THE UNIVERSITY OF MISSOURI BULLETIN

VOLUME 36, NUMBER 7 GENERAL SERIES 1935, NUMBER 5

CATALOG

NINETY-THIRD REPORT OF THE CURATORS TO THE GOVERNOR OF THE STATE, 1934-1935

COLUMBIA, MISSOURI

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ANNOUNCEMENTS, 1935-1936

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APRIL 1, 1935

CALENDAR, 1935

September						
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CALENDAR, 1936

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June						
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July						
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August						
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UNIVERSITY CALENDAR AT COLUMBIA, 1935-36

1935	*First Semester*
September 9	Monday, freshman conference, 10 a. m.
	Entrance examinations.
September 10	Tuesday, registration begins, 1 p. m.
September 11	Wednesday, registration continues.
September 12	Thursday, class work begins, 8 a. m.
	Opening convocation, 10 a. m.
November 11	Monday, Armistice Day exercises.
November 28	Thursday, Thanksgiving Day, holiday.
December 19	Thursday, Christmas holidays begin, 12 noon.
1936	
January 3	Friday, Christmas holidays close, 8 a. m.
January 18	Saturday, mid-year examinations.
January 25	Saturday, first semester closes, 4 p. m.
	Second Semester
January 27	Monday, registration.
January 28	Tuesday, class work begins, 8 a. m.
April 9	Thursday, Easter holidays begin, 12 noon.
April 13	Monday, Easter holidays close, 8 a. m.
May 23	Saturday, final examinations.
May 30	Saturday, final examinations.
May 31	Sunday, baccalaureate address, 11 a. m.
June 3	Wednesday, commencement exercises, 10 a. m.
	Summer Session
June 8	Monday, registration.
June 9	Tuesday, class work begins, 8 a. m.
July 4	Saturday, Independence Day, holiday.
July 26	Sunday, baccalaureate address, 11 a. m.
July 31	Friday, summer session class work closes, 4 p. m.
July 31	Friday, commencement exercises, 8 p. m.

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UNIVERSITY CALENDAR AT ROLLA

1935 — *First Semester*

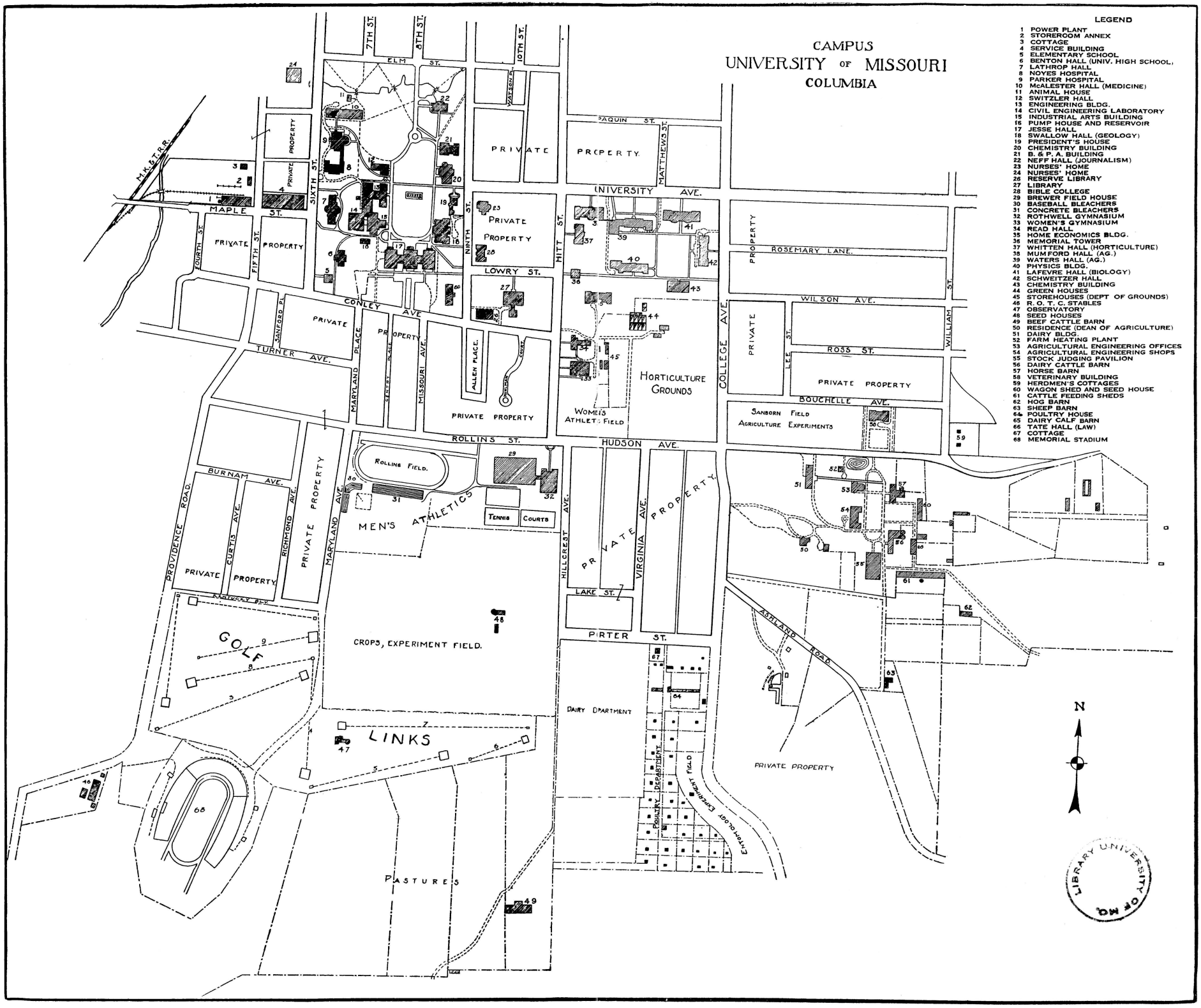
August 12 . . . . . Monday, second summer surveying class begins.
September 7 . . . . . Saturday, second summer surveying class closes.
September 4 . . . . . Wednesday to September 7 . . . . . Saturday — placement examinations and orientation lectures for freshmen.
September 9 . . . . . Monday, 8 a. m., freshman class work begins.
September 9 . . . . . Monday, registration for three upper classes.
September 10 . . . . . Tuesday, 8 a. m., class work for three upper classes begins.
November 28 . . . . . Thursday, Thanksgiving holidays begin.
December 2 . . . . . Monday, 8 a. m., Thanksgiving holidays close.
December 21 . . . . . Saturday, 12 noon, Christmas holidays begin.

1936

January 6 . . . . . Monday, 8 a. m., Christmas holidays close.
January 20 . . . . . Monday to January 24 . . . . . Friday — final examinations for freshmen and sophomores.
January 24 . . . . . Friday, 12 noon, first semester closes.

Second Semester

January 27 . . . . . Monday, entrance examinations and registration.
January 28 . . . . . Tuesday, 8 a. m., class work begins.
February 22 . . . . . Saturday, Washington's Birthday, holiday.
March 19 . . . . . Thursday, 8 a. m., spring intermission begins.
March 23 . . . . . Monday, 8 a. m., spring intermission closes.
May 23 . . . . . Saturday, 12 noon, senior class work closes.
May 24 . . . . . Sunday, baccalaureate address.
May 25 . . . . . Monday to May 29 . . . . . Friday — final examinations for freshmen and sophomores.
May 29 . . . . . Friday, commencement exercises.
June 1 . . . . . Monday, first summer surveying class begins.
June 27 . . . . . Saturday, first summer surveying class closes.


CAMPUS
UNIVERSITY OF MISSOURI
COLUMBIA
LEGEND
1 POWER PLANT
2 STOREROOM ANNEX
3 COTTAGE
4 SERVICE BUILDING
5 ELEMENTARY SCHOOL
6 BENTON HALL (UNIV. HIGH SCHOOL)
7 LATHROP HALL
8 NOYES HOSPITAL
9 PARKER HOSPITAL
10 McALESTER HALL (MEDICINE)
11 ANIMAL HOUSE
12 SWITZLER HALL
13 ENGINEERING BLDG.
14 CIVIL ENGINEERING LABORATORY
15 INDUSTRIAL ARTS BUILDING
16 PUMP HOUSE AND RESERVOIR
17 JESSE HALL
18 SWALLOW HALL (GEOLOGY)
19 PRESIDENT'S HOUSE
20 CHEMISTRY BUILDING
21 B. & P. A. BUILDING
22 NEFF HALL (JOURNALISM)
23 NURSES' HOME
24 NURSES' HOME
26 RESERVE LIBRARY
27 LIBRARY
28 BIBLE COLLEGE
29 BREWER FIELD HOUSE
30 BASEBALL BLEACHERS
31 CONCRETE BLEACHERS
32 ROTHWELL GYMNASIUM
33 WOMEN'S GYMNASIUM
34 READ HALL
35 HOME ECONOMICS BLDG.
36 MEMORIAL TOWER
37 WHITTEN HALL (HORTICULTURE)
38 MUMFORD HALL (AG.)
39 WATERS HALL (AG.)
40 PHYSICS BLDG.
41 LAFEVRE HALL (BIOLOGY)
42 SCHWEITZER HALL
43 CHEMISTRY BUILDING
44 GREEN HOUSES
45 STOREHOUSES (DEPT OF GROUNDS)
46 R. O. T. C. STABLES
47 OBSERVATORY
48 SEED HOUSES
49 BEEF CATTLE BARN
50 RESIDENCE (DEAN OF AGRICULTURE)
51 DAIRY BLDG.
52 FARM HEATING PLANT
53 AGRICULTURAL ENGINEERING OFFICES
54 AGRICULTURAL ENGINEERING SHOPS
55 STOCK JUDGING PAVILION
56 DAIRY CATTLE BARN
57 HORSE BARN
58 VETERINARY BUILDING
59 HERDMEN'S COTTAGES
60 WAGON SHED AND SEED HOUSE
61 CATTLE FEEDING SHEDS
62 HOG BARN
63 SHEEP BARN
64 POULTRY HOUSE
65 DAIRY CALF BARN
66 TATE HALL (LAW)
67 COTTAGE
68 MEMORIAL STADIUM
M.K.&T.R.R.
ELM ST.
7TH ST.
8TH ST.
10TH ST.
PAQUIN ST.
MATTHEWS ST.
UNIVERSITY AVE.
MAPLE ST.
SIXTH ST.
NINTH ST.
HITT ST.
LOWRY ST.
CONLEY AVE.
TURNER AVE.
FOURTH ST.
FIFTH ST.
SANFORD PL.
MARYLAND PLACE
MISSOURI AVE.
ALLEN PLACE
PRIVATE PROPERTY
ROSEMARY LANE
WILSON AVE.
ROSS ST.
BOUCHELLE AVE.
COLLEGE AVE.
LEE ST.
WILLIAM ST.
HORTICULTURE GROUNDS
WOMEN'S ATHLETIC FIELD
SANBORN FIELD
AGRICULTURE EXPERIMENTS
ROLLINS ST.
HUDSON AVE.
ROLLINS FIELD.
MEN'S ATHLETICS
TENNIS COURTS
BURNAM AVE.
PROVIDENCE ROAD
CURTIS AVE.
RICHMOND AVE.
MARYLAND AVE.
HILLCREST AVE.
VIRGINIA AVE.
LAKE ST.
PIRTER ST.
ASHLAND ROAD
GOLF LINKS
CROPS, EXPERIMENT FIELD.
DAIRY DEPARTMENT
POULTRY DEPARTMENT
ENTOMOLOGY EXPERIMENT FIELD
PASTURES
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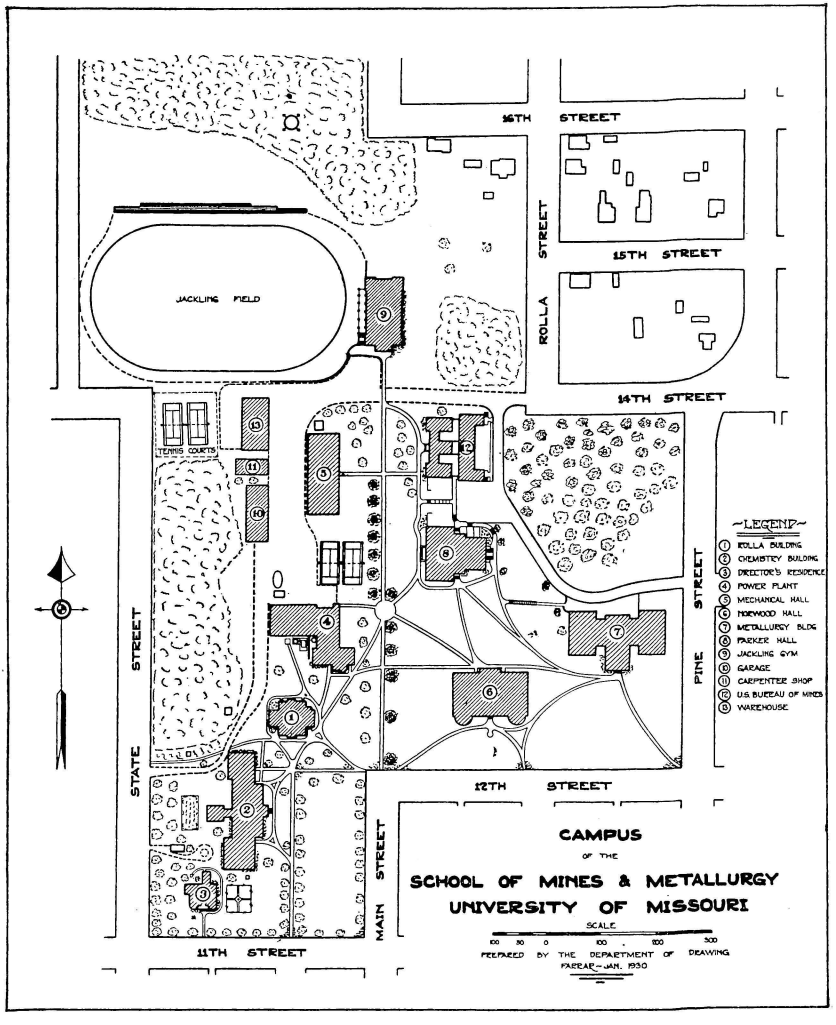
16TH STREET
15TH STREET
14TH STREET
12TH STREET
11TH STREET
ROLLA STREET
STATE STREET
MAIN STREET
PINE STREET
JACKLING FIELD
TENNIS COURTS
LEGEND
1 ROLLA BUILDING
2 CHEMISTRY BUILDING
3 DIRECTOR'S RESIDENCE
4 POWER PLANT
5 MECHANICAL HALL
6 NORWOOD HALL
7 METALLURGY BLDG
8 PARKER HALL
9 JACKLING GYM
10 GARAGE
11 CARPENTER SHOP
12 U.S. BUREAU OF MINES
13 WAREHOUSE
CAMPUS
OF THE
SCHOOL OF MINES & METALLURGY
UNIVERSITY OF MISSOURI
SCALE
100 50 0 100 200 500
PREPARED BY THE DEPARTMENT OF DRAWING
FARRAR—JAN. 1930

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Agricultural Experiment Station	1[illegible]
Agricultural Extension Service	1[illegible]
School of Business and Public Administration	14[illegible]
School of Education	153
College of Engineering	181
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REPORT OF THE CURATORS OF THE UNIVERSITY

Columbia, Missouri
December 31, 1934.

To His Excellency, the Honorable Guy B. Park, the Governor of Missouri:

Sir: I have the honor to present herewith the ninety-third report of the Curators of the University of Missouri which is an annual catalog, reviewing in part the work of the current session and outlining as far as possible the program for the scholastic year 1935-36.

For convenient reference, the statements describing the work of the University are divided into four sections. Preliminary to these are listed the corporation and the officers of instruction and administration.

Section I, pages 37 to 99, gives general information and deals with a historical statement, requirements for entrance, expenses, sources of aid to students, fellowships, scholarships, prizes, student activities, regulations, grades, and degrees.

Section II deals with the Schools and Colleges and gives detailed information of the work in all of the divisions of instruction in the following order:

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College of Agriculture	122	Graduate School	210
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Agricultural Extension Service	140	School of Law	222
School of Business and Public Administration	146	School of Medicine	227
School of Education	153	School of Mines and Metallurgy (Rolla)	239
College of Engineering	181	Missouri State Military School	251
Engineering Experiment Station	192	Extension Division	255
		Summer Session	262

Section III, pages 263 to 355, is a statement of courses giving a description of the work in departments of the University located in Columbia.

Section IV lists the degrees and certificates awarded during the year 1934. The number of degrees awarded was 880, a decrease of 21 compared with the previous year.

It is gratifying to report that the enrollment of the University shows an increase over that of last year. The total increase amounts to 15%. The enrollment is felt to be very satisfactory in the face of the continued economic conditions.

Gifts have been received during 1934 in the form of scholarships, donations to be used as loans to assist students, financial grants for the furtherance of special research projects, books for the library, funds for certain publications, and various miscellaneous gifts and donations, the value of which it is difficult to estimate. The research grants, ranging from $200 to $9,000, were for special investigations and have been of great value to the University in its program of service to the citizens of the State. So long as the Board is able to administer these gifts and bequests under the conditions outlined by their donors, it is quite probable that assistance from these private sources will increase and it is therefore important that this policy be continued. None of the bequests have

contained any conditions with which the Board cannot easily comply. They are set up for protection of the fund and the work to be financed thereby.

Because of the continuance of a reduced income available for the support of the University it has been difficult to operate the institution with reasonable efficiency and usefulness. To do this it has been necessary to eliminate some of the activities and services and to reduce all of the others to some extent. The endeavor has been made, however, to conduct the institution as well as possible under the circumstances and with due regard to the proper educational standards.

Respectfully submitted,

FRANK M. McDAVID,
President.

CORPORATION

THE BOARD OF CURATORS

Term Expires January 1, 1937

H. J. Blanton ..... Paris
H. W. Lenox ..... Rolla
J. K. Walsh ..... Webster Groves

Term Expires January 1, 1939

Frank M. McDavid ..... Springfield
Charles F. Ward ..... Plattsburg
George C. Willson ..... St. Louis

Term Expires January 1, 1941

John H. Lathrop ..... Kansas City
J. H. Wolpers ..... Poplar Bluff

Officers of the Board

Frank M. McDavid ..... President
H. W. Lenox ..... Vice-President
Leslie Cowan ..... Secretary
R. B. Price ..... Treasurer

The Board of Visitors

Charles Baird, Chairman ..... Kansas City
Wm. P. Brinkley ..... Linneus
John F. Case ..... Kirksville
Cliff Langsdale ..... Kansas City
Charles E. Prettyman, Jr ..... Neosho

OFFICERS OF INSTRUCTION AND ADMINISTRATION

NOTE—

Figures indicate:

1 Leave of absence for 1934-35.
2 Officers or members of the Faculty of the School of Mines and Metallurgy at Rolla.
3 Resignation.
4 Deceased.

Dates:

The first date is the date of first appointment in the University.
The last date indicates the date of appointment to present title.
The date in parentheses indicates the time of appointment to a rank higher than that of instructor.
*Indicates that the service has not been continuous.

FACULTY

PRESIDENT

WALTER WILLIAMS, President, Dean of the Faculty of Journalism, Professor of the History and Principles of Journalism (1908), 1931.
LL.D., Missouri Valley Col., 1906, Kansas Agr. Col., 1909, Washington University, 1926.

DEANS

DUDLEY STEELE CONLEY, Dean of the Faculty of Medicine, Director of the University Hospitals, Professor of Surgery, and Director of Surgical Services in the University Hospitals (1919), 1933.
B.L., Missouri, 1899; M.D., Columbia, 1906.

[2]CHARLES H. FULTON, Director of the School of Mines and Metallurgy, (1920).
E. M., Columbia, 1897; D.Sc., South Dakota, 1911.

ALBERT KERR HECKEL, Dean of Men, Professor of Citizenship, (1924).
A.B., 1903, A.M., 1906, Roanoke Col.; Ph.D., Pennsylvania, 1913.

THEOPHIL WILLIAM HENRY IRION, Dean of the Faculty of Education, Director of the Summer Session, Professor of Education, (1926), 1930.
A.B., B.S. in Ed., 1911, Missouri; A.M., 1916, Ph.D., 1925, Columbia.

ELMER JAMES MCCAUSTLAND, Dean of the Faculty of Engineering, Director of the Engineering Experiment Station, Professor of Sanitary Engineering, (1914).
B.S. in C.E., 1892, C.E., 1895, Cornell Col.; M.C.E., Cornell, 1897.

FRANK LEE MARTIN, Associate Dean of the Faculty of Journalism, Professor of the Theory and Practice of Journalism, (1909), 1930.
A.B., Nebraska, 1902.

WILLIAM EDWARD MASTERSON, Dean of the Faculty of Law, Professor of Law, (1934).
A.B., Texas, 1915; M.A., 1917, LL.B., 1920, S.J.D., 1926, Harvard; LL.D., University of London, 1928.

FREDERICK A. MIDDLEBUSH, Acting President, Dean of the Faculty of Business and Public Administration, Professor of Political Science and Public Law, (1922), 1934.

A.B., 1913, A.M., 1914, Ph.D., 1916, Michigan.

MERRITT FINLEY MILLER, Assistant Dean of the Faculty of Agriculture, Professor of Soils, (1904), 1928.

B.S.A., Ohio State Univ., 1900; M.S.A., Cornell, 1901.

FREDERICK BLACKMAR MUMFORD, Dean of the Faculty of Agriculture, Director of the Agricultural Experiment Station, Professor of Animal Husbandry, (1895), 1909.

B.S., 1891, M.S., 1893, Michigan State Col.; D.Agr., Nebraska, 1927, Michigan State Col., 1927.

[4]JAMES LEWIS PARKS, Dean of the Faculty of Law, Professor of Law, (1919), 1928.

A.B., 1907, LL.B., 1910, Columbia.

[3]MRS. BESSIE LEACH PRIDDY, Dean of Women, Associate Professor of History, (1923).

Ph.B., 1891, A.B., 1911, Adrian Col.; A.M., 1913, Ph.D., 1917, Michigan.

JAMES THOMAS QUARLES, Dean of the Faculty of Fine Arts, Professor of Music, (1923), 1924.

Mus. Doc., Denver Col. of Music, 1931; A.A.G.O., 1903.

WILLIAM J. ROBBINS, Dean of the Graduate Faculty, Professor of Botany, (1919), 1930.

A.B., Lehigh, 1910; Ph.D., Cornell, 1915.

LLOYD M. SHORT, Assistant Dean of the Graduate Faculty, Professor of Political Science and Public Law, (1923), 1929.

A.B., Knox Col., 1919; A.M., 1920, Ph.D., 1922, Illinois.

FRANK FLETCHER STEPHENS, Dean of Underclassmen in the College of Arts and Science, Professor of History, 1907, (1912), 1929.

Ph.B., 1904, Ph.M., 1905, Chicago; Ph.D., Pennsylvania, 1907.

FREDERICK MONROE TISDEL, Dean of the Faculty of Arts and Science, Professor of English, 1910, (1911), 1922.

A.B., Northwestern, 1891; A.M., Wisconsin, 1893; A.M., 1894; Ph.D., 1900, Harvard.

PROFESSORS

WILLIAM ALBERT ALBRECHT, Professor of Soils, 1916, (1919), 1930.

A. B., 1911, B.S., 1914, M.S., 1915, Ph.D., 1919, Illinois.

HERMANN BENJAMIN ALMSTEDT, Professor of Germanic Languages, (1901), 1904.

L.B., Pe.B., 1895, Missouri; Ph.D., Chicago, 1900.

[1]JOHN SITES ANKENEY, Professor of Theory and Practice of Art, 1901, (1905), 1913.

A.B., Missouri, 1906; Litt.D., Bethany Col., 1926.

[2]CLARENCE EDWARD BARDSLEY, Professor of Hydraulic Engineering, 1920, (1930), 1931.

B.S., 1920, C.E., 1922, M.S., 1924, Missouri School of Mines; Sc.D., Michigan, 1926.

[2]JOSEPH WAYNE BARLEY, Professor of English, 1912, (1914), 1915.
A.B., 1897, A.M., 1905, William Jewell Col.; Ph.D., Pennsylvania, 1911.

[2]STUART LEE BAYSINGER, Professor of Hygiene, Student Health Director, (1925).
M.D., Washington University, 1890.

HENRY MARVIN BELDEN, Professor of English, (1895), 1906.
A.B., Trinity Col., 1888; Ph.D., Johns Hopkins, 1895; L.H.D., Trinity Col., 1928.

JOHN COY BOUR, Professor of Law, (1926), 1929.
A.B., 1917, LL.B., 1920, Missouri; S.J.D., Harvard, 1925.

EDWIN BAYER BRANSON, Professor of Geology, (1910).
A.B., A.M., 1903, Kansas; Ph.D., Chicago, 1905.

SAMUEL TILDEN BRATTON, Professor of Geography, 1918, (1920), 1930.
B.S. in Ed., 1915, A.M., 1916, Missouri; Ph.D., Chicago, 1925.

CHESTER LELAND BREWER, Professor of Physical Training in the Department of Physical Education and Physical Training, (1910),* 1935.

HARRY GUNNISON BROWN, Professor of Economics and Finance, (1915), 1918.
B.A., Williams, 1904; Ph.D., Yale, 1909.

MARSHALL FRYE BRYANT, Professor of Voice, (1928).
Mus.B., Cincinnati Conservatory of Music, 1927.

[2]JOE BEATY BUTLER, Professor of Civil Engineering, 1920, (1922), 1931.
B.S. in C.E., 1915; B.S. in Ed., 1924, Oklahoma A. and M. Col.; C.E., 1922, M.S. in C.E., 1924, Missouri School of Mines.

SIDNEY CALVERT, Professor of Organic Chemistry, (1894), 1906.
B.S., McGill, 1890; A.M., Harvard, 1892.

MABEL V. CAMPBELL, Professor of Home Economics, (1926).
B.S., 1905, B.S. in H.E., 1908, Iowa State Col.; A.M., Columbia, 1922.

ARLIE GLENN CAPPS, Professor of Education, (1921), 1924.
B.S. in Ed., Northeast Missouri State Teachers Col., 1913; B.S. in Ed., 1916, A.M., 1917, Missouri; Ph.D., Illinois, 1921.

WILLIAM WESTON CARPENTER, Professor of Education, (1928).
A.B., 1912, A.M., 1917, Kansas; Ph.D., Columbia, 1926.

[2]CHARLES YANCEY CLAYTON, Professor of Metallurgy and Ore Dressing, 1913, (1916), 1920.
B.S. in Met., 1913, Met.E., 1916, Missouri School of Mines.

JESSIE ALICE CLINE, Professor of Home Economics, 1919, (1922), 1930.
B.S. in Ed., 1915; A.B., 1916, A.M., 1925, Missouri.

JOHN WALDO CONNAWAY, Professor of Veterinary Science and Comparative Medicine, Veterinarian to the Agricultural Experiment Station, 1888, (1891), 1900.
D.V.S., Chicago Veterinary Col., 1890; M.D., Missouri, 1891.

JESSE HARLIAMAN COURSAULT, Professor of the History and Philosophy of Education, (1905), 1910.
A.B., 1893, A.M., 1898, Ohio State; A.M., Harvard, 1900; Ph.D., Columbia, 1907.

ROY EMERSON CURTIS, Professor of Economics and Finance, (1928).
A.B., Nebraska Wesleyan, 1907; A.M., 1908, Ph.D., 1912, Wisconsin.

WINTERTON CONWAY CURTIS, Professor of Zoology, 1901, (1904), 1908.
A.B., 1897, A.M., 1898, Williams Col.; Ph.D., Johns Hopkins, 1901.

[2,4]CHARLES LAURENCE DAKE, Professor of Geology and Mineralogy, 1913, (1918). 1921.
A.B., 1911, A.M., 1912, Wisconsin; Ph.D., Columbia, 1922.

[2]GEORGE REINALD DEAN, Professor of Mathematics, 1889, (1897).
C.E., 1890, B.S., 1891, Missouri School of Mines.

SHERMAN DICKINSON, Professor of Agricultural Education, (1924), 1925.
B.S., Iowa State Col., 1913; M.S., 1920, Ph.D., 1925, Minnesota.

ELLA VICTORIA DOBBS, Professor of Applied Arts, 1909, (1914), 1931.
B.S. in Ed., Columbia, 1909; A.M., Missouri, 1913.

[2]HOWARD LEROY DUNLAP, Professor of Chemical Engineering, 1917, (1920), 1931.
B.S., Ohio Univ., 1912; M.A., 1914, Ph.D., 1925, Ohio State.

ADRIAN J. DURANT, Professor of Veterinary Science, 1913, (1921), 1931.
B.S., in Agr., 1913, A.M., 1915, Missouri; D.V.M., Michigan State Col., 1925.

CECIL ELDER, Professor of Veterinary Science, (1931).
D.V.M., Kansas State Col., 1916; M.S., Ohio State, 1924.

ROSCOE BRABAZON ELLARD, Professor of Journalism, (1930).
A.B., B.J., 1917, A.M., 1930, Missouri.

JOSEPH DOLIVER ELLIFF, Professor of High School Administration, 1904, (1908).
B.S.D., Central Missouri State Teachers Col., 1893; A.B., 1903, A.M., 1906, Missouri; LL.D., St. Louis, 1933.

MAX MAPES ELLIS, Professor of Physiology, (1919), 1927.
A.B., 1907, A.M., 1908, Ph.D., 1911, Indiana; Sc.D., Vincennes Univ., 1914.

ARTHUR SAMUEL EMIG, Professor of Sociology, (1927), 1931.
A.B., Missouri, 1916; S.T.B., Boston, 1920; Ph.D., Northwestern, 1930.

WILLIAM CARLYLE ETHERIDGE, Professor of Field Crops, (1916).
B.S. in Agr., North Carolina, 1906; M.S., 1912, Ph.D., 1915, Cornell.

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A.B., Toronto, 1900; A.M., 1903, Ph.D., 1904, Yale.

[2]FLOYD HILL FRAME, Professor of Electrical Engineering, 1914, (1919), 1925.
A.B., Clark, 1912; E.E., W.P.I., 1924.

[2]LEON ELLIS GARRETT, Professor of Mechanics, 1901, (1905), 1921.
B.S., Missouri School of Mines, 1901.

CHARLES E. GERMANE, Professor of Education, (1925).
A.B., Indiana Tri-State Col., 1910; A.M., 1918, Ph.D., 1920, Iowa.

CHARLES WILSON GREENE, Professor of Physiology and Pharmacology, (1900).
A.B., 1892, A.M., 1893, Stanford; Ph.D., Johns Hopkins, 1898.

