); Gypsum
 Charles William Gentz (Ag); Manhattan
 George Willis Gerber (AA); Oneida
 Fern Marine Geyer (IE&D); Topeka
 Maxine Gibbs (PE); Quinter
 Mildred Elmira Gibbs (HE); Kansas City
 Paul Gilpin (AA); Topeka
 Elnora Marguerite Gilson (GS); Manhattan
 Mary Margaret Glass (HE&J); Manhattan
 Steve Walter Golem (IC); Kansas City
 Martha Elizabeth Gordon (HE); Waterville
 Robert Elmer Gouge (VM); Manhattan
 *Gladys Gould (IJ); Kansas City
 Celestine Graham (Ag); Stockton
 Donald Clair Green (CE); Independence
 Margaret Elizabeth Green (HE); Pratt
 Gertrude Elizabeth Greenwood (HE);
 Bethel
 David Walter Gregory (Ag); Cheney
 Ruth Gresham (GS); Manhattan
 *James Ernest Griffith (GS); Reece
 Sarah Anna Grimes (IE&D); Manhattan
 Tom Conrad Groody (GS); Manhattan
 Danton Grover (CE); Salina
 *Walter Raymond Gustafson (MI); Salina
 Gilbert Allison Guthrie (Ag); Walton
 Howard James Haas (Ag); La Crosse
 Rosamond Pauline Haeberle (MuE);
 Clearwater
 *Harvey O'Neal Haggard, Jr. (EE);
 Overland Park
 Richard Simpson Haggman (IJ); Courtland
 Thomas Benton Haines (ChE); Manhattan
 Francis Mitchell Hall (Ag); Manhattan
 Howard Laird Hall (C&A); Manhattan
 Geraldine Ruth Hammond (MuE);
 St. John
 John Franklin Hanson (PE); Concordia
 Marjorie Caroline Hanson (GS);
 Morganville
 Marvin Arvid Hanson (ME); Manhattan
 Maurice Edward Hanson (ME); Newton
 Laurence George Harmon (Ag); Hutchinson
 Charles Hal Harned (GS); Manhattan
 Clare Harris (GS); Pratt
 Harold Hall Harris (EE); Grinnell
 Kenneth Warden Harris (IC);
 Kansas City, Mo.
 Monita Harris (HE); Parsons
 Jerome Joseph Harshaw (C&A);
 Manhattan
 Helen Maxine Hart (IE&D); Blue Rapids
 Howard Lee Hartman (ChE); Hoisington
 George William Hartter (IC); Sabetha
 Mary Elizabeth Harvey (C); Harveyville
 Elmon Heaton (GS); Norton
 William Douglas Helm (EE); Simpson
 Harvey Hensley (AA); Osborne
 Walter Herrmann (AA); Offerle
 John Clare Higginbotham (MI);
 Herington
 Paul Nelson Hines (Ag); Ashland

JUNIORS—Continued

- Walter Hines (GS); Manhattan
 Thomas Clark Hinkle, Jr. (VM);
 Carbondale
 Dorr Judd Hinman (ME); Sylvia
 Mildred Leone Hoch (HE); Emporia
 Irene Hofmann (HE); Manhattan
 Hilton Delos Hollembeak (Ag); Cimarron
 Ralph Le Roy Hollis (ArE); Salina
 Katherine Virginia Holman (HE&A);
 Manhattan
 Henry Julian Holuba (EE); St. George
 Arliss Evelyn Honstead (HE&J);
 Waterville
 *Juanita Cleo Hoopes (HE); Havana
 George Harold Hoopingarner (AA); Manter
 George Theodore Hopkins (C); Garden City
 Anton Stephen Horn (Ag); Horton
 Le Roy William Horne (IC); Alma
 Edward Anderson Houser (CE); Winfield
 Eugene Everett Howe (IC); Stockdale
 Morna Evalena Howe (HE&A);
 Stockdale
 *Marie Kathryn Hruby (GS); Manhattan
 Charles Wilfred Hughes (IC); Pittsburg
 *Aaron Trent Hunt (ME); Altamont
 *Wilbur Eugene Hunter (Ag); Howard
 Geraldine Jones Hurd (HE); Junction City
 *Fred Edward Huttie, Jr. (EE); Russell
 *Letha Pearl Irvine (HE); Stafford
 Fred Alva Jenkins (GS); Osage City
 *Jean Lois Jenkins (IC); Wichita
 Myrta Virginia Jennings (HE); Lebo
 Charles Fred Johnson (ME); Kansas City
 Donna Theodosia Johnson (PE); Cleburne
 James Meredith Johnson (AE); Sylvia
 Lucile Johntz (PE); Abilene
 Wynona Elizabeth Jones (HE&A);
 Clay Center
 *Frances Miner Julian (GS); Kansas City
 William Gottlieb Kaeser (GS); Manhattan
 Mark Hubbard Kannal (IJ); Kansas City
 Donelda Dee Keeney (IJ); Lucas
 Elizabeth Dee Kelly (PE); Hutchinson
 Elva Ralph Kennedy (VM); Chase
 *Marjory Aline Kiger (IJ); Washington
 Henry Adams Kilian (EE); Chapman
 Michael John Kilroy (ME);
 Kansas City Mo.
 Cornie Louise King (HE); Manhattan
 *Laurence Keeney King (EE); Fort Scott
 Homer Dale Kirgis (GS); Cawker City
 Howard Gale Kirgis (GS); Cawker City
 Robert Winston Kirk (AA); Scott City
 Roy Charles Kirkpatrick (EE); Manhattan
 Irwin Klassen (AA); Whitewater
 Elmer Henry Kloepper (AE); Lancaster
 *Marguerite Beatrice Knudson (HE); Everest
 Elizabeth Rachel Knechtel (GS); Larned
 Martha Elizabeth Koestel (IE&D);
 Partridge
 Mildred Kratochvil (HE&A); Manhattan
 Duane Eldon Kratzer (C&A); Salina
 Virgil Thornton Lake (AA); Lake City
 Edwin Rector Lamb (AA); Manhattan
 James Ellis Lander (PE); Coffeyville
 Keith Obed Lassen (VM); Manhattan
 *Clyde Raymond Lay (IC); Sycamore
 *Mary Ruth LeBow (MuE); Manhattan
 Dwight Lee (CE); Salina
 Pete Henry Leendertse (Ag); Wichita
 Dean Lerew (AA); Portis
 Sydney Paul Levene (VM); Manhattan
 *Margaret Ruth Lewis (HE); Arkansas City
 *Ralph El Don Lewis (C&A); El Dorado
 William John Lewis (ChE); Manhattan
 Bernice Marie Light (HE); Yates Center
 Eugene Michael Lill (CE); Mount Hope
 Melvin August Lindahl (EE); Enterprise
 Henry James Lindenstruth (VM);
 Manhattan
 Raymond Edwin Lippenberger (Ar);
 Manhattan
 Luella Mary Lisk (HE); Manhattan
 Philip Warner Ljungdahl (Ag); Menlo
 *Charles Earl Loetel (ChE); Kansas City
 *Charlotte Margaret Logan (HE&A-1;
 GS-2); Hutchinson
 Marjorie Agnes Lomas (GS); Princeton
 Leonard Mark Lovejoy (CE); Manhattan
 Gilbert Gordon Lundgren (AA); Clyde
 Ralph McAtee (PE); Council Grove
 *James DeLos McCampbell (C); Manhattan
 John Edwin McColm (Ag); Emporia
 Edward Nash McGrew (VM); Manhattan
 Albert Edward McKay (LG); Junction City
 Carl Emmit McKee, Jr. (AE); Offerle
 *Mary Ann McKee (IE&D); Salina
 Hester Mary McKenna (IE&D-1; IJ-2);
 Kingman
 Hazel Alida McKibben (HE); Grantville
 Maxine Belle McKinley (GS); Manhattan
 Margaret Elenora McKown (IJ);
 Manhattan
 Kenneth W. McLeod (ArE); Hutchinson
 Don Alvin McNeal (IJ); Boyle
 Nelle Ruth MacQueen (GS); Manhattan
 Nevabelle Mall (PE); Manhattan
 Wesley Hildreth Maranville (CE);
 Langdon
 Richard Frederick Marin (EE); Topeka
 *Nada Jo Marshall (GS); Grenola
 Ralph Marshall (GS); Manhattan
 *Ruth Etta Marshall (GS); Leon
 *Rachel Martens (HE&A); Hutchinson
 Delite Martin (IJ); Lewis
 Helen Elizabeth Martin (HE); Wichita
 Joe Patro Martinez (IJ); Manhattan
 Eric Eugene Matchette, Jr. (ME);
 Manhattan
 Thelma Oreana Mathes (HE); Leoti
 *Homer Emsley Mayo (ChE); Kansas City
 Iola Silva Meier (PE-1; HE-2); Abilene
 Palmer Martin Mellgren (CE); Cleburne
 Russell Lloyd Mellies (IC); Wellington
 *Lyle Clifton Mertz (MI); Manhattan
 Mark Francis Millard (EE); Basil
 Betty Marguerite Miller (IJ); Hays
 Jo Elizabeth Miller (HE); Manhattan
 Kenneth William Miller (AA); Maplehill
 Leonard Fred Miller (AA); Agra
 Arnold Arthur Mills (PE); Russell
 Alvin Jess Mistler (GS); Leavenworth
 *William Davisson Mitchell (ME); Ness City
 Eugene Howell Mock (ChE); Topeka
 Milton Mohn (ChE-1; IC-2); Ellinwood
 George Eugene Monroe (IJ); Lyons
 Louis Gary Montre (ME); Topeka
 Charles Calvin Moore (C); Manhattan
 Charles Edgar Moorman (GS); Manhattan
 Emory Lavern Morgan (Ag); Ottawa
 Frances Metta Morgan (PE); Manhattan
 *Levi George Morgan (ChE); Richfield
 *Vivian Morgan (HE); Fort Scott
 Myrtle Mae Morris (IE&D); Paxico
 Stanley Chattam Morris (IJ); Paxico
 Elmer Lewis Munger (CE); Manhattan
 Mary Janet Murdock (IJ); Wichita
 Robert Dean Murphey (ChE); Manhattan
 Edward Aloysius Murphy (VM);
 Kansas City
 Royse Peak Murphy (Ag); Norton
 Vera Lois Murphy (HE); Detroit

* Matriculated 1934-1935.

JUNIORS—Continued

- *William Kemper Murray (C); Beloit
 Eltie Mae Musgrove (HE); Fort Riley
 Charles Walter Myers (Ag); Goff
 James Lowell Myler (Ag); Andover
 Obed Edmund Myrah (VM); Manhattan
 Roland Seldon Nash (ChE); Eskridge
 Blanche Lillyane Nattier (HE&A);
 Fredonia
 Paul Harold Nelson (AA); McPherson
 Harold New (AE); Lenexa
 *Robert Peasley Nicolson (GS); Irving
 Bertha Elizabeth Nixon (HE); Manhattan
 Harvey Max Nixon (Ag); Manhattan
 John Bruce Nixon (C); Paradise
 Paul Talogi Nomura (VM); Manhattan
 Aldene Nussbaumer (HE); Lebanon
 Fred William Nussbaumer (CE); Lebanon
 Myra Ogg (HE&A); Ottawa
 Agnes Elizabeth Olds (HE); Delphos
 *Earl Willard Olson (EE); Collyer
 Wilbert Edwin Osterholtz (VM);
 Manhattan
 Eleanor Otto (GS); Manhattan
 Robert Franklin Owen (GS); Fort Riley
 Patricia Helen Paff (GS); Sedgwick
 Peggy Parker (IJ); Hill City
 Earl Walter Parsons (Ag); Manhattan
 Dan Partner (IJ); El Dorado
 Ellen Isabel Payne (GS); Manhattan
 Walter Eugene Peery (EE); Manhattan
 *Barbara Ann Peters (GS); Coffeyville
 Earl Melvin Peters (C&A); Manhattan
 *Ruth Evelyn Petty (HE); Altamont
 Ronald D. Pickett (EE); Manhattan
 Elizabeth Alice Pittman (IE&D);
 Lewistown, Mont.
 Pauline Florence Pope (HE&A); Ottawa
 Isabelle Lee Porter (HE); Stafford
 *Mary Porter (IE&D); Russell Springs
 Mary Margaret Porter (C); Mount Hope
 *Mary Elizabeth Powell (IJ); Topeka
 Roland Sanford Powers (CE); Manhattan
 William Hardy Prentice (EE); Clay Center
 Mary Eleanor Price (C); Manhattan
 Lee Thomas Railsback (GS&V); Langdon
 Ival James Ramsbottom (LG); Munden
 Ralph Thornton Rankin (IC); Manhattan
 Glenn Joseph Rawlin (AE); Gypsum
 Harold Hugh Rea (IJ); Salina
 Edwin Reed (ME); Kanopolis
 Elizabeth Reed (C); Holton
 David Alexander Reid (Ag); Manhattan
 *Robert Lockhart Reid (ArE);
 Kansas City, Mo.
 *Roland Christopher Reid (EE); Topeka
 Howard Eugene Rhoads (CE);
 Arkansas City
 Ora Lea Riepe (HE); Dighton
 Lloyd Carr Riggs (IJ); Manhattan
 Arden Ballard Rinehart (AA); Greensburg
 Arthur Lynn Robinson (Ag); Manhattan
 *Harry Robert Robinson (ChE); Hoxie
 Arnold Samuel Rosenwald (VM);
 Manhattan
 Hy Henry Rothganger (EE); Kinsley
 Harold Albert Rothgeb (AE); New Albany
 James Warren Rowland (C&A);
 Clay Center
 *Florence Ethel Rubart (GS); Milford
 Edward Willis Rupp (IJ); Moundridge
 Louise Rust (HE); Manhattan
 Edwin Charley Sample (Ag);
 Council Grove
 Frank Santo (Ag); Manhattan
 *Jay Jewell Sarasohn (GS&V); Manhattan
 Bill Campbell Scales (C); Manhattan
 *Charles John Schierlmann (EE); Liberty
 Lyle Leon Schlaefli (CE); Cawker City
 Opal Schlickau (PE); Haven
 *Caroline Louise Schoettker (IE&D);
 Springfield, Ill.
 John Leonard Scott (Ag); White City
 Wayne Sears Scott (IJ); Topeka
 Betsy Ruth Sesler (GS); Wamego
 John B. Shaffer (Ag); Meriden
 Royal Franklin Shaner (ME); Topeka
 Allan Rudd Shank (EE-1; C-2); Woodbine
 *Bonita Maurine Sharp (IE&D); Newton
 LaGrande Clarence Shaw (VM);
 Manhattan
 Willard J. Sherar (PE); Latham
 Nina Mae Sherman (IE&D); Grinnell
 Frank Shideler (IJ); Girard
 *Daniel Aloysius Shiel (CE); Pittsburg
 Martha Frances Shields (IJ); Hoxie
 Karl Gardner Shoemaker (AA); Pomona
 Harriet Elizabeth Shrack (C); Pratt
 Lebert Russell Shultz (Ag); Fall River
 Virgil Edwin Siddens (Ar); Manhattan
 *Virginia Ann Sidlinger (IJ); Hutchinson
 *Floyd Lavern Siegrist (Ag); Hutchinson
 Walter Henry Simpson (GS); Manhattan
 Corinne Sinclair (C); Jetmore
 Harold Milton Skaggs (C); Dodge City
 Laura Jo Skillin (PE); Frankfort
 Tom Franklin Skinner (ME); Fort Scott
 Elizabeth Annetta Sloop (HE);
 Nortonville
 *Cecil Oro Smith (EE); Coffeyville
 *Lloyd Smith, Jr. (C); Kansas City
 Sylvia Faye Smith (IE&D); Maplehill
 Wilmer Ray Smittle (Ag); Columbus
 Fred Wilbur Songer (ArE); Olathe
 *Kenneth Marion Sparrow (EE); Newton
 Cecil Otto Spencer (MI); Manhattan
 Robert Drake Spencer (GS); Leavenworth
 *Vernon Splitter (Ag); Lorraine
 Earl Louis Stadel (AE); Manhattan
 *Theodore Christian Stebbins (Ag);
 White City
 Vincent Albert Steimel (IC); Iola
 Vern Emmett Stepp (ME); Neodesha
 William Frederick Stewart (GS);
 Kansas City, Mo.
 Geoffery Donald Stoltz (CE); El Dorado
 Marguerite Corinne Stoops (GS); Bellaire
 James Dean Stout (LA); Independence
 J. Maurice Street (CE); Yates Center
 *Margaret Marie Suderman (HE); Newton
 Jean Peyton Sullivan (IJ); Manhattan
 Earl Sutton (CE); Abilene
 *Samuel Andrew Swoyer (EE); Wilmot
 Frances Maxine Tannahill (HE);
 Manhattan
 Dorothy Rebecca Taylor (HE); Downs
 Dorothy Teichgraeber (C); Marquette
 Arthur Louis Tellejohn (VM); Kansas City
 William Woodrow Templer (GS); Moline
 Charles Teare Thompson (ME); Cheney
 *Elvin Arthur Thompson (EE); Goff
 Ned O'dell Thompson (AA); Manhattan
 Wayne Thornbrough (C); Lakin
 Charles Clarence Tillotson (ChE);
 Sublette
 Florence Lorraine Todd (IE&D); Gridley
 *George Eugene Toothaker (CE);
 Kansas City
 Trena Evelyn Turner (HE&A); Manhattan
 Gladys Florence Turner (PE); Menlo
 Marvin John Twiehaus (VM); Manhattan
 John Van Aken (IC); Lyons
 Mervin Earl Vantuyt (EE); Peabody
 Howard Wright Vick (ME); LeLoup
 Charles Henry Vinckier, Jr. (CE);
 Kansas City
 Emil John Von Lehe (EE); Clifton

JUNIORS—*Concluded*

Waldo Theodore Wadley (ArE);
Garden City
*Dorothy Alice Walker (GS);
Evanston, Ill.
Edwin Leslie Walker (AE); Junction City
Edward Le Roy Waller (ArE); Wellington
Charles Philip Walters (GS); Manhattan
Vona Beatrice Wandling (IE&D);
Sharon Springs
Maxwell Perrine Wann (Ag); Hays
Joseph Duane Ward (ArE); Peabody
William Barnes Warner (AE); Wellington
Walter Herman Warstler (ME); Columbus
Dorothy Washington (IE&D); Manhattan
*Aubrey Otis Weatherholt (ME); Augusta
Charles Poe Weeks (CE); Wichita
Junior Weir (EE); Stafford
Eleanor Marie Weller (MuE); Abilene
Leon Elbert Wenger (Ag); Powhattan
Magdalene Wenger (HE); Powhattan
Rudolph Frederick Wenger (Ag);
Powhattan
John Leslie West (VM); Manhattan
*Marshall Roland West (AA); Blue Mound
*Milo Elton West (CE); El Dorado
Willard Malcolm West (IJ); Offerle
*Gladys May Westerman (PE); Hutchinson
Mabel Marie Wetzig (IE&D); Junction City
Ida May Weygandt (IE&D); Keats

Thomas Charles Wherry (EE); Sabetha
Marguerite Louise Whitten (HE);
Wakarusa
William Orra Wikoff (AA); Modoc
Albert Ross Wilcox (ChE); Dodge City
Howard I. Wildman (AA); Manhattan
Arthur Owen Williams (C); Belleville
James Wesley Williams (AA); Dodge City
Marie Alphonsine Wilson (HE); Manhattan
Elmer Benjamin Wimmer (AA); Topeka
Harley Alvin Witt (IJ); Partridge
Walter John Wohlforth (CE); Easton
Wilma Ray Womer (PE); Topeka
John D. Woodman (IJ); Manhattan
Esther Marie Wright (Ar); Manhattan
James Wallace York (EE); Vinland
Adeline Faye Young (IJ); Bloom
*Dudley Etheridge Young (Ag); Manhattan
Wayne Winkelman Young (C); Alexander
Colleen Lucille Zacharias (HE); Oak Mills
*Raymond Clark Zajic (ChE-1; IC-2);
Holyrood
Lester Allen Zerbe (Ag); Salina
Leonard Albert Zerull (EE-1; MI-2);
Ellis
Joseph Zitnik (Ag); Scammon
Emanuel Zoglin (Ag); Manhattan
Frank Issaac Zoglin (ArE); Manhattan

SOPHOMORES

*G. Ellsworth Abbey (CE); El Dorado
Alonzo Robert Adams (C); Leavenworth
Scott George Adams (ME); Moran
Edward Howard Aicher (Ag); Mankato
Frances Aicher (HE&J); Hays
Francis Allison (VM); Olathe
*Ingrid Fay Almon (GS); Hamilton, Mo.
*Chester Willard Anderson (CE); McPherson
Earl Preston Anderson (Ag); Manhattan
Edna Anna Anderson (HE&A); Courtland
Sara Jane Antrim (PE); Topeka
*Virginia Ruth Appleton (IJ); Alma
Alma Evelyn Armantrout (HE&A);
Scott City
Ralph Wayne Arnold (AA); Manhattan
*Edward Tennis Arnsberger (GS); Larned
Edward Leroy Askren, Jr. (GS);
Manhattan
William Henry Auchard (CE); Manhattan
Georgiana Martha Avery (HE); Coldwater
Leo Carlton Ayers (PE); Manhattan
Lee Weldon Baker (C&A); Overbrook
Irene Eleanor Baldwin (HE&N); Ada
Mary Lou Barker (IJ); Manhattan
John Henry Bateman (CE); Emporia
Doris Olive Bathurst (MuE); Abilene
Guy William Bayles (VM); Manhattan
*Analee Warren Beach (HE&A); Manhattan
*Roy Edward Beach (ChE); Abilene
Mildred Beatty (GS); Bartlesville, Okla.
Glorene Olive Beek (HE); Ottawa
Donald Wilson Beeler (PE); Mankato
Charles William Beer (Ag); Larned
Wendell Beichley (EE); Chase
Russell Lee Belflower (EE); Dodge City
Clarence LaFollette Bell (Ag); McDonald
Loren Claude Bell (GS); McDonald
William Woodrow Bell (EE); Marysville
*Eunice Allene Belt (HE-1; GS-2);
Burr Oak
Glenn Edwin Benedick (ArE); Manhattan
Charles Wilmot Benkelman (CE);
McDonald
Lyle Eugene Bennett (CE); Burr Oak

William Edmund Bentley (AA); Manhattan
Mary Emily Berryman (C); Fredonia
Max A. Besler (IJ); Manhattan
Carl Henry Beyer (AA); Manhattan
Lucile Elizabeth Bilderback (HE);
Nortonville
*Margery Allison Blake (IJ); Manhattan
Paul Lang Blakslee (ME); Manhattan
Alvin Herbert Block (C&A); Bavaria
Helen Mary Blythe (HE&A); White City
Chalmers Morton Boles (CE); Turon
Edwin Johnston Boon (ME); Topeka
Kenneth Carson Bottenberg (IC); Wetmore
James Daniel Bowles (EE-1; GS-2);
Oberlin
Burr Walter Boyd (IC); Manhattan
*Jane Boyd (HE); Concordia
Walter Enos Boyer (AgE); Kinsley
*Wave Lucille Boyer (HE); Kinsley
Elon Bramble Boyers (Ag); Manhattan
*Doris Boyle (HE&J); Spivey
*Gean Augusta Brandenburg (C-1; HE-2);
Manhattan
*Wayne D. Branick (CE); Fredonia
Charles Frances Bredahl (Ag); Fairview
Charles N. Brown (GS); Hutchinson
Floyd Payne Brown (ME); Wichita
Marlin Mack Brown (GS); Council Grove
Ord Kent Brown (AE); Edmond
*Ellen Bernice Brownlee (HE); Sylvia
Gerald Wayne Brubaker (IJ); Manhattan
Millicent Lucille Brumm (IJ); Manhattan
*Margaret Louise Bryan (PE); Newton
Virginia Marie Bryan (PE); Topeka
Margaret Ann Bryske (IJ); Mankato
*Allen Warwick Burns (PE); Kansas City
Oran Frank Burns (LG); Topeka
Robert John Burns (ChE); Wichita
Grace Louise Burson (GS); Oakley
Mary Eliza Burt (HE); Manhattan
James Clayton Buster (Ag); Larned
Ben Butler (VM); Manhattan
Vester Marion Butts (GS); Norton
*Adaline Elinor Byrd (GS); El Dorado

* Matriculated 1934-1935.