ADDISON GULICK, Professor of Physiological Chemistry, 1912, (1913), 1921.
A.B., Oberlin Col., 1904; A.M., Harvard, 1905; Ph.D., Wurzburg, Germany, 1910.

[2]HERBERT RUSSELL HANLEY, Professor of Metallurgy, (1923), 1929.
B.S. in M.E., 1901; Met.E., 1918, Missouri School of Mines.

JOHN HANNA, Visiting Professor of Law, (1935).
A.B., Dartmouth, 1914: A.M., Stanford, 1915; LL.B., Harvard, 1918.

[2]ELMO GOLIGHTLY HARRIS, Professor Emeritus of Civil Engineering, (1891), 1931.
C.E., Virginia, 1882.

LEONARD HASEMAN, Professor of Entomology, 1906,* (1912), 1918.
A.B., 1905, M.A., 1907, Indiana; Ph.D., Cornell, 1910.

ELI STUART HAYNES, Professor of Astronomy, 1905,* (1923).
A.B., 1905, A.M., 1907, Missouri; Ph.D., California, 1913.

[1]GUY VERNON HEAD, Professor of Law, (1924), 1929.
A.B., Missouri, 1914; LL.B., 1917, S.J.D., 1932, Harvard.

[2]OSCAR ADAM HENNING, Professor of Modern Languages, 1920, (1921), 1931.
A.B., 1913, A.M., 1915, Central Wesleyan Col.

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Ph.B., Chicago, 1910; A.M., Columbia, 1927.

[2]VAN BUREN HINSCH, Professor of Mathematics, 1915, (1922), 1931.
B.S. in Min., 1909, E.M., 1917, Missouri School of Mines.

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B.L., Pe.B., 1884, M.L., 1888, Missouri; Litt.D., Oklahoma Baptist Univ., 1922.

ALBERT GARLAND HOGAN, Professor of Animal Nutrition, (1920).
B.S. in Agr., 1909, A.M., 1912, Missouri; Ph.D., Yale, 1914.

ROBERT LORENZO HOWARD, Professor of Law, 1919, (1925), 1929.
A.B., 1917, A.M., 1918, LL.B., 1925, Missouri; S.J.D., Harvard, 1933.

JAY WILLIAM HUDSON, JOHN H. LATHROP Professor of Philosophy, (1908), 1930.
A.B., 1905, A.M., 1906, California; A.M., 1907, Ph.D., 1908, Harvard.

KENNETH EUGENE HUDSON, Professor of Art, (1929).
B.F.A., Yale, 1927.

ABRAHAM LINCOLN HYDE, Professor of Bridge Engineering, (1903).
Ph.B., Yale, 1886.

[4]LOUIS INGOLD, Professor of Mathematics, 1905, (1912), 1924.
A.B., 1901, A.M., 1902, Missouri; Ph.D., Chicago, 1907.

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A.B., Indiana State Teachers Col., 1922; A.M., Columbia, 1924.

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[2]R. O. JACKSON, Professor of Mechanical Engineering, (1921).
B.S. in M.E., 1913, M.E., 1923, Maine.

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B.Ph.. Emory, 1899; LL.B., Mercer, 1902; B.Ph., Chicago, 1909; M.A., Columbia, 1920.

OLIVER RAY JOHNSON, Professor of Agricultural Economics, 1911, (1914), 1919.
B.S. in Agr., 1910, M.A., 1912, Missouri.

EVA JOHNSTON, Professor of Latin, (1899), 1931.
A.M., Missouri, 1895; Ph.D., Koenigsberg, 1905.

HARRY LAVERNE KEMPSTER, Professor of Poultry Husbandry, (1911), 1919.
B.S., Michigan Agr. Col., 1929; M.S., Wisconsin, 1928.

[2]KARL KENNETH KERSHNER, Professor of Chemistry, 1920, (1921), 1929.
B.S., M.S., 1920, Missouri School of Mines.

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B.S.A., 1908, A.M., 1916, Missouri.

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B.S. in E.E., 1900, M.E., 1905, Tennessee; M.E.E., Harvard, 1909.

[2]ISRAEL HERRICK LOVETT, Professor of Electrical Engineering, 1921, (1923), 1931.
S.B., Mass. Inst. of Tech., 1914; E.E., Missouri School of Mines, 1923; M.S.E., Michigan 1928.

ELLSWORTH ALLAN MACLEOD, Professor of Piano, (1923).
New England Conservatory of Music, 1918; Paris, France, 1921-24, 1931-32; Ganz, 1934.

GLENN AVANN MCCLEARY, Professor of Law, (1929), 1931.
A.B., Ohio Wesleyan, 1917; J.D., Michigan, 1924.

JOHN ALEXANDER MCGEOCH, Professor of Psychology, (1930).
A.B., Westminster Col. (Pennsylvania), 1918; A.M., Colorado Col., 1919; Ph.D., Chicago, 1927.

MARY R. MCKEE, Professor of Physical Education for Women, (1923), 1933.
B.A., Wisconsin, 1910; Graduate Certificate, Wellesley, 1916.

[2]CLAIR VICTOR MANN, Professor of Engineering Drawing and Descriptive Geometry, 1920, (1921), 1923.
B.S. in C.E., 1914, C.E., 1921, Colorado; Ph.D., Iowa, 1929.

[1]MAX F. MEYER, Research Professor of Psychology.
A.M., Ph.D., Berlin, 1896.

WALTER MILLER, Professor of Classical Languages and Archaeology (1891), 1930.
A.M., Michigan, 1884; LL.D., Arkansas, 1916; Litt.D., Michigan, 1932.

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A.B., McKendree Col., 1904; M.A., Wisconsin, 1912; Ph.D., Massachusetts, 1932.

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B.A., 1912, M.S., 1913, Iowa; E.M., Missouri School of Mines, 1925; Ph.D., Columbia, 1925.

MARCUS PINSON NEAL, Professor of Pathology, Director of the Laboratory of the University Hospitals, (1922), 1930.
M.D., University Col. of Medicine, 1912.

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B.S., 1900, M.S., 1902, Wisconsin.

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A.B., Westminster Col., 1922; LL.B., Missouri, 1925.

CLAUDE ANDERSON PHILLIPS, Professor of Education, (1924).
B.S., Odessa Col., 1892; M.A., Chicago, 1910; Ph.D., George Peabody Col., 1920.

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A.B., Central Col., 1900; A.M., 1901, M.E., 1910, Missouri.

JOHN PICKARD, Emeritus Professor of Classical Archaeology and History of Art, (1892), 1929.
A.B., 1883, A.M., 1886, Dartmouth Col.; Ph.D., Munich, 1892; D.F.A., Washington University, 1925.

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A.B., Fredericksburg Col., 1899; Ph.D., Johns Hopkins, 1905.

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Graduate Command and General Staff School, 1923; General Staff Eligible List.

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A.B., 1892, A.M., 1904, Ph.D., 1909, Harvard.

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A.B., 1897, Ph.D., 1900, Johns Hopkins.

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B.S., Wisconsin, 1919; M.S., Missouri, 1920.

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B.S. in C.E., Missouri, 1897; M.C.E., Cornell, 1905.

HARRY RUBEY, Professor of Civil Engineering, (1924).
B.S., 1905, C.E., 1925, Illinois.

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B.S., 1918, Kansas State Teachers Col. (Emporia); M.A., 1920, Ph.D., 1927, Columbia.

WALTER JULIUS SAUPE, Professor of Education, 1921, (1924), 1931.
B.S. in Ed., Southeast Missouri State Teachers Col., 1920; A.M., Missouri, 1921; Ph.D., Minnesota, 1924.

HERMAN SCHLUNDT, Professor of Physical Chemistry, 1902, (1905), 1908.
B.S., 1894, M.S., 1896, Ph.D., 1901, Wisconsin.

[2]WALTER THEODORE SCHRENK, Professor of Chemistry, 1923, (1924), 1929.
B.S., Monmouth, 1915; M.S., 1919, Ph.D., 1922, Wisconsin.

DR SCOTT, Professor of Accounting and Statistics, 1914, (1917), 1920.
A.B., B.S. in Journalism, Missouri, 1910; Ph.D., Harvard, 1930.

JOHN RUTLEDGE SCOTT, Professor Emeritus of Elocution, (1897), 1910.
A.B., 1864, A.M., 1867, Ohio Univ.

ROBERT WASHINGTON SELVIDGE, Professor of Industrial Education, 1908, (1910),* 1919.
B.Pd., Central Missouri State Teachers Col., 1900; B.S., 1908, M.A., 1909, Columbia.

HENRY ORMAL SEVERANCE, Librarian, (1907).
A.B., 1897, A.M., 1899, Michigan; M.Pd., Michigan Normal Col., 1912; Litt.D., Central Col. (Mo.), 1929.

JAMES TAYLOR SLEEPER, Professor of Public School Music, (1924).
A.B., Amherst, 1908; Ed.M., Harvard, 1921.

[2]JESSE HERMAN STEINMESCH, Acting Professor of Mining, (1932).
B.S., in Min.E., 1906, E.M., 1908, Missouri School of Mines.

[2]EUGENE A. STEPHENSON, Professor of Petroleum Engineering, (1930).
B.S., Adrian (Michigan) Col., 1905; Ph.D., Chicago, 1915.

OSCAR MILTON STEWART, Professor of Physics, (1901), 1905.
Ph.B., DePauw, 1892; Ph.D., Cornell, 1897; D.Sc., DePauw, 1928.

DAN GISH STINE, Professor of Medicine, Director of Medical Services in the University Hospitals, (1916), 1930.
A.B., Missouri, 1907; M.D., Harvard, 1911.

THOMAS JESSE TALBERT, Professor of Horticulture, 1913, (1915), 1922.
B.S., in Agr., 1913, A.M., 1917, Missouri.

W. ARTHUR TARR, Professor of Geology and Mineralogy, 1911, (1913), 1919.
B.S., Oklahoma A. and M. Col., 1904; B.S., Min.E., Arizona, 1908; Ph.D., Chicago, 1916; D.Sc. (Hon.), Oklahoma A. and M. Col., 1927.

FREDERICK LUNDY THOMSEN, Professor of Agricultural Economics, (1925), 1930.
B.S., Maryland, 1917; M.S., 1919, Ph.D., 1925, Wisconsin.

ALBERT EDMUND TROMBLY, Professor of French and Italian, (1922), 1926.
A.B., Harvard, 1913; A.M., Pennsylvania, 1915.

EDWIN A. TROWBRIDGE, Professor of Animal Husbandry, 1906, (1909), 1911.
B.S. in Agr., Wisconsin, 1906.

JONAS VILES, Professor of History, 1902, (1905), 1907.
A.B., 1896, A.M., 1897, Ph.D., 1901, Harvard.

CARL GEORGE VINSON, Professor of Horticulture, (1930).
B.S., in Agr., Missouri, 1916; M.S., Cornell, 1921; Ph.D., Minnesota, 1926.

FRED VON BORGERSRODE, Professor of Education, Superintendent of Instruction in the University High School, (1929), 1932.
B.S., 1922, Ph.D., 1927, Minnesota.

GUSTAF ERIC WAHLIN, Professor of Mathematics, (1924).
A.B., Bethany Col., 1903; Ph.D., Yale, 1906.

JACOB WARSHAW, Professor of Spanish, 1909, (1912),* 1926.
A.B., Harvard, 1900; A.M., North Carolina, 1902; Ph.D., Missouri, 1912.

RALPH KNUPP WATKINS, Professor of Education, 1915, (1923), 1931.
B.S. in Ed., 1916, A.M., 1918, Ph.D., 1923, Missouri.

LUTHER ABRAHAM WEAVER, Professor of Animal Husbandry, 1910, (1913), 1919.
B.S., in Agr., Missouri, 1910.

MENDELL P. WEINBACH, Professor of Electrical Engineering, 1907, (1913), 1923.
A.B., 1905, B.S. in E.E., A.M., 1907, Missouri.

WILHELMUS DAVID ALLEN WESTFALL, Professor of Mathematics, 1905, (1907), 1921.
A.B., Yale, 1901; Ph.D., Goettingen, 1905.

WALTER SCOTT WILLIAMS, Professor of Topographic Engineering, 1901, (1903).
C.E., Missouri, 1885.

ELMER WOOD, Professor of Economics and Finance, (1920).
A.B., Missouri, 1916; A.M., Princeton, 1930; A.M., Harvard, 1930.

[2]LEON ELMER WOODMAN, Professor of Physics, (1919).
A.B., 1899, A.M., 1902, Dartmouth Col.; Ph.D., Columbia, 1910.

JOHN COCHRAN WOOLEY, Professor of Agricultural Engineering, (1920).
M.Di., 1912, Iowa State Teachers Col.; B.S. in A.E., 1917, M.S. in A.E., 1925, Iowa State Col.

JESSE ERWIN WRENCH, Professor of History, 1911, (1914), 1930.
A.B., Cornell, 1906.

ASSOCIATE PROFESSORS

ROYAL D. M. BAUER, Associate Professor of Accounting and Statistics, (1929), 1931.
B.S. in Bus. Admin., Missouri, 1923; C.P.A., State of Missouri, 1927.

[1]RUDOLPH BENNITT, Associate Professor of Zoology, (1927).
S.B., 1920, A.M., 1921, Boston Univ., A.M., Ph.D., 1923, Harvard.

HARRY SATTERLEE BILL, Associate Professor of Theory and Practice of Art, 1918, (1921), 1931.

BERTHA BISBEY, Associate Professor of Home Economics, (1931), 1932.
B.S., 1921, A.M., 1924, Ph.D., 1930, Columbia.

WILLIAM L. BRADSHAW, Associate Professor of Political Science and Public Law, 1927, (1930), 1933.
B.S. in Ed., 1917, A.M., 1924, Missouri; Ph.D., Iowa, 1930.

SAMUEL BRODY, Associate Professor of Dairy Chemistry, (1920), 1928.
B.A., 1917, M.A., 1920, California; Ph.D., Chicago, 1928.

CLAUDE R. BRUNER, Associate Professor of Ophthalmology and Otology and Oculist and Aurist, Student Health Service, 1928, (1930), 1931.
A.B., Missouri, 1924; M.D., Northwestern, 1926.

LAWRENCE GUY BROWN, Associate Professor of Rural Sociology, (1933), 1934.
A.B., Dakota Wesleyan, 1921; Ph.D., Ohio State, 1932.

JAMES WILLARD BURCH, Assistant Director of Agricultural Extension Service, Extension Associate Professor, (1923), 1934.
B.S., in Agr., 1916, A.M., 1931, Missouri.

DEA BAILEY CALVIN, Associate Professor of Biochemistry, 1928, (1929), 1933.
B.A., Rice Institute, 1923; M.A., Texas., 1925; Ph.D., Yale, 1929.

[2]ERNEST WILSON CARLTON, Associate Professor of Civil Engineering, 1923, (1927), 1930.
B.S., in M.E., 1920, M.S., Ind.Ed., 1926; Colorado Agr. Col.; B.S. in C.E., Missouri School of Mines, 1926.

[3]CLARENCE EDGAR CARTER, Extension Associate Professor of Field Crops, (1920), 1923.
B.S. in Agr., Missouri, 1915; Ph.D., Illinois, 1931.

JESSIE V. COLES, Associate Professor of Home Economics, 1924, (1925), 1930.
B.S., Iowa State Col., 1915; A.B., Coe Col. (Iowa), 1917; A.M., Columbia, 1922, Ph.D., Chicago, 1930.

[2]FRANK EDWARD DENNIE, Associate Professor of Mathematics, 1909, (1923), 1931.
B.S. in C.E., Brown, 1909.

[2]CHARLES MITCHENER DODD, Associate Professor of Ceramic Engineering, (1927), 1931.
B.Cer.E., Ohio State, 1927.

[4]MARY VIOLETTE DOVER, Associate Professor of Chemistry, 1915, (1920), 1928.
B.A., 1898, M.Sc., 1900, McGill; Ph.D., University in Breslau, Germany, 1908.

GEORGE RAYMOND EDWARDS, Associate Professor of Physical Education, 1926, (1931).
B.J., Missouri, 1924.

ELMER ELLIS, Associate Professor of History, (1930), 1932.
A.B., 1924, M.A., 1925, North Dakota; Ph.D., Iowa, 1930.

MARTIN LUTHER FAUST, Associate Professor of Political Science and Public Law, (1929).
A.B., 1919, A.M., 1920, Gettysburg Col.; Ph.D., Chicago, 1924.

GILBERT MALCOLM FESS, Associate Professor of French, (1926), 1930.
Ph.B., Alfred Col., 1912; A.M., Syracuse, 1914; Ph.D., Pennsylvania, 1924.

PEARL B. FLOWERS, Associate Professor of Nursing, Principal of the School of Nursing, (1926), 1931.
G.N., St. Luke's, 1908.

HERBERT E. FRENCH, Associate Professor of Organic Chemistry, 1920, (1921), 1928.
A.B., Morningside Col., 1915; A.M., 1917, Ph.D., 1920, Illinois.

WILBUR E. GILMAN, Associate Professor of English, 1923,* (1927), 1930.
A.B., Cornell, 1923.

WILBURN SCOTT GOLDTHWAITE, Associate Professor of the History and Theory of Music, (1928), 1930.
Mus.B., Yale, 1926; Harvard, 1927; Paris, France, 1932.

ELLSWORTH SPENCER GRAY, Associate Professor of Mechanical Engineering, (1929), 1930.
S.B., Massachusetts Institute of Technology, 1925.

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A.B., 1916, A.M., 1918, Missouri; Ph.D., Bryn Mawr Col., 1922.

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A.B., William Jewell Col., 1921; A.M., Indiana, 1923; Ph.D., Princeton, 1930.

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B.S., 1900, M.S., 1903, Michigan; Ph.D., Missouri, 1911.

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B.S. in Econ., Louisville, 1927; M.A., Harvard, 1928; Ph.D., Chicago, 1930.

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A.B., 1923, M.A., 1924, Washington; Ph.D., Brookings Graduate School of Economics and Government, 1927.

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B.S., in Agr., Missouri, 1913; A.M., Nebraska, 1916.

CLARA LOUISE HILLIGASS, Associate Professor of Nursing, Superintendent of the University Hospitals, 1922, (1926), 1931.
G.N., St. Luke's, 1908.

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A.B., Oklahoma, 1927; B.S., in Lib.Sc., Illinois, 1930.

[3]HARRY J. HUFF, Associate Professor of Physical Education, (1929).
Ph.B., Grinnell Col., 1909.

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B.J., 1922, A.M., 1928, Missouri.

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B.A., Oregon, 1920; M.A., Columbia, 1921; D.Phil. (Oxon.), 1931.

[2]A. VERN KILPATRICK, Associate Professor of Mechanical Engineering, 1926, (1928), 1931.
B.S. in M.E., 1925, M.E., 1931, South Dakota State Col.

HARRY ANDERSON LA RUE, Associate Professor of Highway Engineering, 1907, (1918).
B.S. in C.E., 1907, C.E., 1909, Missouri.

JOSEPH STEPHENS LEONARD, Major, Infantry, United States Army, Associate Professor of Military Science and Tactics, (1930).
Graduate of United States Military Academy, 1910; Graduate of Command and General Staff School, 1926; Graduate, Infantry School, Advanced Course, 1925; General Staff Corps Eligible List.

[2]SAMUEL HORACE LLOYD, Associate Professor of Psychology, 1919, (1922), 1925.
A.B., DePauw, 1918; M.S., Missouri School of Mines, 1921.

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B.S. in Chem.E., 1921, M.S., 1925, Ph.D., 1927, Washington.

HORACE FAIRCHILD MAJOR, Associate Professor of Landscape Gardening, Superintendent of Grounds, 1910, (1911), 1923.
B.S.A., Cornell, 1908.

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A.B., Central Normal Col. (Indiana), 1918.

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S.B., 1911, Ph.D., 1914, Chicago.

[2]CHARLES J. MILLAR, Associate Professor of Biology, 1921, (1927), 1931.
B.S., 1921, M.S., 1923, Missouri School of Mines.

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S.B., 1917, Ph.D., 1921, Chicago.

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A.B., 1915, M.S., 1920, Ph.D., 1923, Cornell.

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B.S. in E.E., Oklahoma, 1921.

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A.B., 1915, A.M., 1916, Stanford; M.S., 1917, Ph.D., 1919, Illinois.

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B.S., Kenyon, 1921; M.D., Pennsylvania, 1927.

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B.S. in Agr., Wisconsin, 1919; A.M., Missouri, 1921; Ph.D., Wisconsin, 1927.

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B.S. in M.E., 1905, M.E., 1906, Missouri.

ROGERS WHITMORE, Associate Professor of Violin, 1925, (1927), 1931.
Diplomas from Utica Conservatory of Music, 1920; Ithaca Conservatory of Music, 1922, Mus.B., 1931; Fontainebleau School, France, 1922; Pupil of Sevcik, Thomson and Leopold Auer.

BERLEY WINTON, Extension Associate Professor of Poultry Husbandry, 1923, (1926), 1929.
B.S. in Agr., Kentucky, 1922; A.M., Missouri, 1926.

DILLER CLEMENT WOOD, Extension Associate Professor of Agricultural Economics, (1917), 1929.
B.S. in Agr., 1915, A.M., 1928, Missouri.

HORACE WALTER WOOD, JR., Associate Professor of Mechanics in Engineering, (1931).
B.S. in Engineering, C.E., Missouri, 1925.

[2]REAGAN HARRIS YOUNG, Associate Professor of Engineering Drawing and Descriptive Geometry, 1925, (1927), 1931.
B.S. in M.E., Georgia School of Technology, 1921.

[2]WALTER CHARLES ZEUCH, Associate Professor of Engineering Drawing and Descriptive Geometry, 1921, (1922), 1931.
B.S. in C.E., 1918, C.E., 1922, Missouri School of Mines.

NEWELL R. ZIEGLER, Associate Professor of Bacteriology and Preventive Medicine, (1931).
B.S., 1925, M.S., 1926, M.B., M.D., 1928, Ph.D., 1930, Minnesota.

ASSISTANT PROFESSORS

[1]CORNELIUS LAWRENCE ADAMS, Assistant Professor of the Theory and Practice of Art, 1930, (1932).
B.F.A., Yale, 1928.

JOHN QUINCY ADAMS, Assistant Professor of Geography, 1923, (1929).
A.B., 1923, A.M., 1925, Ph.D., 1930, Missouri.

EDWARD GAY AINSWORTH, JR., Assistant Professor of English, (1930).
A.B., 1925, M.A., 1926, Ph.D., 1929, Cornell.

JOHN WILLIAM CLARICE ANDERSON, Extension Assistant Professor of Horticulture, 1930,* (1935).
B.S., Illinois, 1925; A.M., Missouri, 1930.

LOLA ANDERSON, Assistant Professor of Journalism, (1930).
B.S. in Ed., 1921, B.J., 1927, A.M., 1931, Missouri.

WRAY BERTRAND AVERA, First Lieutenant, Field Artillery, United States Army, Assistant Professor of Military Science and Tactics, (1930).
Graduate of U. S. Military Academy, 1920; Graduate of Field Artillery School, 1921.

LESTER H. BARNHILL, Captain, Infantry, United States Army, Assistant Professor of Military Science and Tactics, (1931).
Graduate Infantry School, Company Officers Course, 1925.

RICHARD S. BATTERSBY, Assistant Professor of Pediatrics, 1927, (1931).
M.D., St. Louis Univ., 1908.

[1]RUSSELL STICKNEY BAUDER, Assistant Professor of Economics and Finance, 1926, (1930).
B.S., Knox Col., 1924; M.A., 1925, Ph.D., 1933, Wisconsin.

LEONARD DAVID BAVER, Assistant Professor of Soils, (1931).
B.Sc., 1923, M.Sc., 1926, Ohio State; Ph.D., Missouri, 1929.

WILMER GEORGE BENNETT, First Lieutenant, Field Artillery, United States Army, Assistant Professor of Military Science and Tactics, (1934).
Graduate, United States Military Academy, 1925; Graduate of Field Artillery School, 1931.

HELEN ELIZABETH BERESFORD, Assistant Professor of Home Economics, (1929).
B.S., Iowa State Col., 1923.

JAMES BREWTON BERRY, Assistant Professor of Sociology, Director of the Anthropological Collection, (1931), 1933.
A.B., Wofford Col., 1922; B.D., Yale, 1925; Ph.D., Univ. of Edinburgh, 1930.

HERMAN BETZ, Assistant Professor of Mathematics, (1924).
B.S., Rochester, 1912; Ph.D., Yale, 1923.

KARL RICHARD BOPP, Assistant Professor of Economics and Finance, (1931).
A.B., B.S. in Bus. Admin., 1928, A.M., 1929, Ph.D., 1931, Missouri.

[2]STERLING PRICE BRADLEY, Assistant Professor of English, (1921).
B.S., Missouri, 1918.

THOMAS ALLAN BRADY, Assistant Professor of History, 1926,* (1930).
A.B., Missouri, 1924; A.M., 1926, Ph.D., 1931, Harvard.

MINNIE M. BRASHEAR, Assistant Professor of English, 1920, (1934).
A.B., 1908, A.M., 1922, Missouri; Ph.D., North Carolina, 1930.

GERALD FREDERICK BRECKENRIDGE, Assistant Professor of Chemistry, 1921, (1927).
B.S. in E., 1918, Ch. E., 1921, Missouri; Ph.D., California, 1924.

[2]MILES HERBERT CAGG, Assistant Professor of English, 1927, (1931).
A.B., Ohio Univ., 1920; M.A., Ohio State, 1921.

FLORA LEE CARL, Extension Assistant Professor of Home Economics, (1933).
B.S., Southwest Missouri State Teachers Col., 1918; M.A., Columbia, 1927.

WILLIAM RAY CARTER, Assistant Professor of Education, (1931).
B.S. in Ed., A.M., 1928, Ph.D., 1931, Missouri.

EMMA CAUTHORN, Assistant Professor of Latin, 1916, (1923).
A.B., 1916, A.M., 1923, Missouri.

IDA FRA CLARK, Extension Assistant Professor of Home Economics, (1921).
B.S., Kansas Agr. Col., 1914; M.A., Columbia, 1930.

RUBY J. CLINE, Assistant Professor of Physical Education for Women, 1922, (1930).
B.S. in Ed., Missouri, 1918; M.A. in Phys. Ed., Columbia, 1929.

OTIS T. COLEMAN, Extension Assistant Professor of Soils, 1927, (1928).
B.S. in Agr., Missouri, 1920.

JAMES EDGAR CROSBY, JR., Administrative Assistant and Extension Assistant Professor of Dairy Husbandry, (1929), 1935.
B.S. in Agr., 1921, A.M., 1933, Missouri.

RICHARD LEE CROUCH, Assistant Professor of Anatomy, 1927, (1933).
A.B., 1925, B.S. in Medicine, 1926, A.M., 1929, Ph.D., 1932, Missouri.

ROBERT LEE DAVIDSON, JR., Assistant Professor, Acting Director of the University Extension Division, (1929), 1933.
A.B., 1915, B.S. in Ed., 1920, Drury Col.; A.M., Missouri, 1927.

[1]KARL DAVID DIETRICH, Assistant Professor of Surgery, Assistant Surgeon in the University Health Service, 1928, (1931).
M.D., Washington Univ., 1926.

GUSTAV JOHN DIPPOLD, Assistant Professor of Agricultural Education, 1926, (1928).
B.S. in Agr., 1918, B.S. in Ed., 1920, A.M., 1926, Missouri; Ph.D., Cornell, 1931.

RAY THEODORE DUFFORD, Assistant Professor of Physics, 1921, (1931).
B.S., 1918, M.S., 1921, Northwestern; Ph.D., Missouri, 1931.

FINIS O. DUNCAN, Assistant Professor of Mathematics, 1918, (1927).
B.S., Central Missouri State Teachers Col., 1914; A.M., 1920, Ph.D., 1926, Missouri.

AMY LEGER ELKINS, Assistant Professor of Nursing, 1926, (1931).
R.N., Christian Church Hospital, Kansas City, Missouri, 1920.

RICHARD HUFF EMBERSON, Extension Assistant Professor, State Club Agent, (1909), 1931.
B.S. in Ed., Missouri, 1905.

THOMAS A. EWING, Extension Assistant Professor of Animal Husbandry, (1928).
B.S. in Agr., Missouri, 1916.

J. ROSS FLEETWOOD, Extension Assistant Professor, State Extension Agent, (1931), 1934.
B.S. in Agr., 1921, A.M., 1924, Missouri.

BENJAMIN H. FRAME, Assistant Professor of Agricultural Economics, 1920, (1927).
B.S. in Agr., 1921, A.M., 1925, Missouri.

ERNEST MARVIN FUNK, Assistant Professor of Poultry Husbandry, 1927,* (1930).
B.S., Southeast Missouri State Teachers Col., 1925; A.M., Missouri, 1927.

EARL R. GARRISON, Assistant Professor Dairy Husbandry, 1928, (1931).
B.S., Illinois, 1926, A.M., Missouri, 1928.

JAMES EDWARD GERALD, Assistant Professor of Journalism, 1929, (1931).
B.A., West Texas State Teachers Col., 1927; B.J., 1928, A.M., 1932, Missouri.

[3]WARREN GIFFORD, Assistant Professor of Dairy Husbandry, 1925, (1927).
B.S. in Agr., West Virginia, 1923; A.M., Missouri, 1926.

[1]ADELLA EPPEL GINTER, Assistant Professor of Home Economics, (1927).
B.S., 1920, M.S., 1925, Minnesota.

[2]ELBRIDGE ALVAH GOODHUE, Assistant Professor of Mathematics, 1925, (1931).
A.B., Amherst Col., 1917; B.S., California Institute of Technology, 1920; M.S., Missouri School of Mines, 1927.

MINERVA V. GRACE, Assistant Professor of Home Economics, (1929).
A.B., Pacific, 1915; B.S., 1928, M.S., 1929, Oregon Agr. Col.

[2]OLIVER RUDOLPH GRAWE, Assistant Professor of Mineralogy, (1928).
A.B., 1922, M.S., 1924, Washington; Ph.D., Iowa, 1927.

FRANCES GRINSTEAD, Assistant Professor of Journalism, 1927, (1931).
B.J., 1922, A.M., 1928, Missouri.

CONRAD HAROLD HAMMAR, Assistant Professor of Agricultural Economics, (1929).
B.S., 1924, Ph.D., 1930, Minnesota.

HARRY EMMONS HAMMOND, Assistant Professor of Physics, 1920, (1929).
A.B., 1905, M.S., 1919, Michigan; Ph.D., Missouri, 1929.

CANNON CHILES HEARNE, Extension Assistant Professor, State Extension Agent, (1924).
B.S. in Agr., Missouri, 1924; M.S., Wisconsin, 1932.

JANE HINOTE, Extension Assistant Professor, State Club Agent, 1923, (1928), 1931.
B.S., Columbia, 1926.

[2]WALTER W. HODGE, First Lieutenant, Corps of Engineers, United States Army, Assistant Professor of Military Science and Tactics, (1934).
Graduate of United States Military Academy, 1925; B.S. in C.E., Cornell, 1929.

DONALD BRYAN IBACH, Extension Assistant Professor of Agricultural Economics, (1930).
B.S. in Agr., 1923, M.S. in Agr., 1927, Kansas State Agr. Col.

[1]HANS JENNY, Assistant Professor of Soils, 1927, (1928).
Diploma, Agr. Eng., Eidg. Techn. Hochschule, 1922; D.S., Zurich, Switzerland, 1926.

BREDELLE JESSE, Assistant Professor of French, 1919, (1922).
B.A. 1916, M.A., 1917, Missouri.

[1]LESLIE JOLLIFF, Assistant Professor of Piano, 1926, (1928).
A.B., 1922, Mus. B., 1923, Oberlin Col.

WALTER D. KELLER, Assistant Professor of Geology, 1926,* (1932).
A.B., Missouri, 1925; B.S. in Cer. Eng., Missouri School of Mines, 1930; A.M., Harvard, 1932; Ph.D., Missouri, 1933.

MAE KELLY, Assistant Professor of Physical Education for Women, 1928, (1933).
A.B., Oberlin Col., 1913; M.A., Columbia, 1928.

BASCOM M. KING, Assistant Professor of Field Crops, 1924, (1929).
B.S. in Agr., 1921, A.M., 1922, Missouri.

C. W. MCINTYRE, Assistant Professor of Dairy Husbandry (Hatch Experiment Farm, Hannibal, Missouri), (1932).
B.S., 1924, M.S., 1926, Michigan State Col.

FREDERICK FRANCIS MCKENZIE, Assistant Professor of Animal Husbandry, 1925,* (1928).
B.S.A., British Columbia, 1921; A.M., 1923, Ph.D., 1925, Missouri.

FRED MCKINNEY, Assistant Professor of Psychology, 1931, (1934).
A.B., 1928, M.A., 1929, Tulane; Ph.D., Chicago, 1931.

JOHN S. MALLORY, Captain, Field Artillery, Assistant Professor of Military Science and Tactics, (1934).
Graduate of the United States Military Academy, 1917; Graduate of the Field Artillery School, Basic Course, 1922.

WILLIS EDGAR MANEVAL, Assistant Professor of Botany, 1915, (1917).
Ph.B., 1902, M.S., 1903, Bucknell; Ph.D., Johns Hopkins, 1912.

WILLIAM REDMOND MARTIN, JR., Extension Assistant Professor of Horticulture, (1928).
B.S., Kansas Agr. Col., 1917.

DAVID MEEKER, Extension Assistant Professor, State Extension Agent, (1934).
B.S. in Agr., Missouri, 1924.

ALEXANDER MOORE MEYER, Assistant Professor of Law, (1931).
LL.B., Missouri, 1926.

JAMES DAUGHERTY MONIN, JR., Extension Assistant Professor, State Extension Agent, (1934).
B.S. in Agr., Missouri, 1928

CHARLES FREDERICK MULLETT, Assistant Professor of History, 1925, (1928).
A.B., Syracuse, 1922; A.M., Clark, 1923; Ph.D., Columbia, 1933.

ERNST ELLIOTT NAYLOR, Assistant Professor of Botany, 1924,* (1931).
B.S. in Agr., 1922, A.M., 1924, Ph.D., 1931, Missouri.

[1]WARREN OTTO NELSON, Assistant Professor of Anatomy, (1933).
A.B., Augustana Col., 1928; Sc. M., Iowa, 1929; Ph.D., New York Univ., 1931.

RUSSELL WARNER OBERLIN, Extension Assistant Professor of Agricultural Engineering, (1929).
B.S. in Agr., Ohio State, 1925.

CLARENCE C. PFLAUM, Assistant Professor of Pathology, (1931).
B.S., 1926; M.B., 1929, M.D., 1930, Minnesota.

HELMUT REHDER, Assistant Professor of Germanic Languages, 1931, (1934).
Ph.D., Heidelberg (Germany), 1929.

H. DONOVAN RHYNSBURGER, Assistant Professor of English, 1925, (1928).
B.S. in Com., Iowa, 1925.

[3]WALTER STUNTZ RITCHIE, Assistant Professor of Agricultural Chemistry, 1917, (1922).
B.S. in Agr., Ohio State, 1916; A.M., 1918, Ph.D., 1922, Missouri.

JULIA MADDEN ROCHEFORD, Extension Assistant Professor of Home Economics, 1917, (1924).
Pe.P., Missouri, 1888.

FLOYD E. ROGERS, Extension Assistant Professor, State Extension Agent, (1934).
B.S. in Agr., Missouri, 1924.

MARY ISABEL SCHELL, Assistant Professor of Home Economics, (1929).
Ph.B., Chicago, 1924; B.A.E., Art Institute of Chicago, 1925; M.A., Yale, 1933.

ROBERT WILLIAM SIDDLE, Assistant Professor of Physiology, 1925, (1931).
A.B., Stanford, 1923; A.M., Missouri, 1929; M.D., Rush, 1931.

[3]WILLIAM LEONIDAS SMITH, Assistant Professor of Roentgenology, Roentgenologist to the University Hospitals, (1932).
B.A., North Carolina, 1923; M.D., Washington, 1926.

CAROLINE TAYLOR STEWART, Assistant Professor of French, 1902, (1905), 1930.
A.B., Kansas, 1892; A.M., Michigan, 1895; Ph.D., Berlin, 1901.

HAROLD GORDON SWARTWOUT, Assistant Professor of Horticulture, 1918, (1925).
B.S. in Agr., 1918, A.M., 1924, Missouri.

MARGARET POINDEXTER TELLO, Assistant Professor of Piano, 1925, (1928).
Diploma, Montana State Normal Col., 1914; Cincinnati Conservatory of Music, 1916; B.S. in Ed., Missouri, 1929.

IDE PEEBLES TROTTER, Extension Assistant Professor of Field Crops, (1923).
B.A., Mississippi Col., 1915; B.S. in Agr., 1918, M.S. in Agr., 1921, Mississippi A. and M. Col.; Ph.D., Wisconsin, 1933.

[2]JAMES HENRY UNDERWOOD, Assistant Professor of Shop Work, 1918, (1921).

ANDREW WALDMERE UREN, Assistant Professor of Veterinary Science, 1924, (1931).
D.V.M., Michigan State Col., 1924; M.S., Michigan State, 1934.

GEORGE VENABLE, Assistant Professor, Director of the University Band, 1910, (1927), 1933.

[2]DAVID FRANCIS WALSH, Assistant Professor of Metallurgy, 1925, (1928).
B.S., 1923, M.S., 1924, Missouri School of Mines.

CLIFFORD MERRILL WALLIS, Assistant Professor of Electrical Engineering, 1928, (1934).
B.S. in E.E., Vermont, 1926; M.S. in E.E., M.I.T., 1929.

ALLEN STUART WELLER, Assistant Professor of Classical Archaeology and the History of Art, (1929), 1931.
Ph.B., Chicago, 1927; M.A., Princeton, 1929.

CLARENCE LUDWIG WETZEL, Assistant Professor, Supervisor of Trade and Industrial Education, (1933).
B.S. in E.E., Armour Institute of Technology, 1914.

BERTHA KINGSBURY WHIPPLE, Assistant Professor of Home Economics, 1920, (1921).
B.A., Smith Col., 1903; M.S., Chicago, 1920.

CHARLES S. WHITMORE, First Lieutenant, Field Artillery, United States Army, Assistant Professor of Military Science and Tactics, (1934).
Graduate of United States Military Academy, 1920; Graduate of Field Artillery School, 1921.

NATALIE WILSON, Assistant Professor of Physical Education for Women, Chaperon of Read Hall, 1926, (1927), 1934.
B.S., Columbia, 1925.

FARRIS HARDIN WOODS, Assistant Professor of Zoology, 1926, (1929).
A.B., Central Col., 1920; A.M., 1926, Ph.D., 1929, Missouri.

[1]GENEVA YOUNGS, Assistant Professor of Voice, 1926, (1928).

INSTRUCTORS

MARGARET M. ALEXANDER, Instructor in the University High School, 1934.
B.S. in Ed., Missouri, 1930.

BOWER ALY, Instructor in English, 1930.
B.S., Southeast Missouri State Teachers Col., 1925; A.M., Missouri, 1926.

URAL STEPHEN ASHWORTH, Research Instructor in Agricultural Chemistry, 1934.
A.B., 1929, Ph.D., 1933, Missouri.

FANNIE MCGEE BARDELMEIER, Instructor in the University High School, 1931.
A.B., North Georgia Col., 1919; A.M., Missouri, 1928.

[1]LOWELL ROLLIN BATCHELDER, Instructor in Art, 1930.

FRANKLIN PIERCE BATDORF, Instructor in English, 1934.
A.B., 1931, B.S. in Ed., 1933, A.M., 1933, Missouri.

KENNETH BELL, Instructor in Advertising, 1930.
B.J., Missouri, 1928.

[2]WILLIAM B. BERTRAM, Sergeant, United States Army, Instructor in Military Science and Tactics, 1929.
LL.B., Cumberland, 1912.

THOMAS EMERY BIRKETT, Instructor in Entomology, 1928,* 1931.
B.S. in Ed., 1928, A.M., 1931, Missouri.

IDA BOHANNON, Instructor in Spanish, 1920.
B.S., Kansas Wesleyan, 1910, Ph.D., Denver, 1920.

E. MARION BROWN, Instructor in Field Crops, 1930.
B.S. in Agr., 1921, A.M., 1930, Missouri.

[2]JUNIOR BROWN, Instructor in Physical Education and Football Coach, 1928.
A.B., Col. of Emporia, 1926.

MILDRED WOODWARD BROWN, Instructor in Pathology, 1924.
B.A., Wellesley Col., 1917; M.S., Iowa, 1924.

BESSIE E. BROWNE, Correspondence Instructor in Sociology, 1934.
B.S. in Ed., 1926, A.B., 1927, A.M., 1929, Missouri.

MARY E. BUFFUM, Instructor in Spanish, 1925, 1927.
A.B., 1925, A.M., 1927, Missouri.

[4]ELIZABETH BURRELL, Instructor in the University Elementary School, 1922.
B.S. in Ed., 1926; A.M., 1928, Missouri.

CHARLES HENRY BUTLER, Instructor in Education, Principal of the University High School, 1924.
Ph.B., 1921, M.A., 1922, Chicago; Ph.D., Missouri, 1931.

JOHN A. CAMERON, Instructor in Zoology, 1931.
A.B., 1925, A.M., 1926, Nebraska; Ph.D., Missouri, 1934.

FORREST OLIN CAPPS, Instructor in University High School, 1931.
B.S. in Ed., Northeast Missouri State Teachers Col., 1924; A.M., Missouri, 1931.

HOBART C. CARTER, Instructor in Mathematics, 1929.
B.S. in Ed., Central Missouri State Teachers Col., 1926; A.M., 1929, Ph.D., 1931, Missouri.

JAMES EDWIN COMFORT, Instructor in Animal Husbandry, 1927, 1928.
B.S. in Agr., 1927, A.M. 1929, Missouri.

MAURICE EDMUND COOPER, Instructor in Medicine, 1931, 1934.
S.B., Chicago, 1925; M.D., Rush Medical Col., 1930.

JOHN ROBERT COPE, Correspondence Instructor in Education, 1930.
B.S. in Ed., 1926, A.M., 1927, Ph.D., 1930, Missouri.

EUGENE WOODVILLE COWAN, Instructor in Agricultural Chemistry, 1926.
B.S. in Agr., 1913, A.M., 1924, Missouri.

[2]JAMES SHELLEY CULLISON, Instructor in Geology, 1930.
A.B., Illinois, 1928; M.S., Missouri School of Mines, 1930.

[2]ERNEST ETHRIDGE DECKER, Instructor in Civil Engineering, 1932.
B.S. in Min. E., Missouri School of Mines, 1929.

NETTIE ALICE DOOLITTLE, Instructor in Education, 1926.
B.S., 1924, A.M., 1925, Missouri.

WARD A. DORRANCE, Instructor in French, 1926,* 1931.
A.B., 1926, A.M., 1928, Missouri.

GEORGE MCNAUGHT EWING, Instructor in Mathematics, 1930.
A.B., 1929, A.M., 1930, Missouri.

DOROTHY FARTHING, Instructor in the University Elementary School, 1931.
B.S. in Ed., 1929, A.M., 1932, Missouri.

DON FAUROT, Instructor in Physical Education, 1935.
B.S., in Agri., 1925, AM., 1927, Missouri.

CHARLES EDWARD FISHER, Instructor in Physical Education, 1923.
B.S. in Ed., Missouri, 1935.

SARA SAPER GAULDIN, Correspondence Instructor in English, 1925.
B.J., 1923, A.M., 1925, Missouri.

RUTH P. GEORGE, Instructor in Rural Sociology, 1934.
A.B., Washington University, 1921.

FRANK H. GORMAN, Instructor in Education, Principal of the University Elementary School, 1927.
B.S. in Ed., Central Missouri State Teachers Col., 1924; A.M., 1928, Ph.D., 1931, Missouri.

DOUGLAS HANSEN, Instructor in Design, 1926,* 1934.
Has studied at Ecole des Beaux Arts, Fontainebleau, France, and at State Art School, Vienna, Austria.

HANSEN CARMINE HARRELL, Instructor in Classical Languages and Archaeology, 1934.
A.B., Washington and Lee, 1927; Ph.D., Chicago, 1934.

CAROLINE E. HARTWIG, Instructor in the University High School, 1925.
B.S. in Ed., 1921, A.B., A.M., 1922, Missouri.

HARRY A. HERMAN, Instructor in Dairy Husbandry, 1929, 1930.
B.S. in Agr., 1929, A.M., 1931, Missouri.

DOROTHY SAPPINGTON HOLSINGER, Instructor in Physical Education for Women, 1934.
B.S. in Ed., Missouri, 1926.

MRS. GERMAINE SANSOT HUDSON, Instructor in French, 1918.
Brevet Superieur, Toulouse, 1905; Certificate (Admissibilite), La Sorbonne, Paris, 1911.

M. KEITH HUMBLE, Instructor in the University High School, 1932.
B.S. in E., Oklahoma A. and M., 1928; A.M., Missouri, 1931.

MARY POLK JESSE, Instructor in the University Elementary School, 1921.
A.B., 1910, B.S. in Ed., 1912, A.M., 1926, Missouri.

MILDRED EDITH JOHNSON, Instructor in Spanish, 1923, 1926.
A.B., B.S. in Ed., 1915, Missouri; M.A., 1922, Ph.D., 1929, Iowa.

STANLEY DEAN JOHNSON, Instructor in English, 1929, 1930.
A.B., 1929, A.M., 1930, Missouri.

WILLOUGHBY H. JOHNSON, Instructor in English, 1926.
A.B., Southeastern, 1924; M.A., Vanderbilt, 1925.

HERBERT L. JOHNSTON, Instructor in Physical Education for Men, 1931.

GEORGE D. JONES, Extension Instructor in Entomology, 1930.
B.S. in Agr., Missouri, 1929.

WILLIAM ALBERT KLECKNER, Instructor in English, 1934.
A.B., 1931, A.M., 1932, Missouri.

LOIS E. KNOWLES, Instructor in the University Elementary School, 1934.
B.S. in Ed., A.M., Missouri, 1931.

WILLIAM LATHROP, Instructor in Journalism, 1927, 1928.
B.J., Missouri, 1928.

LURA LEWIS, Instructor in English, 1920.
B.S. in Ed., 1917, A.M., 1919, Missouri.

[1]SIBLEY MERTON, Instructor in Physical Education for Women, 1930, 1931,* 1933.
B.S., Wisconsin, 1930.

ROLAND E. MILLER, Instructor in Zoology, 1934.
B.S., Pittsburgh, 1933.

W. H. MILLER, Instructor in Mechanical Engineering, 1922.
B.S. in Ed., Missouri, 1925.

HUBERT C. MOFFETT, Instructor in Animal Husbandry, 1927, 1929.
B.S. in Agr., 1927, A.M., 1929, Missouri.

MONIA COOK MORRIS, Correspondence Instructor in History, 1928.
A.B., 1922, B.S., 1923, A.M., 1928, Missouri.

ELSA NAGEL, Instructor in German, 1926, 1931.
B.S. in Ed., Northeast Missouri State Teachers Col., 1922; A.M., Missouri, 1926.

DOROTHY VIRGINIA NIGHTINGALE, Instructor in Chemistry, 1923.
A.B., 1922, A.M., 1923, Missouri; Ph.D., Chicago, 1928.

RAYMOND E. PECK, Instructor in Geology, 1930.
A.B., Park Col., 1926; A.M., 1928, Ph.D., 1932, Missouri.

LAWRENCE ROBERT PEPPER, Instructor in English, 1929.
B.S., 1928, A.M., 1929, Harvard.

HENRY NELSON PETERS, Instructor in Psychology, 1932, 1934.
A.B., Arkansas, 1930; A.M., Missouri, 1931; Ph.D., Chicago, 1933.

PAUL LAVERNE PIERCY, Instructor in Veterinary Science, 1934.
D.V.M., Iowa State, 1933.

CALVIN H. RAMSAY, Instructor in the University High School, 1930, 1931.
B.S. in Ed., Northeast Missouri State Teachers Col., 1913; A.M., 1930, Ph.D., 1932, Missouri.

ELIZABETH MORROW REEDER, Instructor in Zoology, 1934.
B.A., Ohio State, 1933; M.A., Columbia, 1934.

LUTHER RAY RICHARDSON, Instructor in Agricultural Chemistry, 1934.
B.S., Georgetown, 1923; A.M., 1928, Ph.D., 1932, Missouri.

BEATRICE ANN ROSEBROUGH, Instructor in Nursing, Dietitian in the University Hospitals, 1934.
B.S. in H.E., Missouri, 1933.

A. BOWER SAGESER, Instructor in History, 1934.
A.B., State Teachers Col. (Wayne, Neb.), 1925; A.M., Nebraska, 1930.

ELLIOTT BROWN SCHERR, Instructor in Spanish, 1929.
A.B., Washington University, 1921; B.J., A.M., 1930, Missouri; Ph.D., Iowa, 1934.

[2]NADINE MATLOCK SEASE, Instructor in English, 1930, 1932.
B.S., 1926, M.S., 1927, Missouri School of Mines.

FREDERICK EMANUEL SHANE, Instructor in the Theory and Practice of Art, 1934.

GERALD DAVIS SHIVELY, Instructor in English, 1931.
A.B., Southeast Missouri State Teachers Col., 1930; M.A., Northwestern, 1931.

CHAUNCEY GROVES SIMPSON, Instructor in Physical Education, 1935.
B.S. in Ed., Northeast Missouri State Teachers Col., 1928; A.M., Missouri, 1932.

OLIVER THEODORE SNODGRASS, Correspondence Instructor in Mathematics, 1931.
B.S., Dakota Wesleyan, 1924; M.S., Iowa, 1927.

RICHARD S. SPANGLER, Instructor in Economics and Finance, 1934.
Ph.B., 1932, A.M., 1933, Chicago.

ANTON J. STANKOWSKI, Instructor in Physical Education, 1926.
B.S. in Agr., Missouri, 1924.

CARL ROBERT SWARTZLOW, Instructor in Geology, 1930.
Ph.B., Lawrence Col., 1924; A.M., 1929, Ph.D., 1932, Missouri.

MRS. VIRGINIA WOOD SYMNS, Instructor in the University High School, 1927.
B.S. in Ed., Central Missouri State Teachers Col., 1922; A.M., Missouri, 1932.

DORIS BARBARA TAYLOR, Instructor in Physical Education for Women, 1933.
B.S., 1927; M.S., 1933, Wisconsin.

ELEANOR TAYLOR, Instructor in the University Elementary School, 1923.
A.B., B.S., 1919, Missouri; A.M., Columbia, 1920.

[2]CLARENCE DELMAR THOMAS, Instructor in Physics, 1930.
B.S., Northeast Missouri State Teachers Col., 1927; A.M., Missouri, 1931.

NELL WALKER, Instructor in Spanish, 1917,* 1921.
A.B., 1921, A.M., 1926, Missouri.

COLEMAN SCOTT WARE, Instructor in English, 1929, 1930.
B.S., Southwest Missouri State Teachers Col., 1926, A.M., Missouri, 1930.

HAROLD WILLIAM WARNER, Instructor in the University High School, 1931.
B.S. in Ed., 1931, A.M., 1933, Missouri.

LEMEN JONATHAN WELLS, Instructor in Anatomy, 1935.
B.S. in Ed., Southern Illinois State Teachers Col., 1927; M. S., Northwestern, 1928; Ph.D., Chicago, 1934.

AGNES MARY WILDISH, Instructor in the University High and Elementary Schools, 1934.
B.S., Missouri, 1931.

MEREA WILLIAMS, Instructor in the University High School, 1929.
B.S. in Ed., Northwest Missouri State Teachers Col., 1928; A.M., Missouri, 1931.

[2]REX ZADOK WILLIAMS, Instructor in Mechanics, 1931.
B.S. in Met., Missouri School of Mines, 1931.

[2]JOHN MILTON WILLSON, Instructor in Physics, 1930.
B.S. in Gen. Sc., 1929, M.S., 1931, Missouri School of Mines.

JOHN B. WOLF, Instructor in History, 1934.
A.B., 1929, M.A., 1930, Colorado; Ph.D., Minnesota, 1933.

EDNA WOOD, Instructor in the University High School, 1923.
A.M., Missouri, 1927.

VERNA WULFEKAMMER, Instructor in Applied Art, 1928.
B.S. in Ed., 1926 A.M., 1931, Missouri.

OPAL STRONG YOUNGBLOOD, Instructor in the University High School, 1933.
A.B., Texas Christian, 1925; M.A., George Peabody, 1928.

ASSISTANT INSTRUCTORS

WARREN C. HALL, Assistant Instructor in Dairy Husbandry, 1933.
B.S. in Ed., Northeast Missouri State Teachers Col., 1926; B.S. in Agr., 1930, A.M., 1930, Missouri.

JOHN M. HANNEGAN, Assistant Instructor in Chemistry, 1928.
B.S. in Ch. E., Missouri, 1926; M.S. in Petr. E., Oklahoma, 1928.

JOHN PAUL MORRIS, Assistant Instructor in Chemistry, 1933.
B.S. in Ed., Central Missouri State Teachers Col., 1925; A.M., Missouri, 1930.

EZRA P. REINEKE, Assistant Instructor in Dairy Husbandry, 1934.
B.S. in Agr., Minnesota, 1934.

LIBRARY STAFF

HENRY ORMAL SEVERANCE, Librarian (1907).
A.B., 1897, A.M., 1899, Michigan; M.Pd., Michigan Normal College 1912; Litt.D. Central Col. (Mo.), 1929.

[2]PAUL HOWARD, Librarian, Associate Professor of Library Science, 1930, 1933.
A.B., Oklahoma, 1927; B.S. in Lib. Sc., Illinois, 1930.

ELIZABETH DIANTHA CLARK, Head Cataloger, 1931.
A.B., 1906, A.M., 1909, Ohio Wesleyan; A.M., Columbia, 1927.

MRS. ADA M. ELLIOTT, Reference Librarian, 1922, 1928.
M.L., William Woods Col., 1904; Graduate, Wisconsin Library School, 1922.

STELLA BLANCHE HEDRICK, Head of Acquisitions Department, 1909, 1921.
University of Illinois Library School.

PERCY ANDERSON HOGAN, Law Librarian, 1915.

JOHN THADDEUS SKELTON, Head of Circulation Department, 1934.
A.B., 1930, A.B. in Lib. Sc., 1931, Oklahoma.

INEZ SPICER, First Assistant Cataloger, 1911, 1921.
B.S., Christian Col., 1901; B.S. in Ed., Missouri, 1909; New York State Library School, 1914-15.

HELEN ELISABETH DEAN, Assistant Cataloger, 1930.
B.S., Kansas State Col., 1928; B.S. in Lib. Sc., Illinois, 1929.

JANE FRODSHAM, Librarian, College of Agriculture, 1920, 1931.

MRS. AUREVIA PALMER GRAHAM, Assistant in Acquisitions Department, 1929.
B.S in H.E., Missouri, 1934.

[2]PHYLLIS HACKMAN, Cataloger, 1929.
A.B., Lindenwood Col., 1926.

MRS. FRANCES MCKEE HANNA, Secretary to the Librarian, 1924,* 1930.
B.S. in Public Admin., Missouri, 1928.

MRS. JANE A. HURTY, Librarian, College of Engineering, 1913, 1931.

MRS. ANNA FRANCES JEFFERS, Assistant in Charge of Biology Library, 1926,* 1929.

PRIESTLY H. MCCABE, General Assistant, 1923.

FREDA PAPE, Assistant in Charge of Reserved Book Reading Room, 1922, 1927.

CONSTANCE PFAFF, Assistant in Circulation Department, 1929, 1931.

JULIA E. SAMPSON, Librarian, School of Journalism, 1913, 1931.
B.M., Stephens Col., 1902.

MARJORIE SHEETZ, Assistant in Acquisitions Department, 1929.

[2]DOROTHY N. E. SWANK, Cataloger, 1933.
B.A., 1931, B.A. in L.S., 1932, Oklahoma.

MRS. LULA V. TESTERMAN, Librarian, School of Medicine, 1921, 1931.

ANN MCKINNEY TODD, Assistant Reference Librarian, 1932.
B.A., Agnes Scott, 1928; B.A. in L.S., Emory, 1931.

BON-JEAN-NETTE WHITE, Assistant in Acquisitions Department, 1929.
B.A., Baylor Col. (Texas), 1928.

ADMINISTRATIVE AND OTHER OFFICERS

[2]HENRY HORTON ARMSBY, Registrar and Student Adviser, School of Mines and Metallurgy, 1917 (1918), 1922.
B.S. in C.E., 1911, C.E., 1916, Pennsylvania State Col.

ORVILLE MARION BARNETT, Attorney of the University, 1914.

S. WOODSON CANADA, Registrar of the University, 1917, 1923.
A.B., Missouri, 1917.

LESLIE COWAN, Secretary of the University, 1908, 1920.
B.S. in C.E., Missouri, 1913.

ROBERT LEE DAVIDSON, JR., Assistant Professor, Acting Director of the University Extension Division (1929).
A.B., 1915, B.S. in Ed., 1920, Drury Col.,; A.M., Missouri, 1927.

CHRISTINE HAUSCHILD, Chief Clerk in the Office of the Secretary, 1920, 1929.

ESTELLE HICKOK, Secretary to the President, 1901, 1917.

ROBERT E. LEE HILL, Director of Alumni Activities, 1921, 1930.
B.S. in Agr., 1912, A.M., 1913, Missouri.

[2]NOEL HUBBARD, Assistant Registrar, School of Mines and Metallurgy, 1923.

[2]EDWARD KAHLBAUM, Business Manager, School of Mines and Metallurgy, 1909.

ROBERT BEVERLY PRICE, Treasurer of the University, 1923.
LL.B., Missouri, 1904.

HARRY S. RUMMELL, Assistant Registrar of the University, 1930.
A.B., Missouri, 1926.

HENRY ORMAL SEVERANCE, Librarian (1907).
A B., 1897, A.M., 1899, Michigan; M.Pd., Michigan Normal Col., 1912; Litt.D., Central Col. (Mo.), 1929.

TONY DAVID STANFORD, Assistant Secretary of the University, 1912,* 1930.

[2]MARTIN HARMON THORNBERRY, Director in Charge of the State Mining Experiment Station, 1912, (1915), 1931.
B.S. in G.S., 1912, B.S. in Met., 1917, Met. E., 1920, Missouri School of Mines.

JOHN FRANCIS WILLIAMS, Director of Publications, 1922, 1930.

KENNETH CLAIRE BECK, Resident Physician in the University Hospitals, 1934.
A.B., 1927, B.S., 1928, M.D., 1930, Kansas.

OTTO SMITH CRISLER, Superintendent of Hog Cholera Serum Laboratory, 1917.
D.V.M., Indiana Veterinary Col., 1910.

CHARLES W. DIGGES, Consulting Dental Surgeon in the University Hospitals, 1919.
D.D.S., Washington University, 1902.

TALITHA GISLER, Accountant in the Office of the Secretary, 1933, 1934.
A.B., Central Wesleyan Col., 1924; B.S. in Bus. Admin., 1930, A.M., 1931, Missouri.

[2]HAROLD GRANT, Athletic Director and Head Coach, School of Mines and Metallurgy, 1928.
A.B., Col. of Emporia, 1924.

JAMES A. JARVIS, Resident Physician in the University Hospitals, 1934.
A.B., 1927, B.S. in Med., 1930, Missouri; M.D., Washington University, 1932.

ARTHUR ALLAN JEFFREY, Agricultural Editor, 1921.
A.B., Simpson Col. (Iowa), 1905.

J. R. JORDAN, Auditor of the University, 1923, 1929.

[2]FREDERICK JOHN MCCAW, Superintendent of Buildings and Grounds, School of Mines and Metallurgy, 1927.

ALBERT H. MONK, Assistant Auditor of the University, 1933, 1934.
B.S. in Bus. Admin., Missouri, 1931.

RALPH HOYE SOGARD, Superintendent of Buildings, 1930.
B.S. in M.E., Wisconsin, 1926.

[2]RUTH FLETCHER STEVENS, Secretary to the Director, 1933.

ARTHUR LORD WESTCOTT, Superintendent of Buildings, (1906), 1916.
B.E.E., 1892, M.E., 1906, Purdue.

WILLIAM JACKSON YOUNG, Assistant to the Director of Publications, 1933.
B.J., Missouri, 1930.

SECTION I

GENERAL INFORMATION

Historical Statement

The University of Missouri is ninety-six years old, the oldest state university west of the Mississippi River. It has always been an integral part of the state's school system, since it was established by an act of the General Assembly of Missouri, approved February 11, 1839, two days after the act establishing the public school system of the state was approved.

The University was located at Columbia, Boone County, June 24, 1839. The cornerstone of the main building was laid July 4, 1840. The spring following, April 14, 1841, instruction in academic courses was begun. The first class, consisting of two members, was graduated in 1843. Women were first admitted to the University in 1869.

The development of the highest and most efficient type of citizen is the fundamental aim of the University. A liberal education in the arts and sciences and training for professions is offered.