SOPHOMORES—Continued

- Lyman Charles Calahan (LG); Abilene
 Robert Hoover Calahan (AA); Abilene
 Walter Monroe Carleton (AE); Coldwater
 *Thelma Agnes Carline (IE&D);
 Houston, Tex.
 Rachael Elizabeth Carter (HE); Meriden
 Ceora Katherine Caven (IE&D); Le Roy
 Donald Evans Charles (Ag); Republic
 Charles Defense Chase (VM); Manhattan
 Howard Vance Cheney (Ag); Grainfield
 *Wilber Dell Clark, Jr. (CHE); Iola
 *Walter Harvey Closson (AR); Manhattan
 *Dorothy Kathleen Coldwell (HE);
 Independence
 Fredrich Monroe Coleman (Ag); Sylvia
 Horace Reynolds Collins, Jr. (VM);
 Manhattan
 Tate Benton Collins, Jr. (EE); Fort Riley
 Clarence Edwin Cook (Ag); Effingham
 Geraldine Cook (HE); Russell
 Omer Lincoln Cook (GS); Larned
 Frank Harvey Cooley (AA); Goff
 Robert Marshall Coon (EE); Anthony
 Ronald Paul Cooper (C); Wichita
 Marjorie Marie Cordts (HE); Overbrook
 Jack Wallace Cornell (ME); Council Grove
 Kathryn Laura Correll (GS); Manhattan
 Ralph Willett Correll (CE); Carbondale
 Jimmie Richard Cowan (GS); Wichita
 Elizabeth Cowie (HE&J);
 Kansas City, Mo.
 Earl Cox (Ar); Downs
 Kenneth A. Crawford (C); Manhattan
 Robert Edwin Cress (C); Manhattan
 *Gus Adolph Crone (EE); Wichita
 Maurice Crouch (VM); Kansas City
 Charles Main Crow (C); Manhattan
 Roger McKee Crow (CE); Topeka
 Allen Payne Crowley (IC); Manhattan
 Dale Alfred Dahlgren (C&A); Enterprise
 *Frank Douglas Dale (GS-1; AE-2);
 Coldwater
 Lloyd Clifford Danielson (ME); Russell
 Mary Elizabeth Danner (HE);
 Springfield, Ill.
 Margaret Sarah Daum (C); Nortonville
 Howard Warner Davenport (ME);
 Manhattan
 Loren Albert Davidson (AA); Yates Center
 Nelson Earl Davidson (EE); Yates Center
 Herb Smith Davies (Ag); Topeka
 Ivor Harold Davies (Ag); Lebo
 *Phena Davis (GS); Madison
 *Robert Emanuel Daw (CE);
 Russell Springs
 Paul McConnell Dean (Ar); Manhattan
 Charles William Decker (GS); Enterprise
 Lorin Arthur Dehner (VM); Concordia
 Charlotte Denton (IJ); Manhattan
 Johnie Patton Denton (Ag); Anthony
 Charles Martin Dick (Ag); Topeka
 Darrell Dean Dicken (Ag); Winfield
 *William Hyde Dieterich (AH&V);
 Ellinwood
 *Mary Clare Dixon (C); Junction City
 *John Ralph Dobbins (CE); Viola
 *Glen Cyril Doile (EE); Emporia
 Margaret Ellis Dryden (C); Harper
 *John Russell Dukelow (Ag); Hutchinson
 Velma Jane Dull (PE); Clifton
 Roy Allison Dunham (IJ); Jewell
 *Janet Dunn (HE); Oxford
 Edward Albert Dyck (GS); Halstead
 Lloyd Samuel Eberhart (C); Topeka
 *Edwin Dale Ebright (CE); Lyons
 *Charles Joel Edelen (ME);
 Kansas City, Mo.
- Florence Elizabeth Edwards (GS);
 Manhattan
 Helen Virginia Ehrlich (Ar); Marion
 Paul Arnold Ehrsam (ME); Enterprise
 Mary Ruth Einhellig (HE);
 Bonner Springs
 Maurice LaVerne Elder (PE); Manhattan
 Carl Mudge Elling (Ag); Manhattan
 *Rosalie Ellis (HE); Hiawatha
 Theodore Franklin Emerson (C);
 Wellington
 Charles Engel (C); Woodbine
 *Kenneth Harold Engleman (CE);
 Arkansas City
 John Loy Engler (CE); Chapman
 Esther Marie Erickson (PE); Fort Riley
 Albert Ross Ewing (EE); Great Bend
 Fred Leroy Fair (Ag); Raymond
 Paul Kenneth Fanning (AA); Melvern
 Forrest Raymond Fansher (Ag);
 Hutchinson
 *Robert L. Featheringill (Ag); Independence
 Walter Wallace Fechner (VM); Alta Vista
 Reinhold Paul Fensch (Ar); Lincoln
 *Robert Clayton Ferris (VM-1; Ag-2);
 Conway
 Charles Ozias Files (EE); Overland Park
 Burton Carl Filkin (AE); Wilsey
 Robert Morgan Fink (ChE); Manhattan
 Jacob Dale Fisher (IC); Bennington
 Leslie Elizabeth Fitz (HE); Wilmette, Ill.
 Elizabeth Jean Fleming (HE&A); Piper
 *Jack Kinloch Fleming (C); Manhattan
 Don Eugene Flenthrope (AA); Wamego
 Robert Wade Flick (C); Manhattan
 *Ralph Leon Flournoy (CE); Kansas City
 James Leonard Foster (IC); Emmett
 Marie Marcella Fox (GS); Junction City
 *Thelma Gene Fox (HE); Anthony
 James Raymond Freeland (C); Manhattan
 Roy Henry Freeland (Ag); Effingham
 *Caroline Ruth French (GS); Lyndon
 Charles Frederick Frey (C); Alma
 Roy Fred Fritz (IJ); Kansas City
 Dwight Dalbey Fulkerson (ME);
 Manhattan
 Alma Lucille Furman (GS); Clearwater
 Maynard Melvon Furney (ME); Manhattan
 *Fritz Lucado Furtick (LG); Salina
 Max Wayne Gallagher (C); Manhattan
 Dale Franklin Gamber (C); Culver
 Verna Belle Garey (C); St. George
 Richard Fredrick Garinger (EE);
 Harveyville
 John Franz Gaumer (EE); Wamego
 *Robert Edgar Geauque (ME); Manhattan
 Robert Allan Geiger (ME); Oberlin
 *Everett Nelson George (GS); Welda
 Merrill Douglass Geraghty (IC); Selden
 *Howard Walter Gerstenberger (AA);
 Blue Mound
 William David Gilligan (PE); Manhattan
 Stanley Edward Goodwin (AR); Hiawatha
 William Victor Gough (ME); Leavenworth
 Pauline Avis Gravenstein (GS); Riley
 *James Graves (ME); Independence
 Violet Agnes Greenwood (GS); Bethel
 *James Gregg (ME); Salina
 Mary Helen Gregory (C); Hugoton
 Robert Lewis Griffith (ChE-1; IC-2);
 Bogue
 Frank Richard Groves (C); Atchison
 Loren Dwight Grubb (ChE); Phillipsburg
 Maurice Lee Gunn (C); Great Bend
 Grace Mary Gustfson (HE&A); Volland
 William Phil Hackney (Ag); Arkansas City
 Henry D'Alma Haley (GS); Sabetha
 Helen Virginia Hall (HE); Sterling

* Matriculated 1934-1935.

SOPHOMORES—Continued

- Lawrence Isador Haller (EE); Alma
 Jeanne Halstead (HE); Manhattan
 *Charles Paul Hamlin (ME); Kansas City
 Dorothy Lucile Hammond (GS);
 Great Bend
 *Kenneth Clyde Hancock (ChE); Salina
 *Pearl Hugh Hand (VM); Winfield
 Clarke Daniel Hanson (GS); Jamestown
 *Henry Everett Harriman (VM); Manhattan
 Robert LeRoy Harris (IC); Topeka
 *Earl H. Harrison (VM); Lawrence
 *John Russel Harrison (EE); Sterling
 George Thomas Hart (IJ); Phillipsburg
 Leland Taylor Harvey (C); Council Grove
 Robert Henry Harvey (AA); Manhattan
 Leroy Anson Haselwood (GS); Glasco
 Gerald Oscar Hassler (ME-1; C-2);
 Enterprise
 Ray Vincent Hauck (AA-1; GS-2);
 Miltonvale
 *Owen Andrew Hawver (EE); Stafford
 George D. Haynes (C); Abilene
 Barney Allen Hays (PE);
 Kansas City, Mo.
 *Robert Benjamin Hays (C&A); Kansas City
 Helen Margaret Hayward (HE);
 Valley Falls
 Esther Bailey Hedges (IJ);
 Kansas City, Mo.
 Harold Arthur Heimerich (EE);
 Clay Center
 John Gunion Helm (ChE); Simpson
 John Graham Hemphill (VM); Chanute
 William Andrew Hemphill (IC-1; Ag-2);
 Chanute
 George Clifford Henderson (ChE);
 Herington
 Dwight Kirk Henry (AA); Lecompton
 Elbert Chauncey Henry (AA); Belleville
 Lester Lee Hermon (ME); Bazine
 Mary Virginia Herst (HE); Argonia
 *Herbert Benjamin Hester (CE); Leoti
 Kenneth Verle Hill (Ag); Bloom
 *Beulah Pearl Hockaday (HE&A);
 Hutchinson
 *Orville Omer Hodson (Ag); Argonia
 *Elinor Harriet Hogan (HE&A-1; IJ-2);
 Kansas City, Mo.
 Rolla Buskirk Holland (Ag); Iola
 Marion Elias Holverson (GS); Maplehill
 *Guy Burger Homman (GS); Solomon
 Laurence Calvin Horton (Ar); Wichita
 Ruth Ellen Howe (IJ); Emporia
 Clarence Preston Hubbs (ME); Dodge City
 Dorothy Louise Hughes (HE&A);
 Manhattan
 Vincent Rockford Hurst (ChE); Ozawkie
 Elberta Maxine Huse (C); Manhattan
 *Edwin Charles Hyatt (ChE); Wichita
 *Esther Elizabeth Hyatt (IE&D); Wichita
 Irvin Irwin (VM); Wilsey
 *John Paulette Irwin (CE); Topeka
 *Marion Irwin (AA); Manhattan
 Patricia Irwin (MuE); Manhattan
 Mary Etta Issacson (IJ); Topeka
 Robert Bright Jaccard (Ag); Manhattan
 *Olive Elizabeth Jackson (IE&D); Ottawa
 Ralph Wendover Jackson (ME); Claudell
 Mae Secelia Jacobsen (HE); Hiawatha
 Ula Jaedicke (C); Hanover
 *Claude Richard Jarrett (Ar); Manhattan
 Ellen Louise Jenkins (GS); Manhattan
 Roscoe Everett Jenkins (AH&V-1; AE-2);
 Oberlin
 Florence Esther Jensen (GS); Manhattan
 Robert Sidney Jensen (C); Leavenworth
 James Robert Jesson (GS); Manhattan
 Ernest DeWayne Jessup (IJ); Wichita
 *Charles Albert Johnson (EE); Emporia
 Chester Herman Johnson (AE); Garrison
 Edna Elenora Johnson (GS); Manhattan
 Kenneth Emil Johnson (C); Newton
 Lorraine Howard Johnson (C); Talmo
 *Mildred Evelyn Johnson (HE&A);
 Hartford
 John Ivar Johnston (GS); Syracuse
 Ella Gertrude Johnstone (MuE); Wamego
 Betty Katherine Jones (IJ); Wichita
 Edward Tracey Jones (GS&V); Manhattan
 Helen McCune Jones (IE&D); Herington
 Margaret Elizabeth Jones (C&A);
 White City
 Frank Wilson Jordan (Ag); Beloit
 Mac Kappelman (ME); Athol
 Helen Anna Karns (GS); Bucklin
 Robert Carr Kassner (EE); Detroit
 *Bruce Howard Kauffman (EE-1; C-2);
 McPherson
 Anita Mae Kensler (HE&N); Manhattan
 Raymond Carroll Kent (EE); Manhattan
 Harry Chatley Kephart (Ar); Manhattan
 Samuel Wallace Kerr (AA); Americus
 Frank Boone Kessler (Ag); Newton
 William Thomas Kilian (CE); Detroit
 Katharine Frances Kilmer (IJ); Kirwin
 Peter Arthur Kimen (ChE); Manhattan
 Marjorie Kittell (PE); Topeka
 *John Milton Kliever (ME); Arlington
 Dwight David Klinger (AA); Ashland
 *Orrin Alvin Knedler (ArE); Arkansas City
 Doris Alene Kubin (PE); McPherson
 Seth William Kuykendall (EE); Pratt
 Gerald August Lake (ChE); Manhattan
 Aaron Joseph Lane (CE); Manhattan
 Delmer Thiele Lang (ME);
 Fall City, Neb.
 *George Kendrick Lang (VM); Amy
 William James Langworthy, Jr. (CE);
 Leavenworth
 Beatrice Lasswell (HE&N); Emmett
 Robert Tudor Latta (Ag); Holton
 Horton Meyer Laude (Ag); Manhattan
 Geraldine Lennen (MuE); Lyons
 Kenneth Raymond Leonard (IJ);
 Manhattan
 Milton Lewis (C); Bavaria
 Harold Woodrow Lindahl (MI); Enterprise
 *Edward Leland Lindsay (IJ); Coffeyville
 Henry William Lins (EE); Beloit
 Sarah Josephine Lister (GS-1; HE-2);
 Wamego
 William Wallace Litfin (EE); Great Bend
 Donald Kenneth Long (Ag); Neodesha
 *Louis Morrison Long (Ar); Parsons
 Sam Long (ChE); Abilene
 Orville Franklin Longerbeam (ArE);
 Herington
 Harold G. Lortscher (C); Sabetha
 Ray Ford Lowry (GS); Hoisington
 Charles M. Loyd (Ag); Valley Center
 James William Lutz (IJ); Sharon Springs
 *Etha Margaret Lynn (HE); Centralia
 Lyman Max Lyon (CE); Sabetha
 Edith Louise McCaslin (HE); Osborne
 Rex Cole McCluggage (IJ); Manhattan
 Jack Robinson McClung (C); Topeka
 Theodore Oliver McClurg (IC);
 Leavenworth
 Marjorie Mable McColloch (GS);
 Manhattan
 Mary Jane McComb (LG); Wichita
 Max McCord (CE); Manhattan
 Edmund Burke McCormick (VM);
 Manhattan
 Hal McCoy (ChE); Manhattan
 William George McDanel (IJ); Ashland

* Matriculated 1934-1935.

SOPHOMORES—Continued

- Paula McDaniel (HE); Topeka
 *Norris McGaw (MuE); Topeka
 John Leonard McKenzie (C); Solomon
 *James Alfred McMurty (AA);
 Clarendon, Tex.
 *Russell Alton McNutt (CE); Topeka
 *John Allis Machir (EE); Kansas City Mo.
 George Maddox (GS); Topeka
 Wilbur Lawrence Maddy (EE); Utica
 Russell Martin Madison (VM); Manhattan
 Arthur Emil Malacky (CE); Peabody
 *Hobart Graham Mariner (CE); Fredonia
 *Laura Catherine Marsh (HE); Chanute
 Wilson Samuel Marsh (Ag); Chanute
 Elva Coreen Marty (HE); Courtland
 *Wilma Lee Matherly (IJ);
 Kansas City, Mo.
 Donald Lawrence Maxwell (Ag); Menlo
 William Albert Maxwell (C); Manhattan
 *Charles Augustine Mendenhall (GS);
 Ashland
 *Lewis Rosen Merrick (C); Wichita
 Edward Marten Mertel (C&A); Salina
 Philena Deane Martin (IE&D); Morganville
 Howard Otto Meyer (Ag); Basehor
 Burris Edward Miles (Ag); Cunningham
 *Carl Miller (EE); Charley, Ky.
 *Charles William Miller (ChE); Turon
 Iris Miller (IJ); Lyons
 *Jack Alfred Miller (EE); Midian
 *Wayne Ishmael Miller (ChE); Kansas City
 Helen Lawson Millican (IJ); Topeka
 Charles Augustus Mitchel (VM);
 Manhattan
 Floyd Edward Monroe (VM); Manhattan
 *Paul Jarvoe Montgomery (CE); Topeka
 *Maurice Kay Woody (ME); Mound City
 *Greeta Jean Moore (GS); LaJunta, Colo.
 *Mary Jane Moore (C); Junction City
 William Lorenzo Moore (Ag);
 Bridgeton, N. J.
 *Ralph Bradford Moorman (Ag); Nickerson
 Darrell Morey (Ag); Manhattan
 Alvin Hanson Morgan (EE); Manhattan
 Ilene Anna Morgan (HE); Manhattan
 Lucy Agnes Moss (HE&A); Coats
 Virginia Marion Moyle (C); Newton
 Wilson Muhlheim (CE); Ellis
 Lyle Moyer Murphy (GS-1; Ag-2);
 Manhattan
 Richard Albert Nelson (EE); Manhattan
 Marjie Nesmith (HE); Salina
 Herman Elby Nicholas (EE); Johnson
 *Clarence Nielsen (ME); Vesper
 John Locke Noble (CE); Manhattan
 *Marian Olene Norby (GS); Cullison
 Betsy Ann Norelius (IE&D);
 Springfield, Ill.
 *Mildred Lucile North (HE); Coffeyville
 *Lorin Edward Oberhelman (EE);
 Silver Lake
 Georgia Louisa O'Dell (IJ); Abilene
 David Deyoe Olive (C); Leavenworth
 Carol Leola Olsen (HE); Horton
 Harold Herman Olson (C); Lindsborg
 Richard Eugene Omohundro (VM);
 Wellington
 *James Carlisle Osten (ChE); Herington
 Lorena Freda Otto (HE&A) Great Bend
 Gustaf Clark Overlay (Ag); Belle Plaine
 *Anna Marie Owensby (MuE); Manhattan
 *Wilbur Charles Page (ME); Hesston
 Gwendolyn Althea Painter (HE); Meade
 *Dorothy Eunice Palmquist (HE);
 Concordia
 *Earl Foster Parsons (AA); Manhattan
 *James William Patton (Ag); Hiawatha
 Charles William Pence (Ag); Elmont
 Orvil Evernden Pennington (AA);
 Manhattan
 Kathryn Eileen Peterman (HE); Beattie
 Vincent Loren Peters (PE); Ness City
 Edwin Hugo Peterson (ME); St. Marys
 Grant Waldemar Peterson (CE); Gove
 *Mary Katherine Peterson (M); Riley
 Kenneth Osler Pettyjohn (Ar); Larned
 Carolyn Marian Phillips (HE); Salina
 *Florence Emma Phillips (HE); Emporia
 *Murl Francis Phinney (CE); Kingman
 Veda Birdine Pickett (HE); Morrill
 Edward Pitman (AA); Scott City
 Mary Lorraine Platt (HE); Manhattan
 Gladys Irene Poole (GS); Kansas City, Mo.
 Clare Robert Porter (Ag); Stafford
 Thomas Mitchell Potter (Ag); Peabody
 Gilbert Powers (ChE); Casper, Wyo.
 Elsie Elizabeth Prickett (GS); Wamego
 Earl Albert Ragland (EE); Herington
 George Carlson Rankin (C); Gardner
 Willard Glidden Ransom, Jr. (AE);
 Homewood
 Alvin Rector (EE); Lincoln
 Harold Elmo Redfield (PE-1; AE-2);
 Bucklin
 Maxine Virginia Redman (PE);
 Manhattan
 *Ruth Leona Regier (HE&N); Buhler
 Eldon Edwin Reichle (GS); Riley
 Helen Louise Reilly (IE&D); Leavenworth
 Jackson Chilcott Remmele (GS);
 Manhattan
 Rowland Herman Renwanz (CE);
 Enterprise
 Oren Jared Reusser (Ag); Wellington
 *Wesley Wayne Richardson (C); Erie
 Harold Ralph Roberts (AE); Plains
 Charles Edwin Robinson (VM);
 Manhattan
 Roy Albion Robinson, Jr. (EE); Larned
 Ruth Rockey (GS); Manhattan
 Fern Doris Roehman (MuE); White City
 Myron Maxford Rooks (IJ); Manhattan
 Paul Chester Rooney (ME); Haddam
 Charles Eugene Roper (EE); Atchison
 Worth Follett Ross (C); Manhattan
 Vernal George Lee Roth (Ag); Emporia
 Dorothy Elayne Rowland (GS); Hanover
 Ada Marie Ruff (GS); Manhattan
 Earl Leo Ruff (EE); Manhattan
 *Howard Wayne Russell (Ar); Atchison
 *Horton Earl Ryan (VM); Manhattan
 *Carl Fred Samp (ME); McCune
 Janet Anabel Samuel (GS); Manhattan
 Harold James Scanlan (Ag); Abilene
 Arthur Eugene Schafer (CE); Jewell
 *Jean Elizabeth Schafeld (GS); Fairview
 Lawrence Wicks Schoolcraft (C); Fredonia
 Merwin Ellenwood Schoonover (EE);
 Topeka
 *Karl William Schroeder (EE); Hillsboro
 Olive Elizabeth Schroeder (LG); Lorraine
 *Elmer Ellison Scott (EE); Kansas City
 Deane Robert Seaton (Ag); Abilene
 Robert Martin Segor (Ar); Oshkosh, Wis.
 Allan Eugene Settle (IJ); Strong City
 Dorothy Marie Sewell (M); Coweta, Okla.
 *Marvin Leroy Shafer (ME); Kansas City
 Leland Knoy Shaffer (C); Minneola
 *Edna May Shannon (HE&N); Manhattan
 Mary Lee Shannon (IE&D); Geneseo
 *Nathan Benjamin Shapiro (Ag); Manhattan
 Garnet Evadna Shehi (IJ); Topeka
 Edwin Joseph Shellenberger (EE); Ransom
 Darlene Shelley (IJ); Coldwater