Organization

The University of Missouri comprises the following divisions:

College of Arts and Science
College of Agriculture
School of Business and Public Administration
School of Education
College of Engineering
College of Fine Arts
Graduate School
School of Journalism
School of Law
School of Medicine
School of Mines and Metallurgy
Extension Division

The School of Mines and Metallurgy is at Rolla. The other divisions are at Columbia.

Emphasis is given in particular lines of work by the establishment of minor divisions, chief of which are the Agricultural Experiment Station, the Engineering Experiment Station, the Missouri State Military School and the Mining Experiment Station at Rolla.

The University Faculty consists of the President, the Deans, all professors and associate professors, and such other teachers

and officers as may be elected to membership by them. Each division—college or school—of the University has its own faculty, consisting of the dean, professors, associate professors, and such other teachers of that school or college as the faculty concerned may elect. The teachers in each department work together through a chairman appointed by the President for a term of one year.

The President is the executive head of the University and is a member of all the faculties.

Location

The University of Missouri, located at Columbia, is about half way between St. Louis and Kansas City, near the center of the state. By railroad it is reached by the Wabash and the Missouri-Kansas-Texas railways. It is on national highways numbers 40 and 63. Columbia, with a population of approximately seventeen thousand, may be characterized as a town of schools, homes, and churches, with enough industrialism for efficiency. It offers the conveniences of a larger city without the distractions.

Equipment

Grounds and Buildings: The University grounds at Columbia cover more than 800 acres. The main divisions are Francis Quadrangle, the East Campus, the athletic fields, and the University farm. About five miles south, an 80-acre tract is used for experimental work in horticulture. On a 90-acre tract two miles north, the University has a plant for the manufacture of hog-cholera serum. The University also owns about 46,000 acres mainly in the Ozark Mountains of Southern Missouri.

The following University Buildings are at Columbia:

Jesse Hall (administration), Parker Memorial Hospital, Noyes Hospital, Lathrop Hall (for fine arts), McAlester Hall (for medicine), Rothwell Gymnasium, Women's Gymnasium, Brewer Field House, Schweitzer Hall (for agricultural chemistry), Switzler Hall, Jay H. Neff Hall (for the School of Journalism), Whitten Hall (for horticulture), Lefevre Hall (for botany and zoology), Mary Louise Gwynn Hall (for home economics), Lee Harry Tate Hall (for the School of Law), Waters Hall and Mumford Hall (for agriculture), Swallow Hall (for geology), separate buildings for agriculture, astronomy, chemistry, business and public administration, dairy, University Elementary School, University High School, engineering, engineering shops, industrial arts, library, machinery (for agricultural engineering), physics, poultry, veterinary, two power plants, livestock judging pavilion, dairy barn, horse barn, sheep barn, beef cattle barn, several buildings on hog cholera serum

farm, other small buildings; residences for the President of the University and the Dean of the Faculty of Agriculture, and Read Hall (dormitory for women).

Alumni, former students, present students, and friends of the University have presented the institution with a beautiful Gothic Memorial Tower and a Memorial Stadium, dedicated to the memory of the University students who lost their lives in the World War.

LABORATORIES AND MUSEUMS: Practical instruction in the sciences is provided in the following laboratories: Agricultural chemistry, agricultural engineering, animal husbandry, anatomy, astronomy, bacteriology (general and medical), botany, chemistry, dairy husbandry, engineering (civil, electrical, sanitary, and mechanical), entomology, experimental psychology, educational psychology, field crops, fine arts, geology and mineralogy, home economics, horticulture, industrial arts, journalism, military science, pathology, pharmacology, physics, physiology, physiological chemistry, poultry husbandry, soils, U. S. Bureau of Fisheries research, veterinary science, and zoology. There was added to the museums, in 1924, the Sutton African Collection, consisting of trophies secured by Dr. Richard Sutton, of Kansas City, during an African expedition.

There are museums of agriculture, classical archaeology, ethnology, geology, history, journalism, mathematics, zoology, pathology, and the social museum.

DRAFTING ROOMS: Rooms are provided for the theory and practice of art and for engineering drawing.

DORMITORIES: The University has one dormitory for women. For detailed information concerning this and the boarding facilities connected with it, see page 68.

LIBRARIES: The libraries of the University are the general library, law library, medical library, engineering library, agricultural library, journalism library, and collections in the chemistry, geology, and biology buildings. They contain 318,344 volumes, 2200 dissertations and about 2500 pamphlets, and 1727 periodicals are currently received.

The library has been enriched within the last few years by the purchase of the private library of the late Professor G. Jacques Flach, a French jurist and historian, consisting of 6000 volumes. The collection is rich in the history of France, especially of Alsace-Lorraine, and in legal literature. The library has secured also the private library of Professor Paul Lejay, consisting of 6000 volumes of classical literature.

The private library of Dr. William Benjamin Smith was presented to the University Library by Dr. Smith in 1926. The collection numbers 2000 volumes. There are 325 volumes in mathe-

matics and physics, 300 in philosophy, 900 in religion and theology, and more than 500 in history, literature and the World War.

The University has received $1,000.00 from the Gamma Chapter of Phi Delta Kappa, the income from which fund is used for the development of a professional Library in Education at the University of Missouri, known as the Irion Library, which contains 401 volumes.

The Walter Williams Library was established in 1934 by a fund from the Alumni Association of the School of Journalism. This fund provides an annual increase of books. There are 201 volumes in this collection. The books are not available for circulation. A few of the books will be transferred to the University of Missouri General Library from year to year.

The Mary Jane Lockwood Memorial Library is located in the Noyes Hospital for the benefit of patient. The nucleus of the library is 100 volumes presented by Mrs. Walter Williams, daughter of Mrs. Mary Jane Lockwood. There are 125 volumes in this collection. There is no fund for the purchase of books but the library depends upon donations from individuals interested in providing students and adults who are confined to the hospitals with reading material.

The general library is housed in a separate building. The reading room will accommodate 260 readers; the four seminar rooms for graduate students provide for 50 students. The library is open 13 hours a day for consultation during the academic year. It is closed on important legal holidays.

A reading room for the circulation of books reserved for underclassmen occupies the main floor of the Geology Building.

Students have access to the collections of the State Historical Society, containing 75,000 volumes and pamphlets. This collection is housed in the General Library Building. The State Historical library is open 8½ hours a day, except Sunday and legal holidays.

The law library occupies the third floor of the Lee H. Tate Hall. The collection consists of 29,485 volumes, and the room is open 13 hours daily, except Sunday. The library includes a valuable collection of law books on criminal laws and criminal trials, presented by John D. Lawson, former Dean of the Law faculty.

The medical library occupies the east end of the one floor of the new wing of the Medical building and is open 10 hours daily except Sunday. The collection consists of 12,503 volumes and the more important current journals.

The engineering library is shelved in the Engineering Building and is open 7½ hours daily, except Sunday. The collection consists of 10,415 volumes.

The agricultural library is on the second floor of the Mumford Hall and is open 10 hours daily, except Sunday. The collection consists of 19,552 volumes.

The journalism library is open 9½ hours daily and consists of over 4,347 volumes, 292 periodicals and daily and weekly newspapers, and occupies a desirable room on the main floor of Jay H. Neff Hall.

These statistics are for books shelved in the branch libraries. There are many other volumes on the same subjects in the general library.

Other collections, shelved in the various laboratories, are accessible at certain hours daily, except Sunday. The collections are small, but have been selected with special reference to the need of students in these laboratories.

GYMNASIUMS AND ATHLETIC FIELDS: *For Men:* Rothwell Gymnasium and the new Field House present facilities for gymnastics, basket ball, boxing, wrestling, hand ball, and other indoor activities and also adequate locker and bathing facilities.

Brewer Field House is built in connection with Rothwell Gymnasium and is splendidly planned for indoor track, basket ball, tennis, volley ball and a general recreative program and furnishes adequate space and facilities for the entire program of physical education and athletics through the winter months and in inclement weather.

Rollins Field, adjacent to the Gymnasium and the Field House, is well equipped for recreational and intramural programs. It has a 440-yard cinder track with a 220-yard straightaway, numerous football, baseball, and other play fields, and 10 tennis courts.

As an addition to the outdoor equipment, there has been built Memorial Stadium, unique in design and complete in every respect for handling the large crowds which come to the University for intercollegiate football. The Stadium, with additions, will seat 56,000. In addition to the football field, there is a 440-yard cinder track. Under the Stadium are quarters for training, dressing, and general care of the athletic teams.

For Women: The women of the University have a complete plant exclusively for their own use, a gymnasium complete in every detail with excellent facilities for all indoor recreation and games, complete dressing and service quarters in the basement, and a swimming pool 30x60 with up-to-date chlorination and filtration equipment. Immediately adjacent to the Gymnasium are the girls' play and athletic fields exclusively for their own use. These

include tennis courts, courts for basket ball, volley ball, and play ball, also a cinder track for track athletics, and soccer and hockey fields. There is space for archery and other outdoor games suitable for women.

PUBLICATIONS OF THE UNIVERSITY

The publications of the University consist of *The University of Missouri Studies, University of Missouri Bulletin,* and publications of the Agricultural Experiment Station and the Agricultural Extension Service.

The University of Missouri Bulletin comprises the astronomical series, the education series, engineering experiment station series, extension series, general series, journalism series, library series, medical series, law series, literature series, science series, and social science series. The publications of the Agricultural Experiment Station include research bulletins—bulletins and circulars of information based for the most part on the work of the local station. The publications of the Agricultural Extension Service are of a more popular nature, covering a wider range of work. *The University of Missouri Studies* contain the results of original research by the teachers and graduate students of the University. Beginning January 1, 1926, *The University of Missouri Studies,* A QUARTERLY OF RESEARCH, were issued quarterly.

The bulletins and circu'ars of information are sent free, within the State, on application. The catalog and special announcement of each school and college are issued annually and may be had by writing to the Registrar of the University.

DATE TABULATION OF UNIVERSITY HISTORY

1839—*February 11.*	University established by Act of Legislature.
June 24.	University located in Columbia, Boone County.
1840—*July 4.*	Cornerstone laid for University building.
1843—*November 28.*	First Commencement Exercises of University.
1845—*December 15.*	Rollins Aid Fund donated, by will.
1853—*July* 1.	Alumni Association organized.
1862-1863—	University closed on account of Civil War.
1867—*March 28.*	Stephens Medal contest established.
June 25.	Normal College, forerunner of School of Education, established.
1869—*September 20.*	Women first admitted to University.
1871—*June 28.*	Cornerstone laid for Scientific Building, afterwards Agricultural Building, afterwards Switzler Hall.
November 23.	School of Mines at Rolla opened.
1872—*October 9.*	Law School opened.
1873—*February 17.*	School of Medicine opened.
June 24.	Bingham's Portrait of J. S. Rollins presented.

1877—*June 23.*	Professorship of Civil Engineering established by Board.
August 27.	First Summer Session opened.
1878—*June 4-6.*	School of Engineering established.
1880—*January 13.*	Presentation of Laws Telescope.
1882—*June 1.*	Presentation of Rollins Bell.
1883—*July 4.*	Jefferson Monument shipped to Missouri.
1885—*June 4.*	Dedication of Additions to Main Building.
1890—*July 4*	Celebration of Semi-Centennial of University.
1892—*January 9.*	Main Building destroyed by fire.
1893—*July 12.*	Contract awarded for Academic Hall.
1895—*July 15.*	Academic (Jesse) Hall completed.
1896—*June 3.*	Donation for Rollins Athletic Field.
1898—*September 13.*	Lathrop Hall opened.
1899—*December 19.*	Cornerstone of Parker Memorial Hospital laid.
1901—*October 1.*	Parker Memorial Hospital opened.
1903—*September 8.*	Read Hall completed and opened.
1906—*September 18.*	Rothwell Gymnasium opened.
1907—*April 19.*	First Celebration of Founder's Day.
1908—*April 2.*	School of Journalism established.
1913—*March 15.*	Physics Building completed.
1913—*June 1.*	Schweitzer Hall completed.
1914—*January 14.*	Contract let for Library Building.
January 19.	School of Commerce established.
August 13.	Biology Building completed.
September.	Livestock Judging Pavilion opened.
1916—*January 6.*	Library Building formally opened.
1920—*September 1.*	Journalism Building, Jay H. Neff Hall, dedicated.
1921—*October 31.*	West Half of the Home Economics Building completed.
1922—*November 30.*	Cornerstone of Memorial Tower laid.
1923—*January 4.*	New Power Plant goes into operation.
June 26.	Woman's Gymnasium completed.
October 29.	West Agricultural Building (Mumford Hall) completed.
1924—*June 3.*	Francis Memorial Fountain dedicated.
September 12.	School of Fine Arts opened with fall term.
September 22.	University Hospital (Noyes Hospital) opened.
1926—*November 20.*	Memorial Tower and Stadium dedicated.
1927—*July 11.*	Crippled Children's service opened.
October 1.	Lee H. Tate Memorial Law Building dedicated.
1928—*May 1.*	Law School Foundation established.
1929—*February 11.*	Alumni Fund established.
1930—*February 21.*	Brewer Field House formally completed.
1930—*November 22.*	Ground broken for South Wing Memorial Union.
November 22.	Medical School Foundation established.
1931—*March 20.*	Engineering School Foundation established.
April 1.	Fine Arts School Foundation established.

PRESIDENTS OF THE UNIVERSITY

JOHN HIRAM LATHROP
President
March 1, 1841—September 22, 1849
June 28, 1865—August 2, 1866

WILLIAM WILSON HUDSON
Acting President
September 22, 1849—July 4, 1850
July 5, 1856—June 14, 1859

JAMES SHANNON
President
July 4, 1850—July 4, 1856

GEORGE HENRY MATTHEWS
President Pro Tem.
July 5, 1859—October 2, 1860

BENJAMIN BLAKE MINOR
President
October 2, 1860—March 20, 1862

DANIEL READ
President
August 29, 1866—July 4, 1876

SAMUEL SPAHR LAWS
President
July 4, 1876—July 1, 1889

MICHAEL MONTGOMERY FISHER
Chairman of the Faculty
July 1, 1889—February 20, 1891

JAMES SHANNON BLACKWELL
Chairman of the Faculty
February 20, 1891—June 3, 1891

RICHARD HENRY JESSE
President
July 1, 1891—December 10, 1907

ALBERT ROSS HILL
President
July 1, 1908—October 15, 1921

JOHN CARLETON JONES
Acting President
August 3, 1921—January 1, 1922
President
January 1, 1922—April 26, 1923

ISIDOR LOEB
Acting President
April 26, 1923—July 1, 1923

STRATTON DULUTH BROOKS
President
July 1, 1923—December 31, 1930

ENTRANCE

All communications regarding entrance should be addressed to the Registrar, University of Missouri, Columbia, Missouri, who has charge of all matters relating to admission to any division of the University.

Admission

The University admits without examination graduates of the fully accredited high schools in Missouri who present the required units and who are officially recommended for admission.

Graduates of schools fully accredited by other state universities of similar rank, who comply with the requirements as stated, will also be admitted without examination.

Secondary or high school subjects required for admission are defined in terms of units, a unit representing a high school subject taught five times a week in periods of not less than forty minutes (laboratory eighty minutes) for a school year of at least thirty-six weeks. Manual Training, Home Economics, and similar subjects require double periods, as do the laboratory sciences.

College subjects required for admission to the professional schools are designated in terms of "hours," an hour being the equivalent of a subject pursued one period a week for one semester; fifteen hours constitute a normal semester's work. *Normal Credit* refers to the credit hours obtained without regard to excess or diminished credit on the basis of grades received.

The University may refuse admission to any student whose previous record shows work of an inferior or unsatisfactory quality.

The Colleges

The requirements for regular admission to the colleges are fifteen units, the equivalent of the four-year high school course.

The following specific units are required:

College of Arts and Science: Eleven units from group A, including three units in English; two units in Mathematics; one unit in Social Studies; one unit in Science. Two units in a foreign language are strongly advised. These units and the two units in mathematics should be taken in the last two years of high school. The four additional units may be any appearing in groups A and B.

College of Agriculture: Three units in English; two units in Mathematics (students presenting only one unit in Mathematics will be admitted but additional work in Mathematics may be required); one unit in Social Studies; one unit in Natural Science (one unit in Vocational Agriculture accepted as Natural Science.)

COLLEGE OF ENGINEERING: Three units in English, one unit in Algebra, and one unit in Plane Geometry are required; one-half unit in Solid Geometry, one-half unit in Advanced Algebra, one unit in Physics, and one unit in Chemistry are recommended.

COLLEGE OF FINE ARTS: Three units in English; one unit in Mathematics; one unit in Science; one unit in Social Studies; five units chosen from group A augmented to include the Music or the Art in group B; four elective units.

It is strongly urged that the student present two units in a single foreign language and the prerequisite units in Art or Music in accordance with the curriculum which he enters. (See page 195.) A student deficient in Music will be required to make up his deficiency without credit.

SCHOOL OF MINES AND METALLURGY (At Rolla): Three units in English; one unit in Algebra, and one unit in Plane Geometry are required; ½ unit in Solid Geometry, ½ unit in Advanced Algebra, 1 unit in Physics, and 1 unit in Chemistry are recommended. The remaining units may be in any subject offered by the high school attended by the student except that Physical Training, Glee Club, Chorus and similar credits will not be accepted. Nor will more than two units in one foreign language, or more than two units in Drawing or Manual Training be accepted.

THE PROFESSIONAL SCHOOLS

SCHOOL OF BUSINESS AND PUBLIC ADMINISTRATION: The requirements for admission to the School of Business and Public Administration are the satisfactory completion of (1) a four-years' high school course or its equivalent, and (2) the first four semesters' work or 60 hours credit (exclusive of the required work in physical training and military science) in the College of Arts and Science of the University of Missouri or the equivalent.

All students planning to enter the school should complete the equivalent of the courses in General Economics and American Government in the College of Arts and Science. Those who intend to take Curriculum I, II, III, IV, or V should also take three hours of college mathematics. General Sociology should be taken by students expecting to take Curriculum IV, V, or VII, and Preventive Medicine by those preparing for Curriculum IV or VII. Those preparing for Curriculum VI should take History 3, The Modern World, and History 8, American History.

If the courses here recommended to precede a given curriculum have not been taken by a student entering that curriculum, they must be completed as part of the 60 hours of work required in the school.

SCHOOL OF EDUCATION: The requirements for admission to the School of Education are the satisfactory completion of (1) a

four-years' high school course or its equivalent, and (2) 60 semester hours of credit (exclusive of the required work in physical training and military science) which may be accepted toward the degree of B. S. in Education.

SCHOOL OF JOURNALISM: The requirements for admission to the School of Journalism are the satisfactory completion of (1) a four-years' high school course or its equivalent, and (2) the first four semesters' work or 60 hours' credit (exclusive of the required work in physical training and military science) in the College of Arts and Science of the University of Missouri or the equivalent. This credit must include: A physical or biological science, 5 hours; a modern language, 10 hours; logic, 3 hours; American history, 5 hours; narration and description, 3 hours; exposition, 3 hours. For students who plan to specialize in agricultural journalism, 5 hours of chemistry should be included.

Effective September 1, 1936, the following courses, in addition to the above specific requirements of the first two years in the College of Arts and Science, must be included in the 60 hours required for admission to the school: English Life and Literature, 6 hours; American Government, 5 hours; General Economics, 5 hours. General Psychology, 3 hours, and General Sociology, 5 hours, are urgently advised.

Students transferring from other institutions must present satisfactory equivalents of the above courses.

SCHOOL OF LAW: The requirements for admission to the School of Law are the satisfactory completion of (1) a four-years' high school course or its equivalent and (2) the completion of one-half of the work acceptable for the Bachelor's degree granted on the basis of the four-year period of study by the University of Missouri or the colleges and universities accredited therewith.

The Association of American Law Schools, of which this University is a member, interprets this requirement to mean that a candidate shall present at least 60 semester hours (or their equivalent) of college work taken in an accredited school and exclusive of credits earned in such courses as non-theory courses in military science, hygiene, domestic arts, physical education, vocal or instrumental music.

SCHOOL OF MEDICINE: The requirements for admission to the School of Medicine are the satisfactory completion of (1) a four-years' high school course or its equivalent, and (2) the first three years' work or 90 normal credit hours inclusive of not to exceed 5 hours of required work in physical training and military science in the College of Arts and Science of the University of Missouri or its equivalent. This credit must include normal credit hours as follows:

English composition and literature, 6 hours; German or French, 8 hours; general zoology, 8 hours, of which at least 4 hours

must be laboratory work; general physics, 8 hours, of which at least 2 hours must be laboratory work; inorganic chemistry, 8 hours, of which at least 4 hours must be laboratory work; organic chemistry, 5 hours, of which at least 2 hours must be laboratory work; general bacteriology, 3 hours.

Those who have not passed the Junior English Examination as administered in the College of Arts and Science will be required to do so before the beginning of the second year of medical work.

Applicants will be required to take the Aptitude Test of the Association of American Medical Colleges. Only for good cause will this requirement be waived.

The Graduate School

Graduates of colleges and universities accredited by the Association of American Universities, the Association of Colleges and Secondary Schools of the Southern States, the Missouri College Union, or the North Central Association of Colleges and Secondary Schools, will be admitted to the Graduate School.

Graduates of other colleges and universities of high standing and graduates of reputable foreign colleges and universities may be admitted to the Graduate School.

Missouri State Teachers Colleges: (1) A graduate of a Missouri State Teachers College whose first regular enrollment for college work in a Teachers College was subsequent to September 1, 1916, and who has completed the 120-hour curriculum, will be admitted to the Graduate School of the University upon presentation of the proper credentials.

(2) A graduate of a Missouri State Teachers College whose first regular enrollment for college work in a Teachers College was prior to September 1, 1916, will be granted credit in the University of Missouri in accordance with the Conference Agreement of State Educational Institutions. In granting such credit, the University will be governed by the recommendations of the Credentials Committee of the State Teachers College from which the student was graduated.

Entrance Conditions

Students may be admitted to music curricula in the College of Fine Arts conditioned in applied music. Such students, however, must present a total of fifteen acceptable units.

Students may be admitted to those divisions requiring two years of college work for entrance conditioned in a small amount of the credit required. No deficiency in hours' credit is permitted for admission to the Schools of Medicine and Law.

Entrance conditions, except in applied music, must be removed within two semesters from the date of entrance. (For removal of condition in applied music, see page 195.)

Sources of Acceptable Credits

The credits required for admission to the under-graduate divisions, as detailed above, may be allowed: (a) by certificate from an accredited high school or academy, (b) by examination, (c) by transfer of credits from another university or college of recognized standing.

(a) Admission by Certificate.

The University will not accept a certificate of graduation unless the high school course of the student has been four years in length and unless all the work has been done in the regular session of the school, with the exception that credit will be allowed without examination from approved secondary summer schools.

The diploma will not be accepted as a credential. The student must present the proper form of certificate, signed by the principal or superintendent of the accredited school, recommending his admission to the University. *The University recommends that accredited schools issue these certificates only to those students who have been graduated.*

Students wishing to enter the University by certificate from an accredited high school or academy may obtain the necessary blanks from the Registrar. Certificates of credit should be submitted early. (See Directions for New Students, page 52.)

(b) Admissions by Examination.

All persons who desire to take the entrance examinations should first write to the Registrar, stating the name of the division which they desire to enter. Those who are eligible will be notified.

Entrance examinations are regularly held at the University at the beginning of the school year in September. (See calendar for date.) Entrance examinations may also be held at the beginning of the second semester and at the opening of the summer session when the demand warrants.

Extra examinations for entrance will be ordered only for good cause and only upon satisfactory evidence that the candidate could not attend the regular examination. By order of the Board of Curators, any person entering any extra or repeated entrance examination must pay a fee of $1 to the Secretary of the University.

Further information concerning entrance examinations may be obtained by addressing the Registrar, University of Missouri, Columbia.

(c) Admission by Transfer of Credits from Other Colleges or Universities.

One who has been regularly admitted to another college or university of recognized standing will be admitted to this Uni-

versity upon presenting a certificate of honorable dismissal and an official transcript of record, provided his scholastic record in such college or university has been satisfactory. The transcript should include a statement of the subjects which were accepted for admission.

Credit in the form of advanced standing may be allowed for work satisfactorily completed in another college or university of recognized standing in so far as such work satisfies the particular requirements of the division of the University in which the student registers. (Advanced standing for the work of the senior year will not be granted.) Claims for advanced standing, in order to receive recognition, must be made by the student within one semester after entrance. If a student files with the Registrar complete official credentials at least six weeks before the opening of the semester, claims for advanced standing will be passed upon and the student notified before registration.

Admission from Accredited Junior Colleges: Graduates of accredited junior colleges will be admitted without examination to junior standing in the College of Arts and Science of the University, provided they have satisfied the entrance requirements and have paralleled the work of the first two years of the College.

Graduates in music of accredited junior colleges whose courses in music have been approved for credit in the College of Fine Arts will be admitted without examination to junior standing in the College of Fine Arts, if their courses have paralleled the work of the first two years.

Junior college graduates will also be admitted to other divisions of the University, except the School of Medicine and the Graduate School, and receive credit for work they have completed in accordance with the regulations of such divisions.

Subjects Accepted for Admission: The subjects in which entrance units may be offered, the maximum and minimum number of units acceptable in each subject for admission to the Colleges of Arts and Science, Agriculture, Engineering, and Fine Arts, are presented in the following:

Group A	*Max.-Min.*
English Grammar and Literature	(4—3)
Speech	(1—½)
Voice Training and Interpretative Reading	½—½
Public Speaking	½—½
Debating and Parliamentary Practice	½—½
Drama	½—½
Mathematics	(4—1)
[1]General Mathematics	1—1
Elementary Algebra	1½—1
Plane Geometry	1—1
Solid Geometry	½—½
Plane Trigonometry	½—½
Advanced Algebra	½—½
Advanced Arithmetic	½—½
Social Studies	(4—1)
Citizenship Practice	1—1
[2]World History	1—1
American History	1—1
[3]American Problems	1—1
Early European History	1—1
Later European History	1—1
High School Geography	1—½
Economics	½—½
Sociology	½—½
Civics	½—½
Missouri History	½—½
Science	(4—1)
General Science	1—1
General Biology	1—1
Physics	1—1
Chemistry	1—1
Botany	1—1
Zoology	1—1
Physical Geography	1—1
Physiology	1—½
[4]General Agriculture	2—1
Psychology	½—½
Foreign Language	(6—1)
Latin	4—1
German	4—1
French	4—1
Spanish	4—1
Greek	4—1

Group B	*Max.-Min.*
Music	(4—¼)
Fundamentals of Music	1—1
Appreciation	¼—¼
Chorus	½—¼
Glee Club	1—¼
Choral Club	¾—¼
Orchestra	1—¼
Band	1—¼
Ear Training	½—½
[5]Piano	2—½
[5]Violin	2—½
[5]Violincello	2—½
[5]Viola	1½—½
[5]Voice	1—½
Art	(4—1)
Education (Teacher-Training)	(3—2)
Industrial Subjects	(4—1)
Mechanical Drawing	3—1
Woodwork	2—1
Pattern Making	1—½
Forging	1—½
Machine Shop	2—1
Automobile Repair	1—½
Sheet Metal	1—½
Electrical Work	1—½
Printing	2—1
Commercial Studies	(4—½)
Typewriting	1—½
Shorthand	2—1
Bookkeeping	1—1
Commercial Geography	½—½
Commercial Law	½—½
Commercial Arithmetic	½—½
Commercial English	½—½
General Business Practice	½—½
Salesmanship	½—½
Vocational Agriculture	(6—2)
Vocational Home Economics	(4—2)
General Home Economics	(4—1)
Foods and Clothing	1—1
Foods and Nutrition	1—1
Home Nursing	½—½
Home Management	½—½
Textiles and Clothing	1—1
Home Planning and Furnishing	½—½
Dietetics	½—½

[1]General Mathematics may not be offered with Elementary Algebra for entrance.

[2]World History may not be offered for entrance with Early and Later European History.

[3]American Problems will not be allowed with Economics, Civics or Sociology.

[4]A maximum of 2 units may be offered for entrance in General Agriculture if not accompanied by Vocational Agriculture. Agriculture may not be offered for the unit of required science. That unit must be selected from the physical or biological group.

[5]The maximum credit accepted in applied music is 2 units, the first ½ unit of which must be preceded or accompanied by the 1 unit course "Fundamentals of Music."

Admission of Special Students and Hearers

A person over twenty-one years of age who has not had the opportunity to complete a regular high school course but who, by reason of special preparation and attainments, may be qualified

to pursue certain courses, may be admitted as a special student, though not as a candidate for a degree.

No person less than twenty-one years of age will be admitted to the status of special student, but it is particularly emphasized that attainment of this age does not in itself qualify one for admission to this status. The applicant may be required to pass such examinations, or other tests, as will demonstrate his fitness to pursue with profit the courses selected. A special student is required to take all regular examinations in course and is expected to do at least average work; failure to live up to this expectation will result in his elimination by his dean. A special student may ultimately become a candidate for a degree by completing the admission requirements of the division in which he is enrolled.

In general, a person who is able to satisfy the requirements for admission as a regular student will not be admitted as a special student.

Blank forms on which to make application will be furnished upon request.

Special students are not admitted to the Schools of Law or Medicine.

With the consent of the Registrar and the instructors concerned, students may be admitted to any division as hearers. Hearers must be registered and pay fees, but are not required to take examinations and receive no credit toward a degree.

Directions for New Students

Entrance

It is imperative that new students (those entering the University of Missouri for the first time) send their complete credentials to the Registrar in advance of the semester, or summer session, in which they wish to enroll. In the case of a student who has attended college elsewhere, complete credentials include an official transcript of record and a certificate of honorable dismissal from each college or university attended. In the case of one who has not attended or completed college work elsewhere, credentials consist of a high school record certified by the proper official of the school in which the credits were earned. Blank forms for such certificates are furnished by the Registrar. Frequently high school students do not present sufficient acceptable units for admission. If their credentials are certified promptly to the Registrar, after graduation, those who are deficient will be notified in order that they may make up the deficiency. Students whose certificates have been accepted will receive full information regarding registration.

The University Health Service expects all new students to have had a physical examination before entrance. The health

examination form should be completed by a physician and returned to the Registrar at least three weeks in advance of the opening of the semester or summer session the student expects to enter. Blank forms may be had upon application to the Registrar.

Registration

The dates of registration will be found in the University calendar on page 3. Full directions for registration will be found, during the days of registration, at the information desk located in the main corridor of Jesse Hall.

Students who have not filed their credentials with the Registrar before the days of registration should present themselves with their credentials at the north entrance of the University Auditorium, Jesse Hall, during the days of registration. (See Directions for New Students, above.)

Former students should file a registration blank with the Registrar at least fifteen days in advance in order that their registration forms can be prepared.

A student who enters after the regular registration period may, owing to closed courses, find difficulty in securing the subjects he desires, and moreover, he is not permitted to carry the full amount of work, but must enroll for a proportionately reduced amount of work depending on the date of entrance. No student is admitted to any division of the University for work for which he is to receive credit after the expiration of one-fourth of the time for which the courses he selects are scheduled, except in extraordinary cases, when the Registrar has power to admit him on recommendation of the dean of the division. Students entering late are examined or conditioned in the work which their classes have already done. The foregoing statements do not apply to students entering as hearers.

For information regarding fees, see page 63.

ACCREDITED SCHOOLS IN MISSOURI

Accredited Colleges and Universities

[1]Central College	Fayette.
[1]Culver-Stockton College	Canton.
[1]Drury College	Springfield.
Harris Teachers College	St. Louis.
Teachers College of Kansas City	Kansas City.
[1]Lindenwood College	St. Charles.
Missouri State Teachers Colleges:	
Central	Warrensburg.
Northeast	Kirksville.
Northwest	Maryville.
Southeast	Cape Girardeau.
Southwest	Springfield.

[1]Missouri Valley College	Marshall.
[1]Park College	Parkville.
St. Louis University and Corporate Colleges:	
[1]St. Louis University	St. Louis.
Fontbonne College	St. Louis.
Maryville College	St. Louis.
Webster College	Webster Groves.
[1]Tarkio College	Tarkio.
[1]University of Missouri	Columbia.
[1]Washington University	St. Louis.
[1]Westminster College	Fulton.
[1]William Jewell College	Liberty.

[1]Member Missouri College Union.

Accredited Junior Colleges

(List Corrected to January 1, 1935.)

[2]Christian College	Columbia.
[2]Cottey College	Nevada.
Flat River Junior College	Flat River.
Hannibal-LaGrange College	Hannibal.
Junior College of Jefferson City	Jefferson City.
Junior College of Kansas City	Kansas City.
University of Kansas City (Lower Division)	Kansas City.
Kemper Military School	Boonville.
Moberly Junior College	Moberly.
The Principia	St. Louis.
*[2]Progressive Series Teachers College	St. Louis.
Southwest Baptist College	Bolivar.
St. Joseph Junior College	St. Joseph.
St. Teresa College	Kansas City.
[2]Stephens College	Columbia.
Trenton Junior College	Trenton.
Wentworth Military Academy	Lexington.
[2]William Woods College	Fulton.

[2]Department of Music Accredited.

*[2]Junior College of Music. Academic work by arrangement with Washington University.

Secondary Schools Fully Accredited with the University of Missouri

(List Corrected to January 1, 1935.)

Note—The University of Missouri will accept the certificate from any school accredited by the North Central Association of Colleges and Secondary Schools or by the Association of Colleges and Secondary Schools of the Southern States. Schools on this list marked with a star (*) are on the North Central Association list.

Consolidated district schools are indicated by the notation (C. D.).

Abesville
Adrian
Advance (C. D.)
Affton
Agency
Alba (C. D.)
Albany
Aldrich
Alma (C. D.)
Altamont (C. D.)
Alton (C. D.)
Amity
Amoret (C. D.)
Amsterdam (C. D.)
Anderson (C. D.)
Annapolis (C. D.)
Anniston (C. D.)
Appleton City
Arbyrd (C. D.)
Arcadia:
  *Ursuline Academy
Archie (C. D.)
Armstrong (C. D.)
Ash Grove (C. D.)
Ashland (C. D.)
Atlanta (C. D.)
*Aurora
Auxvasse (C. D.)
Ava (C. D.)
Avalon (C. D.)

Bagnell (C. D.)
Bakersfield
Baring
Barnard
Bates City (C. D.)
Bell City (C. D.)
Belle (C. D.)
Bellflower
Belton
Benton (C. D.)
Bernie (C. D.)
*Bethany
Bethel
Bevier
Billings
Birch Tree (C. D.)
Bismarck (C. D.)
Blackburn
Blackwater
Blairstown (C. D.)
Bland (C. D.)
Blodgett (C. D.)
Bloodland (C. D.)
Bloomfield (C. D.)
Blue Eye (C. D.)
Blue Springs
Blythedale (C. D.)
Bogard
Bois d'Arc (C. D.)
Bolckow (C. D.)
Bolivar
*Bonne Terre
Bonnots Mill
Boomer:
  Forker
Boonville:
  *Laura Speed Elliott
  *Kemper Military School
  SS. Peter and Paul High School
Bosworth
Bowling Green
Braggadocio (C. D.)
Branson (C. D.)
Brashear
*Braymer
Breckenridge (C. D.)
Bronaugh (C. D.)
Brookfield
Broseley (C. D.)
Browning
Brumley

Brunswick
Bucklin
Buckner
Buffalo (C. D.)
Bunceton
Bunker (C. D.)
Burlington Junction
*Butler

Cabool
Cainsville
Cairo (C. D.)
Caledonia (C. D.)
Calhoun
California
Callao
Camden (C. D.)
Camden Point (C. D.)
Camdenton (C. D.)
*Cameron
Campbell (C. D.)
Canalou (C. D.)
*Canton
Cape Girardeau:
  *Central High School
  St. Mary's High School
  St. Vincent's College Academy
  *Training School, S. E. M. S. T. C.
Cardwell (C. D.)
Carl Junction (C. D.)
*Carrollton
Carterville (C. D.)
*Carthage
*Caruthersville
Cassville (C. D.)
Center (C. D.)
Centerview (C. D.)
Centerville (C. D.)
Centralia
Chaffee (C. D.)
Chamois
Charity
*Charleston (C. D.)
Chilhowee (C. D.)
Chillicothe:
  *High School
  St. Joseph's Academy
Chula
Clarence
Clark
Clarksburg
Clarksdale
Clarksville (C. D.)
Clarkton (C. D.)
Clayton:
  *High School
  *Academy of Chaminade College
  *Villa Duchesne
Clearmont
Cleveland
Clever
Clifton Hill
Clinton
Coffey
Cole Camp
Columbia:
  *David H. Hickman
  *University High School
Competition (C. D.)
Conception Junction:
  Academy of Conception College
Concordia:
  High School
  St. Paul's College Academy
Conway (C. D.)
Cooter (C. D.)
Corder
Corning (C. D.)
Couch (C. D.)
Cowgill
Craig
Crane
Creighton
Crocker (C. D.)
Cross Timbers (C. D.)
Crystal City
Cuba (C. D.)
Curryville

Dadeville (C. D.)
Darlington (C. D.)
Dawn (C. D.)
Dearborn (C. D.)
Deepwater
Deering (C. D.)
DeKalb
Delta (C. D.)
Desloge
*DeSoto
DeWitt
Dexter (C. D.)
Diamond (C. D.)
Diehlstadt (C. D.)
Dixon (C. D.)

Doe Run
Doniphan (C. D.)
Dover (C. D.)
Downing
Drexel
Duenweg (C. D.)
Durham (C. D.)

Eagleville (C. D.)
East Lynne
Easton
East Prairie (C. D.)
Edgerton (C. D.)
Edina:
  High School
  St. Joseph's High School
*Eldon
Eldorado Springs (C. D.)
Elkland (C. D.)
Ellington (C. D.)
Ellsinore
Elmer (C. D.)
Elmo (C. D.)
Elsberry
*Elvins
Eminence
Eolia (C. D.)
Essex (C. D.)
Esther
Eugene
Eureka (C. D.)
Everton
*Excelsior Springs
Exeter (C. D.)

Fairfax:
  High School
  Daleview (C. D.)
  Irish Grove (C. D.)
Fair Grove (C. D.)
Fair Play (C. D.)
Fairview (C. D.)
Farber (C. D.)
Farmington
Faucett (C. D.)
*Fayette
*Ferguson
Festus
Fillmore (C. D.)
Fisk (C. D.)
*Flat River
Flemington
Fordland (C. D.)
Forest City
Fornfelt (C. D.)
Forsyth (C. D.)
Fortescue (C. D.)
Frankclay
Frankford
Fredericktown
Freeburg
Freeman
Fruitland
*Fulton

Gainesville (C. D.)
Galena (C. D.)
*Gallatin (C. D.)
Galt (C. D.)
Garden City
Gardenville:
  Bayless (C. D.)
Gideon (C. D.)
Gilliam (C. D.)
Gilman City
Glasgow
Glencoe:
  LaSalle Institute
Glenwood
Golden City (C. D.)
Goodman (C. D.)
Gorin
Gower (C. D.)
Graham (C. D.)
Grain Valley (C. D.)
Granby
Grand Pass (C. D.)
Grandview (C. D.) (Jackson Co.)
Granger (C. D.)
Grant City
Grayson (C. D.)
Greencastle (C. D.)
Green City
Greenfield (C. D.)
Green Ridge (C. D.)
Greentop
Greenville (C. D.)
Greenwood
Guilford

Hale
Hallsville (C. D.)
Halltown

Hamburg:
  Francis Howell
Hamilton:
  *High School (C. D.)
  N. Y. Township (C. D.)
Hannibal:
  *High School
  Immaculate Conception
Hardin:
  High School
  Central (C. D.)
Harris
Harrisburg
*Harrisonville
Hartville (C. D.)
Harwood
Hatfield (C. D.)
Hayti (C. D.)
Helena
Henrietta (C. D.)
Herculaneum
Hermann
Hermitage (C. D.)
Hickman Mills (C. D.)
Higbee:
  High School (C. D.)
  Myers
Higginsville
Holcomb (C. D.)
Holden
Holland (C. D.)
Holliday
Hollister:
  High School
  *School of the Ozarks
  (P. O., Point Lookout)
Holt
Hopkins
Hornersville (C. D.)
Houston (C. D.)
Houstonia (C. D.)
Hughesville (C. D.)
Humansville
Hume (C. D.)
Humphreys
*Huntsville (C. D.)
Hurdland
Hurley

Iberia:
  Iberia College Academy
Ilasco
Illmo (C. D.)
Independence:
  *William Chrisman
Irondale
Ironton (C. D.)

*Jackson
Jameson (C. D.)
Jamesport
Jamestown
Jasper (C. D.)
Jefferson Barracks:
  Mehlville
Jefferson City:
  *Ernst Simonsen
  St. Peter's Commercial
Jennings
Jonesburg
*Joplin

Kahoka
Kansas City:
  *Academy of St. Teresa Junior
    College
  *Barstow School
  Center
  *Central
  De La Salle Academy
  *East
  *Institute of Notre Dame de Sion
  *Loretto Academy
  *Manual Training
  *Northeast
  *Paseo
  *Pembroke Country Day School
  Redemptorist
  *Rockhurst College Academy
  Ruhl-Hartman
  *Southwest
  St. Agnes Academy
  St. Aloysius Academy
  St. Vincent's Academy
  *Sunset Hill School
  *Westport
Kearney
*Kennett
Kewanee
Keytesville
Kidder
King City
Kingston
Kingsville

*Kirksville
Kirkwood:
  *High School
  *Ursuline Academy
Knobnoster
Knox City (C. D.)
Koshkonong (C. D.)

LaBelle
Laclede
Laddonia
LaGrange
Lamar
Lamonte
Lancaster
LaPlata
Laredo
Latham
Lathrop
Latour (C. D.)
Lawson
Leadwood
*Lebanon
Lees Summit
Leeton (C. D.)
Lemons
Leonard
Lesterville (C. D.)
Lewistown (C. D.)
Lexington:
  *High School
  *Wentworth Military Academy
Liberal (C. D.)
*Liberty
Licking (C. D.)
Lilbourn (C. D.)
Lincoln
Linn (C. D.)
Linn Creek (C. D.)
Linneus
Lock Springs
Lockwood
Lonejack (C. D.)
Longwood (C. D.)
Louisburg (C. D.)
Louisiana
Lowry City
Lucerne
Ludlow
Luray
Lutesville (C. D.)

McFall:
  High School
  Grandview (C. D.)
*Macon
Madison:
  High School
  Middle Grove (C. D.)
Maitland (C. D.)
Malden (C. D.)
Malta Bend (C. D.)
Mansfield (C. D.)
*Maplewood
Marceline:
  High School
  St. Bonaventure
Marionville
Marquand (C. D.)
Marshall:
  *High School
  Mercy Academy
*Marshfield (C. D.)
Marston (C. D.)
Martinsville (C. D.)
Maryville:
  *High School
  *Training School, N. W. M. S. T. C.
Matthews (C. D.)
Maysville
Mayview (C. D.)
Meadville
*Memphis
Mendon (C. D.)
Mercer
Merwin (C. D.)
Metz (C. D.)
Mexico:
  *McMillan
  *Missouri Military Academy
  St. Brendan
Miami
Middletown
Milan (C. D.)
Miller (C. D.)
Millville (C. D.)
Mindenmines (C. D.)
Mirabile (C. D.)
*Moberly
Mokane
*Monett
Monroe City:
  *High School
  Holy Rosary Academy

Montgomery City
Monticello (C. D.)
Montrose:
  High School
  Johnstown (C. D.)
Mooresville (C. D.)
Morehouse (C. D.)
Morley (C. D.)
*Morrisville (C. D.)
Mound City:
  *High School
  Bellevue (C. D.)
Mountain Grove (C. D.)
Mountain View (C. D.)
Mt. Moriah (C. D.)
Mt. Vernon (C. D.)

Napton (C. D.)
Naylor (C. D.)
Neelyville (C. D.)
Neosho
*Nevada
Newark
New Bloomfield (C. D.)
Newburg (C. D.)
New Cambria
New Florence
New Franklin
New Hampton
New Haven
New London
New Madrid (C. D.)
New Point (C. D.)
Newtonia (C. D.)
Newtown
Niangua (C. D.)
Nixa
Noel
Norborne
Normandy:
  High School (C. D.)
  Incarnate Word High School
  Passionist Preparatory Seminary
North Kansas City
Norwood (C. D.)
Novelty
Novinger (C. D.)

Oak Grove
Oak Ridge
Odessa
O'Fallon:
  Assumption High School
  St. Mary's High School
Olean
Oran (C. D.)
Oregon
Orrick
Osborne
Osceola
Otterville (C. D.)
Owensville
Overland:
  *Ritenour
Ozark

Pacific (C. D.)
*Palmyra
*Paris
Parkville
Parma (C. D.)
Parnell (C. D.)
Patterson (C. D.)
Pattonsburg:
  Civil Bend (C. D.)
  High School
Paynesville (C. D.)
Peculiar (C. D.)
Perry
Perryville:
  High School
  St. Vincent's
Pershing
Pickering
Piedmont (C. D.)
Pierce City (C. D.)
Pilot Grove
Pineville (C. D.)
Platte City
Plattsburg
Pleasant Hill
Pleasant Hope (C. D.)
Polo
Poplar Bluff
Portageville (C. D.)
Potosi (C. D.)
Powersville
Prairie Hill (C. D.)
Prairie Home (C. D.)
Princeton
Purdin
Purdy (C. D.)
Puxico (C. D.)

Queen City
Quitman (C. D.)

Ravanna (C. D.)
Ravenwood:
  Harmony (C. D.)
  High School (C. D.)
Raymore (C. D.)
Raytown (C. D.)
Reeds Spring (C. D.)
Rensselaer
Republic (C. D.)
Revere (C. D.)
Richards (C. D.)
Rich Hill
Richland (C. D.)
*Richmond
*Ridgeway (C. D.)
Risco (C. D.)
Ritchey
Riverview Gardens
Rock Port
Rockville (C. D.)
Rocky Comfort (C. D.)
Rogersville (C. D.)
*Rolla
Roscoe (C. D.)
Rosendale (C. D.)
Rothville (C. D.)
Rutledge

St. Charles:
  *High School
  Academy of Sacred Heart
  St. Peter's
St. Clair (C. D.)
Ste. Genevieve
St. James (C. D.)
St. Joseph:
  *Benton
  *Central
  *Christian Brothers
  *Convent of Sacred Heart
  *Lafayette
St. Louis:
  *Academy of Sacred Heart, Maryland and Taylor
  *Academy of the Visitation
  *Beaumont
  Blewitt
  *Central
  *Christian Brothers
  Fairview
  *Grover Cleveland
  Hancock (C. D.), 9427 S. Broadway
  *Hosmer Hall
  *Loretto Academy
  *William Cullen McBride
  McKinley
  *Notre Dame High School
  *The Principia
  *Roosevelt
  *Rosati-Kain
  St. Alphonsus
  St. Anthony's Academy
  *St. Elizabeth's Academy
  St. Francis Xavier High School
  St. John's
  *St. Joseph's Academy
  *St. Louis University
  St. Mark's
  *Soldan
  South Side Catholic High School
  Yeatman
St. Mary's
St. Patrick:
  St. Patrick's High School
Salem (C. D.)
Salisbury:
  High School
  St. Joseph's
Sarcoxie (C. D.)
*Savannah
Schell City
Sedalia:
  *Smith-Cotton
Seligman (C. D.)
Senath (C. D.)
Seneca (C. D.)
Seymour (C. D.)
*Shelbina
Shelbyville
Sheldon
Sheridan (C. D.)
Sikeston
Silex (C. D.)
Skidmore (C. D.)
Slater
Smithton (C. D.)
Smithville
South Gifford:
  Grandview
Southwest City (C. D.)
Sparta

Spickard
Spokane
Springfield:
  *Greenwood
  *High School
  St. de Chantal Academy
Spruce:
  Ballard (C. D.)
Stanberry
Steele (C. D.)
Steelville (C. D.)
Stella
Stet (C. D.)
Stewartsville
Stockton
Stoutland (C. D.)
Stover
Strafford (C. D.)
Strasburg
Sturgeon
Sullivan (C. D.)
Summersville (C. D.)
Sumner (C. D.)
Swedeborg
*Sweet Springs
Syracuse
*Tarkio
Thayer (C. D.)
Thomasville (C. D.)
Tilden
Tina
Tipton
*Trenton
Triplett (C. D.)
*Troy
Turney (C. D.)
Tuscumbia

Union
Union Star
*Unionville
*University City
Urbana (C. D.)
Urich
Utica

Valley Park
Van Buren (C. D.)
*Vandalia
Vanduser (C. D.)
Verona
Versailles
Vienna (C. D.)

Wakenda (C. D.)
Walker (C. D.)
Walnut Grove
Wardell (C. D.)
Warrensburg:
  High School
  Farmers (C. D.)
  *Training School, C. M. S. T. C.
Warrenton
Warsaw
Washburn (C. D.)
*Washington
Watson (C. D.)
Waverly (C. D.)
Wayland
Waynesville
Weatherby
Weaubleau (C. D.)
*Webb City
Webster Groves:
  *High School
  Brentwood
  Nerinx Hall
Wellington
*Wellston
Wellsville
Westboro (C .D)
Westphalia
Weston
*West Plains
Wheatland (C. D.)
Wheaton (C. D.)
Wheeling (C. D.)
Willard (C. D.)
Williamstown (C. D.)
Williamsville (C. D.)
Willow Springs (C. D.)
Windsor
Winfield
Winona (C. D.)
Winston (C. D.)
Worth
Wright City
Wyaconda (C. D.)

Zalma (C. D.)

EXPENSES

Tuition and Fees

Time of Payment of Fees: All University fees must be paid at the time of registration at the opening of each semester or term as a condition of admission to classes. Registration is not complete until all fees are paid.

Personal Checks: Personal checks in payment of fees or other obligations to the University will be accepted only when the check does not exceed the amount due from the student. A student who presents a check to the University which for any reason is not honored by the bank upon which it is drawn will automatically be suspended from the University and will be reinstated only upon payment of the check and a reinstatement fee of $5.00.

Changes in Fees: The University reserves the right to make at any time changes in any or all fees without advance notice.

Tuition: Tuition is free in all divisions of the University to students who are residents of the State of Missouri.

Non-Resident Fees: Students who are non-residents of the State excepting those admitted to the Graduate School for graduate work only and except those registered in the School of Mines and Metallurgy at Rolla, are each required to pay a tuition fee of $25.00 a semester. Non-resident students in the School of Mines and Metallurgy are required to pay a tuition fee of $40.00 for each semester.

The burden of registering under the proper residence is placed upon the student and it is the duty of each student at registration, if there is any possible question of his right to legal residence in Missouri, under the rules of the Curators, to raise the question with the Secretary of the University previous to registration.

No person shall be considered eligible to register in the University as a resident of the State of Missouri unless he is a citizen of the United States who has resided in Missouri twelve consecutive months next preceding the date of his original or subsequent enrollment. Where one having originally registered as a non-resident of Missouri claims thereafter to have established a residence in the State exempting the individual from payment of non-resident fees, evidence of the good faith of such change of residence, verified by oath, and of a character satisfactory to University authorities, must be produced. Where one at time of registration is a resident of Missouri and shall thereafter lose residence in this State, it shall be the duty of such student to advise the Secretary of such change at the next period of registration and make payment of fees as such non-resident.

The residence of students shall follow that of the legal guardian regardless of emancipation; but in case a resident of Missouri is appointed guardian of a non-resident minor, the legal residence of such minor for the purpose of this rule shall not be considered to be established in the State of Missouri until the expiration of twelve months after such appointment.

The residence of wives shall follow that of husbands.

Aliens who have taken out their first citizenship papers and who have been residents of Missouri for twelve months next preceding the date of their original or subsequent enrollment in the University shall be regarded as eligible for registration as residents of Missouri.

Students who have not resided in the State twelve consecutive months next preceding the date of their original or subsequent enrollment in the University, and who claim to own property in Missouri, and whose parents do not live in Missouri shall not be exempt from the non-resident fee.

Students who claim they have no permanent residence, but who have not resided in Missouri for twelve months next preceding the date of their original or subsequent enrollment in the University may not claim exemption from the non-resident fee.

Students who claim to be supported wholly or in part by relatives (not parents or guardians) residing in Missouri, but who themselves have not resided in the State twelve months next preceding the date of their original or subsequent enrollment in the University may not claim exemption from the non-resident fee.

Students living in the states bordering on Missouri but who receive mail at a Missouri postoffice may not claim exemption from the non-resident fee.

LIBRARY, HOSPITAL, AND INCIDENTAL FEE: All students in the University, except those exempt by rules of the Curators (see page 77), are required to pay a Library, Hospital, and Incidental fee. The amount of fee payable by the student depends upon (1) the division of the University in which he enrolls and (2) the number of credit hours for which he registers. The following table shows the rate per credit hour for each division of the University:

Arts and Science Agriculture Engineering Fine Arts Business and Public Administration Education Journalism Graduate School	$3.50 per credit hour
Law	$4.00 per credit hour
Medicine	$4.25 per credit hour

For work in the Department of Military Science and Tactics and/or Physical Education, the fee is $3.50 per credit hour.

SPECIAL PROVISIONS RESPECTING THE ABOVE:

1. Any student registered in another division who takes a course in the School of Law is required to pay an extra charge of fifty cents per credit hour for that course; in the School of Medicine, an extra charge of seventy-five cents per credit hour for that course.

2. For students enrolled in the School of Nursing there is no fee for courses in the Department of Nursing. Such students will pay the regular charge for courses in other departments.

3. In calculating fees, normal credit hours are used as a basis of calculation; courses taken for credit and courses taken as a "hearer" are considered as of equal value (e. g., the fee for a five hour course will be five times the unit charge regardless of whether the student takes the course for less than five hours' credit or for no credit), except that a student carrying twelve hours or more may, with the permission of his dean, enroll concurrently in other courses as a "hearer" with no additional charge.

4. Candidates for an advanced degree who have completed in a previous semester or term all requirements but the final examination and the submission to the Graduate Faculty of a thesis (if required) and who are not regularly enrolled in the Graduate School must enroll in the Graduate School before the examination may be given or the thesis read. Such students must enroll for "Examination" for no hours credit and pay an Incidental fee of $5.00. Students who enroll under this rule are not entitled to in-patient hospital service.

5. Students taking work away from the University and not in residence in Columbia and whose work is not organized under the Extension Division pay a fee of $2.00 per credit hour. Such students do not have hospital privileges.

MEDICAL ATTENTION: Students registered for 10 credit hours or more are entitled to free medical attention and hospital care. Students who register for less than 10 hours are entitled, except as specified above, to consultation with the staff of the University Health Service, but not to other hospital privileges. (For a more detailed statement, see pages 69 to 70.)

ACTIVITY FEE: Every student is required to purchase each semester for $5.75 a student activity ticket which entitles him to admission to all intercollegiate athletic contests, Fine Arts concerts, some dramatic and forensic events, special lectures, a subscription to the weekly student paper, and a copy of the student annual.

FEE FOR LATE REGISTRATION: Every student who files his study card after the close of the last day of registration must pay a fee of $5.00 for late registration in addition to fees already provided for. This rule applies to all except "hearers".

MILITARY DEPOSIT: Military equipment, including a uniform, is furnished to each student taking a course in military, for which a deposit of $5.00 is required for the session (or semester). This deposit will be returned to the student when the uniform and equipment are returned in satisfactory condition. All students enrolled in either basic or advanced courses are required to sign an agreement to reimburse the University for any loss or damage in excess of the deposit. This requirement also applies to members of the University Band.

MUSIC FEES: In addition to the Library, Hospital, and Incidental Fee per credit hour a fee of $30.00 will be charged for each subject in applied Music.

FEE FOR CHANGE IN COURSE: A fee of $1.00 must be paid for each petition for change in course after the tenth calendar day following the last day of registration.

TRANSCRIPT FEE: A fee of $1.00 is charged for duplicate transcripts of credits.

FEE FOR DIPLOMA AND CERTIFICATE: A diploma fee of $5.00 must be paid for each degree taken in the University and a fee of $2.00 for each certificate. Those receiving Ph.D degrees wear hoods, the fee for which is $15.00.

EXTRA CHARGES: Extra charges for breakage, etc., may be made in case the loss to the University is not covered by the fees paid.

NON-COURSE FEES: There are special charges for equitation, swimming, golf, tennis, etc.

REFUND OF FEES: Students leaving school or dropping courses for which they have paid fees, prior to the close of the first eight weeks after their registration, will receive a refund of the fees paid in accordance with the following schedule:

Length of Residence.	*Amount of fee to be refunded.*
First two weeks	80%
Between two and four weeks	60%
Between four and six weeks	40%
Between six and eight weeks	20%
After eight weeks	No refund

Exceptions to this rule are: Library fines, reinstatement fees, transcript fees, duplicate student card charges, petition fees, and those cases where excess laboratory materials or hospital services have been used by the student.

Each member of the University Cadet Band who completes the course will have a part of his Library, Hospital, and Incidental fee refunded at the close of the session upon a report from the

director of the band and the commandant of cadets showing that his work has been satisfactory and provided he has turned in and properly accounted for his uniform and other equipment issued him.

Student Expenses

Students are advised to live simply and to avoid needless expense. Parents should not permit excessing expenditures for any purpose. The attempt to maintain one's self on a semi-luxurious scale of living is not only unnecessary but detrimental to good scholarship, conduct, and health. The amount of money spent by a student during one semester at the present time need not exceed $200.00, although the expenses of the average student will probably be slightly in excess of that amount. A number of students earn a part of their expenses while attending the University by means of clerical and stenographic work, housework, and many different forms of manual labor. Students should not attempt to enter the University unless they have a least $100.00 on hand or available during the semester they begin their school work. The following table gives an estimate of the expenses for one semester, which is eighteen weeks in length:

Estimated Expenses For One Semester

Fees	$60
Board	72
Room	36
Laundry	12
Books and supplies	15
Miscellaneous	20
Total	$215

These estimates show the expenses of the *average* male student. Expenses for a woman will usually be slightly more. Miscellaneous expenses listed above cover amusements, organization dues, etc. Some saving may be made in them. The item for books and stationery may vary with the college or school in which work is taken. No provision is made in the estimates for clothing and railway fares. Non-resident students are required to pay an additional non-resident tuition fee of $25 a semester.

Room and Board

The majority of students enrolled in the University are accommodated in private rooming and boarding houses.

The monthly rate paid for rent of rooms varies according to location and quarters. The price varies from $5 to $12 monthly per person. A few students pay more than this for special quarters. A satisfactory room may be secured from $5.00 to $10.00 per person

per month (two in a room). The rate for table board varies from $3.00 to $6.50 a week.

The University maintains an approved list of rooming houses which may be secured upon application to the Secretary of the University.

REGULATIONS OF ROOMING HOUSES: The University reserves the right to prescribe rules under which its students shall room in private homes, dormitories, and chapter houses, or elsewhere, whether these rules are or are not published in the annual catalog. No student is permitted to reside in a house which is not on the approved list.

Men and women who are students of the University may not room in the same houses, unless they are relatives of the family.

No woman student may change her living quarters during the semester without the consent of the University authorities.

Every sorority house, fraternity house, and student club is required to employ an approved chaperon or matron.

DORMITORY FOR MEN

The University does not maintain a dormitory for men.

KNIGHTS OF COLUMBUS DORMITORY FOR MEN: The Knights of Columbus Student Home has rooms for seventy-two students. Applications should be addressed to the Secretary, The Knights of Columbus Student Home, Columbia, Missouri.

DORMITORIES FOR WOMEN

There are two dormitories for women. One, Read Hall, is maintained by the University, and the other, Hendrix Hall, is maintained by the Methodists.

READ HALL DORMITORY FOR WOMEN: The University maintains Read Hall, a dormitory for women. The Hall lodges thirty-two young women, and the dining-room accommodates about forty additional day boarders.

Room Rent: The rent of rooms varies according to the size of the room and the number of occupants. The maximum rate is below $50.00 per semester per occupant. The exact rate may be secured by writing to the Secretary of the University. In addition there is a small charge for the use of an electric iron.

Board: The charge for table board is held to the lowest possible figure and is below one dollar per day. The exact amount is announced at the beginning of each semester. It is payable monthly in advance. Students boarding at the Hall are required to continue during the entire semester unless excused from the University. No refunds are made except for absences longer than four days.

The University reserves the right to make changes in the rates given above or to cease operating the dormitory before the opening of a semester.

Application for Room: Application for room or for place in the dining room is made to the Secretary of the University. Applications may not be filed more than one semester in advance. They must be accompanied by a deposit of $5.00. This deposit is credited on the first payment for rent.

Rooms are assigned in the order of application. Preference is given to freshmen or sophomores, but in case there are vacancies, rooms may be assigned to upperclass women after August 15. Students living at the Hall are required to continue during the semester unless excused from the University.

No student may reside in the Hall for more than two years.

If the application for either room or board is withdrawn before August 15, the deposit will be refunded; if withdrawn after that date, the deposit will not be refunded.

The customs of the Hall are such as would be found in any refined home.

HENDRIX HALL FOR WOMEN: This dormitory, erected by the Methodists, is located one-half block from each campus. It is a brick-and-stone building completed in 1925—modern in every respect. It has rooms for eighty-seven young women, dining room for one hundred twenty-five, parlors, play-room, fudge kitchen, and laundry. The Hall is supervised by a capable woman. Applications for room, which include applications for board, should be made to the Director of Hendrix Hall, Columbia, Missouri.