SOPHOMORES—*Concluded*

- *William Orville Shepard (GS); Independence
Eula Pauline Sherwood (HE); Grenola
*Lois Frances Simpson (HE); Dresden
*Fred William Sims (C); Manhattan
Sigrid Johanna Sjogren (GS); Concordia
*Elsie Belle Sloan (HE); Dalhart, Tex.
Robert Fred Sloan (Ag); Leavenworth
*Arthur Allan Smedley (C-1; ArE-2);
Manhattan
Clarence William Smith (CE); Clay Center
Ralph William Smith (LA); Topeka
Richard Wilkeson Smith (GS); Salina
Robert Moody Smith (C); Manhattan
Virginia Dell Smith (MuE);
Cherokee, Okla.
Burl Jackson Snow (EE); Topeka
Don Arnold Snyder (ChE); Elkhart
Corinne Solt (HE&A); Manhattan
Lloyd Dayton Somers (GS); Canton
Glenna Louise Sowers (C); Manhattan
Ralph Dwain Spangler (C); Mayfield
Karl Henry Speed (PE); Holton
Annie Margaret Spiker (IE&D); Manhattan
Melvin Lloyd Spitzer (C); Kinsley
Max Raymond Springer (AE); Manhattan
Mildred Oneita Crook Stadel (HE);
Manhattan
George Jacob Staehler (CE); Manhattan
Maurice Havelyn Stauffer (Ag); Hymers
Alfred Steele (ME); Manhattan
Gordon Kirkpatrick Steele (ChE);
Columbus
Harvey Steiger (AA); Menlo
Arthur Stephens (C&A); Bethel
Clark Bernerd Stephenson (Ag); Sedan
Vernon McKee Stevens (GS); Abilene
Everett Wilson Stewart (C); Talmage
Harley Allen Stewart (AA); Oskaloosa
*Mary Luella Stewart (HE); Topeka
*Miles Strole (C); Kansas City
Kecta Elizabeth Strong (HE); Hoisington
Frank Bernard Stuckey (Ag); Leavenworth
Lewis Sweat (GS); Cedar
Floyd Arthur Tannahill (GS);
Phillipsburg
Howard Lee Taylor (MuE); Norton
Victor Preston Terrell (Ag); Syracuse
Wilton Bradley Thomas (AA); Clay Center
Dale Elliott Thompson (CE); Manhattan
Hobert Harvey Thompson (Ag); Coldwater
Joe Earl Thompson (CE); Almene
Vera Thompson (HE); Harveyville
Wilbur Griggs Thorpe (Ar); Manhattan
Emerson Myron Thwing (ME); Manhattan
Wayne Tjaden (Ag); Wichita
Gertrude Tobias (IJ); Lyons
*John Wayne Tonkin (LA); Colony
Oda Mae Tracy (C); Salina
Lois Lucille Travis (HE); Goddard
Helen Alice Trekell (HE); Belle Plaine
Alberta Wilma Trentman (HE); Fairview
Robert Trower (PE); Downs
Archie Tucker (EE); Topeka
Kenneth Wible Tudor (ME); Holton
Irwin John Twiehaus (VM); Manhattan
Velda Umbach (HE); Spearville
Keith Bernard Underwood (Ar); Gypsum
Ross Bingham Vandever (ME); Fredonia
Willard Merrill VanSant (VM); Manhattan
Juan Rambac Vidar (IC); Manhattan
*Winifred Marie Vigneron (IJ); Osage City
Loise Cleo Vinson (HE&A); Manhattan
*Pearl Marie Vinzant (MuE); Wakefield
Kermit Wagner (MI); Manhattan
Carrol LeRoy Wahl (Ag); Wheaton
Hazel Marie Walden (GS); Leavenworth
William Henry Walker (AE); Junction City
*Arlene Wallace (IE&D); Hill City
Nadine Marguerite Wallace (HE);
Manhattan
James Thomas Wallingford (C);
Kansas City
Theresa Mae Ward (HE); Langdon
Ralph Dale Warner (AA); Arlington
Frederick Gail Warren (Ag); Beverly
Kenneth McKinley Warren (PE);
Delphos
Ivan John Wassberg (C); Topeka
Rex Eugene Watts (Ag); Havensville
*Edna Waugh (HE); Weskan
*Georgia Waugh (C); Weskan
Clarence Hale Weaver (GS); Clay Center
Merle Alfred Webb (AA); Meriden
Perry Wendell (Ar); Topeka
Hilary John Wentz (ME); Ames
James Richard Westmacott (CE); Chase
Wallis Christian Wetlaufer (EE);
Manhattan
Joe Leo Wetta (Ag); Colwich
Riley Russell Whearty (PE); Rossville
William Lawrence Wheelock (ME);
Pleasanton
Alfred Emmett White, Jr. (VM);
Manhattan
*Clara Ellen White (HE); Kingsdown
Thaddeus Hug White (GS); Manhattan
*Donald Edward Wick (ME); Hunter
Carson Harold Wiedeman (EE); Caldwell
*Catherine Glenroy Wiggins (IJ); Eureka
*William Henry Wiggins (Ag); Utopia
John Bennett Wilcox (Ag); Lawrence
*Edson Young Wilder (ArE); Newton
Rachel Thelma Williams (HE&N);
Meriden
Thaine Daniels Williams (CE);
Pawnee Rock
*David George Willich (EE); Hamlin
Arthur Charles Willis (ChE); Hugoton
Jean Brown Willoughby (GS); Manhattan
Velma Wilsey (C); Washington
*Charles Pears Wilson (Ag); Anness
Cleo Grace Wilson (HE); Manhattan
Wilbert John Wilson (Ag); Alta Vista
Olive Wimmer (HE&J); St. George
Ben Winchester (VM); Kinsley
*Joseph James Winderlin (C); Scott City
Winifred June Winship (IJ); Phillipsburg
*Charles Winters (ChE); Kansas City
Laurence Leroy Wisdom (C); Colby
*Joseph Lewis Wissman (EE); Parsons
*Dayton Junior Wolf (ChE); Kansas City
Elizabeth Irene Woodburn (GS);
Cleburne
Harry Albert Woodbury (C); Abilene
Agnes Grace Woodington (IC); Topeka
Everett Wilson Woodward (C&A);
Salina
Leona Kathryn Woodward (HE);
Medicine Lodge
Albert Alfred Worrel (C); Manhattan
Ruby Corrine Wunder (HE&A);
Valley Falls
Margaret Wyant (GS); Topeka
*James Wesley Young (AA); Colony
Winifred Mary Young (GS); Wakefield
Eunice Pearl Youngquist (IE&D); Topeka
Ella Clara Zeckser (HE); Alma
*Mildred Edna Zimmerman (HE); Newton
Fred Zutavern (MI); Great Bend

* Matriculated 1934-1935.

FRESHMEN

- *John Elden Abbott (VMP); Manhattan
 *Margaret Elizabeth Abbott (IE&D);
 Manhattan
 *Walter Abmeyer (Ag); Grantville
 *Lillian Emma Adams (HE); Leavenworth
 *Corinne Blanche Aicher (HE); Mankato
 *John Bernard Alferts (EE); Denton
 *Burton Henry Allen (ME); Langdon
 *Edward Ira Allen (CE); Michigan Valley
 *Esther Verneada Allen (IE&D);
 Wellington
 *John Lester Allen (CE); Hoxie
 *Richard Park Allen (ChE); Chanute
 *Sylvia Lorene Allen (GS-1; HE-2);
 Manhattan
 *William Redmond Allen (Ag); Cummings
 *Nathan Leonard Allison (GS); Seneca
 *Annette Alsop (GS); Manhattan
 *James Henry Altland (EE); Wichita
 *Lawrence Sylvester Alwin (Ag);
 Morrowville
 *Earl Walter Anthauer (ChE);
 Junction City
 *Andrew Bainter Anderson (PE); Manhattan
 *Glenn Ernest Anderson (Ar); Topeka
 *Leroy Alexander Anderson, Jr. (CE);
 Detroit
 *Kay Anderson (EE); Leavenworth
 *Robert John Anderson (MI); Lyons
 *Willard Harold Anderson (ME); Winfield
 *James Vernon Andrews (C); Manhattan
 *Jay Donald Andrews (Ag); Bloom
 *Lloyd Miller Angelo (C&A); Horton
 *John Alden Angold (EE); Bethel
 *Lyle Charles Arand (VMP); Belvue
 *Charles Armstrong (VMP); Kansas City
 *Emily Jeanne Armstrong (IJ-1; Ar-2);
 Manhattan
 *George Wendell Armstrong (MI);
 Osborn, Ohio
 *John Delos Ary (AA); Lewis
 *Lloyd Leo Ashbaugh (VMP); Randall
 *Leon Lewis Ashton (ME); Salina
 *Wilbur Eldon Ashton (C); Manhattan
 *Curtis Walker Astle (IJ); Haven
 *Neville Levon Astle (VMP); Sedgwick
 *Doris Levan Augustus (HE&N);
 Waterville
 *Ernest Raymond Ausherman (AA); Elmont
 *John Sherman Axford (C); Gridley
 *Dewey Axtell (Ag); Harris
 *Nora Alice Babb (HE); Broughton
 *Albert David Backer (VMP);
 Brooklyn, N. Y.
 *Marvin Philip Baecker (GS); Riley
 *Jack Edward Baker (VM); Manhattan
 *Edward Orville Ball (GS); Manhattan
 *Fred Hayes Banning (GS); Horton
 *Maida Beth Barnett (HE&N); Humboldt
 *Dwight L. Barngrover (C&A); McPherson
 *Howard Nelson Batchelder (Ag); Hiawatha
 *Charles Emert Bateman (CE); Emporia
 *Dale Renier Bathurst (GS-1; AA-2);
 Abilene
 *Helen Batz (IJ); Topeka
 *Violet Mae Bauer (HE); Clay Center
 *Lawrence John Bausch (IJ); Wichita
 *Eleanor Addalaid Bayles (HE&A);
 Manhattan
 *Iris Vivian Beal (HE); Coldwich
 *Irwin Virgil Beal (Ag); Coldwich
 *Forrest Overton Beardmore (AE); Mankato
 *Coyla Idene Beatty (HE); Manhattan
 *Dorman Carroll Becker (Ag); Durham
 *Robert Gale Beckwith (ChE-1; LG-2);
 Hiawatha
 *Wayne Eugene Beer (Ag); Larned
 *Jack Perry Begley (EE); Caldwell
 *Roy Swan Belcher (ME); Topeka
 *Dorothy Jane Bell (GS); Manhattan
 *Ralph Robertson Bennington (Ag);
 El Dorado
 *Blaine Cooper Bentley (AA); Manhattan
 *Florence Elaine Bergmann (HE); Axtell
 *Darwin L. Berry (CE-1; PE-2);
 Manhattan
 *Arthur William Besthorn (AE); Manhattan
 *Sue Edna Betton (MuE); Bethel
 *Ruth Evelyn Betz (HE); Enterprise
 *Vincent Clinton Bevenue (VM);
 Kansas City
 *Frank Gearhart Bieberly (GS); Spearville
 *Milton Bilger (GS); Topeka
 *Gloria Marie Bingesser (GS);
 Waconda Springs
 *Clayton Harold Binney (C); Ulysses
 *Ernest Lee Bird (Ag); Protection
 *Daniel Keith Bird (CE); Albert
 *Leonard William Bird (AA); Hill City
 *Bernard Benton Bishop (C&A); Norcatur
 *Mary Lou Black (IE&D); Independence
 *Delber Lloyd Blackwell (CE); Rozel
 *John William Blackwell (C); Larned
 *Dorothy Grace Blaesi (HE); Abilene
 *Francis Leroy Blaesi (C); Abilene
 *Clinton Payne Blakely (Ag); Dodge City
 *Bruce Blanche (GS); Leavenworth
 *Sanford David Blattner (CE); Rozel
 *Ralph Willard Blazier (VMP);
 Junction City
 *Herbert Harner Blevins (C&A); Clay Center
 *Houston Blair Bliss (LG); Manhattan
 *Arthur Randolph Blythe (AA-1; VM-2);
 White City
 *George Ross Blythe (Ag); White City
 *Elwin Curtis Bockenstett (C); Sabetha
 *Cecil Lynn Boehner (Ag); Glen Elder
 *Howard Herbet Bohin (VMP);
 Cleveland, Ohio
 *Zeurita Elaine Bonar (HE-1; GS-2);
 Washington
 *Jesse George Boomer, Jr. (EE);
 Kansas City
 *James Forrest Bourk (EE);
 Boise City, Okla.
 *Grafton Diddle Bowers (VM); Cowgill, Mo.
 *Gerald Purl Bowman (Ag); Wichita
 *James Philip Boyce (VM); Wamego
 *Philip Craig Boyce (VM); Wamego
 *Robert Martin Boyd (GS); Manhattan
 *Frederick Everett Boyer (GS); Nickerson
 *Melba Geraldine Boyer (HE); Horton
 *Eleanor Louise Braden (GS); Reamsville
 *Raymond Thomas Bradley (CE);
 Belle Plaine
 *Arloa Maye Bradskey (HE); Portis
 *Elliot Wilson Brady (ME); Manhattan
 *John Robson Brainard, Jr., (Ag); Carlyle
 *Blaine Brandenburg (AA); Riley
 *Norman Garver Branson (EE); Belleville
 *Walter Louis Braun (VM); Manhattan
 *Ralph Edward Breeden (CE); Latham
 *Merle Dutton Breeding (VMP); Herkimer
 *Donald Glenn Brewer (ME); Bethel
 *John Augustus Brewer (EE); Concordia
 *Howard Crum Briery (CE); Hoxie
 *Martha Esther Brill (HE&N);
 Westmoreland
 *Wade Oberlin Brinker (VMP); Manhattan
 *D. Russell Brooks (ME); Independence
 *Frank Louis Brooks (Ag); Scott City
 *David Wilson Brower (ChE); Junction City
 *Charlie Alexander Brown (EE);
 Junction City

FRESHMEN—Continued

- *Gordon Wonnacott Brown (EE); Manhattan
 *John Clifford Brunner (GS); Wamego
 *Edward Arnold Buchmann (IJ); Clay Center
 *Nelson Lewis Buck (ME); Manhattan
 Mildred May Buckwalter (IJ); Manhattan
 *Russell Conwill Buehler (CE); Seneca
 *Maurice Milner Bulmer (EE); Michigan Valley
 Clark Wayne Burch (VM); Manhattan
 Ben Salvatore Burdo (VM); Manhattan
 *Raymond Louis Burger (ChE-1; IJ-2); Kansas City
 *Charles Floyd Burket (ChE); Elkhart
 *Gilbert Harold Burnett (EE); McPherson
 *Thelma Marguerite Burrell (HE); Arnold
 *Stephanna Burson (HE); Manhattan
 *Dean Bennet Burtfield (EE); Haviland
 *Don Walter Buxton (C); Wichita
 *Calvin Homer Byerly (VMP); Fredonia
 *Beth Alice Byers (HE); Jewell
 *James Russell Cables (GS); Concordia
 *Charles David Cain (GS); Manhattan
 *Howard Keith Caldwell (CE); Lyons
 *Elizabeth Achten Campbell (IJ); Wetmore
 Hugh Burkett Campbell (VM); Geneva, Ind.
 *Linden Carlyle Campbell (AE); Tonganoxie
 *Mary Maxine Campbell (GS); Manhattan
 *Irvin Leroy Cantrall (C); Olathe
 Augustus Ceasar Cardarelli (PE); Manhattan
 *Ellen Mae Cardarelli (GS); Manhattan
 *Anna Marie Isabel Carey (IJ); Hoyt
 *Reva Madelene Carleton (C); Coldwater
 Leland Virgil Carlson (C); Topeka
 *Wayne Rodeen Carlson (ArE); Topeka
 *Billie Milton Carnes (VM); Henryetta, Okla.
 *Herbert Blair Carpenter (C); Abilene
 *Barbara Rairden Carr (IJ); Manhattan
 *Charles Tulloch Carter (ME); Topeka
 *Raymond Lawrence Casey (AE); Corning
 Francis Adam Caspar (VM); Alida
 *Donald Lewis Cassidy (VM); Manhattan
 *Bernard William Champenoy (VMP); Omaha, Neb.
 *Merwyn Pierce Chapman (VM); Fredonia
 *Stanley Samuel Chasin (Ag); Manhattan
 *Louis Dixon Chedester (VMP); Cordell, Okla.
 *Dale Loyd Cherry (VMP); Manhattan
 *Francis Neal Childs (Ag); Rexford
 Ralph Woodrow Christensen (C); Clay Center
 *Elizabeth Jane Clark (HE); Colby
 *Forrest William Clark (VMP); Jewell
 *Letha Mae Clark (HE); Paxico
 *Marie Iona Clennin (HE); Tulia, Tex.
 *Howard Whittier Cleveland (PE); Muscotah
 *Clarence Bruce Clevenger (CE); Kingsdown
 *Darius Ethen Cockrum (C); Johnson
 *Gladys Mae Coffey (HE-1; IJ-2); Junction City
 Margaret Emma Coffman (IJ); Overbrook
 *Earl Louis Cofield (GS); Gorham
 *Julius Cohen (VMP); Yonkers, N. Y.
 *Claude Lyman Coleman (Ag); Abilene
 *John Hayes Collett (ChE); Pratt
 *Helen Katherine Collier (C); Hiawatha
 *Cecil LeRoy Collins (MuE); Emporia
 *Wayne Devene Collins (VMP); Marysville
 Lois Mae Conner (C); Osage City
 *Harry Jacob Conrad (VM); Kansas City
 *William Kenneth Conwell (ChE); Manhattan
 *Merwin Blake Cook (AE); Monument
 *Reva Marie Cook (HE&A); Ash Valley
 *Charles Bascomb Coombs (VM); Manhattan
 *Helen Esther Coon (PE-1; HE&J-2); Anthony
 Harold Keim Cooper (ChE-1; VM-2); Manhattan
 *Marjorie Ellen Cooper (C); Stafford
 *Pauline Edith Cooper (HE&A); Manhattan
 *Arthur Howard Costain, Jr. (ME); Fort Riley
 *Barbara Ellen Costin (HE); Wichita
 Robert George Cotten (VM); Kansas City
 *George Edward Cottrel (VM); Manhattan
 *William Vernon Couch (EE); Olathe
 *Donald Owen Coulson (GS); Talmage
 *Deane Hadley Cousins (C); Talmage
 *Clyde Lorimer Cox (Ag); Mound City
 *Reyman Richard Cozad (CE); Manhattan
 *Darrel William Craik (Ag); Washington
 Myrtle Madena Cranston (HE); Langdon
 *Edwin Morris Crawford (VM); Manhattan
 *Fred Morton Crawford (AE); Madison
 John Carl Crawley (PE); Elkhart
 *Fred Butcher Crist (ChE); Brewster
 *William Frank Critchfield (Ag); Effingham
 Charles Burton Crook (Ag); Ogden
 Victor Jackson Croskey (CE); Kansas City
 *Marion Arlene Cross (HE&N); Wilson
 *Ruthe Leone Cross (PE); Portis
 Palmer Howard Crow (C&A); Manhattan
 *Philip Henry Curry (VMP); Kansas City
 *Pauline Bernice Curtis (HE); Manhattan
 *Carl Cutshaw (ME); Downs
 *Lawrence Lyle Cutshaw (Ag); Brewster
 *Donald Duane Dailey (C); Topeka
 *Verda Mae Dale (HE); Coldwater
 *Eugene Francis Damer (VMP); Webb City, Mo.
 *Edith Iva Daniels (HE); St. Francis
 *Verner Ephraim Danielson (AA); Lindsborg
 *Robert Vernon Darby (EE); Morrowville
 *Eugene Price Davies (C-1; Ag-2); Topeka
 *Chester McLean Davis (ME); Holton
 *Dale Virginius Davis (CE); Dodge City
 *Marjorie Phyllis Davis (HE-1; IJ-2); Topeka
 *Elmer A. Dawdy (Ag); Washington
 *Clifton Dawson (AA); Norcatur
 *George Alan Dean (PE); Waterville
 *Peter DeCinque (AH&V); Woodbine, N. J.
 *Charlyene Deck (HE); Circleville
 *Margaret Louise Decker (HE&A); Burr Oak
 *Edward Alphonse DeClerk (GS); Manhattan
 Ralph Raymond Dent (Ag); Bavaria
 *Harold George Deters (ChE); Cawker City
 *Hazel Virginia DeWitt (GS); Horton
 Jack Dickens (Ag); Manhattan
 *Richard Keith Dickerson (GS); Cimarron
 *Clarence Wendell Dickhut (AA); Scott City
 *Clarence Eugene Dickson (CE); Manhattan
 *John Dunham Dietrick (AE); Kansas City, Mo.
 *Dorothy Alice Diggs (IE&D); Emporia
 George Angelo Dileo (PE); Manhattan
 *James Paul Dillingham (C&A); Alma

List of Students

FRESHMEN—Continued

- *Esther Marie Dilsaver (HE); Athol
William Francis Dixon (ME); Junction City
- *Sam Doll (ArE); Kingman
- *Dorothy Geraldine Donnelly (HE); Little River
- *Vernon Lloyd Doran (AA); Macksville
- *Murray Dean Dougan (IC); Emporia
- *Robert Gilchrist Douglass (PE); Walton
- *Merrill Edward Downer (EE); Manhattan
- *Howard Huntington Doyle (ME); Clay Center
- *Wilma Mary Draper (HE); Westmoreland
- *Edward Filmore Dresser (ME-1; MI 2); Manhattan
- Yale Druley (VMP); Muncie
- *Pauline Blanche Drysdale (HE); Severv
- *Horace Duckenfield (VMP); Belmont, Cal.
- *Don Duckwall (C); Abilene
- *Dale Leroy Duncan (PE); St. Francis
- *Lawrence Jack Duncan (ArE); Wichita
- *George Robert Durham (GS-1; AA-2); Bristol, Colo.
- *Frank Corvell Durland (IJ); Junction City
- *Marshall Wayne Dutton (AA); Harlan
- *Waldo Easley (ArE); Bonner Springs
- *Newton A. Eaton (ME); Chanute
- *George Washington Eberhart (VMP); Jewell
- *Roscoe Dwight Eberhart (EE); Topeka
- *Joe A. Eckart (ChE); Manhattan
- *Charles Davis Eckert (IJ); Larned
- Mary Jeane Edelblute (C); Manhattan
- *John Ross Ehrsam (C); Enterprise
- *Raymond Arthur Eichorn (Ag); Yates Center
- *Doris Elizabeth Eller (HE); Colby
- *Roland Baker Elling (Ag); Manhattan
- *Howard Surber Elliott (Ag); Oakley
- *Helen Elizabeth Ellis (C); Kansas City
- *Louise Scott Ellis (C); Topeka
- *Ray LaVern Ellis (PE); Wichita
- *Donald Leroy Engle (M); Manhattan
- *George Thaine Engle (C); Abilene
- *Rolland Ellsworth Erbentrout (EE); Wellington
- *Gwendolyn Edith Erickson (HE); Clyde
- *Evert Eric Ericson (GS); Clyde
- *Ivan McFarlane Ernest (GS); Egeland, N. Dak.
- *James Andrew Eskeldson (VMP); Ramona
- *Francis James Esposito (GS); Manhattan
- *Carl Wendell Evans (IC); Sabetha
- *James Sampson Evans (ME); Grinnell
- *Ernest Charles Fairbanks (C); Hollenberg
- *Lester Lloyd Fankhouser (C); Haviland
- *Cecil Arthur Fansler (C); Wamego
- *Merle LeRoy Farris (VMP); Ottawa
- *Merle Martin Fate (ME); Concordia
- *June Gail Fearing (GS); Otego
- Paul Franklin Feleay (CE); Manhattan
- *Edmond Ellis Fellers (PE); Hays
- *Lee Shriver Fent (GS); Newton
- *Thelma Louise Fieser (HE&N); Norwich
- *Mary Elizabeth Fink (HE); Osborne
- *Charles Allan Fisher (IJ); Wellington
- *Kenneth Adrian Fisher (Ag); Newton
- *Lester Harry Flair (Ag); Bucklin
- *James Phillip Flannery (VMP); Manhattan
- *Frank Abram Flipse (VM); Oakley
- *Walter Edo Folkerts (ME); Timken
- Lou E. Foote (VM); Manhattan
- *Francis Millard Fox (CE); Ashland
- *Wilson Charles Fox (C); Canton
- *Charles William Frank (GS); Turon
- *Ruth Genevieve Freed (IJ); Scandia
- Madaline Vivian Freeman (HE); Kansas City
- Marguerite Freeman (IJ); Augusta
- *Richard Grant Freeman (Ag); Tonganoxie
- *Robert Roy Freeman (ChE); Manhattan
- *Sylvester Thaine Freeman (IJ); Severv
- *Wayne Henry Freeman (Ag); Kirwin
- *Genevieve French (HE); Emlenton, Pa.
- *Wayne Sheldon Frey (Ar); Fowler
- *Berta Mae Frickey (GS); Oberlin
- *Robert Wilfred Froelich (C); Abilene
- *Margaret Frost (IE&D); Topeka
- *Floyd Wilson Fulton (ArE); Coffeyville
- *Junior Wilson Fulton (VMP); Wichita
- Wesley George Fundis (Ag); LeRoy
- *Paul Lester Furst (EE); Corning
- *Paul Gabler (EE); Salina
- *Mary Marceline Gallagher (C); Jewell
- *Harvey Allen Gantenbein (C); Elmo
- *Lester George Gantenbein (Ag); Elmo
- *Nelta Evelyn George (MuE); Welda
- *Peter Germanio (AH&V); Woodbine, N. Jer.
- *Beulah Blaser Germann (HE); Fairview
- *Marvin Alfred Gibson (ME); Manhattan
- *Robert Moor Giger (Ag); Elmdale
- *Sallie Burnette Gilbreath (HE); Hereford, Tex.
- *Evelyn Marie Gingrich (GS); Superior, Neb.
- *Clyde Abram Gish (GS); Enterprise
- *Robert Newton Gist (ME); Manhattan
- Horace Thomas Givan (VMP); Manhattan
- *Jay Edwin Givens (GS); Manhattan
- *Truman George Glover (AH&V-1; VMP-2); Burr Oak
- *William Jack Glover (EE); Coolidge
- *Wilson Frank Goble (Ag); Wallula
- *Evan Dalton Godfrey (C); Manhattan
- *Henry Lee Goetsch (VMP); Colby
- *Laura Jane Goodall (HE&N); Coats
- *Joe Myron Goodwin (Ag); Emporia
- *Willetta Sharp Govan (HE); Kansas City
- *Lawrence L. Goyen (C-1; Ag-2); Pratt
- *Henry Clifford Graefe (VMP); Elwood
- *John Frederick Granstedt (Ar); Courtland
- *Max Vernon Gravenstein (C&A); North Topeka
- *Barbara Louise Graves (IJ); Manhattan
- *Mary Marjorie Gray (GS); Morganville
- Gilbert Dale Green (C); Norton
- *Leonard Tommy Green (Ag); Lancaster
- Merwin Jack Gregg (VM); Caney
- *Ruth Harriett Grice (GS); Abilene
- Orin Dean Griffing (AA); Council Grove
- *C. Lyndon Griffith (C-1; EE-2); Elkhart
- *Rosethel Grimes (PE); Manhattan
- *Russell Herman Gripp (Ag); Hill City
- *Eugenia Louise Grob (IE&D); Randolph
- *Gleum Gorden Gross (VMP); Russell
- *Joseph Cleveland Gross (VM); Russell
- *Hilbert August Grote (Ag); Manhattan
- *Thomas Joseph Guilfoil (VMP); Kansas City
- *Hugh Leon Gurwell (AA); Manhattan
- *Neil Claypool Gustafson (VMP); Marquette
- *Mary Elizabeth Guthrie (M); Manhattan
- *Waneta Buelah Guthrie (IE&D); Fulton
- *Ralph Edward Guyton (ArE); Salina
- *Robert Thomas Guyton (C); Salina
- *Beatrice Habiger (HE); Bushton
- *Paul Louis Habiger (Ag); Bushton
- *Roy Albert Hacker (ChE); Pratt
- *Herbert Hackett (ME); McCracken
- *Ernest Donald Hadsell (IJ); Manhattan
- *Richard Harry Hageman (IC); Hollenberg
- *Kenneth M. Hale (EE); Wichita
- John Steward Haley (VM); Delphos

* Matriculated 1934-1935.

FRESHMEN—Continued

- *William Halfhill (C); Wichita
 *John Fenwick Hall (CE); Junction City
 *Clare C. Hamilton (VMP); Geneseo
 *Donald Harrison Hamilton (ME); Kingman
 *Horace William Hamilton (Ag); Argonia
 *James Russell Hammett (EE); St. John
 *Harry Major Hanks (MuE); Wamego
 *Jacqueline Hanly (GS-1; HE-2);
 Manhattan
 *Curtis Hansen (ME); Belleville
 *Irv Hardman, Jr. (PE); Quinter
 *Hyman Joseph Harkavy (VM); Manhattan
 *Thelma Alta Harman (HE&J);
 Indianapolis, Ind.
 *Alfred Eugene Harris (Ag); Grinnell
 *Bryant Glenn Harris (EE); Topeka
 *Carl Robert Harris (ChE); Sharon
 *Donald Stover Harris (ME);
 Lakewood, Ohio.
 *Warner Harris (C); Burrton
 *Wayne Harrison (PE); Sterling
 *Ralph J. Hathaway (ME-1; Ag-2); Chase
 *Lenore Hatter (IJ); Abilene
 *Holmes Weston Haviland (Ar); Kansas City
 *Albert Lev Havlip (VMP); Tampa
 *Ellen Anita Hawke (GS); Irving
 *Samuel Robert Haynes (AA); Topeka
 *Wayland Bradford Haynes (EE); Topeka
 *Carl Mather Heaton (LA); Larned
 *Frances M. Heaton (HE); Partridge
 *Betty Jean Hedges (IE&D-1; C-2);
 Kansas City, Mo.
 *Howard Claude Hedges (EE); Sylvan Grove
 *Mary Violet Heeter (HE-1; IJ-2);
 Kansas City
 *Daniel Philip Heigele (AE); Wilsey
 *Evelyn Marjorie Heintz (IE&D); Elkhart
 *Charles Matthew Heizer (ArE); Hamilton
 *Ernest Paul Helm (ChE-1; IJ-2); Chanute
 *Lawrence Henry Helms (EE); Alma
 Hilda Frieda Hempler (PE); Almena
 *Harold Vincent Henderson (CE); Eskridge
 *Merle Logan Henrikson (VMP); Concordia
 *James Jesse Herd, Jr. (ChE); Coldwater
 William Hugh Hervey (VM); Belle Plaine
 *Vann Hess (EE); Manhattan
 *Clifford W. Hibbs (Ag); Osborne
 Ernest Wilbur Hill (GS); Manhattan
 *Gerald Francis Hiner (PE); Meriden
 *John Worth Hines (Ar); Manhattan
 *Arthur Wayne Hjort (C); Manhattan
 *Millard Eugene Hobson (ME); Kingman
 *Paul William Hodler (ChE); Beloit
 *Charlotte Hoffman (HE); Abilene
 *Ray Carl Hofman (GS); St. George
 *Lela Arvella Holden (HE); Marion
 *Ralph Ray Holden (EE); Syracuse
 Beth Merle Hollis (IJ); Manhattan
 *Doris Beatrice Hollis (HE); Manhattan
 *James Leonard Hollis (EE); Holton
 Medrey Thomas Hollis (GS); Manhattan
 *Lorell Elaine Hollister (IJ); Leoti
 *Marjorie Eleanor Holman (IJ); Manhattan
 *Faith Hallie Holmes (HE&A);
 Laverne, Okla.
 *Jack Leo Holmes (ChE); Englewood
 *Jean Clare Holmes (HE);
 Kansas City, Mo.
 *Norma Holshouser (HE); Dwight
 *John Joseph Holstein (ChE); Casper, Wyo.
 *Lawrence Gard Holuba (C); Manhattan
 *Thelma Frances Holuba (IJ); Manhattan
 *George William Honick (AA); Morrill
 *Raymond Hook (ME); Osborne
 *Josephine Ann Hoover (GS); Greenleaf
 *Margaret Agnes Hoover (GS); Greenleaf
 *Charles Fred Horne (GS); Alma
 *Lehnus Lloyd Horst (CE); Holyrood
 *Donald Eugene Horton (C); Atwood
 *Katherine Mae Hoss (HE); Wallace
 *Gilbert Edwin Hotchkiss (IC); Manhattan
 *Richard Eugene Hotchkiss (GS);
 Manhattan
 *Charles Cecil Houston (AA); Menlo
 *Lucile Idell Howenstine (MuE);
 Manhattan
 *Harry Burt Hubbard (VM); Manhattan
 *Gay Almo Hughs (EE-1; C-2);
 Ashland
 *Donald Hugins (VMP); Omaha, Neb.
 *Lorraine Hulpieu (GS); Dodge City
 *Frank Carol Hund (GS-1, CE-2);
 Leavenworth
 *Paul Ballard Hunter (Ag); Sedgwick
 *Lena Marie Hurst (HE); Clearwater
 *Pauline Mae Huston (HE); Ogden
 *George McCloud Hutcherson (C&A);
 Manhattan
 *Thomas Conrad Hutcherson (ME);
 Manhattan
 *Ezra Norton Hyde (MuE); Geneseo
 *John Harvey Hyde (Ag); Augusta
 *Frank Henry Immroth (EE); Great Bend
 *Donald Clayton Innes (VMP); Manhattan
 *Lucille Mable Irwin (HE); Fairview
 *Newton Kelly Irwin (VMP); Highland
 *Mary Gretchen Isern (IJ); Alden
 *Dana Gail Jackson (GS); Riley
 *Howard Nelson Jackson (CE); Greenleaf
 James Thomas Jackson (ChE); Manhattan
 *Paul Jackson (AE); New Albany
 *Wallace Denton Jackson (VM); Colony
 *Charles Arnold Jacobi (VM); Winfield
 Wilma Ernestine Jacobs (C&A); Topeka
 *David Jacobson (VM); Manhattan
 *Walter E. Jacobson (GS); Manhattan
 *Orval George Jacoby (C&A); Clyde
 *Mae Dee Jelinek (C&A); Munden
 *Malcolm Wayne Jensen (GS); Leavenworth
 *Eleanor May Jett (IJ); Wichita
 *Arlene Emma Johnson (HE); Smolan
 *Bruce Emmett Johnson (EE); Manhattan
 *James Elbert Johnson (Ag); Winfield
 *Jean Frances Johnson (MuE); Olsburg
 *Lawrence Edwin Johnson (ArE);
 Kansas City
 *Maxine Johnson (GS); Manhattan
 *Gordon Dale Jolitz (MuE); Abilene
 *Boyd Dean Jones (CE); Santa
 *Jack William Jones (Ag); Council Grove
 *Lloyd Nelson Jones (VMP); Leigh, Neb.
 *Raymond Albert Jones (VMP); Penaloza
 *Robert Lincoln Jones (PE); Alta Vista
 *Aimison Jonnard (ChE); Manhattan
 Lawrence Lee Jordan (Ag); Clafin
 *Mary Christine Jorgenson (HE); Manhattan
 *Donald Alonzo Justice (ME); Dodge City
 *Robert Francis Kane (IJ); Topeka
 *Alma Belle Karns (HE); Bucklin
 *Harvey Herman Kaufman (IJ); Gridley
 *Winton August Kaup (IJ); Manhattan
 *Harold Buhrer Keller (GS); Enterprise
 *Grace Lea Kellogg (HE); Leecompton
 *Dorothy Lorene Kendall (HE); Kiowa
 *Charles Alvin Kennedy (VMP);
 Kansas City
 *Emile Fredrick Kientz (Ag); Manhattan
 *Elmer William Kietzmann (C&A); Alma
 *Frederick Vincent Kilian (AA); Detroit
 *Marion Ainsworth Kilian (IJ); Holyrood
 *Ivan Albert King (EE); Muscotah
 *Nellie Bryces King (IJ); Centralia
 Richard Franklin King, Jr. (Ag);
 Manhattan

FRESHMEN—Continued

- *William Edward Kinkade (C&A); Junction City
 *Edward William Klimek (PE); Manhattan
 *Florence Elizabeth Kling (C&A); Holton
 *Delpha Alberta Klint (HE); Clifton
 *Jack Ross Knappenberger (VMP); Penalosa
 *Roy C. Knappenberger (GS); Penalosa
 *Harry Alvin Knauff (GS); Mahaska
 *Hildegard Charlotte Knopp (IE&D); Chapman
 Virginia Knostman (IJ); Manhattan
 *Helen Margaret Koestel (HE); Partridge
 *Eleanor Catherine Kohake (GS); Seneca
 Herbert James Koon (GS); Manhattan
 *Herold Anderson Krig (VMP); Manhattan
 *Loran Arthur Kropf (C); Wamego
 *Russel Eugene Krotzinger (C&A); Wetmore
 *Anthony Francis Krueger (C); Gardner
 *Louise Maxine Krummel (HE); Rice
 *Ethel Mae Kuelling (Ar); Madison, Wis.
 *Charles William Kuhn (GS); Marion
 *Leon Jules Lacroix (VM); Manhattan
 *Boyda Jo Lacy (HE); Everest
 *Alice Rosamond Lamborn (HE); Leavenworth
 *Jack Edgar Lane (C&A); St. George
 *Mary Elizabeth Laskie (HE); Bucyrus
 *Virginia Kathryn Laskie (HE&A); Bucyrus
 *Alvin George Law (AA); Hill City
 *Dale Jason Lawrence (PE); Olathe
 *George Edward LeBreton (Ag); Leavenworth
 *Janice Roberta Lehmann (GS); Manhattan
 *Lester L. Lenertz (CE); Wilmore
 *Edward Herman Lenheim (VMP); Topeka
 *Paul Allen Lichty (EE); Sabetha
 *Elmer Edward Light (C); Yates Center
 *Freda Lind (IJ); Manhattan
 *Norman Henry Lindbloom (ME-1; Ag-2); Osage City
 *LaVonne Virginia Linholm (IJ); McPherson
 *Charles Ashcom Lindsay (GS); Junction City
 *Keith Warner Lindsey (Ag); Frankfort
 *Violet Eleanor Linville (HE); Chase
 *Wayne Arnold Linville (EE); Chase
 *Vere Oakley Lipperd (ME); Udall
 Fay Ljungdahl (HE); Menlo
 Ralph Alvin Long (C); Kansas City
 Russell Keith Long (C); Manhattan
 *Evelyn Alice Longerbeam (GS); Herington
 *Carl Eugene Looker (GS); Oxford
 *John Ira Loomis (AA); Jewell
 George Allen Lopp (VMP); Kansas City
 *Henry Loughridge (VMP); Lyndon
 *Ernest Leland Love (VM); Manhattan
 *John Wilson Loy (ChE); Chanute
 *Maxine Lund (HE); Green
 Sam Ray Lungren (Ag); Osage City
 *Charles Lutz (C); Manhattan
 *William Lowell Lytle (CE); Coldwater
 *Ralph Hugh McAninch (GS); Manhattan
 *Robert James McCall (AE); Wakeeney
 Beryle Elizabeth McCammon (IJ); Esbon
 *Rodney Keith McCammon (Ag); Esbon
 *Cecil Earl McClaren (CE); Mullinville
 *J. Raymond McClure (PE); Kismet
 *Bonnie Imogene McComb (HE-1; IJ-2); Stafford
 *Gerald Randall McCorkle (VMP); Jewell
 *Vinton Ira McCormick (PE); Manhattan
 *Virginia McCormick (GS); Topeka
 *Edward LeRoy McCoy (GS); Manhattan
 *Virginia Florence McCullough (Ar); Stafford
 *Herbert William McCurry (EE); Manhattan
 *Henry McDaniel (MI); Michigan Valley
 *Alice Isabel McDonald (HE&N); Horton
 Frederick Lee McDonald (GS); Horton
 *Ian Currie McDonald (VM); Manhattan
 *Jay Wayne McFadden (CE); Mullenville
 *Virginia Iris McFarland (PE); Chase
 *Howard Nathan McFillen (AE); Cedar
 *Allan William McGhee (VMP-1; IJ-2); Centralia
 *Frank Robert McGill (GS); Hoisington
 *Helen McGuire (HE); Burlington
 *Vergil Miller McIntosh (C); Manhattan
 *Wayne Wesley McIntosh (C); Manhattan
 *Helen Ruth McKenzie (GS); Solomon
 *Robert Wilson McLeod (CE); Smith Center
 Raymond Leroy McMahon (VM); Logan
 *Louis Barber McManis (EE); Kingman
 *Harold William McMillan (CE); Randall
 *Mary Lucille McNamee (HE); Walnut
 *Betty Lee McTaggart (IJ); Belleville
 *Mary Doris McVey (PE-1; HE-2); Hill City
 *Harris Leo Mackey (CE); Caldwell
 Chester Lyle Macredie (ChE); Wichita
 *Herman Paul Madsen (ME); Corbin
 Orville Charlie Madsen (AA); McDonald
 *James Elton Maget, Jr. (IJ); Manhattan
 George Badsky Maichel (VM); Overbrook
 Simeon Emanuel Marcotte, Jr. (VMP); Manhattan
 *Frank Lucius Marey (Ag); Milford
 *Lester Walter Maresch (AE); Nekoma
 *Vernon Frank Maresch (AE); Nekoma
 *Edward Joseph Markward (GS); Dubuque, Iowa
 *Abby Lindsey Marlatt (IE&D); Manhattan
 *Harold Doig Martin (EE-1; Ag-2); LaCygne
 *Max D. Martin (ChE); Glasco
 *Roy Scott Martin (ChE); Pratt
 *Anna Jean Marx (IE&D); Ellis
 *Robert Earl Mason (VMP); Fall River, Mass.
 *Joseph Raymond Massey, Jr. (VMP); Sun City
 *Clayton Matney (ME); Larned
 *Milton Paul Matthaei (GS); Axtell
 *Minnie Isabel Matthias (HE); Atchison
 *Claudia Maxine Maxwell (GS); Manhattan
 *Kathryn Grace Mayden (IE&D); Manhattan
 *Warren Hough Mayer (CE); Wetmore
 *William Allen Mayfield (EE); Soldier
 *Delos Gorden Mayhew (GS); Trousdale
 *Eldon Jay Mayhew (ChE); Belpre
 *Louis Fullington Meek (EE); Idana
 *Allen Benjamin Meeker (CE); Galena
 *Friedrich Edward Meenen (CE); Clifton
 *Lester Lee Mehaffey (CE); Farmington
 *Edith Magdalena Meisner (IE&D); Wichita
 *Robert Axton Merrell (C); Manhattan
 *Howard Fred Merriek (ArE); Wichita
 *Vincent Merrifield (AA); Agra
 *Dolores Ann Meyer (GS); Frankfort
 *Fred Meyer, Jr. (AE); Jewell
 *Ivard Dean Meyer (CE); Bison
 William Udeen Meyer (GS); Jamestown
 *Dorothy Miller (HE); Lebanon
 *Dorothy Pearl Miller (HE&A); Bridgeport
 *Hans David Oliver Miller (GS); Leonardville
 *Luman Glenn Miller (C); Salina
 *Merle Monroe Miller (IJ); Salina
 *Oliver Agnese Miller (HE); Mahaska
 Fred James Millican, Jr. (EE); Topeka
 *Eugene Minor (C); Silver Lake
 Lloyd Burdette Mobley (VM); Kansas City
 *Gordon Ray Molesworth (IJ); Colony