The rent of rooms varies according to location and size. Rates for board are approximately the same as for Read Hall.

The rules and regulations for Hendrix Hall are practically the same as those of the University Dormitory.

MEDICAL ATTENTION FOR STUDENTS

Students registered for 10 credit hours or more in the University and paying the regular Library, Hospital, and Incidental fee may have free medical attention and hospital care. No charge will be made for surgical operations that are considered by the staff as imperative. Hospital care is given without charge except for extraordinary medicines and for special nursing. When a special nurse is required the patient must pay the whole cost of that service. The need for a special nurse will usually be determined by the physician in charge.

Students who register for less than 10 hours are entitled to free consultation with the staff of the University Health Service but not to other hospital privileges without the payment of regular hospital charges.

In the dispensary at the hospital, any student who has registered and paid fees as indicated above may consult with and have treatment by the members of the staff of the student health service. The attention of the same staff physicians is available to students who have been admitted to the hospital.

The University has established quarters in which there may be detained and cared for a limited number of those who suffer from dangerous communicable diseases. Students who are detained in quarantine established by the University will be required to accept the exclusive professional service of the members of the staff of the student health service, except when consultation is desired or required by the patient or his family. Under ordinary conditions a student may engage a physician of his own choice, in which case he will be responsible for the physician's fee. The University will not in any case undertake to furnish professional service except that rendered by the staff of the University Health Service.

Those students who are ill in any degree are urged to report at the hospital promptly for advice and treatment. A nurse is on duty in the hospital every day of the University session from 8 a. m. until 4:30 p. m. to give information about the medical and surgical service of the dispensary and to make appointments for consultation and treatment. Students ill enough to require hospital service may be admitted to the hospital at any time.

It is not the policy of the University to provide medical attention for students in their homes or rooming houses. The members of the staff do not treat students at any place other than at the University Hospitals except under unusual circumstances. The hospital facilities are adequate for the care of students under all ordinary conditions.

Vaccination against smallpox is required of all students and immunization from typhoid fever is recommended.

All students who enroll in the University for the first time will receive from the Registrar, with the notice of acceptance of credentials, a health examination form which should be properly filled out by the student and his physician and mailed to the Registrar, before September 1 for admission to the first semester, before January 15 for admission to the second semester, and before May 15 for admission to the summer session.

The purpose of this form is to furnish information to the University Health Service that will assist the students in the proper adjustment of mental, physical, and social activities of college life. In most cases it will also relieve the student from taking a medical examination at the University.

SOURCES OF AID TO STUDENTS

EMPLOYMENT BUREAUS: Employment bureaus are maintained by the University for the purpose of obtaining work for those students who find it necessary to earn a part of their expenses. These bureaus guarantee no one a position, but try to help all who apply.

Men desiring information regarding employment should write to the Secretary, Y. M. C. A., Employment Bureau, Lowry Hall, Columbia, Missouri.

Women who desire information regarding employment should write to the Dean of Women.

STUDENT LOAN FUNDS: There are several trust funds, administrated for or by the Board of Curators, the income from which is available for loans to students enrolled in the University of Missouri who need financial assistance. Financial aid is not usually extended to students during the first semester of their first year and only in exceptional cases are loans made during the first year. Real financial need, economy of expenditures, and good scholarship and conduct are necessary to secure consideration for a loan. Applications from students whose expenses exceed the average minimum will not be considered. All applications for loans must be filed at least two weeks in advance of the time the assistance is desired. Inquiries for further information should be addressed to the Secretary of the University. A brief description of these funds follows:

THE ANTHONY W. ROLLINS SCHOLARSHIP FUND: In 1845 a fund of $10,000 for the purpose of providing scholarships to residents of Boone County was established by Anthony W. Rollins, M. D. Three-fourths of the annual interest on the fund is devoted to the education of youths of Boone County, and the remaining one-fourth is added to the principal. The permanent fund now amounts to about $88,000. Three-fourths of the annual income is available for loans to students resident in Boone County, preference being given to such as evince an inclination to prepare to preach the Gospel. Those to whom money from this fund is advanced are required to give their note and to make payment under conditions that will be made known on application to the Secretary of the University. A blank form on which application for aid from this fund may be made will be furnished by the Secretary on request.

THE WILLIAM ALEXANDER GREGORY EDUCATIONAL FUND: By the terms of the will of the late Charles R. Gregory of St. Louis, the residue of his estate, amounting to approximately $300,000, after providing for numerous bequests to charitable institutions, was left to the University of Missouri to create the above fund, named in

honor of his brother. The will directs that the principal shall be invested by the Board of Curators in a safe and prudent manner, and that the income "shall be used in assisting white students of either sex in obtaining an education in any of the courses of said institution." The income is administered by a committee appointed by the President of the University.

A part of the income is used for the establishment of the Gregory Fellowships and Scholarships, awards being made only to persons whose scholarship is satisfactory and whose need of financial assistance has been proved to the committee.

A further part of the income is set aside as a loan fund to be used for making loans to students who have made clear their intellectual ability, their integrity, and their need of such assistance. Applicants for loans from this fund must see personally the secretary of the committee before their applications will be considered by the committee. Inquiries for further information should be addressed to the Secretary of the University.

THE YEATER-WATSON LOAN FUND: This fund consists of moneys collected under the provisions of the Act of April 1, 1895, providing for the endowment of the University and for the establishment and endowment of free scholarships of merit.

It is named in honor of Charles E. Yeater of Sedalia, who conceived the idea, and Drake Watson of New London, who introduced the bill in the legislature.

The amount of the principal is approximately $26,000. The income is loaned to students who are worthy of such assistance. Applications for loans should be made to the Secretary of the University.

THE ST. LOUIS REPUBLIC LOAN FUND: This fund was established by the St. Louis Republic, a former newspaper of St. Louis, through the efforts of the editor, Paul Brown. The fund amounts to approximately $3,000.00 and is loaned to worthy students in the College of Agriculture. Applications for loans from this fund should be made to the Secretary of the University.

THE JOHN D. PERRY FUND: This fund was established by the late Mary E. Perry of St. Louis, and is named in memory of her father, John D. Perry, of St. Louis. The fund is "for the financial assistance of such students in attendance at the University of Missouri, as shall appear from time to time to need and deserve such assistance while pursuing their studies." Full information regarding the possibility of securing aid from this fund may be had of the Secretary of the University.

THE JAMES C. REID LOAN FUND: This fund was established by the late James C. Reid of Columbia, Boone County, Missouri, the income of which is to be used "to educate poor, industrious and worthy young men and women of Boone County, Missouri, in the State University.....each applicant for any of said

money to have the written recommendation of three reputable persons to the effect that said applicant is a Christian person and of good standing in the community.....if there are more applicants any one year than money to supply them, preference, other things being equal, to be shown to young women." Applications for loans from this fund should be made to the Secretary of the University.

LOAN FUND OF THE CLASSES OF 1908, 1909, 1910: Established by the classes of 1908, 1909 and 1910 for the purpose of extending financial assistance to needy and deserving students. This fund was formerly administered by a committee selected for that purpose, but was turned over to the Curators of the University of Missouri on April 2, 1927, to be administered on the same conditions as the William Alexander Gregory Educational Fund. Application for loans from this fund should be made to the Secretary of the University.

LOAN FUND OF THE CLASS OF 1912: Established by the Class of 1912 for the purpose of extending financial assistance to needy and deserving students. Applications for loans from this fund should be made to the Secretary of the University.

KAPPA BETA STUDENT LOAN FUND: Established by the Delta Chapter of the Kappa Beta Sorority on May 6, 1929, to be loaned primarily to freshmen and sophomore women students in the University of Missouri.

ALPHA EPSILON PHI LOAN AND SCHOLARSHIP FUND: Established at the University of Missouri on July 5, 1930, by the Alpha Epsilon Phi Sorority. The loans from this fund are to be made under conditions similar to those governing the William Alexander Gregory Educational Fund.

ROBERT JEROME CLARK FUND: This fund was left in trust to the Curators of the University of Missouri to be used by them in any manner they may deem best for the University.

JOHN HOMER BOTHWELL FUND: The sum of $5,000 has been left by John H. Bothwell of Sedalia, Missouri, as a trust fund to the Curators of the University of Missouri. The trust fund now consists of five $1,000.00 5% direct obligation Bollinger County, Missouri, road bonds, a bank certificate of deposit for $159.06 bearing 2% annual interest, and cash balance of $31.25. The income account consists of notes receivable amounting to $273.55 and a cash balance of $128.96. Three-fourths of the income from this fund is available for loans to students in the University of Missouri. In accordance with the terms of the will preference will be given to students from Pettis County, Missouri.

J. WARREN WHIFFIN FUND: Established by James Warren Whiffin of Kansas City, Missouri, the income from which is to be used in assisting worthy young men and women to attend the University of Missouri who are financially unable to attend it without

such assistance. The principal now consists of property in Kansas City, Missouri, the income from which, according to court order, must be used to pay certain annuities. This income will not be available for student loans for some time.

CHARLES KIEPE FUND: This fund was established by Charles Kiepe of Cape Girardeau, Missouri. The income from the principal is to be used to assist students in the University to secure an education. Preference shall be given to those enrolled in the College of Agriculture.

HARRY J. DIFFENBAUGH FUND FOR DESERVING STUDENTS: The will of Harry J. Diffenbaugh of Kansas City, Missouri, provides for a trust fund of $50,000.00 under the trusteeship of the Board of Curators which shall be invested and the income therefrom loaned to worthy, deserving and needy students attending the University of Missouri.

UNIVERSITY OF MISSOURI FORTNIGHTLY CLUB LOAN FUND: A fund of $80.00 has been established by the Fortnightly Club, Columbia, Missouri, to be used as a loan fund for needy students. The loans from this fund are to be made under conditions similar to those governing the William Alexander Gregory Educational Fund.

ROTARY CLUB LOAN FUND: This fund has been established by the Rotary Club of Columbia, Missouri, the principal and income to be used as a loan fund to worthy and needy students of the University. Loans from this fund are to be made under conditions similar to those governing the William Alexander Gregory Educational Fund.

WILLIAM S. BAKER EDUCATIONAL LOAN FUND: Established by William S. Baker of Sedalia, Pettis County, Missouri, with the provision that three-fourths of the income shall be loaned to needy students of Pettis County, Missouri. The income according to the will must be used to pay an annuity. This fund will not be available for student loans for some time.

THE KNIGHTS TEMPLAR LOAN FUND: A student loan fund has been created by the Knights Templar of Missouri to assist worthy sons and daughters of Masons and other students during the junior and senior years of their college course. Part of this fund is available to University of Missouri students. Those interested can secure definite information by writing to Dr. J. H. Scarborough, Secretary, Warrensburg, Missouri, or by applying in person to B. C. Hunt, Columbia Savings Bank, Columbia.

OTHER LOAN FUNDS: There are other loan funds, the donors of some of which do not desire their names mentioned, which are available to students. Information regarding loans from these funds may be secured upon application to the Secretary of the University.

FELLOWSHIPS, SCHOLARSHIPS, PRIZES

University Fellowships and Scholarships

The University offers annually a limited number of University Fellowships, yielding each a stipend of $600 a year. These fellowships will be awarded, according as the applicants, irrespective of department, have successfully completed at least one year of graduate study and have demonstrated their ability to render service in the form of research. The University offers also a limited number of scholarships bearing stipends of $300 annually, open to graduate students of high promise in scholarship, irrespective of the lines of work they may desire to pursue. It is expected that scholars will be well qualified to do graduate work in the subjects they elect and that they will devote themselves mainly to work in these subjects.

University fellows and scholars are allowed to engage in outside work only with the consent of the Dean of the Graduate Faculty and the professor of the subject that they elect as major. The Executive Board, upon the recommendation of the dean and professor, may deprive any student of his fellowship or scholarship, whenever it may appear that he is not devoting himself as he should to his work as fellow or scholar.

Applications must be filed not later than March 1, in order to receive consideration in the award for the following academic year. Applications received after this date and not later than June 1, will be considered in filling any vacancies that may occur in the fellowships or scholarships. Application blanks may be obtained from the Registrar of the University, and when filled out should be sent to the Dean of the Graduate Faculty, Columbia, Missouri.

Peabody Scholarship in Education

In June, 1912, the trustees of the Peabody Education Fund gave the University the sum of $6,000 on condition that it be held and used as the endowment of the Peabody Graduate Scholarship in Education. The annual income from this fund will be paid to the holder of the scholarship. The award will be made in the same manner as the University Scholarships.

Gregory Fellowships and Scholarships

The Board of Curators has seen fit to provide that not more than $3,000 annually from the income of the William Alexander Gregory Educational Fund may be used for the establishment and maintenance of fellowships and scholarships in the Graduate School

to be known as the "Gregory Fellowships and Scholarships." These are awarded on the same conditions as apply to the University Fellowships and Scholarships.

Volker Scholarship in Social Service

William Volker of Kansas City has established in the department of sociology, in order to encourage training in social welfare work, a graduate scholarship of the annual value of $300. The scholarship will be awarded upon the same conditions as apply to University Scholarships.

Agricultural Research Fellowships and Scholarships

The University offers a limited number of research fellowships in the Agricultural Experiment Station each yielding $600 a year, and scholarships each yielding $300. It is the purpose of these fellowships and scholarships to foster and encourage original investigation and to give opportunity to students who desire to become efficient investigators in agricultural science. All candidates for these fellowships and scholarships must fulfill the requirements for admission to the Graduate School. See page 48.

These fellowships and scholarships are available in all departments of the College of Agriculture. The fellowships are awarded only to such applicants as have completed one year of successful graduate study and have demonstrated their ability to carry on independent research work. The scholarships are awarded to those candidates who, as undergraduates, have shown exceptional ability in scholarship and a capacity for original research. Application blanks for these fellowships may be obtained from the Registrar of the University, and when filled out, should be sent to the Dean of the Graduate Faculty, University of Missouri, Columbia, Missouri. Applications must be filed not later than March 1, in order to receive consideration in the award for the next academic year. Applications received after this date will be considered in filling any vacancies that may occur.

Teaching Fellowships and Graduate Assistantships: A limited number of Teaching Fellowships and Graduate Assistantships, which entitle the holder to a stipend up to six hundred dollars for the two semesters according to the service rendered, are available in the several departments, including agricultural economics, agricultural engineering, anatomy, animal husbandry, astronomy, botany, chemistry, dairy husbandry, geology, home economics, horticulture, mathematics, physics, soils, zoology, etc. Assistantships in comparative physiology in connection with the Laboratory for Interior Fisheries Investigation of the Bureau of Fisheries are also available. Teaching Fellows and Graduate Assistants may

complete a full year of residence by registering for three-fourths of a full program during the two semesters and devoting their entire time to graduate study during the summer session.

Applications for Teaching Fellowships or Graduate Assistantships may be filed with the Dean of the Graduate School or sent directly to the chairman of the department concerned.

FREDERICK WHITCOMB SCHOLARSHIP IN HORTICULTURE: The sum of one thousand dollars ($1,000) was bequeathed to the Missouri State Horticultural Society by the late Frederick Whitcomb, the income on which to be used in the "development of fruits." The Missouri State Horticultural Society, thru the action of the Executive Committee, offers a combination scholarship and loan for 1935-36 for graduate study in the department of horticulture, College of Agriculture. Its value is $300.

CURATORS SCHOLARSHIPS

SUMMER SESSION SCHOLARSHIPS FOR MEMBERS OF FACULTIES OF MISSOURI COLLEGES: In an endeavor to encourage members of the faculties of colleges in Missouri to take advantage of the resources of the University for graduate instruction, the Board of Curators has authorized the award of the Curators Scholarship for the Summer Session to five members of each faculty of accredited Junior Colleges in Missouri, State Teachers Colleges, the Kansas City Teachers College and St. Louis Teachers College, and the institutions which are members of the Missouri College Union. This scholarship carries exemption from the library, hospital and incidental fee. Application forms for these scholarships will be in the hands of the president of each institution eligible and may be secured from his office.

GRADUATE SCHOOL SCHOLARSHIPS: The Board of Curators offers annually a scholarship to that student attaining the highest scholastic rank in the graduating class of each State Teachers College, and of each of the Colleges comprising the Missouri College Union. This scholarship amounts to exemption from the library, hospital and incidental fee for such portion (not more than two semesters) of the school year (beginning in September and ending the following August) immediately following the graduation of the student from college. Certification of the student's attainment is to be made by the proper official of the institution to the Secretary of the Board of Curators on forms furnished by the latter.

SCHOLARSHIP IN AMERICAN CITIZENSHIP: A scholarship is offered in American Citizenship of the annual value of $250. This scholarship was established in 1908 by the Missouri Society of Colonial Dames of America. Candidates may be of either sex, must be

natives of and resident in Missouri, and must satisfy all entrance requirements to the University.

Each candidate must present to the committee on the Scholarship in American Citizenship, a formal application, together with letters or other evidence of the fulfillment of the general requirements outlined above, and must pass a qualifying examination. Blank forms for application may be obtained from the Registrar. The qualifying examination will include the following subjects described in the University catalog under "Subjects Accepted for Admission:" Three units in English, one unit in Modern or in World History, one unit in American History, and one unit in American Problems or in Economics and Government. The final selection will be made by the Missouri Society of the Colonial Dames of America from the candidates passing the qualifying examination.

The scholar will be required to select his courses at the University subject to the approval of the University committee on the Scholarship in American Citizenship. He must select at least one course in history each year. His total courses in history must include at least two courses in American History and one course in American Government. The scholar may be required to present each semester a paper prepared in connection with the prescribed course in history. These papers, together with a special report on the work of the scholar, shall be sent each year to the Missouri Society of the Colonial Dames of America.

The payment under this scholarship shall be made in ten monthly installments. The scholarship will be awarded for four years, but may be withdrawn at any time if the work of the scholar is of unsatisfactory character. The next regular award will be made in 1938. All communications regarding the scholarship should be addressed to the Committee on the Scholarship in American Citizenship, University of Missouri, Columbia, Missouri.

FRANK P. BLAIR SCHOLARSHIP: A scholarship of the value of $250 a year was established in 1911 by Mrs. B. B. Graham of St. Louis in memory of her father, the late Frank P. Blair. It is awarded on the same general terms as the Scholarship in American Citizenship, except that the candidate need not be a native of Missouri. The next regular award of this scholarship will be made in 1935.

RHODES CLAY SCHOLARSHIP: This scholarship was established by Green Clay of Mexico, Missouri, in memory of his son, Rhodes Clay, with the following conditions:

1. The sum of $5,000 was given in trust to the Board of Curators for the establishment of a freshman scholarship to be called the Rhodes Clay Scholarship, and to be so denominated perpetually in the official catalog of the University.

2. The annual interest on $5,000 is to be paid to that member of the freshman class in the College of Arts and Science who, on the score of scholarship, deportment and general worthiness, shall be judged entitled thereto by a committee hereafter to be mentioned. The Board of Curators however, may, for weighty reason, upon the recommendation of the President of the University, extend competition to one or more of the other divisions at Columbia.

3. In making the award, scholarship and literary attainments alone are not considered, but the moral character, physical constitution and general worthiness of the various candidates will be duly considered.

4. A committee of award is appointed each year by the President of the University, and the award is announced at the opening convocation in the fall.

5. The student to whom the scholarship is awarded for any year must spend the following year pursuing work in the University.

6. In case the student to whom the award is made is unable for any reason to meet the requirements set forth under No. 5, the committee of awards will make another selection.

7. The amount of the scholarship will be paid by the Secretary of the University in ten equal installments to that student to whom it has been awarded, the first payment to be made October 1, and the other payments the first of each following month until the entire amount has been paid.

FRANCIS SCHOLARSHIP: Two scholarships have been established by Governor David R. Francis, as follows:

A. *The Francis Scholarship in Public Affairs for Men:* An award of the annual value of one-half the annual income on $10,000 will be made to a student who has successfully completed three years of college work, and who has had fundamental training in those subjects which, in the opinion of the committee, best qualify him for service thru business and public affairs. The award will be for two years. During the first year of the award, the recipient must be enrolled in his senior year of the undergraduate course in the University of Missouri, and during the second year of the award he must be enrolled for graduate study in the Graduate School of the University of Missouri, or in the School of Law. The intent of the scholarship is to encourage the student to pursue graduate study along the lines of government, politics or international relations or diplomacy. But it is hoped that after having secured this training he will apply the knowledge and experience thus gained thru a successful career in business. It is the desire of his sons, the executors of his will, to create in Governor Francis' memory the opportunity for others for a career which will enable them, as he did, to add to the material success of a business life, public service thru leadership in public affairs. It is preferred that the recipient not take up diplomacy or politics as his life work

but in addition to his business activities, will also take an active part in public affairs. This award is made on the basis of ability, scholastic attainment, merit and actual need.

B. *The Francis Scholarship in Creative Literature for Women:* An award of the annual value of one-half the annual income on $10,000, will be made to a woman student who has successfully completed three years of college work, and who is primarily interested in creative literature. She must have shown special ability in the languages, the social sciences or journalism. The award will be for two years. During the first year of the award, the recipient must be enrolled in her senior year of the undergraduate course in the University of Missouri, and during the second year of the award, she must be enrolled for graduate study in the Graduate School of the University of Missouri.

The selections of the scholars are to be made by a Committee consisting of the Deans of the Graduate Faculty and the Faculties of Arts and Science, Law, Business and Public Administration, and Journalism, which committee shall have the power, for just cause, to cancel the award to a student at any time.

Inquiry for further information regarding the awards should be addressed to the Secretary of the University.

JOHN AND MARY LOCKWOOD EDUCATIONAL FUND: The children of John and Mary Lockwood have contributed $1,000 as a nucleus for the establishment of this fund to be held in trust for investment and reinvestment until January, 1959. At that time the income is to be made available for an endowed chair, scholarships, research or such other purposes as the Curators in their discretion may decide. This fund may be added to from time to time by contributions from the original donor, from other children of John and Mary Lockwood, or from other sources.

CLARENCE MARTIN JACKSON SCHOLARSHIP IN ANATOMY: Established in the School of Medicine by the members of the class of 1909, to be awarded to that student doing the most meritorious piece of investigation, preferably leading to the degree of Master of Arts in the medical sciences. The selection will be made by the Faculty of Medicine.

CHARLES WILSON GREENE SCHOLARSHIP IN PHYSIOLOGY: Established in the School of Medicine by the members of that class of 1909, to be awarded to that student doing the most meritorious piece of investigation, preferably leading to the degree of Master of Arts in the medical sciences. The selection will be made by the Faculty of Medicine.

EUGENE FIELD SCHOLARSHIP: Open to all students in the School of Journalism, and awarded annually to one who has shown himself well equipped in professional ideals and in general newspaper-making ability. Established in 1913, largely thru the efforts

of the late J. West Goodwin, of Sedalia, Pettis County, Missouri. The scholarship consists of the income from $1,500, made up of contributions given as a memorial to Eugene Field, a former student of the University of Missouri.

JAY L. TORREY SCHOLARSHIP: Awarded annually to the woman student in the School of Journalism, considered the best equipped to do the work of a journalist. The scholarship consists of the income from $2,000, a gift from the late Colonel Jay L. Torrey, of Fruitville, Howell County, Missouri.

JOHN W. JEWELL SCHOLARSHIPS: Five scholarships of $50 each, awarded annually to students in the School of Journalism considered deserving upon the basis of scholarship and general merit. Established by Mr. H. S. Jewell and Mrs. John W. Jewell, of Springfield, Greene County, Missouri, in memory of John W. Jewell, a former student in the School of Journalism, killed at Camp Funston in 1918. These scholarships are paid from an income on a gift of $5,000.

JOURNALISM ALUMNI SCHOLARSHIP: Open to all students in the School of Journalism, and awarded annually to one chosen on a basis of meritorious class work. This scholarship was given by alumni of the School of Journalism, and consists of the interest on $1,500.

JOURNALISM STUDENTS ASSOCIATION SCHOLARSHIP: One scholarship of $50, awarded annually to a student in the School of Journalism, chosen on a basis of industry, character, mental alertness, capacity for leadership, and harmonious work with others, as evidenced in activities other than class work. Grades must average M or better. Funds for this scholarship are supplied each year from the proceeds of the annual Journalism Show.

SIGMA DELTA CHI SCHOLARSHIP: Open to all students in the School of Journalism, and awarded annually to one chosen on the basis of meritorious class work, and harmonious working with others. Funds for this scholarship are supplied by the Missouri Chapter of Sigma Delta Chi, national journalistic fraternity.

THETA SIGMA PHI SCHOLARSHIP: Open to women students in the School of Journalism, and awarded annually to one chosen on a basis of character and a scholarship record showing fifteen hours of professional journalism work, five hours of which is S work. Funds for this scholarship are supplied by the Missouri Chapter of Theta Sigma Phi, national journalistic sorority.

ISAAC HINTON BROWN SCHOLARSHIP: Mrs. Irene Brown McKnight and Mrs. Edith Brown Smith, daughters of Isaac Hinton Brown, offer a scholarship of the value of $100 a semester which may be awarded for four years to a young woman who meets the following requirements: She must be of Caucasian

parentage, a native of Missouri, preferably from a rural district in the Ozark region in Missouri, and must be a graduate of a Missouri high school. She must, furthermore, be able to satisfy all entrance requirements to the University, must expect as a candidate for the degree of B. S. in Education to prepare for the profession of teaching, and must be unable without financial assistance to complete the University course. This scholarship will be awarded only to a first-year student. This scholarship may be withdrawn at any time if the work of the scholar is unsatisfactory or if there are other sufficient reasons for its withdrawal. The selection is based upon scholarship and upon other factors indicating high character and educational promise. Application blanks and detailed information may be obtained from the Chairman of the Isaac Hinton Brown Scholarship, University of Missouri, Columbia, Missouri. The next regular award of the scholarship will probably be in 1938.

S. H. Ford Scholarship: This scholarship was founded without specification as to how it should be awarded. The Board of Curators has assigned it to the School of Education, with the provision that it shall be awarded in June of each year to some student in the graduating class who, upon the basis of scholarship and probable service in the field of education, is deemed most worthy to receive the scholarship, and the public announcement of the award be made by the President of the University on commencement day. The scholarship consists of the income on $1,000, and at present affords $50 a year.

James S. Rollins Scholarships: In 1889 James S. Rollins left $6,000 to endow six scholarships in the University—"the interest" on this $6,000 "to be forever used" under the direction of the Board of Curators of the University for founding scholarships to be awarded by the President and Faculty of the University as a recognition of merit and character. The scholarships are awarded as follows:

In the College of Arts and Science, to two members of its junior class, $50 each.

In the College of Agriculture, to a member of the junior class, $50.

In the School of Law, to a second-year student, $50.

In the College of Engineering, to a fourth-year student, $50.

In the School of Medicine, to a first-year student, $50.

These scholarships are payable immediately after commencement each year.

Harry Tidd Scholarship: This scholarship represents the annual income on $5,000 established by Harry Tidd of Hutchinson, Kansas, to be awarded to the most outstanding student enrolled in the University of Missouri, regardless of his years of attendance.

The award is to be based on 50% scholarship, 25% general activities, and 25% athletics.

MISSOURI ENGINEERS OF CHICAGO SCHOLARSHIP: This scholarship was established by the Missouri Engineers of Chicago Alumni Association and is maintained by a trust fund subscribed by the members of the Association. The scholarship is awarded to engineering students of high scholastic standing and creditable participation in student activities. The amount of the stipend is at present $100 annually.

SCHOLARSHIPS IN MUSIC: There are occasional grants from special musical foundations from time to time, available to talented students for advanced instruction in music in the College of the Fine Arts of the University of Missouri, as well as in other colleges and schools of music. For information apply to the Dean of the College of Fine Arts.

PHI MU ALPHA SCHOLARSHIP IN MUSIC: Established by the Zeta Chapter of the Phi Mu Alpha Musical Fraternity and awarded annually at commencement to the student in music making the highest scholastic record in the work of the junior year. The recipient will receive diploma and stipend which will be paid during the student's following year in the College of Fine Arts. Full information regarding the scholarship may be secured by applying to the Dean of the College of Fine Arts.

JONAS VILES, JR., SCHOLARSHIP: A scholarship of the annual value of $100, founded by Mr. and Mrs. Jonas Viles in memory of their son, Jonas Viles, Jr., at his suggestion and in part from his earnings. It is awarded annually by the department of zoology to an advanced student in zoology, as an aid for study at the Marine Biological Laboratory or some similar institution.

CLARENCE CLINTON CROUCH SCHOLARSHIP: A memorial scholarship of the annual value of $100, provided by the family and friends of Clarence Clinton Crouch. It is awarded annually by the department of zoology to an advanced student in this subject, preferably as an aid for study during the summer, at the University of Missouri or an institution like the Marine Biological Laboratory at Woods Hole, Massachusetts. In exceptional cases the proceeds may be used in other ways at the discretion of the department of zoology, for example, to defray the expenses of attendance by a student or students at meetings of scientific societies for the presentation of papers. (This scholarship may not be available for 1935.)

MISSOURI STATE LEAGUE OF BUILDING AND LOAN ASSOCIATIONS SCHOLARSHIPS: This League has established three scholarships with an annual stipend of $100 each to be awarded for the purpose of promoting the study of savings, credit and other economic factors bearing on home ownership. Seniors in the School of

Business and Public Administration and seniors in other divisions who are majoring in economics and finance, are eligible for these scholarships. The selection will be made in May and the award will be effective for the next session beginning in September. Payments will be made in ten equal amounts, five for each semester, beginning October 1.

WINTERTON CONWAY CURTIS SCHOLARSHIP IN ZOOLOGY: A scholarship of the annual value of $100, founded in 1931 by the students, colleagues, and friends of Winterton Conway Curtis in honor of his completion of thirty years of service in the department of zoology, in the University of Missouri. The scholarship is awarded annually by the department of zoology to a graduate student in zoology for use at a marine biological laboratory during the summer.

THE FRANK R. MCDERMAND FUND: This fund was established by the late Frank R. McDermand of Kansas City, Missouri. The amount of the principal is $25,000. The annual income is to be used for the aid of needy and worthy boys in acquiring an education at the University of Missouri. Application for assistance from this fund should be made to the Secretary of the University.

DEBATING SCHOLARSHIP: At a meeting of teachers of accredited schools at the University in May, 1914, arrangements were made for the organization of a Missouri High School Debating League. Any public or private high school in the State, which is accredited by the University, may become a member of this League by paying the annual dues of $3.50 on or before October 31 of each year. These dues should be paid to the district director.