FRESHMEN—Continued

- *James Milton Montgomery (AA); Penokee
 *Jake Moon (EE); Hutchinson
 *Albert Heywood Moore (C); Concordia
 *Francis John Moore (VMP); Ashland
 *John Lester Moore (EE); Abilene
 *John Richard Moore (Ag); Alliance, Ohio
 *Wilbur Irwin Moore (EE); Clay Center
 *Lloyd Murle Mordy (MuE); Derby
 *Carl William Morgan (CE); Long Island
 *Charles Boyd Morgan (IJ); Hays
 Herbert Carl Morgan (GS); Greenleaf
 *Olga Adelle Morgenson (GS); Vesper
 *Zoeme Dott Morrell (HE); Moscow
 Alfred Less Morris (Ag); New Albany
 Merna Rae Morris (GS); Paxico
 *Vern Vencil Morris (EE); Jetmore
 *Dorothy Lee Morrison (HE&A); Dalhart, Tex.
 *Harry Clifford Morton (EE); Winfield
 *Lynus Robert Morton (VMP); Yates Center
 *Donald Fleet Mossman (Ag-1; VMP-2); Manhattan
 *Lottie Elizabeth Mott (LG); Poplar Bluff, Mo.
 *Jack P. Motter (IC); Wichita
 Wilbur Henry Moulder (VM); Sabetha
 *Mildred Lucille Mundell (HE); Nickerson
 *Elbert Lindon Mundhenke (AA-1; AE-2); Lewis
 *Martha Eleanor Murdock (HE); Manhattan
 *Fred Harold Muret (Ag); Winfield
 *Joe Murphy (ME); Chapman
 *Lester Duane Murphy (Ag); Sublette
 *Esther Mae Musil (HE); Blue Rapids
 *Melvin Arthur Myrdland (Ag); Horton
 *Howard Cecil Myers (PE); Abilene
 *Hugh Garry Myers (Ag); Milo
 *Keith Elmer Myers (ME); Sharon Springs
 *Wayne Evertt Myers (Ag); Osborne
 Willis Roy Myers (C&A); Abilene
 *Bernard Carleton Nash (C); Lakin
 *Abraham Neal (VMP); Kansas City
 *Celeste Wilhelmina Nelson (HE); Topeka
 *Forrest Orin Nelson (CE); Fowler
 *George Nelson (CE); Lyons
 *Harry Alfred Nelson, Jr. (C); Holton
 *Ransom Fay Nelson (AA); Reamsville
 *Mary Jane Nesselrode (HE); Kansas City
 *Dorothy Leona Nichol (HE); Concordia
 *Naomi Abigail Nichols (HE&A); Council Grove
 *Chester Dale Nielson (GS-1; VMP-2); Bennington
 *Clara Wilhelmina Niemoller (GS-1; HE&A-2); Wakefield
 *Elizabeth Lee Noel (PE); Glasco
 *Dorothy Nelle Noell (HE&N); Syracuse
 *Dean Nonamaker (EE); Osborne
 *Charlotte Norlin (GS); McCracken
 *Howard James Norman (C&A); Kansas City, Mo.
 *Kenneth Sidney Norton (GS); Lebanon, Neb.
 *Allen Nottorff (Ag); Abilene
 *Robert Fred Nuttelman (Ag); Great Bend
 Russell Grant Nystrom (Ag); Dover
 *Eugene Lee O'Brien (LA-1; MuE-2); Burr Oak
 *Joseph Albert O'Brien (IJ); Nortonville
 *Leona Venetta Ochsner (PE); Tribune
 *Joseph Frederick O'Connor (C); Chapman
 *Preston Edward Olderog (VMP); Manhattan
 William Ralph Olin (IJ); El Dorado
 *Forrest Dean Oline (ArE); Sterling
 *Vito Thomas Oliver (VM); St. Louis, Mo.
 *Andrew Earl Olson (Ag); Dwight
 *Annette Olson (GS); Manhattan
 *Charles Herman Olson (Ag); Dwight
 *Emma Kathryn Olson (C); Leonardville
 *Floyd Russell Olson (Ag); Minneola
 *Raymond Wingenreed Olson (VMP); Atchison
 *Donald Oman (ChE-1; C-2); Leonardville
 *Ford Anthony Opdycke (Ag); Russell
 *Herbert Alfred Opel (VMP); Jefferson City, Mo.
 *Glen Lee Osborn (Ag); Manhattan
 *Vernon Alfred Ostendorf (VMP); St. Paul, Minn.
 *Harry Otto (GS); Manhattan
 *Evelyn Lorraine Ousley (HE); Arlington
 *Boyd Milford Owen (EE); Caldwell
 Burton Wallace Pacey (C); Manhattan
 *Bernice Isabelle Packwood (HE); Manhattan
 *Walter Lewis Palmer (C); Green
 Elton Vernon Parson (VM); Emporia
 *Josephine Loraine Parsons (IJ); Wamego
 *Rollin Chester Parsons (Ag); Manhattan
 *Martin Oren Pattison (CE); Manhattan
 *William Clarence Paul (MI); Manhattan
 George Ralph Pauling (C&A); Manhattan
 *Jay Henry Payne (Ag); Delphos
 *Wallace Courtland Peck (VMP); Meriden
 Chester Winfred Peebles (GS-1; Ag-2); Manhattan
 *John Paul Perrier (GS); Olpe
 *Floyd Vance Perrine (ChE); Junction City
 *Irene Nettie Perry (HE); Springdale, Conn.
 *John Donald Peterson (IC); Enterprise
 *Mildred Florence Peterson (IE&D); Kingman
 *Velma Irene Peterson (C); Waterville
 *William Raymond Peterson (IJ); Manhattan
 *Boyd Dudley Phillips (Ag); Sedgwick
 *Russell Eugene Phillips (EE); Wichita
 *Buford Doyle Philpy (VMP); Iola
 *James Meredith Phinney (EE); Russell
 *John Robb Pickett (Ag); Galena
 *James Maxwell Pierce (CE); Burden
 *Staley Leon Pitts (GS); Willard
 *Lennis Kathryn Plank (IE&D); Liberal
 *Charles Morris Platt (ChE); Manhattan
 *Maurice Frank Plotkin (Ag-1; LA-2); Manhattan
 *Warren Andrew Plowman (GS); Jewell
 *Viola Ruth Plush (PE); Penasola
 *Hyman Pogorelsky (VM); Manhattan
 *Lester Winner Pollom (C); Topeka
 *Waldo Weaver Poovey (Ag); Oxford
 *Curtis Albert Poppenhouse (VMP); Manhattan
 *Gerhard Charles Poppenhouse (VMP); Manhattan
 *Carrie Dorine Porter (HE&J); Belleville
 *Phyllis Maxine Posthast (GS); Manhattan
 *Minnie Gladys Pratt (HE); Hope
 Joseph Curtis Prentice (GS); Manhattan
 William Phillip Price (EE-1; GS-2); Little River
 *Wilma Kathryn Price (M); Manhattan
 *Winifred May Prouse (GS); Winfield
 *Robert Emmett Pyle (GS); Manhattan
 Ray Sherman Pyles (VMP); Kansas City
 *Hugh Patrick Quinn (C); Salina
 *Dorothy Marie Rabe (HE); Topeka
 *Guy Arthur Railsback (VMP); Langdon
 *Kenneth Edwin Rall (ChE); Wichita

FRESHMEN—Continued

- *Marion Albert Ramage (ArE); Geneseo
 *Charles Bernard Randall (VM); Bethel
 *Vierlin Willis Randall (ChE); Haddam
 *William Harvey Rankin (C); Idana
 *Mildred Kathleen Raube (GS); Manhattan
 *Weldon Wilday Reager (CE); Augusta
 *Ralph William Reb (AE); Frankfort
 David Vernon Rector (AE); Topeka
 Ward Dallas Redman (VM); Manhattan
 *Evelyn Eliza Redwine (HE); Lake City
 *Leonidis J. Redwine (ME); Lake City
 *Addison Doyle Reed (Ag); Lawrence
 *Clyde C. Reed (Ag); Kanopolis
 *John Gilbert Reel (CE-1; C-2); Topeka
 *Donald Dorman Reid (PE); White City
 *James Edward Reilly (CE); Leavenworth
 *Anna Reimer (HE); Buhler
 *Esther Catherine Relihan (IE&D);
 Smith Center
 *James Hunter Remick (C); Garden City
 *Frank Lauren Reppert (ME); Bryan, Tex.
 *Glendon Earl Rewerts (ChE); Leoti
 *Joe Buel Reynolds (Ar); Chetopa
 *John William Reynolds (Ag); Winfield
 *John Jacob Rhodes (GS); Topeka
 *Milton Donald Rhodes (Ag); Silver Lake
 *Cleo Carl Rice (Ag); Altoona
 *Melvin Earl Rice (EE); Topeka
 *Virginia Louise Richardson (HE&A);
 Topeka
 *Elvyn Lyle Riley (C); Stafford
 *Juanita Louise Riley (HE); Tescott
 *Robert Edward Rion (C&A); Wetmore
 *Elsie Lucille Rising (GS); Wetmore
 Charles Pearson Roberts (ChE);
 Manhattan
 *Marvin Frank Roberts (EE); Topeka
 *Max Fenton Rogers (CE); Glasco
 *Chester Hugo Rolfs (EE); Lorraine
 *James Edward Romig (IJ); Manhattan
 *Robert Lee Root (EE); Marquette
 *George Harvey Roots (C); Wamego
 *Christian Dale Roper (Ag); Halstead
 Jean Louise Roper (HE&A); Manhattan
 *Thelma Arvella Rosenbalm (C); Hiawatha
 *Janet Ross (HE); Holton
 *Mina Louise Ross (HE); Wamego
 Robert Earl Ross (EE); Kendall
 *Ruth Irene Ross (HE); Peabody
 *Sigel Martin Ross (GS); Kendall
 *Louis Rotar (EE); Kansas City
 *Bernice Ruddick (GS); Manhattan
 *John Bernhardt Rufener (AA); Strong City
 *Joseph Donald Ruggio (GS); Manhattan
 *Edward Allen Russell (IJ); Manhattan
 *Lois Roberta Rust (HE); Manhattan
 Ira Frances Salmon (AE); Fowler
 *James Sanders (C); Kingman
 *Carl Robert Sandstrom (C); Herington
 Andy John Sargent (VM); Salina
 *Julia Rebecca Sawtell (HE); Topeka
 *Ralph Antone Scalapino (IC); Everest
 *Leroy Edward Schafer (Ag); Valley Center
 *Kathryn Patricia Scheier (HE); Everest
 John George Scheu (GS); Manhattan
 *Francis Noel Schlaegel (ME); Olsburg
 *Pauline Schlosser (C); Fredonia
 *Clyde Schmedeman (ChE); Manhattan
 *Ralph Edward Scholz (Ag); Huron
 Maurice A. Schooley (VM); Morganville
 Paul Schoonhoven (GS); Manhattan
 *Edna Margaret Schraeder (HE); Lorraine
 *Edwin Lenard Schuetz (Ag); Mercier
 *Walter Scott Schultz (ME); Augusta
 *Edwin Whitaker Schumacher (GS); Jewell
 Albert Von Schwartz (VM); Manhattan
 Marion Dodford Scott (Ag); Manhattan
 *Richard Finley Scott (CE); Hill City
 *Beth MaJean Searles (IJ); Wetmore
 *James Newell Seaton (GS); Manhattan
 *Gilbert Joseph Seiwald (GS); Wamego
 *Chester William Sellers (GS); Russell
 *Milton Seltzer (VMP); Brooklyn, N. Y.
 *Donna Fae Shafer (Ar); Manhattan
 *Mildred Marie Shaffer (GS); Simpson
 *Leo Julius Shank (EE); Bazine
 *Lloyd Leonard Shank (GS); Bazine
 George Woodrow Shaw (AA); Moscow
 *George Henry Shears (CE); Hutchinson
 *Clarence Franklin Shelby (VM); Columbus
 *Dean Shepherd (ME); White City
 Richard Dickinson Sherman (GS);
 Manhattan
 *Wava Jane Shoemaker (HE); Centralia
 *Dorothy May Shrack (IJ); Pratt
 David Dillon Shrader (C); Enterprise
 Delmer Ernest Shreve (ME); Augusta
 *Kenith Glenn Shultz (AA); Fall River
 *Harold Klager Shroff (Ar); Concordia
 *Hubert Dale Shroff (IJ); Concordia
 *E'mer Charles Sieg (AA); Bogue
 William Vincent Silver (C); Clay Center
 *Charles Leon Simmons (ME); Strong City
 *Joy Bernice Simmons (PE); Wamego
 *Gerald Edward Simms (GS); Republic
 *Carl Simpson (Ag); Milton
 *Frances Ellen Singleton (GS); Tribune
 *William Leon Sipes (PE); Emmett
 *Clarence McPherson Skaggs (C);
 Dodge City
 *Kenneth Walter Skinner (GS); Topeka
 Warren Lang Skinner (VM); Beverly
 *Ethel Sklar (IJ-1; Ar-2); Manhattan
 *Hanley Robert Slagle (PE); Manhattan
 William Leonard Slater (Ar); Manhattan
 *Loran Alvin Slaughter (IJ); Manhattan
 *John Walter Slocombe (Ag); Peabody
 *Alice Pearl Sloop (HE); Nortonville
 *Albert Benjamin Smith (Ag); Manhattan
 *Carlton Smith (EE); Faulkner
 *Dale Albert Smith (IC); Manhattan
 *Donald Hayse Smith (ArE); Wellington
 *Elmo Thomas Smith (GS); Kensington
 *Ernest Phil Smith (VMP); Scandia
 *James Osborne Smith (ArE); Wichita
 *Josephine Frances Smith (HE); Manhattan
 *Loren Walter Smith (CE); Manhattan
 Roy Juan Smith (Ag); Lincoln
 *Wilfred Orvis Smith (EE); Hoisington
 William Daniel Smith (VM); Fredonia
 *Mary Jane Snoddy (GS); Burlingame
 *Raymond R. Sollenberger (CE);
 Manhattan
 *Tressia Eleanor Souder (HE&N);
 Dodge City
 *Kay Vern Spear (CE); Leoti
 *Paul Eugene Spears (C&A); Mulvane
 *Whitcomb Glenn Speer (PE); Manhattan
 *Robert Jacob Spiegel (CE); Topeka
 Laurence Eric Spong (GS-1; VM-2);
 Enterprise
 *Dorothy Dawn Staggs (HE&A); Manhattan
 *Dean Standefer (ME); Junction City
 *David Wilson Stark (GS); Topeka
 *Beverly Earl Steadman (ME);
 Junction City
 *Darrell Stanley Steele (VMP); Manhattan
 Robert J. Steele (Ag); Barnes
 *Carl Fred Steinhauser (VM);
 Mountain Lake, Minn.
 *William D. Steinle (CE); Russell
 *Jack Amos Stephens (PE); Wichita
 Frank Eugene Sterba (VM); Cuba
 *Arch Sterling (Ag); La Harpe
 *Joseph Sterling (VM); Brooklyn, N. Y.
 *John Mitchell Stevens (VMP); Manhattan

FRESHMEN—Continued

- *Rollin Revillo Stevens (Ag); Blue Rapids
 *Alice Mary Stockwell (HE&J); Manhattan
 *Jeanne Stone (IE&D-1; IJ-2); Caney
 *Richard Shelley Storer (ChE); Herington
 *Arthur Emerson Stoskopf (ME);
 Hoisington
 *Elmore Gregory Stout (AA);
 Cottonwood Falls
 *Charles Lyman Streeter (Ag); Wakefield
 *William Robert Strieby (C); Council Grove
 *Phyllis Margaret Studer (GS); Atwood
 *John David Sullard (AE); Wichita
 *David Sanders Sussman (VMP);
 Brooklyn, N. Y.
 *Robert Turner Syler (EE); Sylvia
 *Buford Delmont Tackett (EE); Topeka
 *Donald Eugene Tannahill (GS);
 Phillipsburg
 *Daniel Lloyd Tappen (GS); Salina
 *Robert Edward Tate (IJ); Downs
 *Katherine Elizabeth Taylor (IE&D);
 Osborne
 *Lila Elaine Taylor (IE&D); Enterprise
 *Warren Chalmer Teel (Ag); Lucerne
 *Kenneth Galen Teets (LA);
 Manchester, Okla.
 *Virginia Mae Teichgraber (HE);
 Marquette
 *Gilbert LeRoy Terman (Ag); Manhattan
 *Evelyn Louise Thacker (C); Pratt
 *Dudley Percy Thomas (ME); Marysville
 *Glen Junior Thomas (GS); Riley
 *William Edward Thomas (Ar); Marysville
 *Bert Bristow Thompson (PE); Miltonvale
 *David Ambrose Thompson (IJ); Cheney
 *Frances Kay Thompson (IE&D);
 Herington
 *Gertrude L. Tillotson (HE); Sublette
 *Robert John Tindall (C); Lakin
 *Frances Todd (Ar); Wilmore
 *Anna Jean Tolman (HE&N); Wamego
 *Charles Merrill Tolman (MuE); Wamego
 *Charles Edward Tomson (Ag); Dover
 *Richard Earl Totten (EE); Clifton
 *Wayne Dillon Trail (GS); Colby
 *William Paul Trenkle (C); Manhattan
 *Raymond Charles Trentman (AA); Zenda
 *Fredric William Tretbar (GS); Stafford
 *John Maurice Trout (CE); Neosho Falls
 *Harry Elmer Trubey, Jr. (EE); Ellsworth
 *Ivor Robert Turner (C); Arkansas City
 *Robert Correll Turner (ChE); Mankato
 *Max Kenneth Tysor (CE); Anthony
 *Elinor Lucile Uhl (GS); Smith Center
 *Harold Preston Ulrickson (EE); Kanopolis
 *Pauline Ernestine Umberger (HE);
 Manhattan
 *Pauline Marie Vandiver (HE); Manhattan
 *Phillip Harris Vardiman (VMP);
 Manhattan
 *Clarence Fred Veach (EE); Salina
 *Clark Alvin Waage (ME); Westfield, N. J.
 *Clarence Dale Walker (Ag); Manhattan
 *Mary Ann Wall (IE&D); Mahaska
 *Clark Vincent Wallace (GS); Manhattan
 *Paul Samuel Wallingford (Ag); Manhattan
 *Joe Harrison Walser (CE); Manhattan
 *Clara Maurine Walters (GS); Manhattan
 *Harold Walters (IC); Wetmore
 *Keith Walton (EE); Peck
 Wanda Maxine Walton (HE); Mildred
 *LaRue Wilmer Wangerin (AE);
 Kensington
 Raymond Woodrow Wann (VM);
 Manhattan
 *Leland C. Ward (GS-1; Ar-2);
 Manhattan
 *Carl Saylor Warner (AA); Whiting
 *Victor Eugene Warren (AE); Wellsville
 *Jean Washburn (Ar); Manhattan
 *Lloyd Alvin Watson (Ag); Sublette
 *Virgil E. Watson (Ag); Sublette
 *Evan Watts (CE); Havensville
 *George Bruce Waugh (VMP); Mankato
 *Kenneth Bertram Webb (GS); McPherson
 *Leonard Eugene Weckerling (CE); Larned
 *John Wayne Weis (GS); Frankfort
 *John Stover Weisser (Ag); Paxico
 *Homer Theodore Wells, Jr. (ChE);
 Marysville
 *Phillip S. Welsh (ME); Eureka
 *Delbert Oscar Wendt (VMP);
 Bonner Springs
 *Otto Earnest Wenger (AE);
 Victory Junction
 *Willis Raymond Wenrich (Ag); Oxford
 *D. C. Wesche (ChE); Manhattan
 *Robert Wilson West (GS); Manhattan
 *William Roger West (GS); Manhattan
 *Joseph Arthur Weybrew (Ag); Wamego
 *Elton Clive Whan (C); Manhattan
 *Donald Eugene Wheeler (IJ); Seneca
 *Florence Josephine Wheeler (Ar); Jewell
 *John Robert Wheelock (ME);
 Cuskuiriachic, Mexico
 *Kenneth Lewis Wheelock (CE);
 Kansas City
 *Dick Herald Wherry (IJ); Sabetha
 *Edwin LeRoy White (PE); Scandia
 *John Theron White (Ag); Coldwater
 *Patricia Paulene White (HE); Dighton
 *Wallace Merton White (Ag); Coldwater
 *Lucy Eliza Whiteman (HE); Sedgwick
 *Walter Copeland Whitney (CE);
 Manhattan
 *Sarah Elizabeth Whyman (HE);
 Dodge City
 *Victor Berle Wickham (GS); Norcatur
 *Lois Edna Widner (IJ); Manhattan
 *Kathryn Fannie Wilburn (HE);
 Cleburne, Tex.
 *Floyd Eugene Wiley (ChE); Junction City
 *Edgar Howard Wilkerson (ME); Syracuse
 *Wilma Grace Wilkins (HE); Milford
 *Dolores Elaine Williamson (HE);
 Little River
 *Sarah Marguerite Williamson (HE);
 Little River
 *Noble Willis (ME); Kirwin
 *Solon Luther Willsey (GS); Hugoton
 *Thomas Wesley Wilson (CE); Lincoln
 *Victoria Helen Jennie Wilson (GS-1;
 HE-2); Alta Vista
 *Norman Dunning Wilttrout (C); Logan
 *Richard Gordon Wiltse (Ag); Altoona
 *Elmer Winchell (ME); Kansas City
 *Joyce Louise Wingrave (IJ); Yates Center
 *Glenn Leon Winkelman (C); Bloom
 *Virginia Iyone Winkler (GS); Randolph
 *Lorene Louise Winslow (HE&J);
 Manhattan
 *Helen Elizabeth Winter (C); Clay Center
 *Ronald Cameron Wishart (ME);
 Manhattan
 *Harry John Witt (MI); Potter, Neb.
 *Dorothy Harriett Elkins Wixom (HE);
 San Bernardino, Cal.
 *Herald George Wixom (VM); Manhattan
 *Elmer Milton Wolfe (C); Bazine
 *Frank Albert Wolfe (EE); Topeka
 *Beulah Marie Woodcock (HE); Manhattan
 *Gerald David Woody (C); Beverly
 *James Delbert Worster (IJ); Manhattan

* Matriculated 1934-1935.

FRESHMEN—Concluded

- *Gerald Eugene Wright (C); Jamestown
- *William Wilbur Wright (ChE);
Kansas City
- *Jack Frederic Wynne (EE); Salina
- *Ernestine Yancey (GS); Herington
- *Irl Clarence Yeo (EE); Ellsworth
- *Gladys Katherine Young (HE); Haddam
- *James Leroy Young (Ag); Cheney
- *John Henry Young (EE); Centralia
- *Laura May Young (HE); Cheney
- *Louis Clifton Zacharias (GS); Oak Mills
- *Federico Sison Zamora (AH&V);
Manhattan
- *Edward Bonjour Zickefoose (VMP);
Rossville
- James Elias Ziegler (VMP); Junction City
- *Ben Franklin Zimmerman, Jr. (C);
Dodge City
- *Vernon Nathan Zimmerman (EE);
Manhattan

SPECIAL STUDENTS

- *Robert Calvin Chaffee (ME); Lasita
- *Robert Lee Clayton (GS); Admire
- *Clarence Sherman Coffey (GS);
Platte City, Mo.
- Doris Compton (GS); Manhattan
- *Albert Wesley Cookson (GS); Wakefield
- Adah Lou Eier (GS); Manhattan
- Edson A. Elser (GS); Fort Riley
- *Walter Titus Emery, Jr. (GS); Manhattan
- *Reamy Curtis Fitch (CE); Manhattan
- *Naomi Nollette Flipse (HE); Oakley
- *Thelma Laurene Forney (GS); Manhattan
- *Louise Ann Frank (GS); Colby
- *Marion Emil Frank (GS); Manhattan
- *Salvador Gonzalez (CE);
Guadalajara, Mexico
- George William Grammer (GS);
Junction City
- *Charles Robert Hamner (GS); Valley Falls
- Fern Falkinburg Harbaugh (HE);
Manhattan
- *Jesse D. Harden (GS); Manhattan
- Julia Ruth Hartman (GS); Manhattan
- *Ida Lue Hildibrand (HE); Latham
- *Mildred Louise Hill (GS); Washington
- *Virvian Mae Jewell (GS); DeWitt, Neb.
- Eunice Ruth Justis (GS); Washington
- *Margaret Kelsall (GS); Lawrence
- Ethel Lou Miller Kilbourne (GS);
Manhattan
- *Joe Paul Lackey, Jr. (Ag); Toledo, Ohio
- *Don W. Lang (GS); Falls City, Neb.
- Karl Marx Lee (GS); Garden City
- *Paul Taylor Leonard (GS); Sedgwick
- Clyde Delbert Lindsley (GS); Morrowville
- *Roy Clinton Lund (GS); Manhattan
- Sterling Alfred McCollum (ME);
Manhattan
- Mary Roberta McMullen (HE); Oberlin
- Allen Edward Mayhew (GS); Belpre
- Margaret Muse (GS); Monmouth
- Beulah Burnetta Nelson (GS); Manhattan
- Marjorie Annabel Paine (HE); Admire
- Margaret King Pierce (GS); Fort Riley
- *Gopal Singh Rathore (VM); Jodhpur, India
- Katherine Colby Robinson (GS);
Manhattan
- *John Franklin Scantland (GS); Manhattan
- *Bertha Muriel Shedd (GS); Tribune
- *Louise Adele Sherrard (GS); Concordia
- Esther Smiley (GS); Manhattan
- Obadiah Joseph Spencer (GS);
Leavenworth
- *Vera Marie Steiger (HE); Colby
- *Clifford Wesley Turner (GS); Amy
- Aloys Paul Wadham (GS); Marysville
- *Mary Elizabeth Williams (GS); Newton
- *Homer Eugene Withee (Ag);
South Hamilton, Mass.
- Gale Anderson Wolf (HE); Manhattan
- Winnivere Button Wright (HE);
Manhattan

Summer School Students

Nine-week Summer School

Orval Jack Abel; Manhattan
 Joseph Jesse Abernethy; Manhattan
 Mabel Christmas Adams; Garden City
 Mildred Laura Ahlstrom; Reading
 Clifford Lankford Alcorn; Carbondale
 Florence Allen; Valley Falls
 Lucille Eugenia Allman; Manhattan
 Max Donald Alwin; Morrowville
 Earl Preston Anderson; Manhattan
 Ross Harris Anderson; Richland
 Verna Lucille Anderson; Topeka
 Edwin Lee Andrick; Beattie
 Elna Ruth Andrick; Beattie
 Ora Joye Ansdell; Jamestown
 Ethel Marie Antrim; Spivey
 Lawrence Robert Arnett; Broughton
 Harold Duane Arnold; Manhattan
 Maude Arnold; Frankfort
 Esther Ann Atkinson; McPherson
 Emma Jane Ausherman; Abilene
 John Carr Ayers; Marcellus, Mich.
 Dorothea Lillian Bacon; Atchison
 Cyril Andrew Bahl; Morrowville
 Burton Lowell Baker; Perrenton, Mich.
 Josephine Alice Baker; Miltonvale
 Lee Weldon Baker; Overbrook
 Alvin Kornelius Banman; Mathiston, Miss.
 Fred Hayes Banning; Horton
 John Virgil Baptist; Uniontown
 Max Monroe Barber; Council Grove
 Paul Willis Barber; Sabetha
 Edgar Lee Barger; Manhattan
 Lola Marie Barger; Alma
 E. Myrtle Barker; Junction City
 Robert Claude Barnett; Osborne
 Ralph David Barnhart; Manhattan
 Charlotte Elenor Bartley; Washington
 Grace Genevieve Bartley; Washington
 Alberta Basye; Coats
 Buell Wesley Beadle; Talmage
 Clyde J. Bearden; Manhattan
 Bernard Frank Beaver; Ottawa
 Philip Becker, Jr.; Peoria, Ill.
 Naomi Gummere Bedford; Stratton, Neb.
 Doris A. Beebe; Lenexa
 Kenneth Gordon Behrends; Randall
 Frances Elaine Bell; Marysville
 Grace A. Bell; Beverly
 Glenn Edwin Benedick; Manhattan
 Erwin John Benne; Manhattan
 Minnie Louise Bergsma; Lucas
 Esto Ray Berkey; Manhattan
 Loren Richard Berner; Clifton
 William Henry Berry; Attica
 Margaret Odella Bertrand; Clay Center
 Erwin William Bevin; Manhattan
 Mary Blackman; Manhattan
 Paul Everett Blackwood; Talmo
 Evelyn M. Blades; Edmond, Okla.
 Dan Wesley Blaine; El Dorado
 Lee Ella Blake; Kansas City
 Paul Lang Blaksley; Manhattan
 Edna Florence Blaser; Marysville
 Mildred Alvena Blaser; Marysville
 Harriet Ellen Bliss; Peabody
 Major Guy Bliss; Manhattan
 Roy Elmer Bonar; Alta Vista
 Gordon Woodrow Bond; Linn
 Kathaleen Bernice Bond; Linn
 Grace Louise Booker; Clay Center
 Belle Bowen; Arnold
 Hazel Vivienne Bowles; Junction City
 Frances Woodrow Boyd; Phillipsburg
 Alice Marguerite Bozarth; Lenora
 Fred Ewing Brady; Kansas City
 Sidney Oral Brady; Manhattan
 Ethel Minerva Brake; Downs
 Harry Bernard Brandon; Osawatomie
 Buford Forrest Bridges; Manhattan
 John M. Broadwell; Junction City
 Gerald James Brown; Circleville
 Richard Carlton Brown; Hill City
 Rita Brown; Edmond
 John McAnerney Browne; St. Marys
 Eva Brownnewell; Wichita
 Anna Lee Evelyn Brubaker; Aliceville
 Helen Alberta Brunker; Manhattan
 Marjorie Jane Brunker; Manhattan
 Beth Bryant; Manhattan
 Lillian Josephine Brychta; Blue Rapids
 Charlotte Lela Buchmann; Clay Center
 Clark Wayne Burch; Manhattan
 Ben Salvatore Burdo; Manhattan
 Oran Frank Burns; Topeka
 Grace Louise Burson; Oakley
 Edith Marian Burt; Manhattan
 Mary Eliza Burt; Manhattan
 Ben Butler; Manhattan
 Lucille Edith Byarlay; Green
 Frances M. Caldwell; El Dorado
 Roy Raymond Cameron; Havensville
 Maxine Mary Campbell; Manhattan
 Nancy Jane Campbell; Lakin
 Mary Margaret Carr; Winfield
 Delight Gwen Carson; Clay Center
 Vernon Lee Carter; Coffeyville
 Francis Adam Caspar; Alida
 Nora Belle Chamberlain; Riley
 Hiram Wayne Channel; Soldier
 Virgil Theodore Chapman; Manhattan
 Carl James Chappell; Republic
 Mildred Edna Chappell; Plains
 Vivian Imo Chappell; Republic
 Nettie Evelyn Chavey; Clyde
 Vivian Winifred Chitwood; Garnett
 Eunice Sarah Christenson; Olsburg
 Helen Louise Church; Osage City
 Edna Ellen Cireley; Kiowa
 Wilma Lucile Clack; Hutchinson
 George Jay Clark; Riley
 Walter Harvey Closson, Jr.; Manhattan
 Clarence Sherman Coffey; Platte City, Mo.
 Charles Elmer Cole; St. Marys
 Franklin Grimes Colladay; Hutchinson
 Horace Reynolds Collins; Manhattan
 Catharine Helen Colver; Manhattan
 Pauline Elizabeth Compton; Manhattan
 Glenn Harvey Conard; Coolidge
 Frank Barker Cookson; Keats
 Martin Luther Cooley, Jr.; Tulsa, Okla.
 Jennie Ethel Copeland; Idana
 Bernice Eileen Covey; Miltonvale
 Frank Gillette Craft; Hanston
 Audrey Louvina Cramer; Webber
 James Pingree Crawford; Alamota
 Margaret Louise Crawford; Hugoton
 Myrtle Pauline Cress; Junction City
 David Scott Crippen; Council Grove
 Wayne Russell Criswell; Manhattan
 Julia Ellen Crow; Manhattan
 Robert E. Crow; Harper
 Maurine Crutcher; Inman
 Virginia Katherine Crutcher; Inman
 Fern Elaine Cunningham; Junction City
 Arthur Henry Daman; Manhattan
 Dawn Daniels; Manhattan
 Alden Dannevik; Chapman
 Stephen Prema Das; Bangalore, India
 Graham Robert Davidson; Horton

SUMMER SCHOOL STUDENTS—Continued

Herb Smith Davies; Topeka
 Carrie Elvard Davis; Herington
 Dorothy Mae Davis; Herington
 Martin E. Davis; Manhattan
 Betty Olive Davison; Tescott
 Caroline Elaine Dawley; Manhattan
 Paul McConnell Dean; Manhattan
 Stephen Delladio; Manhattan
 Helen Alberta Dempsey; Jewell
 Louise Denton; Manhattan
 Jack Dickens; Manhattan
 Naomi Fay Dill; Winchester
 Ferne Lucille Dixon; Agra
 John Joseph Donnelly; Manhattan
 Opal Dougherty; Manhattan
 Ned Emery Drake; Manhattan
 Mabel Ellen Draney; Fairview
 Mary Edmona Dudley; Topeka
 Albert Richard Duree; Perry
 Harry Orrin Dutton; Jamestown
 Louis Bion Earle; Washington
 Dale Henry Edelblute; Keats
 A. Thornton Edwards; Junction City
 Karl D. Edwards; Junction City
 Glen Ferrell Egan; Altamont
 Doris Evangeline Ekstrom; Agenda
 Elizabeth Fairzina Elledge; Parsons
 Leonard Paul Elliott; Manhattan
 Gerald Franklin Ely; Spivey
 Ellurena Pauline Emery; Kansas City
 Abner Ethan Engle; Chapman
 John Loy Engler; Chapman
 Albert Cassius Esterly; Manhattan
 Robert Lyle Evans; Sabetha
 Roy Omar Evans; Olathe
 Anne Cordelia Everett; Coffeyville
 Olive Falls; Neodesha
 Thomas Conway Faris; Arkansas City
 Frances Erma Farrell; Manhattan
 Edna Elva Farren; Garnett
 Dorothy Myrtle Fearey; Anness
 Madeline Janice Ferris; Conway
 Voigt Raymond Fisher; Atchison
 William David Fitch; Manhattan
 Florence Dresser Fleming; Manhattan
 Nathan Fligstein; Manhattan
 Elsie Louise Flinner; Wichita
 Thalia Frances Follmer; Buffalo
 Blair Clester Forbes; Leavenworth
 Marjorie Forbes; Columbus
 Margaret Lansden Foster; Manhattan
 Irene Etta Fox; Junction City
 John Warren Frazier; Manhattan
 Frank Ryder Freeman; Kirwin
 William Robert Friend; Randall
 Edna Henrietta Fritz; Manhattan
 Roy Fred Fritz; Kansas City
 Harold J. Froning; Copeland
 Wanie Condi Froning; Copeland
 Mae Evelyn Frost; Esbon
 Alma Lucille Furman; Clearwater
 Mark E. Gale; Concordia
 Townsend Galley; Manhattan
 Carol Ruth Gardner; Hartford
 Inez Belle Gardner; Hartford
 Harold E. George; Abilene
 George Willis Gerber; Oneida
 Lois Getty; Winchester
 Gladys Geryoldine Gilbert; Clay Center
 John Ernest Gilbert; Longford
 LuVerne Gilbert; Osborne
 Patricia Gill; Enid
 Horace Thomas Givan; Kansas City
 Mary Margaret Glass; Manhattan
 Albert Glover; Geuda Springs
 Frances Mae Gordon; De Soto
 Martha Elizabeth Gordon; Waterville
 William Miller Govier; Kalamazoo, Mich.
 Alice Lucile Graham; Webber
 Eunice Rebecca Green; Cawker City
 Gerold Goodale Green; Norton
 May Louise Gregory; Ellsworth
 Arvilla Jane Griffling; Manhattan
 Theodore Perry Gustafson; Marysville
 Gersilda Guthrie; Jetmore
 Pearle Haas; Hutchinson
 Phil Creager Haggman; Scandia
 Henry George Hahn; Scandia
 Helen Virginia Hall; Marion
 Pearl Elizabeth Hall; Manhattan
 Robert V. Hall; New Cambria
 Ross Haney; Manhattan
 Irene J. Hank; Holton
 Clark Daniel Hanson; Jamestown
 Junieta LuElla Harbes; Manhattan
 Charles Franklin Hardman; Anthony
 Marguerite Hargrove; Effingham
 Charles Hal Harned; Manhattan
 Florence Lavina Harold; Dresden
 Margaret E. Harper; Glasco
 Elsie Irene Hartel; Manhattan
 Lawrence William Hartel; Manhattan
 Mary Elizabeth Harvey; Harveyville
 Ira Miller Hassler; Chapman
 Donald Quentin Haug; Vermilion
 Bernice Havley; Centralia
 Harriet Glenn Healy; Manhattan
 Ruth Dillon Heckler; Manhattan
 Hazel Ruth Herkes; Wakefield
 John James Heimerich; Clay Center
 John Graham Hemphill; Chanute
 Ella B. Henry; Clay Center
 George Gerald Hensley; Mankato
 Elmer F. Herman; Carlton
 May Beth Herndon; Amy
 Vann Hess; Manhattan
 Kenneth M. Heywood; Summerfield
 Harold Crutchfield Hibbs; Osborne
 Salome O. Hiebert; Lehigh
 Arlie William Higgins; Seneca
 Emma Marie Higley; Muscotah
 Frederick William Hill; Manhattan
 Ursula Edith Hiller; Manhattan
 Neva Inez Hilton; Attica
 Keith Harry Hinchcliff; Kensington
 Thomas Clark Hinkle, Jr.; Carbondale
 Dorr Judd Hinman; Sylvia
 Hazel Irene Hockensmith; Junction City
 Zelma Ellen Hockett; Manhattan
 Grace Larene Hoff; Wichita
 Berniece Gertrude Hoffman; Elmo
 Bernadine A. Hofmann; Clay Center
 Norma Frances Hofses; Partridge
 Cecilia Mary Holland; Manhattan
 Ed R. Holland; Larned
 Marjorie Eleanor Holman; Manhattan
 Rosema Louise Holman; Manhattan
 Arthur Delphin Holmes; Enterprise
 Henry Julian Holuba; St. George
 Thelma Frances Holuba; Manhattan
 Boyd Herbert Hope; Moundville, Mo.
 Ruth Geneva Hopkins; Garden City
 Anton Stephen Horn; Horton
 LeRoy William Horne; Alma
 Abram Eldred Hostetter; Hope
 Junior H. Howard; Oberlin
 Mary Alice Howard; Garnett
 Lela Ethel Huber; Manhattan
 James S. Hudgens; Salina
 Blanche Huey; Louisville
 Charles Wilfred Hughes; Pittsburg
 Walter Clare Hulburt; Wichita
 John Mark Hurd; Manhattan
 Vincent Hurst; Ozawkie
 James Erbert Hyett; St. Marys
 Percy Jennings Isaacson; Manhattan
 Ima Irene Isom; Lebanon
 William Edward Ivey; Manhattan
 Pauline Ethel Jackson; Claudell
 Homer Jameson; Garrison
 Myrta Virginia Jennings; Lebo