Series of debating contests are held among the various schools composing the League and a final contest determining the winning team for the State is held in Columbia. A scholarship of the value of $75 in the University is given to the best individual debater. This scholarship will be paid in monthly installments during the student's first two semesters in the University. It must be completely used within one year (beginning in September and ending the following August) immediately following the graduation of the student from high school. The subject for debate by the League in 1934-35 is: Resolved: That the Federal Government Should Adopt the Policy of Equalizing Educational Opportunity Thruout the Nation by Means of Annual Grants to the Several States for Public Elementary and Secondary Education.

The rules governing the League, and further information, may be obtained from the Director of the University Extension Division, Columbia, Missouri.

THE BAIRD CLASSICAL SCHOLARSHIP: Through the generosity of the Honorable Charles Baird, of Kansas City, Missouri, Chairman of the Board of Visitors of the University, a scholarship of

$100 is offered for the year 1935-36 for the encouragement of scholarly attainment in Greek and Latin literature.

This scholarship may be held by either a graduate or an undergraduate student.

Prizes and Medals

Delta Sigma Pi Prize: The International Commerce Fraternity of Delta Sigma Pi offers a gold key to be awarded annually to that male member of the graduating class who has made the best scholastic record in one of the commerce curricula in the School of Business and Public Administration.

Phi Chi Theta Prize: The Omicron Chapter of Phi Chi Theta, National Commerce Sorority, offers a key to be awarded annually to that woman student of the graduating class who has made the best scholastic record in any one of the curricula in the School of Business and Public Administration.

Alpha Kappa Psi Medal: The Upsilon Chapter of Alpha Kappa Psi, National Commerce Fraternity, awards annually the Alpha Kappa Psi Scholarship Medallion to that male student of the junior class in commerce who possesses the highest scholastic average for work taken in any one of the curricula in the School of Business and Public Administration.

Chi Omega Social Betterment Prize: The Rho Alpha Chapter of the Chi Omega Fraternity has established a prize of $25 to be known as the Chi Omega Social Betterment Prize. The basis of the award will be the comparative achievements of the competitors with respect to the following points:

1. Grade of work done as shown in class average and examinations.
2. Amount of work taken in the department of sociology.
3. General interest manifested in social service.
4. To a limited extent, the character of work done in other departments of the University, especially in the departments of history and economics.

The prize is open to upperclass women students only and is awarded at commencement each year.

Military Prizes:

Board of Curators Cups: One silver cup to be awarded each year to the best drilled Company of Infantry. One silver cup to be awarded each year to the best drilled Battery of Field Artillery.

Board of Curators Medals: Two Marksmanship Medals, one for the best rifle shot, and one for the best pistol shot each year.

Military Department Medals: Two medals to the most efficient advanced course students of Infantry and of Field Artillery at R. O. T. C. camps.

SPECIAL DISTINCTION AWARD: $100 given annually by an anonymous donor to a woman student in the School of Journalism who best exemplifies the spirit, attainments, and aspirations that make for an all-around, self-controlled journalist.

ALPHA DELTA SIGMA PRIZE: An annual prize of $10, given by the Missouri Chapter of Alpha Delta Sigma, national advertising fraternity, to the outstanding man student majoring in advertising.

GAMMA ALPHA CHI PRIZE: An annual prize of $10, given by the Missouri Chapter of Gamma Alpha Chi, national advertising sorority, to the outstanding woman student majoring in advertising.

AGRICULTURAL JOURNALISM AWARD: Each year the name of the student in the School of Journalism doing the most outstanding work in agricultural journalism, will be engraved upon a mahogany and silver shield presented to the School of Journalism by the Missouri Ruralist, a farm paper published by the Capper Publications.

A. C. BAYLESS AWARD: Awarded annually to the student majoring in advertising in the School of Journalism, who has shown the most outstanding all-around development while a student. Funds for this award are given each year by A. C. (Tex) Bayless of Houston, Harris County, Texas, a former student in the School of Journalism.

PRIZES AND MEDALS OFFERED BY THE DEPARTMENT OF ENGLISH: Thru the George A. Mahan Fund of $10,000, established in 1930 by the gift of George A. Mahan of Hannibal, Missouri, in memory of his wife, Ida D. Mahan, the Department of English is enabled to offer a group of five literary prizes which are known collectively as the Mahan Prizes. Two medals are also offered by the department. The exact closing date for each contest and detailed conditions under which it is to be held, will be announced early in the session by the department.

Mahan Poetry Prizes: A first prize of $100 and a second prize of $25 are offered for the best original poems written and submitted by any resident student at the University of Missouri in Columbia, Missouri. The contest closes in November.

Mahan University Essay Prizes: A first prize of $50 and a second prize of $15 are offered for the best original essays written and submitted by any resident student at the University of Missouri in Columbia, Missouri. The contest closes in January.

Mahan Freshman Essay Prizes: A first prize of $25 and a second prize of $10 are offered for the best English papers, of whatever character, submitted as regular assignments during the session

by any student enrolled in the freshman course in rhetoric and composition.

Mahan High School Essay Prize: A prize of $25 is offered for the best essay submitted by any student of an approved Missouri high school in the contest conducted at the annual Interscholastic Meet held in May at the University of Missouri.

Mahan Story Prizes: A first prize of $100 and a second prize of $25 are offered for the best original short stories written and submitted by any resident student at the University of Missouri in Columbia, Missouri. The contest closes in May.

Stephens Medal: Established by a gift of the late James L. Stephens of Columbia, the Stephens Medal is awarded annually for the best oration by any student of the University who has not received the bachelor's degree. The winner receives a gold medal.

McAnally Medal: Established by a gift of David R. McAnally, Jr. The McAnally Medal is awarded annually for the best semester essay submitted as a regular assignment during either semester by any resident student enrolled in an upperclassman course in English.

Missouri Valley Intercollegiate Conference Medal: An annual award of an honor medal by the Conference to one student in the graduating class of each member school for outstanding achievements in athletics and scholarship.

"M" Men's Scholarship Trophy: An annual award of a silver plate to the senior athlete having the best scholastic record during his entire period in the University. This yearly award was established by James A. Gibson in 1916, and maintained by him until 1926. The "M" men of Missouri have now taken it over and will maintain it as a permanent yearly award.

Pi Mu Epsilon Prizes: The Missouri Chapter of the National Mathematics Fraternity of Pi Mu Epsilon offers two prizes to be awarded annually to the sophomore or junior member of the class in integral calculus, and to the freshman or sophomore member of the class in analytic geometry who attain the highest grades in special examinations set for this purpose.

Alpha Zeta Scholarship Trophy: The Missouri Chapter of Alpha Zeta, honorary undergraduate scholastic fraternity for men in Agriculture, has presented a shield to the College of Agriculture. On this shield each year is engraved on a silver plate the name of the freshman man student in the College of Agriculture who attains to the highest scholastic record.

Gamma Sigma Delta: Gamma Sigma Delta, honorary fraternity, has offered an annual award to the highest ranking sophomore in the College of Agriculture, consisting of the engraving

of the name of the winner of the award upon a tablet displayed in the Trophy Room of the College.

PHI BETA KAPPA TROPHY: The Missouri Chapter of Phi Beta Kappa offers a trophy for the high school whose graduates show the highest scholarship in the freshman year at the University of Missouri. Only those high schools having three or more respresentatives in the freshman class will be considered, and the award will be made at the close of the session 1935-36 based on scholarship statistics of freshmen in the preceding two semesters. The trophy will be in the form of a cup, to be held for one year by the winning school, but it becomes the permanent possession of the school which wins it three times, not necessarily in successive years.

PAULINA KUNTZE MUSIC AWARD: This award was established by Miss Harriet C. Hulick to perpetuate the memory of her friend, Miss Paulina Kuntze. The income from the sum of $200, is to be used for the purchase of books, parchment, or cash to be awarded in equal amounts to the two students, a man and a woman, candidates for degrees in music, who during the year have done work of exceptional merit in the field of original musical composition, to be judged on the basis of content rather than technic.

WILLIAM B. ITTNER FINE ARTS PRIZE: This prize was established by William B. Ittner, Fellow of the American Institute of Architects, of St. Louis, for the purpose of recognizing meritorious work in the Fine Arts. The income from the sum of $500 is to be awarded in the form of cash, or in books, or otherwise, as may be determined by conference between the recipient and the Dean of the Faculty in Fine Arts, to that student who, in the opinion of the Faculty of the College of Fine Arts, does the most meritorious work in the field of his Fine Arts major, Music or Art.

LAWS ASTRONOMICAL MEDAL: The S. S. Laws Astronomical Medal is offered annually at commencement to the student who stands highest in astronomy, and has at the same time attained a high average of general scholarship. An original thesis written on some astronomical subject, and showing capacity for scientific investigation is required.

HENRY AND MARY CORNELIA CRUMBAUGH MEDAL: This medal was provided by the will of Mrs. Robert Lee C. Hearne in memory of her father and mother, former residents of Columbia. Mrs. Hearne gave to the Curators of the University $1,000, the income on which is to provide a medal, to be awarded annually as a scholarship medal for excellence in chemistry. The medal will be awarded for excellence in household chemistry or chemistry of nutrition.

PI LAMBDA THETA PRIZE: The Alpha Chapter of Pi Lambda Theta, national honorary educational fraternity for women, offers a

prize of the value of $50 annually to the woman student in the junior class of the School of Education. This award is based upon scholarship and probable service in the field of education.

WILLIAM MACK PRIZE: William Mack of New York City, a graduate of the School of Law, provides this School annually with a set of the "Corpus Juris-Cyc.," in about forty volumes, which is awarded to that member of the graduating class who, in the judgment of the faculty, has made the best progress during his Law School career. Four semesters' residence as a student in the School is required of candidates for this prize.

JUDGE SHEPARD BARCLAY PRIZE: As a memorial to the Honorable Shepard Barclay, former Judge of the Supreme Court of the State of Missouri, the Missouri Bar Association has given the sum of $500 in trust. This sum was originally bequeathed by Judge Barclay to the Association. Pursuant to the terms of Judge Barclay's bequest and the gift of the Association, this money is to be invested by the Trustees, and the annual income therefrom is to be given as a prize to that student who, in the opinion of the Trustees, has attained the highest and best grade and scholarship and who has exerted the highest and best influence in moral leadership in the School. The award will be made annually.

MISSOURI LAW SCHOOL FOUNDATION PRIZES:

Christopher G. Tiedeman Prize: As a memorial to Professor Christopher G. Tiedeman, formerly a professor in the School of Law, the University of Missouri Law School Foundation offers a prize of $50 in cash to the member of the Student Board of Editors of the Law Series of the University of Missouri Bulletin, who, in the opinion of the Faculty of the School of Law, has by his scholarship and industry contributed most during his senior year to the success of the Bulletin.

Alexander Martin Prize: As a memorial to the Honorable Alexander Martin, formerly Dean of the School of Law, a prize of $50 in law books, to be selected by the Faculty of the School of Law, is offered by the University of Missouri Law School Foundation to the student, regularly enrolled in the Second Year class, who shall do the best work in some second year course, such course to be designated at the beginning of each academic year by the faculty.

John D. Lawson Prize: As a memorial to the Honorable John D. Lawson, formerly Dean of the School of Law, the University of Missouri Law School Foundation offers a prize of $50 in law books, to be selected by the Faculty of the School of Law, to the student regularly enrolled in the First Year class who shall do the best work in the course in Contracts.

The University of Missouri Law School Foundation offers an additional award of $100 to that member of the Senior Class, who

graduates, who maintains the highest scholastic standing thruout his senior year, provided, however, that no student shall be eligible for this prize who carries less than 12 hours of classroom work in each term of his senior year.

COLUMBIA BRANCH A. A. U. W. AWARD FOR JUNIOR WOMEN: The Columbia Branch of the American Association of University Women offers annually a prize of $60, known as the Columbia Branch A. A. U. W. Award for Junior Women. It is given to a junior girl in the University who is a graduate of a Boone County high school, and whose scholarship and character are outstanding.

ALUMNAE ASSOCIATION OF THE SCHOOL OF NURSING PRIZE: The Alumnae Association of the School of Nursing offers an annual prize of $10 to that member of the graduating class who attains the highest scholastic standing.

GIFTS AND BEQUESTS

One purpose of a state university is to serve its commonwealth by offering to its youth educational opportunities which will enable them to become useful citizens and to contribute to the welfare of society. Research also constitutes a major activity of a state university which virtually becomes the research laboratory of the State. Numerous proper and meritorious investigations and activities may be carried on in a well organized institution and every possible encouragement should be given to such efforts.

A university pays for itself many times in the contributions it is able to make to society. Lack of funds, however, seriously handicaps the pursuance of research projects and other useful investigations. No more effective disposition of accumulated wealth can be made than to assist, through gifts and contributions, in promoting the worthwhile enterprises in which a university is engaged. Since the University of Missouri is established by the Constitution of the State of Missouri and supported by State and Federal governments its permanency is assured. Donors to the University therefore have the assurance that bequests made to the University may be carried forward permanently. Gifts and bequests of any amount will be worthily bestowed.

A number of individuals and organizations have made gifts of apparatus, libraries, pieces of art, live stock, in fact almost every kind of article. All of these gifts, the money value of which amounts to thousands of dollars, have increased the value and efficiency of the University. All bequests are administered with the utmost diligence and with careful attention to the desires and intentions of the donors.

The following form is suggested as the proper legal form to be used for testimonial bestowment of funds:

> *I give, devise and bequeath to The Curators of the University of Missouri as trustee, the sum of $..... (followed by recital of the purposes and uses for which the bequest may be made).*

STUDENT ACTIVITIES

GOVERNMENT

REGULATIONS GOVERNING STUDENT ACTIVITIES: All organizations of students in the University, except those which are under the control of a special board or faculty committee, are under the supervision of the committee on student activities. The complete rules of this committee are issued each fall in "The Student Handbook," but some of the more important rules are given here.

No student organization which in any way represents the University before the public, or which holds itself to be a University organization or an organization of University students, may use the name of the University in connection with its own name, or in connection with its members as students, without consent of the proper faculty or administrative committee.

An auditing committee consisting of two faculty members and one student member supervises all financial operations of public performances given by or under the management of student organizations. All student publications are supervised in the same manner.

Students whose class work is not satisfactory are not permitted to take any part in any public, dramatic or musical performance. Organizations having both men and women members are not permitted to give out-of-town performances.

PROVISION FOR WOMEN: All departments of the University are open to women, except that of military science and tactics. In the lecture room they receive the same instruction and meet the same intellectual requirements as the men. The women students have use of a suite of parlors in Read Hall and the Women's Gymnasium.

STUDENT GOVERNMENT: Some years ago the students took their first important step toward self-government, with the establishment of a student senate to advise with the faculty committees on discipline. Later they effected a permanent student organization, adopting a consitution and electing a president and council. The student senate represents the students in cases of discipline while the council has power to make recommendations upon matters of student policy, and to represent the student body in negotiations with the faculty and officers of administration.

DISCIPLINE: In the government of the University, the President and faculty rely chiefly upon the sense of duty of the students. The student is expected to pursue his studies with diligence, to attend classes regularly, to live morally, and maintain good behavior. The removal of those who fail to meet these requirements is in the interest of the University.

Societies

FRATERNITIES AND SORORITIES: There are at the University of Missouri chapters of many of the leading fraternities and sororities. These are all subject to certain rules and regulations of the faculty committee on student activities. The fraternities have formed the Pan-Hellenic Council and the sororities the Pan-Hellenic Association, both of which are strong organizations and both are exerting a good influence for better scholarship. The committee on student activities as far as possible deals with the Pan-Hellenic Council and the Pan-Hellenic Association on matters affecting the chapters which are members of these organizations.

LITERARY AND SCIENTIFIC SOCIETIES: Many literary and scientific societies are maintained in the University, with practically each department and each special field of interest represented. Some of these are conducted by members of the faculty and are open to advanced students. Others are conducted by students, in same cases with the participation of members of the faculty.

HONORARY SOCIETIES: There are several honorary societies in the University, organized to raise scholastic and cultural standards in their respective lines. In addition to the general literary society, Phi Beta Kappa; the scientific society, Sigma Xi; the social science society, Alpha Pi Zeta; and general honor societies, there are similar organizations in the school of Law, Engineering, Medicine, Journalism, Education, Business and Public Administration, the Graduate School, and the College of Agriculture, and in several of the departments.

Religious Influences

CHURCHES: Columbia has seven churches near the University. Members of these churches are interested in the students and endeavor to make them feel at home in the Sunday services, at the midweek meetings, and at the young people's societies.

YOUNG MEN'S CHRISTIAN ASSOCIATION: The Young Men's Christian Association was organized in the University in 1890. Through the Employment Bureau, the Freshman Men's Club, the Men's Forums, and other activities, the Association seeks to serve all the men students of the University. It invites correspondence with young men who expect to enter the University.

KNIGHTS OF COLUMBUS STUDENT HOME: The Knights of Columbus of Missouri have established a student home a few blocks from the University campus. This home has rooms for seventy-two men students; meals are served, and a parlor, a billiard room, and an auditorium are provided for rest and recreation, the auditorium, in particular, being obtainable for student gatherings.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION: The Young Women's Christian Association, organized in the University in 1891, exists solely to be of service to the women students. It is a comradeship in which every woman in the University may share and it offers an opportunity for development and training in religious and social service. It endeavors to bring the University women into closer relationship with their respective churches and to help in every possible way to make their University life more pleasant and worth while. The activities of the YWCA are varied enough to appeal to all types of women and the members can do as much or as little work as they desire. Weekly devotional meetings are held in the Bible College Auditorium each Thursday afternoon and a YWCA office is maintained on the first floor of the Bible College.

THE STUDENT'S RELIGIOUS COUNCIL: A most inclusive and comprehensive co-operative religious organization is found at the University of Missouri. Its membership includes the Protestant, Catholic, and Jewish student organizations. It strives to carry forward a campus-wide program of religious activities through the co-operative effort of the churches of Columbia. The ministers of Columbia, the student pastors, the President of the University and two additional members of the University Administration, the Dean of the Bible College, and the Student presidents of the young people's societies, compose its Board of Control.

THE UNIVERSITY ASSEMBLY

The students and faculty assemble in the University Auditorium from time to time to hear addresses by well-known educators and representative men in other fields. The purpose is to broaden the intellectual, social and religious life of the University. The assembly serves also to bring together students of all divisions, and to conserve University spirit. There are no fixed dates, but assemblies are arranged whenever possible.

THE ALUMNI ASSOCIATION

The Alumni Association of the University of Missouri is composed of the thousands of men and women who have been enrolled in the institution, including those enrolled in the short course and summer school. Every man and woman who ever attended the University of Missouri is automatically a member of the Alumni Association, without dues. There is a county alumni association in every county in Missouri and an organization in every prominent city in the United States. The Alumnus is the monthly publication of the Alumni Association. The officers of the University of Missouri Alumni Association are: President, Richmond C. Coburn, A.B. '24, LL.B. '25, St. Louis, Mo.; First Vice-President, Clif Langsdale, A.B. '04, Kansas City, Mo.; Second

Vice-President, Stanley P. Clay, A.B. '28, LL.B. '29, Joplin, Mo.; Treasurer, Hartley G. Banks, A.B. '26, Columbia, Mo.; Secretary, R. L. Hill, B.S.in Ag. '12, M.S. '13, Columbia, Mo.

Memorial Union and Stadium

Two memorials are being built on the University campus in grateful memory of the heroic company of Missouri alumni and former students and their companions from the state of Missouri who, during the Great War, paid the full measure of devotion that we, who survived them, might have life and have it more abundantly.

The first of these memorials is the Union Building, which will be the headquarters for students during their leisure hours and will be the permanent headquarters for the alumni and former students. The memorial feature of the Union is the Tower, said to be the finest Gothic Tower in America. It was formally dedicated and presented by the Alumni, students, faculty members and friends of the University, to the University on November 20, 1926. Steps are being made to complete the wings on the north and south sides of the Tower, thus providing permanent headquarters for student and alumni activities.

Work on the Memorial Stadium began in December, 1925, the first unit of which seats 25,000 and was formerly dedicated and presented to the University on November 20, 1926. The ultimate seating capacity will be approximately 56,000 and the Stadium will be finished in keeping with seating demands.

Approximately one million dollars has been subscribed by the alumni, students, faculty members and friends of the University to finance these two memorials, the first building presented to the University by the Alumni Association, without cost to the state.

The Memorial Committee of Nine is in charge of all matters pertaining to the campaign for the Memorial Union and Stadium and is carrying on an intensive collection campaign in an effort to secure money to complete the two wings at the Memorial Tower. The Memorial Committee is composed of John Pickard, Acting Chairman; E. Sydney Stephens, S. F. Conley, alumni members; Walter Miller, faculty member; Bob Niedner, student president, and Marjorie Hanson, president of the Women's Self-Government Association.

Leslie Cowan, Secretary of the University, is Treasurer of the Memorial Funds.

REGULATIONS, GRADES, DEGREES

Regulation of Studies

Course Numbers: Courses for underclassmen are designated by numbers below 100; courses for upper classmen and graduates, by numbers 100-199; courses primarily for graduates, by numbers 200-299.

The letter following the number of a course indicates the semester in which it is offered; thus, course 100f is offered during the first semester, 100w during the second semester. The number of hours' credit given for a course is indicated by the Arabic numeral in parentheses following the statement of the course. A capital letter preceding the number of a course indicates one of the special classes of courses into which the work of a large department is divided, as in the case of Education A102f and Education D150w.

Changes in Courses: The curricula in any division of the University may be changed without further notice.

Schedules of Courses: The schedule of days, hours, and rooms for the session of 1935-36 will be issued as a separate bulletin.

Definition of Hours: The hour, which is the unit of credit given in the University, is the equivalent of a subject pursued one period a week for one semester. Thus a course meeting five periods a week for a semester is a five-hour course. Three five-hour courses, or the equivalent, constitute a normal semester's work.

Number of Hours: No undergraduate student is permitted to carry courses aggregating less than twelve credit hours, exclusive of the required work in military science and physical education, without the special permission of his dean; or more than sixteen hours, exclusive of the required work in military science and physical education, except in the Colleges of Agriculture, Engineering, Fine Arts, and the School of Medicine.

Studies in Other Divisions: Students registered in one division may, with the consent of their dean, take work in other divisions if, in the judgment of the professors concerned, they are prepared for such work. Students taking work in a division other than that in which they are registered are subject, as respects this work, to the rules of the division in which the work is given.

Undergraduates who at the beginning of any semester have a graduation requirement for the bachelor's degree of fifteen hours or less may be permitted, with the approval of the appropriate deans, to register simultaneously in the Graduate School for courses sufficient to make up a full program.

Qualified undergraduates who do not avail themselves of the opportunity of dual registration will not receive credit in the

Graduate School for credits earned in the undergraduate schools above graduation requirements.

EXTENSION DIVISION: Courses may be taken by correspondence or in extension centers. The maximum extra-mural work allowed is twenty normal credit hours for one calendar year.

REQUIRED WORK IN MILITARY SCIENCE AND TACTICS AND IN PHYSICAL TRAINING: All men students in the University are required to take four semesters of military science and tactics and physical training during their freshman and sophomore years.

All women students are required to take four semesters of physical training two hours a week during their freshman and sophomore years.

A committee appointed by the Executive Board may, for satisfactory cause, excuse students from compliance with these regulations. All applications for excuse from these requirements should be filed with the Registrar not later than two weeks after the beginning of a semester. Excuses because of physical disability will be granted only as a result of physical examination.

RESIDENCE REQUIREMENT

The last year of work in any college or school must be done in residence, subject to such allowances and modifications as are indicated in the regulations of the separate colleges and schools.

EXAMINATIONS AND CREDITS

EXAMINATIONS: Examinations at the end of each semester close the studies pursued to that point.

GRADING: The system of grading and credits at the University makes uniform the grading of the different departments and divisions, and gives credit to students corresponding to the quality of their work.

The grades M, S, E, I, F are given. These are defined as follows: The grade of M means that the student ranks among the medium students. The grade of S gives the student rank among those who are superior. The grade of E means that the individual is one of the few most excellent students. Below the grade of M, the grade of I means that a student is somewhat below the average. The grade of F means that the student has not accomplished the minimum necessary for passing the subject and has failed.

This system tends to promote uniformity of grading in the different departments, since the meaning of each grade is not left to the discretion of the individual teacher, but is defined objectively.

Students may not be permitted to pursue certain courses if they have made inferior grades in prerequisite courses. The chair-

man of the department in which the student wishes to take the advanced course will decide upon such cases individually.

CREDIT: In the College of Arts and Science, and in the Schools of Business and Public Administration, Education, and Journalism, extra credit in semester hours is given for S and E grades, thus enabling the most able and industrious students to be graduated in less than normal time. It is also recognized that the inferior student is entitled to some credit in hours. Credit is therefore granted in these divisions in accordance with the following schedule:

1.20 hours credit will be given for each hour of E
1.10 hours credit will be given for each hour of S
1.00 hours credit will be given for each hour of M
.90 hours credit will be given for each hour of I

QUALITATIVE REQUIREMENTS: In addition to the total amount of credit required for graduation, all schools and colleges of the University have a qualitative standard which must be met. This standard is usually expressed in terms of points required for graduation. See the sections devoted to the respective divisions of the University.

REPORTS: Written reports of grades for undergraduate students are sent by the Registrar to parents or guardians at the close of each semester.

ELIMINATION OF DELINQUENT STUDENTS: The faculty will eliminate those individuals who cannot or will not measure up to the high standard of scholarship maintained by the University of Missouri. Delinquent students may become subject to either of two regulations. The first eliminates a student who does not pass in a certain proportion of his work in any semester. The second is cumulative, and eliminates any student who habitually falls behind in his work, even though his proportion of failure in any one semester may not make him subject to elimination under the first rule.

DEGREES AND CERTIFICATES

DEGREES: The following degrees are now conferred by the University:

In the College of Arts and Science, Bachelor of Arts (A. B.).

In the College of Agriculture, Bachelor of Science in Agriculture (B. S. in Agr.), Bachelor of Science in Home Economics (B. S. in Home Ec.), Bachelor of Science in Rural Public Welfare (B. S. in Rur. Pub. Welf.).

In the School of Education, Bachelor of Science in Education (B. S. in Ed.).

In the School of Law, Bachelor of Laws (LL. B.).

LIBRARY UNIVERSITY OF MO.

In the College of Engineering, Bachelor of Science in Engineering (B. S. in Eng.).

In the School of Mines and Metallurgy at Rolla, Bachelor of Science (B. S.) in Mine Engineering, in Metallurgy, in Chemical Engineering, in Civil Engineering, in Electrical Engineering, in Mechanical Engineering, in Ceramic Engineering, and in General Science. The graduate degrees of Engineer of Mines (E. M.), and of Chemical Engineer (Chem. E.), Civil Engineer (C. E.), Electrical Engineer (E. E.), Mechanical Engineer (M. E.), Metallurgical Engineer (Met. E.), Ceramic Engineer (Cer. E.), and Master of Science (M. S.), are also given.

In the School of Journalism, Bachelor of Journalism (B. J.).

In the School of Business and Public Administration, Bachelor of Science in Business Administration (B. S. in Bus. Admin.), and Bachelor of Science in Public Administration (B. S. in Pub. Admin.)

In the College of Fine Arts, Bachelor of Fine Arts (B. F. A.), qualified by the department in which the work is taken.

In the School of Medicine, Bachelor of Science in Medicine (B. S. in Med.), and Graduate Nurse (G. N.).

In the Graduate School, Master of Arts (A. M.), Master of Science (M. S.) with designation in Engineering, and Doctor of Philosophy (Ph. D.).

Any faculty may decline to recommend a student for a degree because of lack of moral qualifications even though the student has completed all the technical requirements for the degree.

Two degrees will not be granted to a student until he has earned a minimum of twenty-four hours' credit in addition to the requirements for one of the degrees.

Except those of Doctor of Laws and Doctor of Engineering, no degrees are conferred *honoris causa.*

CERTIFICATES: Certificates are given, on completion of prescribed courses, in the School of Education, the College of Agriculture, and in the department of military science and tactics.

For further information, see the announcements of the respective divisions in Section II of this catalog.

COMMENCEMENT EXERCISES

Commencement exercises are held at the close of the second semester and at the end of the Summer Session. For specific days, see University calendar, page 3.

SECTION II

THE SCHOOLS AND COLLEGES

COLLEGE OF ARTS AND SCIENCE

The College of Arts and Science has four clearly defined purposes:

(1) It offers to students who have the requisite ability and energy such a liberal education in the arts and sciences as will assure a severe intellectual discipline, provide an intelligent familiarity with modern civilization, prepare for wide service in the world, and furnish resources for success and happiness in the individual life. Through the pursuit of the natural sciences, literary and philosophical studies, and the social sciences, it aims at liberty of thought, breadth of views, and the training of the civic spirit.

(2) It prepares for graduate work in the various fields of research. Students who wish ultimately to become trained investigators or to teach their specialities in colleges and universities should secure the A. B. degree as a preparation for graduate work.

(3) It teaches the basic subjects required for admission to the professional schools of Law, Medicine, Education, Journalism, Business and Public Administration.

(4) It furnishes information to the public on matters of scientific, literary, and social interests.

REQUIREMENTS FOR ADMISSION: For information in regard to requirements for admission, see page 45.

FEES: For information in regard to scholarships, fees, etc, see sections under *General Information.*

ELECTIVE SYSTEM: Work in the College of Arts and Science is largely elective—that is, the student makes such choice and combinations of studies offered in the college as suits his individual objective, subject to certain restrictions explained under the *Requirements for Graduation.*

A student may not take more than 16 hours nor less than 12 hours a week, not counting the required work in physical training and military science. Permission to add work without credit in the College of Arts and Science above the limit of 16 hours shall be at the discretion of the dean.

Requirements for Graduation

Degrees: The College of Arts and Science confers only one degree, that of Bachelor of Arts (A. B.). In order to receive the degree of Bachelor of Arts the candidate must meet the following requirements:

1. He must have been regularly admitted to the College.

2. He must have completed a total of at least 124 hours.

3. He must have completed a total of 124 points. Each hour of credit is valued in points, as follows: E, 3 points; S, 2 points; M, 1 point. Passed grades and advanced standing are treated as of M grade. No points are given for I and F grades.

4. He must complete during the freshman year: Six hours of English Composition and Rhetoric. Students entering with three or four units of Latin, or with two or three units of Latin and two or three units of Greek, may substitute for the requirement of six hours of English (English 1 and 2), six hours of Latin (Latin 100 [5] or 101 [5] and 104 [1]) or six hours of Greek (Greek 3 [3] and 4 [3]). These courses in Latin or Greek may be applied also upon the requirement in foreign languages.