SUMMER SCHOOL STUDENTS—*Continued*

William Edwin Jennings; Manhattan
 George Loomis Jobling; Caldwell
 E. Margaretha Joehneck; Rocky Ford, Colo.
 Earnest Mason Joerg; Randall
 Howard Walter Johnson; Sublette
 Myrtle Helena Johnson; Concordia
 Paul Eugene Johnson; Garnett
 Ruth Caroline Johnson; Wamego
 Ruth Emma Johnson; Ness City
 Lee Goree Jolley; Manhattan
 Elmer W. Jones; Pittsburg
 George Clair Jordan; Manhattan
 Mary Carolyn Jordan; Topeka
 Ruth Elizabeth Jorgenson; Manhattan
 Jane Kahl; Topeka
 Mabel Alberta Kaump; Riley
 Erwin Lynn Kay; Brewster
 Rhea Irene Keeler; Nickerson
 Eugene Rix Kell; Manhattan
 Amy Kelly; Manhattan
 M. Mildred Kenyon; Oxford, Ind.
 George Miller Kerr; Manhattan
 James Randle Ketchersid; Hope
 Esther Louise Kifer; Lamar
 William Thomas Kilian; Chapman
 Katharine Frances Kilmer; Kirwin
 Clara Bess King; Manhattan
 George Wilson King; Rozel
 Carl Lawrence Kirk; Winfield
 Margaret Colyer Kirkner; Manhattan
 Leroy Raginold Kirkpatrick; El Reno, Okla.
 Roy Charles Kirkpatrick; Manhattan
 Inge Kallesoe Kjar; Leming, Denmark
 Alton Sawyer Knechtel; Larned
 Wayne Knowles; Belle Plaine
 Martha Elizabeth Koestel; Partridge
 Amelia Margaret Kroft; Wilson
 Bernice Evalyn Kunze; Randolph
 Ethel May Kurz; Coldwater
 Velma Celesta Lambotte; Rossville
 Geraldine Frances Lancaster; Parsons
 Leslie Kimmer Lancaster; Junction City
 Donald Clell Landon; Topeka
 Olga Christene Larsen; Vesper
 Raymond Price Latimer; Manhattan
 Helen Katherine Latta; Holton
 Ena Lucille Leger; Manhattan
 Guy Hussey Lemon; Manhattan
 May Lessig; Ellsworth
 William John Lewis; Manhattan
 Henry James Lindenstruth; Manhattan
 Angelus Joseph Lingenfelder; Atchison
 Peter Rudolph Linscheid; Attica
 Maude Maxine Lober; Keats
 Elmer Ira Long; Manhattan
 Sam Long; Abilene
 Leonard Mark Lovejoy; Manhattan
 Jack Algernon Lowell; Glen Elder
 Otto Walter Ludloff; Manhattan
 Mark Robert Lumb; Manhattan
 Kenneth Price Lusher; Manhattan
 Edith E. Lyness; Walnut
 Hazel Alma Lyness; Walnut
 Sue Lyon; El Dorado Springs, Mo.
 Arla Amelia McBurney; Manhattan
 Beryle Elizabeth McCammon; Esbon
 Dorothy Janette McCammon; Burr Oak
 James DeLos McCampbell; Manhattan
 Edith Louise McCaslin; Osborne
 Myrna Amelia McClure; Manhattan
 John Pierce McClurg; Meriden
 John Edwin McColm; Emporia
 Mary Lou McConathy; Manhattan
 Vinton Ira McCormick; Manhattan
 Charles Melvin McCrann; Wichita
 Zada Gayle McCutchen; Kingman
 Lloyd Everett McDaniell; Michigan Valley
 Emilie Angelina McDonald; Bremen
 Lola Lucretia McDonald; Bremen
 Marybelle McDonald; Bremen
 Esther Alma McFillen; Cedar
 Lucius Elijah McGee; Manhattan
 Edward Lawrence McGuire; Rossville
 Gertrude Eula McHarg; Wichita
 Albert Edward McKay; Manhattan
 Pauline Marguerite McKenna; Kingman
 Maxine Belle McKinley; Manhattan
 Margaret Elenora McKnown; Manhattan
 Thurmal Francis McMahan; Beattie
 Vera MacLeod; Liberal
 Chester Lyle Macredie; Wichita
 George Maddox; Manhattan
 Vera Pearle Marietta; Cawker City
 Kathryn Marquart; Hutchinson
 Arlene Marshall; Herington
 Brittie Ann Martin; Atchison
 Wallace Bayless Martin; Wichita
 Edmond Peter Marx; Manhattan
 James Warren Mather; Grinnell
 Esther Carol Mathies; Alma
 Mary Evangeline Maxwell; Manhattan
 Grace Katherine Mayden; Manhattan
 Norma Muriel Mears; Wichita
 Henrietta Johanna Meenen; Clifton
 Palmer Martin Mellgren; Olsburg
 Victor Theron Merrifield; Minneapolis
 Elmer Louis Metcalfe; Manhattan
 Alfreda Meyer; Frankfort
 Beatrice Meyer; Lillis
 Dolores Ann Meyer; Frankfort
 Frances Lucille Meyer; Frankfort
 Marcella Meyer; Frankfort
 Edwin Louis Millenbruck; Herkimer
 Dorothy B. Miller; Lebanon
 Leonard Fred Miller; Agra
 Kenneth Byron Milliken; Manhattan
 Charles Augustus Mitchel; Manhattan
 Ruth Ann Mitchell; Salina
 Thelma Ethelyon Mizner; Esbon
 Eugene Howell Mock; Topeka
 Loyal Kay Mock; Osborne
 Floyd Edward Monroe; Manhattan
 Gretta Jean Moore; LaJunta, Colo.
 Helen Marguerite Moore; Muscotah
 Martha Mildred Moore; Howard
 Margaret Naida More; Glen Elder
 Joseph Wade Morey; Narka
 Clark Leroy Morford; Olsburg
 Ethel Clarine Morton; Coldwater
 Harold Deane Munal; Milford
 Willard Dow Munson; Madison
 Donald Dudley Murphy; Gardner
 Obed Edmund Myrah; Manhattan
 Winifred Ann Nachtrieb; Atchison
 Roland Seldon Nash; Eskridge
 Minnie Louise Neighbours; Osawatomie
 Myrtle Georgia Neighbours; Osawatomie
 Ciella Eleanor Nelson; McPherson
 Frances Elvera Nelson; McPherson
 Lila Mae Nelson; Viola
 George William Nesbitt; Manhattan
 Mildred Violet New; Leavenworth
 Frances Oma Newkirk; Geneseo
 James Thomas Newton; Douglass
 Dorothea Marie Nielson; Marysville
 Charlotte Celestine Nix; Kansas City, Mo.
 Marcella Elaine Nolan; Lillis
 Paul Talogi Nomura; Manhattan
 Beulah Mildred Norman; Junction City
 Sidney Bertrand North; Coffeyville
 Lois Marie Oberhelman; Barnes
 Milo Claire Oberhelman; Randolph
 Harry E. O'Donnell; Junction City
 Annette Olson; Manhattan
 Elna Joyce Olson; Manhattan
 Martha Luella O'Neill; Winchester
 Margery O'Reilly; Aurora
 Maxine LaVara Orr; Junction City
 Lenora Esther Ostlund; McPherson
 Mildred J. Ostlund; McPherson

SUMMER SCHOOL STUDENTS—Continued

- Christine Louise Overley; Belle Plaine
 Richard Reese Owen; Junction City
 Marianne Ozment; Manhattan
 Lucille Ruth Palmquist; Concordia
 Augustus Stanley Parr; Rossville
 Elsie Mae Parrack; Wakefield
 Donald Baker Parrish; Fort Scott
 Dan Partner; El Dorado
 Margaret Virginia Patterson;
 Kansas City, Mo.
 Clara Katherine Paulsen; Stafford
 Gladys Elsa Paulsen; Onaga
 Mart G. Pederson; Lubbock, Tex.
 Frederick Adams Peery; Manhattan
 Walter Eugene Peery; Manhattan
 Helen M. Peterson; Wichita
 Effie Louise Peterson; Riley
 Roland Winfield Peterson; Riley
 Howard Walter Phelps; Manhattan
 Paul Phillips; Manhattan
 Robert Emmett Phillips, Jr.; Manhattan
 Glenn Pickett; Americus
 Hazel Ida Pierce; Junction City
 Charles Morris Platt; Manhattan
 Roland Sanford Powers; Manhattan
 Ivan Pratt; Hope
 Mary Eleanor Price; Manhattan
 Marvin Andrew Pringle; Eskridge
 Clyde L. Putnam; Haven
 Harry Charles Quantic; Riley
 John Stook Rader; Smith Center
 Julia Elizabeth Rader; Manhattan
 Mohamed Hassan Radi; Cairo, Egypt
 Paul Francis Ragland; Manhattan
 Esther Boell Ragle; Wamego
 Dorothy Isabelle Raines; Roodhouse, Ill.
 Edra Aileen Ramsay; Garnett
 Ralph Thornton Rankin; Manhattan
 Lola Mae Reagan; Riley
 Carrietta Rech; Howard
 Margaret Mary Reddy; Baxter Springs
 George Harris Reed; Eldon, Iowa
 Helen Marjorie Reed; Circleville
 Roberta Catherine Reed; Elkhart
 Anna Katherine Renz; Riley
 Juanita May Rhoads; Goodland
 Opal Elnora Rhoads; Goodland
 William C. Rhodes; Neodesha
 Lloyd Carr Riggs; Manhattan
 Joe Wheeler Rigney; State College, N. Mex.
 Herbert Maxwell Rivers; Hutchinson
 Violet May Robb; Louisville
 Charles Pearson Roberts; Manhattan
 John Bissell Roberts; Manhattan
 Leland Roberts; Ogden
 Rachel Edith Roberts; Morrill
 Stanley Irving Roberts; Chanute
 John H. Robinson; Cullison
 Ruth Rockey; Manhattan
 Frederick A. Roebke; Fort Collins, Colo.
 Harold Richard Roehman; White City
 Emily May Rogler; Topeka
 Dale Servetus Romine; Oswego
 Evelyn Anna Rosell; Leonardville
 Lois Elizabeth Rosencrans; Manhattan
 Ethel Agnes Rosey; Junction City
 Harold Eugene Ross; Wamego
 Frank Louis Rosser; Manhattan
 Vernal George Lee Roth; Emporia
 Francenia Routt; Paola
 Mercedes Brown Rowell; Manhattan
 Dorothy Dee Roy; Wilsey
 Dougal Russell; Manhattan
 Robert Homer Russell; Auburn
 Mary Elizabeth Rust; Manhattan
 Mary Catherine Ryan; Manhattan
 Oliver Whan Sadberry; Gouse, Tex.
 Edwin Charley Sample; Council Grove
 Norma Harriet Sayre; Ingalls
 Wilma Ruth Schmidt; Blue Mound
 Paul Schoonhoven; Manhattan
 William George Schrenk; Leonardville
 LaVelle Robert Schruben; Centralia
 Doris Schwanke; Alma
 Edmund H. Schwanke; Alma
 Louis Charles Schwanke; Alma
 Albert Von Schwartz; Manhattan
 Florence Etta Schwendener; Abilene
 James Herndon Scott; Manhattan
 Marjorie Marie Scott; Altoona
 Deane Robert Seaton; Abilene
 Allan Eugene Settle; Strong City
 Sheridan Settler; Council Grove
 Donna Fae Shafer; Manhattan
 Edna May Shannon; Manhattan
 Lucile Nellie Shannon; Manhattan
 George Oscar Sharp; Pittsburg
 Garnet Evadna Shehi; Topeka
 Edward Temple Sheldon; Topeka
 Nina Mae Sherman; Grinnell
 Richard Dickinson Sherman; Manhattan
 Althea Lenora Siddens; Blaine
 Velma Alice Siddens; Westmoreland
 Curtis Daniel Sides; Ramona
 Imogene Ruth Siemers; Clay Center
 Francisco Antonio Sierra de Soto;
 Manhattan
 James Monroe Siever; Manhattan
 Richard Ray Simmons; Ashland
 Eugene Schisler Sims; Le Roy
 Corinne Sinclair; Jetmore
 Arvilla Singley; Plains
 Sister Clement Marie Heidrick; Concordia
 Sister Ethelburg Leuschen; Atchison
 Sister Jeanette Obrist; Atchison
 Sister Lorena Heidrick; Concordia
 Sister M. Bonaventure McKenna; Atchison
 Sister Marcella Siela; Atchison
 Sister Melania Goracke; Atchison
 Donald Theodore Skinner; Manhattan
 Sadie Sylvia Sklar; Manhattan
 Rose Martha Skradski; Kansas City
 Howard Dwight Smethers; Haddam
 Esther Smiley; Manhattan
 Daphyne Vivian Smith; Manhattan
 Faye Marcelle Smith; Randall
 John Clarence Smith; Sasser, Ga.
 Woodrow Wilson Smith; Emmett
 Norman John Sollenberger; Manhattan
 Ralph Westley Spears; Mulvane
 Cecil Otto Spencer; Manhattan
 Mary Ellen Springer; Manhattan
 Helen V. Standefer; Junction City
 Elizabeth Stanley; Wichita
 Clarence Melvin Stay; Manhattan
 Vincent Albert Steimel; Iola
 Vern Emmett Stepp; Neodesha
 Elsie Mildred Stevens; Manhattan
 Vernon McKee Stevens; Abilene
 Clarice Alyce Stewart; Eskridge
 Mary Emma Stewart; Auburn
 Esther Still; Centralia
 Lois Deming Stingley; Manhattan
 Frank Allen Story; Manhattan
 James Dean Stout; Independence
 Loran Glenn Stuke; Manhattan
 Charles Raymond Stumbo; Bayard
 Ida Walker Summers; Manhattan
 Edna Lucy Swank; Hill City
 Maybelle A. Swenson; Alta Vista
 Francis Rioja Taberner; Manhattan
 Alberta Margaret Taddiken; Clay Center
 Ferne Ethelyn Tannahill; Manhattan
 Willie Andrew Tarron; Midway, Tex.
 Grace Elizabeth Taylor; Manhattan
 James Willett Taylor; Lawrence
 Altha Tedrow; Salina
 Elsie May Tempero; Clay Center
 William Woodrow Templer; Moline
 Opal M. Thomas; Ulysses
 Arch Thompson; Blackwell, Okla.

SUMMER SCHOOL STUDENTS—*Concluded*

| | |
|---------------------------------------|-----------------------------------------|
| Dwight Jesse Thompson; Wichita | Olive Lena Weaver; Garden City |
| James Otis Thompson; Dodge City | Henrietta Ella Webb; Kansas City |
| Marian Thompson; Manhattan | Russell Wayne Webb; Hardtner |
| Ned O'Dell Thompson; Manhattan | Eleanor Marie Weller; Abilene |
| Velma Fern Thompson; Manhattan | Harold Rowe Weller; Olathe |
| Leona Zoe Tibbetts; Westmoreland | Guy Justin Wells; Morrowville |
| Marcie Edythe Tillman; Manhattan | Leonice Pearl Wells; Meriden |
| Helen Catherine Todd; Clay Center | Melvon Wertzberger; Alma |
| John Sherman Todd; Olathe | Willard Malcolm West; Offerle |
| Florence Lorraine Todd; Gridley | Wallis Christian Wetlaufer; Manhattan |
| Velma Elizabeth Todd; Clay Center | Florence Rilla Whipple; Manhattan |
| Hazel Marie Torgeson; Council Grove | A. Pauleen White; Dalhart, Tex. |
| Lola Loomis Totten; Manhattan | James Rudolph Whitman; Manhattan |
| Linford L. Truax; Peabody | Hallie Elizabeth Whitney; Council Grove |
| George Edward Truby; Lane | Marguerite Louise Whitten; Wakarusa |
| Vera Annabelle Trusler; Junction City | Ruth Wilkerson; Smith Center |
| Clifford Wesley Turner; Amy | Mary Elizabeth Wilkes; Leavenworth |
| Forrest William Turner; Independence | Arthur Owen Williams; Belleville |
| Roland Franklin Turner; Manhattan | Eunice Carolyn Williams; Osage City |
| Martha Jane Ulrich; Hamilton | Edna Pearl Willis; Leoti |
| Margaret Van Orsdol; Silver Lake | James Herdman Wilmoth; Blue Rapids |
| Leland Stanford Van Scoyoc; Manhattan | Alice Wilsey; Washington |
| Christine Eloise Vaughan; Scott City | Lewis Alfred Wilson; Valley Center |
| John Victor Venard; Manhattan | Ruth Wilson; Topeka |
| Rollo Evans Venn; Wichita | Walter Edwin Wilson; Manhattan |
| Juan Rambac Vidad; Manhattan | Jessie Helene Winder; Waldo |
| Edwin Anthony Vossman; Beloit | Elmer Henry Windscheffel; Smith Center |
| Edwin Leslie Walker; Junction City | Gene Neill Woodruff; Kansas City |
| Harold Parker Walker; Bucklin | Lloyd Lander Woods; Wichita |
| Ruth Walker; Bucklin | Kenneth Daniel Worley; Randall |
| Charles Philip Walters; Manhattan | Faye Young; Bloom |
| William Theodore Walters; Manhattan | Iva Marie Young; White City |
| Marvin Jay Wanamaker; Barnes | Herman Wilson Zabel; Westmoreland |
| Rees Conway Warren; Manhattan | Lester Allen Zerbe; Salina |
| William Victor Warren; Sterling | Myrtle E. Ziebell; Burns |
| Dorothy Washington; Manhattan | Susie Luella Zimmerman; Simpson |
| Irene M. Wassmer; Garnett | Katherine Zimmerman; Simpson |
| Rex Eugene Watts; Havensville | |

Four-week Summer School

| | |
|-------------------------------------|-----------------------------------------|
| Roy Engle Clegg; Altamont | John Humphrey Kerr; Miltonvale |
| Leonard Elden Croy; Havensville | Clemford William Kulp; Jewell |
| Moses William Evans; Giddings, Tex. | Fred McKee; Robinson |
| Thomas Conway Faris; Arkansas City | Irvin Herbert McVey; Atchison |
| Harold Earl Frank; Haddam | Addison Willard O'Neal; Henderson, Tex. |
| Kenneth Morgan Hall; Ford | Arthur Warwick Ricker; Americus |
| Loren Bryce Hefling; Manhattan | Lester John Schmutz; Wakefield |
| Carl Heinrich; Burlington | Elmer Philip Schrag; Lincoln |
| John Lester Hooper; Robinson | Carl Williams; Mullinville |

August Period (in Absentia)

| | |
|--------------------------------|------------------------------------|
| Esther Ann Atkinson; McPherson | LaVelle Robert Schruben; Centralia |
|--------------------------------|------------------------------------|

34-35

Students by States, Foreign Countries and Kansas Counties

STATES

| | | | | | |
|----------------------------|-------|---------------------|----|--------------------|-------|
| California | 2 | Massachusetts | 2 | Ohio | 7 |
| Colorado | 5 | Michigan | 1 | Oklahoma | 16 |
| Connecticut | 1 | Minnesota | 2 | Pennsylvania | 1 |
| District of Columbia | 2 | Mississippi | 1 | Tennessee | 1 |
| Florida | 1 | Missouri | 36 | Texas | 17 |
| Georgia | 1 | Montana | 1 | Washington | 1 |
| Illinois | 8 | Nebraska | 13 | Wisconsin | 2 |
| Indiana | 3 | New Jersey | 4 | Wyoming | 4 |
| Iowa | 4 | New Mexico | 1 | | |
| Kansas | 3,281 | New York | 6 | Total | 3,426 |
| Kentucky | 1 | North Dakota | 1 | | |

FOREIGN COUNTRIES

| | | | | | |
|---------------|---|---------------------|---|-------------------|-------|
| China | 1 | India | 2 | Panama | 1 |
| Denmark | 1 | Iran (Persia) | 1 | | |
| Egypt | 1 | Japan | 1 | Total | 10 |
| | | Mexico | 2 | | |
| | | | | Grand total | 3,436 |

KANSAS COUNTIES

| | | | | | |
|------------------|-----|-------------------|----|--------------------|-------|
| Allen | 12 | Greenwood | 14 | Pawnee | 21 |
| Anderson | 14 | Hamilton | 10 | Phillips | 18 |
| Atchison | 35 | Harper | 13 | Pottawatomie | 70 |
| Barber | 13 | Harvey | 32 | Pratt | 17 |
| Barton | 28 | Haskell | 7 | Rawlins | 10 |
| Bourbon | 11 | Hodgeman | 4 | Reno | 77 |
| Brown | 46 | Jackson | 32 | Republic | 33 |
| Butler | 30 | Jefferson | 26 | Rice | 48 |
| Chase | 9 | Jewell | 48 | Riley | 782 |
| Chautauqua | 2 | Johnson | 19 | Rooks | 4 |
| Cherokee | 15 | Kearny | 6 | Rush | 10 |
| Cheyenne | 2 | Kingman | 28 | Russell | 18 |
| Clark | 10 | Kiowa | 6 | Saline | 58 |
| Clay | 59 | Labette | 22 | Scott | 9 |
| Cloud | 44 | Lane | 8 | Sedgwick | 93 |
| Coffey | 15 | Leavenworth | 32 | Seward | 5 |
| Comanche | 16 | Lincoln | 18 | Shawnee | 124 |
| Cowley | 28 | Linn | 9 | Sheridan | 7 |
| Crawford | 21 | Logan | 9 | Sherman | 8 |
| Decatur | 12 | Lyon | 39 | Smith | 26 |
| Dickinson | 105 | McPherson | 31 | Stafford | 15 |
| Doniphan | 7 | Marion | 22 | Stanton | 3 |
| Douglas | 11 | Marshall | 52 | Stevens | 7 |
| Edwards | 14 | Meade | 10 | Sumner | 43 |
| Elk | 10 | Miami | 10 | Thomas | 18 |
| Ellis | 11 | Mitchell | 18 | Trego | 2 |
| Ellsworth | 16 | Montgomery | 34 | Wabaunsee | 39 |
| Finney | 19 | Morris | 39 | Wallace | 7 |
| Ford | 32 | Morton | 8 | Washington | 50 |
| Franklin | 19 | Nemaha | 44 | Wichita | 7 |
| Geary | 67 | Neosho | 14 | Wilson | 21 |
| Gove | 11 | Ness | 18 | Woodson | 10 |
| Graham | 14 | Norton | 14 | Wyandotte | 90 |
| Grant | 3 | Osage | 25 | | |
| Gray | 5 | Osborne | 26 | Total | 3,281 |
| Greeley | 3 | Ottawa | 15 | | |

Record of Registration and Degrees Conferred, 1863-1935

| Year. | Summer school. | Honorskeepers' short course. | Dairy Mfg. short course. | Dairy short course. | Farmers' short course. | Apprentice. | Special. | Preparatory. | Subfreshman. | Vocational school. | Freshman. | Sophomore. | Junior. | Senior. | Graduate. | Counted twice. | Net total. | Graduated. | Advanced degrees. |
|------------|----------------|------------------------------|--------------------------|---------------------|------------------------|-------------|----------|--------------|--------------|--------------------|-----------|------------|---------|---------|-----------|----------------|------------|------------|-------------------|
| 1863-'64. | | | | | | | | 93 | | | 14 | | | | | | 107 | | |
| 1864-'65. | | | | | | | | 90 | | | 14 | 8 | 1 | | | | 113 | | |
| 1865. | | | | | | | | 112 | | | 28 | 5 | 5 | | | | 150 | | |
| 1866-'67. | | | | | | | | 154 | | | 11 | 7 | 1 | 5 | | | 178 | 5 | |
| 1867-'68. | | | | | | | | | | | | | | | | | 168 | | |
| 1868-'69. | | | | | | | | 146 | | | 11 | 10 | 2 | | 1 | | 170 | | |
| 1869-'70. | | | | | | | | | | | | | | | | | 173 | | |
| 1870-'71. | | | | | | | | 164 | | | 13 | 7 | 5 | 5 | | | 194 | 5 | 5 |
| 1871-'72. | | | | | | | | 162 | | | 22 | 10 | 3 | 2 | 3 | | 202 | 3 | |
| 1873. | | | | | | | | | | | | | | | | | *217 | 2 | 1 |
| 1873-'74. | | | | | | | | 136 | | | 24 | 14 | 3 | 6 | | | 183 | 5 | |
| 1874-'75. | | | | | | | | 103 | | | 26 | 10 | 2 | 2 | | | 143 | 2 | 1 |
| 1875-'76. | | | | | | | | | | | | | | | | | 232 | 5 | |
| 1876-'77. | | | | | | | | | | | | | | | | | 234 | 9 | 1 |
| 1877-'78. | | | | | | | | 75 | | | 42 | 23 | 5 | 5 | | | 150 | 4 | |
| 1878-'79. | | | | | | | | 1 | | | 89 | 89 | 16 | 12 | | | 207 | 9 | 2 |
| 1879-'80. | | | | | | | | 1 | | | 166 | 61 | 35 | 11 | 2 | | 276 | 7 | 2 |
| 1880-'81. | | | | | | | | 6 | | | 178 | 48 | 24 | 9 | 2 | | 267 | 8 | |
| 1881-'82. | | | | | | | | 5 | | | 227 | 50 | 19 | 11 | | | 312 | 9 | 2 |
| 1882-'83. | | | | | | | | 4 | | | 241 | 60 | 30 | 12 | | | 347 | 12 | 3 |
| 1883-'84. | | | | | | | | 2 | | | 255 | 92 | 26 | 18 | 2 | | 395 | 17 | |
| 1884-'85. | | | | | | | | 1 | | | 271 | 71 | 36 | 16 | 5 | | 401 | 14 | 1 |
| 1885-'86. | | | | | | | | | | | 273 | 91 | 35 | 24 | 4 | | 428 | 21 | 2 |
| 1886-'87. | | | | | | | | | | | 303 | 100 | 44 | 24 | 10 | | 481 | 21 | 5 |
| 1887-'88. | | | | | | | | | | | 305 | 92 | 46 | 27 | 2 | | 472 | 22 | 1 |
| 1888-'89. | | | | | | | | | | | 266 | 103 | 41 | 28 | 7 | | 445 | 25 | 1 |
| 1889-'90. | | | | | | | | 1 | | | 307 | 105 | 63 | 28 | 10 | | 514 | 27 | 2 |
| 1890-'91. | | | | | | | | | | | 343 | 135 | 50 | 53 | 12 | | 593 | 52 | 2 |
| 1891-'92. | | | | | | | | | | | 336 | 139 | 62 | 37 | 10 | | 584 | 35 | |
| 1892-'93. | | | | | | | | | | | 339 | 110 | 66 | 43 | 29 | | 587 | 39 | 9 |
| 1893-'94. | | | | | | | | | | | 275 | 141 | 72 | 42 | 25 | | 555 | 39 | 6 |
| 1894-'95. | | | | | | | | 5 | | | 276 | 108 | 89 | 64 | 39 | | 572 | 57 | 3 |
| 1895-'96. | | | | | | | | 3 | | | 353 | 121 | 67 | 71 | 32 | | 647 | 66 | 4 |
| 1896-'97. | | | | | | | | 6 | | | 321 | 163 | 69 | 62 | 46 | | 734 | 55 | 8 |
| 1897-'98. | | | | | | | | 15 | | | 316 | 174 | 77 | 82 | 57 | 10 | 803 | 68 | 10 |
| 1898-'99. | | | | | | | | 35 | | | 306 | 177 | 92 | 65 | 40 | 21 | 870 | 54 | 10 |
| 1899-1900. | 24 | | | | | | | 40 | | | 376 | 163 | 109 | 69 | 27 | 22 | 1,094 | 58 | 3 |
| 1900-'01. | 47 | | | | | | | 79 | | | 348 | 183 | 80 | 74 | 40 | 52 | 1,321 | 60 | 9 |
| 1901-'02. | 41 | | | | | | | 19 | | | 396 | 206 | 120 | 65 | 32 | 59 | 1,396 | 52 | 3 |
| 1902-'03. | 63 | | | | | | | 78 | | | 471 | 229 | 141 | 86 | 24 | 57 | 1,574 | 55 | |
| 1903-'04. | 17 | | | | | | | 33 | | | 403 | 206 | 161 | 114 | 20 | 36 | 1,605 | 102 | 1 |
| 1904-'05. | 15 | | | | | | | 12 | | | 289 | 198 | 122 | 117 | 26 | 43 | 1,462 | 107 | 2 |
| 1905-'06. | 18 | | | | | | | 46 | | | 373 | 214 | 145 | 110 | 30 | 64 | 1,690 | 96 | 4 |
| 1906-'07. | 18 | | | | | | | 48 | | | 411 | 269 | 149 | 133 | 24 | 88 | 1,937 | 119 | 5 |
| 1907-'08. | 29 | | | | | | | 42 | | | 450 | 357 | 202 | 148 | 26 | 82 | 2,192 | 116 | 4 |
| 1908-'09. | 25 | | | | | | | 42 | | | 491 | 381 | 243 | 171 | 28 | 86 | 2,308 | 146 | 12 |
| 1909-'10. | 22 | | | | | | | 87 | | | 456 | 417 | 286 | 170 | 26 | 70 | 2,305 | 141 | 2 |
| 1910-'11. | 31 | | | | | | | 107 | | | 533 | 412 | 288 | 248 | 34 | 59 | 2,407 | 219 | 2 |
| 1911-'12. | 94 | | | | | | | 85 | | | 337 | 461 | 288 | 261 | 44 | 81 | 2,523 | 231 | 6 |
| 1912-'13. | 282 | | | | | | | 129 | | | 444 | 432 | 355 | 268 | 55 | 166 | 2,928 | 230 | 4 |
| 1913-'14. | 370 | | | | | | | 112 | | | 516 | 431 | 324 | 327 | 64 | 159 | 3,027 | 283 | 8 |
| 1914-'15. | 472 | | | | | | | 120 | | | 569 | 575 | 368 | 383 | 321 | 48 | 3,089 | 223 | 6 |
| 1915-'16. | 536 | | | | | | | 175 | | | 484 | 605 | 454 | 305 | 401 | 76 | 3,314 | 342 | 18 |
| 1916-'17. | 586 | | | | | | | 172 | | | 422 | 693 | 471 | 378 | 282 | 68 | 3,340 | 197 | 13 |
| 1917-'18. | 481 | | | | | | | 138 | | | 231 | 483 | 349 | 294 | 338 | 36 | 2,406 | 215 | 7 |
| 1918-'19. | 519 | | | | | | | 199 | | | 216 | 810 | 322 | 254 | 201 | 34 | 2,991 | 167 | 7 |
| 1919-'20. | 415 | | | | | | | 271 | | | 224 | 894 | 400 | 297 | 273 | 44 | 3,376 | 260 | 11 |
| 1920-'21. | 604 | | | | | | | 270 | | | 280 | 878 | 602 | 318 | 273 | 42 | 3,395 | 248 | 14 |
| 1921-'22. | 820 | | | | | | | 221 | | | 297 | 931 | 628 | 422 | 296 | 125 | 3,560 | 271 | 28 |
| 1922-'23. | 884 | | | | | | | 163 | | | 220 | 1004 | 656 | 460 | 401 | 118 | 3,626 | 341 | 31 |
| 1923-'24. | 778 | | | | | | | 161 | | | 167 | 1160 | 657 | 458 | 413 | 171 | 3,812 | 342 | 43 |
| 1924-'25. | 1120 | | | | | | | 139 | | | 47 | 1391 | 679 | 467 | 347 | 185 | 4,031 | 335 | 52 |
| 1925-'26. | 947 | | | | | | | 89 | | | | 1494 | 725 | 512 | 344 | 182 | 4,019 | 341 | 51 |
| 1926-'27. | 959 | | | | | | | 71 | | | | 1311 | 854 | 509 | 411 | 179 | 4,083 | 357 | 77 |
| 1927-'28. | 966 | | | | | | | 88 | | | | 1039 | 819 | 584 | 500 | 167 | 4,188 | 429 | 70 |
| 1928-'29. | 920 | | | | | | | 57 | | | | 1084 | 743 | 584 | 537 | 197 | 3,879 | 461 | 84 |
| 1929-'30. | 902 | | | | | | | 70 | | | | 1128 | 787 | 581 | 554 | 432 | 3,987 | 469 | 91 |
| 1930-'31. | 995 | | | | | | | 50 | | | | 1077 | 790 | 605 | 528 | 506 | 4,045 | 424 | 91 |
| 1931-'32. | 1059 | | | | | | | 54 | | | | 933 | 752 | 633 | 572 | 572 | 3,928 | 486 | 119 |
| 1932-'33. | 995 | | | | | | | 72 | | | | 665 | 596 | 552 | 590 | 518 | 3,359 | 523 | 118 |
| 1933-'34. | 655 | | | | | | | 61 | | | | 707 | 558 | 520 | 522 | 327 | 2,928 | 423 | 70 |
| 1934-'35. | 722 | | | | | | | 52 | | | | 1081 | 616 | 548 | 557 | 316 | 3,436 | | |

† Figures above this in this column include neither graduate students in summer session, nor undergraduate students pursuing graduate work. * Estimated.

College Registration, 1934-1935

| THE DIVISION. | Men. | Women. | Total. |
|--------------------------------------------------|--------------|--------------|--------------|
| The Division of Agriculture | 464 | 3 | 467 |
| Graduate students..... | 26 | ..... | 26 |
| Seniors..... | 84 | ..... | 84 |
| Juniors..... | 86 | ..... | 86 |
| Sophomores..... | 102 | 2 | 104 |
| Freshmen..... | 164 | 1 | 165 |
| Special students..... | 2 | ..... | 2 |
| The Division of Veterinary Medicine | 233 | ..... | 233 |
| Graduate students..... | 1 | ..... | 1 |
| Seniors..... | 54 | ..... | 54 |
| Juniors..... | 19 | ..... | 19 |
| Sophomores..... | 26 | ..... | 26 |
| Freshmen..... | 132 | ..... | 132 |
| Special students..... | 1 | ..... | 1 |
| The Division of General Science | 675 | 398 | 1,073 |
| Graduate students..... | 57 | 20 | 77 |
| Seniors..... | 102 | 69 | 171 |
| Juniors..... | 105 | 86 | 191 |
| Sophomores..... | 131 | 91 | 222 |
| Freshmen..... | 261 | 114 | 375 |
| Special students..... | 19 | 18 | 37 |
| The Division of Home Economics..... | ..... | 483 | 483 |
| Graduate students..... | ..... | 22 | 22 |
| Seniors..... | ..... | 88 | 88 |
| Juniors..... | ..... | 103 | 103 |
| Sophomores..... | ..... | 97 | 97 |
| Freshmen..... | ..... | 165 | 165 |
| Special students..... | ..... | 8 | 8 |
| The Division of Engineering | 802 | 12 | 814 |
| Graduate students..... | 18 | ..... | 18 |
| Seniors..... | 159 | 2 | 161 |
| Juniors..... | 158 | 1 | 159 |
| Sophomores..... | 182 | 1 | 183 |
| Freshmen..... | 281 | 8 | 289 |
| Special students..... | 4 | ..... | 4 |
| Totals..... | 2,174 | 896 | 3,070 |
| Counted twice..... | 55 | 26 | 81 |
| Net totals | 2,119 | 870 | 2,989 |
| The Summer School (1934) | 364 | 358 | 722 |
| Totals..... | 2,483 | 1,228 | 3,711 |
| Counted twice..... | 183 | 92 | 275 |
| Net grand totals | 2,300 | 1,136 | 3,436 |
| The Division of Graduate Study | 203 | 113 | 316 |
| Graduate students in regular session..... | 95 | 41 | 136 |
| Graduate students in summer school..... | 88 | 68 | 156 |
| Counted twice..... | 24 | 7 | 31 |
| Net (in summer school only)..... | 64 | 61 | 125 |
| Graduate students in absentia..... | 19 | 4 | 23 |
| Counted twice..... | 12 | 3 | 15 |
| Net (in absentia only)..... | 7 | 1 | 8 |
| Seniors carrying graduate work..... | 37 | 10 | 47 |

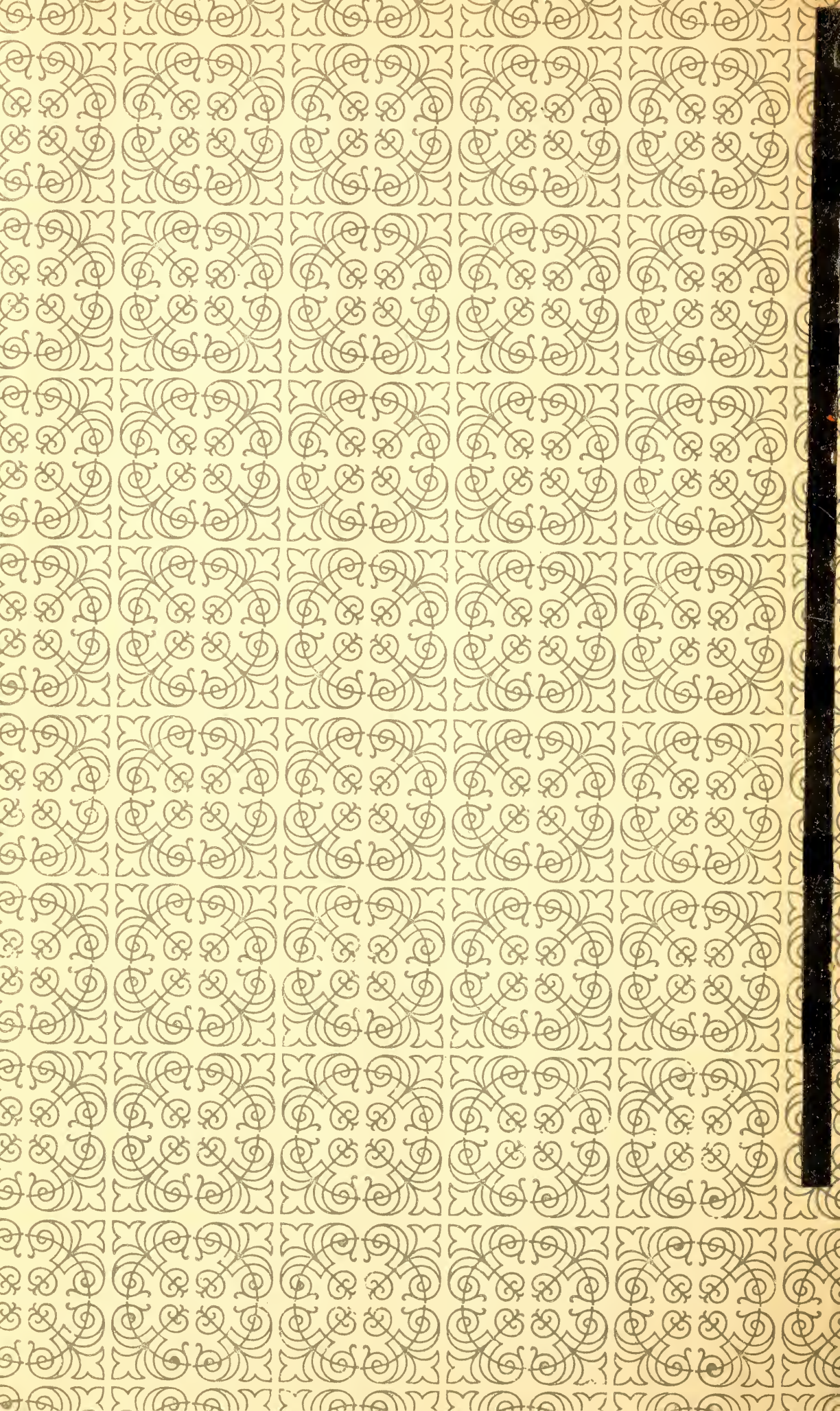
Degrees Conferred in the Year 1934

| DIVISION AND CURRICULUM (OR MAJOR STUDY). | Men. | Women. | Total. |
|---------------------------------------------------------|------------|------------|------------|
| Division of Agriculture (B. S.) | 47 | ..... | 47 |
| Agriculture..... | 46 | ..... | 46 |
| Milling Industry..... | 1 | ..... | 1 |
| Division of Engineering (B. S.) | 121 | ..... | 121 |
| Agricultural Engineering..... | 6 | ..... | 6 |
| Architecture..... | 4 | ..... | 4 |
| Architectural Engineering..... | 4 | ..... | 4 |
| Landscape Architecture..... | 2 | ..... | 2 |
| Chemical Engineering..... | 7 | ..... | 7 |
| Civil Engineering..... | 26 | ..... | 26 |
| Electrical Engineering..... | 44 | ..... | 44 |
| Mechanical Engineering..... | 28 | ..... | 28 |
| Division of General Science (B. S.) | 68 | 65 | 133 |
| General Science..... | 25 | 27 | 52 |
| Commerce..... | 20 | 7 | 27 |
| Industrial Chemistry..... | 7 | 1 | 8 |
| Industrial Journalism..... | 9 | 12 | 21 |
| Music..... | 1 | 10 | 11 |
| Physical Education..... | 6 | 8 | 14 |
| Division of Home Economics (B. S.)..... | ..... | 82 | 82 |
| Home Economics..... | ..... | 78 | 78 |
| Home Economics and Nursing..... | ..... | 4 | 4 |
| Division of Veterinary Medicine (D. V. M.) | 39 | 1 | 40 |
| Veterinary Medicine..... | 39 | 1 | 40 |
| Total of undergraduate degrees | 275 | 148 | 423 |
| Division of Graduate Study (M. S.) | 41 | 18 | 59 |
| Agricultural Economics..... | 1 | ..... | 1 |
| Agricultural Engineering..... | 2 | ..... | 2 |
| Agronomy..... | 3 | ..... | 3 |
| Animal Husbandry..... | 2 | ..... | 2 |
| Architecture..... | 1 | 1 | 2 |
| Botany..... | ..... | 1 | 1 |
| Chemistry..... | 6 | ..... | 6 |
| Education..... | 4 | 1 | 5 |
| Electrical Engineering..... | 5 | ..... | 5 |
| English..... | 1 | 3 | 4 |
| Entomology..... | 2 | ..... | 2 |
| Food Economics and Nutrition..... | ..... | 2 | 2 |
| General Home Economics..... | ..... | 1 | 1 |
| Genetics..... | 1 | 1 | 2 |
| History..... | 1 | 1 | 2 |
| Horticulture..... | 1 | 1 | 2 |
| Household Economics..... | ..... | 2 | 2 |
| Industrial Journalism..... | 1 | ..... | 1 |
| Institutional Economics..... | ..... | 4 | 4 |
| Machine Design..... | 2 | ..... | 2 |
| Mechanical Engineering..... | 2 | ..... | 2 |
| Milling Industry..... | 1 | ..... | 1 |
| Pathology..... | 2 | ..... | 2 |
| Zoology..... | 3 | ..... | 3 |
| Professional Degrees | 9 | ..... | 9 |
| Agricultural Engineer..... | 1 | ..... | 1 |
| Chemical Engineer..... | 1 | ..... | 1 |
| Civil Engineer..... | 3 | ..... | 3 |
| Electrical Engineer..... | 4 | ..... | 4 |
| Honorary Degrees | 2 | ..... | 2 |
| Doctor of Science..... | 1 | ..... | 1 |
| Doctor of Laws..... | 1 | ..... | 1 |
| Total of degrees conferred in 1934 | 327 | 166 | 493 |

ANALYSIS OF REGISTRATION, 1934-1935

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