5. He must complete during the first two years:

(a) Ten hours in one foreign language, either ancient or modern, in addition to two high school units in foreign language. If the student presents for admission less than two units in a single foreign language his requirements will be 15 hours. If he presents 3 units for admission in one foreign language, or has done 2 units so well that he can take the third 5-hour course in French or Spanish or German or the course in Virgil, he will be excused from 5 hours of the requirement. If he is prepared to enter the second course in a given foreign language he may fulfill the requirement by taking in addition to this second course 5 hours of another foreign language. In the case of Latin he may take course 10 and 5 hours of another foreign language.

(b) Three hours of Mathematics or Logic unless 3 units of Mathematics have been presented for admission.

(c) Five hours of physical science (Astronomy, Chemistry, Geology, Physics) unless 2 units of these have been presented for admission.

(d) Five hours of a biological science (Botany, Zoology) unless 2 units of these have been presented for admission.

(e) Four hours of social studies (Citizenship, Economics History, Political Science and Sociology) unless three units of these have been presented for admission.

Such exemptions do not excuse him from the requirements of total hours as stated in 2.

By "hour" is meant one period a week for one semester.

The ordinary program of a student in his first year should include English Composition and Rhetoric, military and physical training, and two of the following: a foreign language, a science, Mathematics.

In the case of language it is highly desirable that the student continue the same language he has studied in high school. He may, in the second year, complete the freshman-sophomore requirements and take work preparatory to the major and minor. The first 60 hours of credit must include the freshman-sophomore requirements. Students who are partly self-supporting should not attempt a full program.

6. He must complete either (a) a major and minor or (b) a group major.

Major-Minor

A major consists of at least 24 hours comprising a sequence of closely correlated studies chosen from the courses for students in the College of Arts and Science and containing at least 12 hours from courses offered for upperclassmen or for graduates. (The major need not be confined to a single department, but the courses must present a closely related sequence); a minor of at least 18 hours, of which at least 5 hours must be from courses for upperclassmen or graduates. A student is not permitted to elect toward his minor courses from the department in which he has done the chief work for his major, or vice versa, but the major and minor must together constitute a unified plan of study.

Work done to meet the requirements in 4 and 5 cannot be included in counting up hours for a major and a minor except that where a student presents ten hours in one foreign language in fulfillment of his requirements, the second five hours in such language can be counted toward the major or minor.

The fulfillment of the specific requirements of the first two years and of the requirements of majors and minors is considered on the basis of the number of hours for which the student is registered in a course without reference to the regulation regarding excess and diminished credit. He must, however, receive the grade of M or better in at least 12 hours of upperclassman work in his major.

The student must, before the close of his sophomore year, notify the dean in writing of his selection of his major and minor. The courses making up his major and minor must be approved by an adviser from the department in which the student does his chief work, and must consist of courses regularly accepted for credit toward the A. B. degree.

The Group Major

Students who desire a broader and more carefully planned program of study than is prescribed by the major-minor plan or who have a well defined objective which is not well served by that plan may elect a group major or course of study. The group major or course of study must be a program directed toward a definite objective definitely formulated, and must contain at least sixty hours, comprising a sequence of closely correlated studies chosen from the courses offered for students in the College of Arts and Science, and containing at least thirty hours from courses numbered 100 or above. This group major may, in many cases should, cover more than one group.

A student who wishes to elect a group major *should notify the dean of his intention before the end of his freshman year and be assigned to a particular group.* He will then plan his course of study in detail with a group adviser, who will continue as his adviser during the sophomore, junior, and senior years.

The following groups have been established:

a. Language, Literature, and the Fine Arts.
b. Social Studies.
c. Mathematical and Physical Sciences.
d. Biological Sciences.

Each major must have a definite objective definitely formulated, but the objective need not be vocational or professional: It may be general and cultural. Indeed, the primary object of the group major is to coordinate and systematize programs of liberal study. Any student with a well defined objective may secure a group major suited to his individual needs, but the course of study as a whole must be unified and coordinated. The following are considered satisfactory cultural objectives:

1. A knowledge of the language, literature, and general culture of two of the following peoples: English, French, German, Greek, Italian, and Spanish.

2. Training for literary criticism and creative writing.

3. A knowledge of the history and the development of an appreciation of the fine arts.

4. A knowledge of the methods, practices, and achievements of the physical sciences, with emphasis on Astronomy or Chemistry or Geology or Mathematics or Physics.

5. A knowledge of the methods, practices, and achievements of the biological sciences, with emphasis on Botany or Zoology or Physiology or Psychology.

6. A knowledge of the methods, developments, and points of view involved in the study of the problems of human society,

with emphasis on Economics or History or Philosophy or Political Science or Sociology.

7. Home and Community Life.
8. Social Reconstruction.
9. Welfare Work.

REQUIREMENTS IN ENGLISH: All students must in their junior year pass a test of their proficiency in English. No student will be recommended for graduation until his English is satisfactory.

Courses regularly offered toward the A. B. degree and, therefore, acceptable for majors and minors or group majors, are offered in the following departments:

Accounting and Statistics, 17, 107, 190, 235.
Art, Theory and Practice, 2, 6, 19, 59, 70, 77, 88, 104, 105.
Astronomy.....entire
Bacteriology and Preventive Medicine, 5, 102.
Botany.....entire
Chemistry.....entire
Citizenship.....entire
Classical Languages and Archaeology and History of Art.....entire
Economics and Finance, 1, 101, 105, 106, 109, 110, 111, 115, 118, 119, 122, 124, 140, 141, 143, 211, 219, 221, 227, 230, 231.
Education, A102, B125, B190, B271.
English, (except 103).
French and Italian.....entire
Geology and Geography.....entire
Germanic Languages.....entire
History.....entire
Mathematics (Except 8).
Military and Physical Education.....12 hours
Music—Theoretical and historical courses, Chorus and Orchestra, maximum.....20 hours
Philosophy.....entire
Physics.....entire
Political Science and Public Law.entire
Psychology.....entire
Sociology.....entire
Spanish.....entire
Zoology.....entire

A minor may be permitted in Education, in Music, or in Home Economics.

GROUP MAJORS

The following are typical examples of the many possible group majors. *They are not fixed curricula, but are to be considered as merely suggestive.*

LITERARY CRITICISM AND CREATIVE WRITING

Freshman Year

Freshman-Sophomore Requirements

Suggested Electives: History, 3 to 6 hours; English Masterpieces, 2 or 4 hours; Preventative Medicine, 2 hours; Geography, 3 hours.

Sophomore Year

First Semester		Second Semester	
First Language	3	First Language	3
English Life and Literature	3	English Life and Literature	3
Narration and Description	3	Exposition	3
Elective	6 or 7	Elective	6 or 7

Suggested Electives: second foreign language, 10 hours; Evolution, 2 hours; Social Studies, 5 or 10 hours; Ornithology, 2 hours; Natural Science, 3 or 5 hours; History of Art, 2 or 4 hours; History, 3 to 6 hours.

Junior Year

Foreign Language	3	Foreign Language	3
English Literature	3	English Literature	3
Short Story or Advanced Writing	3	Advanced Writing or Short Story	3
Electives	6 or 7	Appreciation of Literature	3
		Electives	3 or 4

Suggested Electives: foreign language, 3 to 6 hours; Geography, 3 to 6 hours; History, 3 to 6 hours; History of Art, 2 to 6 hours; Social Studies, 3 to 10 hours; Psychology, 3 to 6 hours.

Senior Year

Foreign Language	3	Foreign Language	3
English Literature	3	English literature	3
Ethics	3	Aesthetics	3
Electives	6 or 7	Electives	6 or 7

Suggested Electives: foreign language, 3 to 6 hours; History, 3 to 6 hours; Art, 2 to 6 hours; Social Studies, 3 to 10 hours; Psychology, 3 to 6 hours.

HOME AND COMMUNITY LIFE

Freshman Year

English	3	English	3
Foreign Language	5	Foreign language	5
Science	5	Science	5
Mathematics or Elective	3	Mathematics or Elective	3

Suggested Electives: History, 3 or 6 hours; Preventive Medicine, 2 hours; English Masterpieces, 2 hours; Geography, 3 hours.

Sophomore Year

Foreign Language	5 or 3	Foreign language	3
English Life and Literature	3	English Life and Literature	3
General Sociology	5	American Government or American History	5
Elective	3 or 5	Elective	5

Suggested Electives: Appreciation of Music, 2 hours; History of Art, 2 or 4 hours; Astronomy, 5 hours; Evolution, 2 hours; Ornithology, 2 hours; Geology, 5 hours.

Junior Year

First Semester		Second Semester	
Economics or Foods	5	Recent U. S. History	3
Contemporary Europe	3	Literature, English or foreign	3
General Psychology	3	International Relations	3
Literature, English or foreign	3	The Family	3
Elective	2	Elective	3 or 4

Suggested Electives: Bible as Literature, 2 or 4 hours; Landscape Gardening, 3 hours; Home Planning, 3 hours; Home Nursing, 2 hours; History of Art, 2 to 6 hours; Textiles, 3 hours; Economics, 3 hours; Appreciation of Literature, 3 hours; Classical Mythology, 2 hours; Greek or Latin Literature in Translation, 2 hours.

Senior Year

English or Foreign Literature	3	English or Foreign Literature	3
History of Art	2 or 3	American Ideals	3
Ethics or Aesthetics	3	American Social Policies	3
Electives	7	Electives	6 or 7

Suggested Electives: Political Parties, 3 hours; Comparative Religions, 2 hours; Home Economics, 3 hours.

PUBLIC WELFARE WORK

Freshman

English	3	English	3
Foreign Language	5	Foreign Language	5
Science	5	Science	5
History	3	History	3
	16		16

Sophomore

General Psychology	3	Abnormal Psychology	3
General Economics	5	Soc. Path. or Criminology	3
General Sociology	5	American Government	5
Preventive Medicine	2	Foods in Relation to Health	2
		Elective	2
	15		15

Junior

Child Welfare	3	Community Organization	3
Rural or Urban Sociology	3	Rural or Municipal Govt	3 or 5
Money Credit & Banking	5	Constr. Soc. Policies	2
Case Work I	3	Leadership	3
Elective	2	Family	3
		Elective	2 or 0
	16		16 or 16

Senior

First Semester		Second Semester	
*Psychiatric Social Work	3	*Case Work II	2
Labor Market	3	American Ideals	3
*Social Legislation	2	*Administration Pub. Wel.	3
Methods of Research	3	Elective	8
Elective	5		
	16		16

Electives must be chosen from regular Arts and Science subjects.

MAJOR SEQUENCES

The following major sequences are suggested:

Art, History of

General Subject	No. of Course	Special Title	Credit Hours
Art, Theory & Practice.	2f & w	Introduction to Art	5
Art, Theory & Practice.	70f & w	Theory of Design	5
History of Art	1f	Introduction to Ancient and Mediaeval Art	2
History of Art	2w	Introduction to Renaissance and Modern Art	2
History of Art	111f	Italian Renaissance Painting	3
History of Art	112w	The Northern Renaissance	3
Classical Archaeology	106f	Greek Art	3
Classical Archaeology	107w	Greek Art	3

Supporting minors are recommended in Education, English, Foreign Languages, History, or Home Economics.

Botany

General Subject	No. of Course	Special Title	Credit Hours
Botany	1f & w	General Botany	5
Botany	3f & w	General Bacteriology	3
Botany	10w	Advanced General Botany	3 or 5
Botany	106f	Genetics and Plant Breeding	5
Botany	100w	Plant Physiology	5
At least five (5) hours from following:			
Botany	102f	Plant Pathology	3
Botany	201w	Advanced Plant Pathology	3
Botany	104f	Histological Methods	3
Botany	107f	Mycology	3
Botany	111f & 112w	Special Problems	4

For prospective teachers, Zoology 1f or w and Botany 102f or 104f are required. Minors are recommended in Zoology, Chemistry, Physics, Geology, Mathematics, Education, or Languages.

For a Botany-Zoology major preparatory to Medicine, see under Zoology major.

Chemistry

General Subject	No. of Course	Special Title	Credit Hours
Chemistry	1f & w	General Inorganic Chemistry	5
Chemistry	2f & w	General Inorganic Chemistry	3
Chemistry	27f & w	Qualitative Analysis	3
Chemistry	110f & w	Organic Chemistry	5
Chemistry	112f & w	Organic Chemistry	3
Chemistry	121f & w	Quantitative Chemical Analysis.	5
Chemistry	131f & 130w	Physical Chemistry	5 or 3

Three-hour course in Physical Chemistry 130 will be accepted toward a major for students minoring in Biology or other departments in which Calculus is not required as a part of the student's plan of study. Greek for Students of Science, a study of the derivation and meaning of scientific terms is recommended to students of Chemistry.

Medical Sciences

General Subject	No. of Course	Special Title	Credit Hours
Chemistry	1f & w	General Inorganic Chemistry	5
Chemistry	2f & w	General Inorganic Chemistry	3
Chemistry	25f & w	Analytical Chemistry	5
Chemistry	110f & w	Organic Chemistry	5
Chemistry	112f & w	Organic Chemistry	3
Chemistry	130w	Physical Chemistry	3
Bio-chemistry	106w	Physiological Chemistry	6

Economics and Finance

A major in this department consists of the course in general economics (Economics 1, 5 hours) and additional courses selected by the student, with the advice and consent of the departmental adviser, from the following:

General Subject	No. of Course	Special Title	Credit Hours
Economics	105f & w	Money Credit and Banking	5
Economics	106f & w	Transportation and Public Utilities	3
Economics	110f & w	The Labor Market	3
Economics	111w	Trade Unionism	3
Economics	115w	Public Revenues	3
Economics	118f & w	Corporation Finance	3
Economics	119f & w	Economic Control	3
Economics	122f	Investments	3
Economics	124w	Foreign Exchange	2
Economics	140f	History of Commerce and Industry	3
Economics	141w	Amercan Industrial Envolution.	3
Economics	219w	Economic Reorganization	2
Economics	221w	International Finance	2

The minor to support this major may be selected, with the approval of the major adviser, from the courses of one, or of two or more, of the following departments: Accounting and Statistics Geography, History, Philosophy, Political Science and Public Law, Psychology, and Sociology.

English

Students making their major in English will take at least three hours in each of the following groups of courses. Upon the basis of the twelve hours thus required, majors will be built up, under the direction of the adviser for the department, to meet the needs of different types of students.

I. Composition

General Subject	No. of Course	Special Title	Credit Hours
English	50f & w	Narration	3
English	60f & w	Exposition	3
English	100w	The Short Story	3
English	101f	Advanced Writing	3
English	104w	The Appreciation of Literature	3
English	105f	Argumentation	3
English	115w	Rhetorical Criticism	3

II. Language

General Subject	No. of Course	Special Title	Credit Hours
English	119f	The English Language	3
English	120w	The English Language	3
English	125f	Chaucer and His Time	2½–3

III. Later Literature

General Subject	No. of Course	Special Title	Credit Hours
English	155f	The Age of Reason	3
English	156f	Johnson and His Time	3
English	165f	The Romantic Period	3
English	166w	The Victorian Period	3

IV. Earlier Literature

General Subject	No. of Course	Special Title	Credit Hours
English	125f	Chaucer and His Time	2½–3
English	135f	Shakespeare	3
English	136w	Shakespeare	3
English	145f	Milton	3

Students electing course 125 to meet the requirement in the third group will take also one of the other courses in the fourth group.

Any prospective teacher of English who also wishes to qualify as a teacher of speech (speech training, oral interpretation, dramatics, public speaking, and debating), and hopes to be recommended as such by the department, must include in his program, in addition to the three elementary courses 73, 74 and 75, which constitute an introduction to the three phases of speech, at least one course from each of the following groups:

I. Public Speaking

General Subject	No. of Course	Special Title	Credit Hours
English	105f	Argumentation	3
English	106w	Debating	3
English	114w	Public Address	3

II. Dramatics

General Subject	No. of Course	Special Title	Credit Hours
English	107f & 108w	Dramatic Interpretation	3 or 6
English	109w	Stagecraft and Acting	3
English	110f	Advanced Dramatic Production	3

III. Rhetoric

General Subject	No. of Course	Special Title	Credit Hours
English	115w	Rhetorical Criticism	3

French and Italian

French

General Subject	No. of Course	Special Title	Credit Hours
French and Italian	1f or w	Elementary French	5
French and Italian	2f or w	Intermediate French	5
French and Italian	3f or w	Advanced French	5

The rest of the major may be elected from upperclassmen courses of the department and should be chosen in consultation with the department adviser before the close of the sophomore year. Prospective teachers should elect courses in composition.

Geology and Geography

I. Geology

Five hours from the following list of courses:

General Subject	No. of Course	Special Title	Credit Hours
Geology	1f & w	Principles of Geology	5
Chemistry	1f & w	General Inorganic Chemistry	5
Physics	1f & w or 2f & w	Elementary College Physics	5
Mathematics	1f & w	Introductory Course	3
Astronomy	1f & w	Descriptive Astronomy	5
Greek	13w	Greek for Students of the Sciences	1

Seven hours from the following list of courses:

General Subject	No. of Course	Special Title	Credit Hours
Geology	14w	Common Rocks and Minerals	3
Geology	15f	Advanced General Geology	4
Geology	50f & w	Life of the Geologic Past	2
Geology	90f	Metallic Earth Products	2
Geology	91w	Non-Metallic Earth Products	2

Twelve hours from the following list of courses:

General Subject	No. of Course	Special Title	Credit Hours
Geology	105s	Field Course	4 or 5
Geology	107w	Mineralogy	5
Geology	120f	Historical Geology	3
Geology	121w	Introduction to Paleontology	3

II. Geography

General Subject	No. of Course	Special Title	Credit Hours
Geography	6f & w	Introductory Geography	3
Geography	80f, w & s	Advanced General Geography	4
Geology	90f	Metallic Earth Products	2
	or 91w	Non-Metallic Earth Products	2
Geography	110f	Geography of North America	3
Geography	112w	Geography of Europe, or	3
	114w	Geography of Asia	3
Geography	116w	Relations of Geography and History in the United States.	3
	or118w	Conservation of Natural Resources	3
Geography	125f, w, & s	Economic Geography	3
Geography	160w	Geography of South America	3
	or 170f	Geography of Caribbean America	3

III. Geology and Geography

General Subject	No. of Course	Special Title	Credit Hours
Geology	1f & w	Princip'es of Geology	5
Geography	6f & w	Introductory Geography	3
Geology	15f	Advanced General Geology	4
Geography	80f, w & s	Advanced General Geography	3
Geology	90f or 91w	Metallic Earth Products, or Non-metallic Earth Products.	2
Geology	120f	Historical Geology	3
Geography	110f or 112w or 114w	Geography of North America, or Geography of Europe, or Geography of Asia	3
Geography	118w	Conservation of Natural Resources	3
Geography	160w or 170w	Geography of South America, or Geography of Caribbean America	3

Geology 105, Field Course, may be substituted for Geology 90, 91, and 120.

GERMANIC LANGUAGES

General Subject	No. of Course	Special Title	Credit Hours
German	1f & w	Beginning Course in German	5
German	2f & w	German Reading, Syntax and Composition	5
German	3f & w	Advanced Reading Course	5
German	104f & w	Masterpieces of Modern German Drama and Lyrics and Novel	3

The remaining hours may be elected from courses above 100 under the direction of the adviser of the department.

HISTORY

Students making their major in History will offer not less than five nor more than eight hours from the following courses or their equivalents:

1f and w. The Ancient World. 3 hours.
2f and w. The Medieval World. 3 hours.
3w. The Modern World. 3 hours.
8f and w. American History. 5 hours.

The upperclass work in the major will be selected as follows:

I. One starred course from each of the following groups.

II. The remaining courses must all be chosen in one group or deal with one topic.

1. Ancient and Medieval History

*124f. Greek History. 3
*125w. Roman History. 3
128w. The Hellenistic Age. 2
132f. The Eastern Roman Empire. 2
139f. History of Islam. 2
150f. Intellectual History. 3
*152f. Medieval Social and Economic History. 3
154. Medieval Culture. 3

2. Modern European History

*106f and w. Contemporary Europe. 3
*146f. British Empire. 3
151w. Intellectual History. 3
182w. French Revolution and Napoleon
167w. Economic History of Europe. 3
168f. Diplomatic History of Europe. 3
170f. English Constitutional History. 3
171f. Tudor and Stuart England. 3
172f. Modern England. 3

3. American History

*110f and w. Recent U. S. History. 3
180f. Social Forces in American History. 3
181w. Colonial Institutions. 2
182f. History of the West. 3
184f. History of the South. 3
187w. History of Hispanic America. 3
188w. Foundations of 20th Century America. 3
*189w. American Constitutional History 3
*190f. American Diplomatic History. 3

In addition to one of the other social sciences, or a combination of them with special emphasis on one, and to Geography, minors will be accepted in the Philosophy, Literature or Art of the country or period covered by the major, and in Education.

LATIN

A major in Latin shall consist of the following:

General Subject	No. of Course	Special Title	Credit Hours
Latin	100	Virgil's Aeneid	5
Latin	101	Cicero's Essays on Friendship and Old Age	5
With two hours of the following:			
Latin	102	Pliny: Selected Letters	3
Latin	103	Ovid: Selected Poems	2
Latin	104	Latin Prose Composition	1
Latin	108	Livy: Books XXI-XXII	3
followed by			
Latin	106	Latin Prose Composition	1
Latin	109	Horace: Satires and Epistles	3
Latin	110	Horace: Odes and Epodes	3
six hours selected from			
Latin	114	Cicero's Letters	3
Latin	115f	Rapid Reading	2
Latin	116w	Rapid Reading	2
Latin	117	Catullus	3
Latin	119	Virgil's Aeneid: VI-XII	3
Latin	120	Comedy	3
Latin	121	Juvenal's Satires	3
Latin	125	Lucretius	3

The supporting minor may be in Greek, archaeology, education, English, modern foreign language, or history.

MATHEMATICS

General Subject	No. of Course	Special Title	Credit Hours
Mathematics	2f or w	Trigonometry and Algebra	5
Mathematics	4f or w	Analytic Geometry	5
Mathematics	5f or w	Differential Calculus	5
Mathematics	100f or w	Integral Calculus	5

and either 104 and 105 Advanced Algebra or 110 and 111 in Advanced Calculus.

It is recommended that the supporting minor be in Astronomy, Physics or Education, although it may be taken in any of the mathematical or physical sciences, and in French and German. In case the last minor is elected it must be such as to provide a reading knowledge in both languages.

Philosophy

General Subject	No. of Course	Special Title	Credit Hours
Philosophy	103f	Ethical Theory	3
Philosophy	104f	Ancient Philosophy	3
Philosophy	105w	Modern Philosophy	3

A course in Psychology, two additional courses in Philosophy, and other courses selected by the adviser to complete the 24 hours.

A supporting minor may advantageously be taken in the following subjects: English, Political Science, Education, or Sociology.

Physics

General Subject	No. of Course	Special Title	Credit Hours
Physics	3f	General Physics	5
Physics	4w	General Physics	5
Physics	104f	Electrical Measurements	3 or 4
with additional hours selected from the following:			
Physics	112f	Heat	3
Physics	106w	Ionization of Gases	2
Physics	110f	Electricity and Magnetism	3
Physics	113w	Light	3
Physics	114w	Mechanics	3

By special permission courses in Mathematics or Chemistry may be substituted. Mathematics or Chemistry is recommended for the supporting minor.

Physiology

A major in Physiology is built on a sequence of related courses consisting of at least 10 hours underclassman work for the Department of Zoology, 9 hours intermediate courses chosen from Zoology, Botany, Anatomy, and Biochemistry, and completed by 5 hours from Physiology courses 102w, 103f, or 104w or 105w. The general sequence of the courses in this major is as follows:

General Subject	No. of Course	Special Title	Credit Hours
Zoology	1f or w	General Zoology	5
Zoology	4w	Comparative Anatomy	5
Zoology	100f or	Embryology	3
Zoology	101f or	Comparative Histology	3–5
Anatomy	101f	Embryology	3
Zoology	115f or	Experimental Zoology	3–5
Botany	100w or	Plant Physiology	5
Physiology	100w or	Elementary Physiology	5
Biochemistry	101f	Elementary Physiol. Chemistry.	3

General Subject	No. of Course	Special Title	Credit Hours
Anatomy	104f or	Histology	6
Biochemistry	106w	Physiological Chemistry	6
Physiology	102w	Muscle and Nerve	3
Physiology	103w or	Alimentary Mechanisms	3
Physiology	104w or	Circulation and Respiration	2
Physiology	105f	Central Nervous System and Sense Organs	2

Students preparing for Research are advised to elect the 9 hours of intermediate courses from the Zoological and Botanical upperclassman sequences.

Students preparing for Medicine may elect from the Anatomical and Biochemical sequence.

Political Science and Public Law

General Subject	No. of Course	Special Title	Credit Hours
Political Science	1f or w	American Government	5
Political Science	5w	International Relations	3
Political Science	100w	European Governments	5

Eleven hours of additional work in Political Science are required. These are to be selected in consultation with the adviser.

Psychology

General Subject	No. of Course	Special Title	Credit Hours
Psychology	1f or w	General Psychology	3
Psychology	195f	Experimental Psychology	3
Psychology	196w	Experimental Psychology	3
Psychology	197f	Psychology of Learning	3
Psychology	198w	Systematic Psychology	3

Nine hours of additional work in psychology are required. These are to be selected in consulation with the adviser. The supporting minor should be chosen in consultation with the departmental adviser.

Spanish

General Subject	No. of Course	Special Title	Credit Hours
Spanish	1f or w	Elementary Spanish	5
Spanish	2f or w	Intermediate Spanish	5
Spanish	3f or w	Advanced Spanish	5

The rest of the major may be selected from upperclassman courses of the department and should be chosen in consultation with the department adviser before the end of the sophomore year. Prospective teachers should include among their electives as much work in composition and conversation as possible.

Sociology

Social Science

General Subject	No. of Course	Special Title	Credit Hours
Sociology	1f or w	General Sociology	5
Economics	1f or w	General Economics	5
Sociology	110f or w	Social Pathology	3
Sociology	125f	General Anthropology	3
Sociology	126w	Cultural Anthropology	3
Sociology	230w	History of Social Philosophy	3

Social Service

General Subject	No. of Course	Special Title	Credit Hours
Sociology	1f or w	General Sociology	5
Economics	1f or w	General Economics	5
Sociology	110f or w	Social Pathology	3
Sociology	111w	Criminology	3
Sociology	112f	Child Welfare	3
Sociology	113w	Constructive Social Policies	2
Sociology	131f or w	Social Case Work I	3
Sociology	117s or 222w	Community Organization, or	3
		Methods of Social Research	3

In each of the above sequences five hours in Political Science (courses 1f or 1w) may be substituted for Economics 1.

Zoology

Preparatory to Research

General Subject	No. of Course	Special Title	Credit Hours
Zoology	1f or w	General Zoology	5
Zoology	2w	Theory of Evolution	2
Zoology	3f	Advanced General Zoology	3
Zoology	4w	Comparative Anatomy of Vertebrates	5
Zoology	120f	Embryology of Vertebrates	3
Zoology	105f or 135w	Comparative Histology or Cytology	3–5
Zoology	110w or 115w	Parasitology, or Experimental Zoology	3
Zoology	130f or 150f	Protozoology or Special Problems	3
Zoology	125f	Genetics	5
Zoology	200f and w	Seminary	1–2

Preparatory to Medicine

General Subject	No. of Course	Special Title	Credit Hours
Zoology	1f or w	General Zoology	5
Zoology	2w	Theory of Evolution	2

General Subject	No. of Course	Special Title	Credit Hours
Zoology	4w	Comparative Anatomy of Vertebrates	5
Zoology	120f	Embryology of Vertebrates	3
Zoology	105f	Comparative Histology	3
Zoology	110w or 115w	Parasitology, or	3
		Experimental Zoology	3
Zoology	130f	Protozoology	3
Zoology	125f	Genetics	5
Zoology	135w or 150f or w	Cytology, or	5
		Special Problems	3

Zoology—Medical Sciences

The course in General Zoology 1f or w must be used as the underclass requirement in biological science if this major combining Zoology and Medical Sciences is selected.

General Subject	No. of Course	Special Title	Credit Hours
Zoology	2w	Theory of Evolution	2
Zoology	4w	Comparative Anatomy of Vertebrates	5
Zoology	105f	Comparative Histology	3
Zoology	110w	Parasitology	3
	or	or	
	125f	Genetics	5
Zoology	115w	Experimental Zoology	3
Zoology	120f	Embryology of Vertebrates	3

followed by five hours taken from first year medical subjects.

Prospective medical students may also select a major that combines courses in Botany and Zoology, choosing their adviser from either department, as follows: Botany, 1, 3, 100, and 102 or 104 or 106; Zoology, 1 and 3 or 4, and 120f or 105f or 110w or 125f.

Preparatory to Teaching

General Subject	No. of Course	Special Title	Credit Hours
Zoology	1f or w	General Zoology	5
Zoology	2w	Theory of Evolution	2
Zoology	3f	Advanced General Zoology	3
Zoology	4w	Comparative Anatomy of Vertebrates	5
Zoology	5w	Ornithology	2–3
Zoology	120f	Embryology of Vertebrates	3
Zoology	105f	Comparative Histology	3
Zoology	110w or 115w	Parasitology, or	3
		Experimental Zoology	3
Zoology	130f or 135w	Protozoology, or	3
	or 125f	Cytology, or	5
		Genetics	5
Zoology	200f and w	Seminary	2

Prospective high school teachers may select a major which combines courses in Botany and Zoology, with a minor in Education, choosing the adviser in either department as-follows: Botany 1, 3, 10, and 100 or 102 or 104 or 106; Zoology 1 and 3 or 4 or 2 and 5, and 120f or 105f or 110w or 125f.

Course 1 cannot be included in any of the foregoing majors if it is used to meet the freshman-sophomore requirement in biological science. Supporting minors may be arranged in Botany, Geology, Chemistry, Physics, Medical Science, Social Sciences, and the like. Seniors taking the course in General Zoology will receive only four hours' credit. Course Greek 13, Greek for Students of the Sciences is recommended to students of Zoology.

Electives From Other Divisions

Courses in other division are open as electives to students in the College of Arts and Science, and, with the consent of the Dean, the candidate may present them to an amount not exceeding 9 hours in all, as a part of the 124 hours required for graduation. Students who pursue a combined course in the College of Arts and Science and Medicine, or Law, or Engineering, may elect 30 hours in the School of Medicine or the first year in law, or 20 hours in Engineering. The student who pursues a combined course may not elect courses from any division except the College of Arts and Science and the division chosen in taking the combined course.

Teacher's Certificate. Candidates for the A. B. degree who wish a temporary teacher's certificate should consult with the Dean.

Home Economics. With the approval of the major adviser, the chairman of the department of Home Economics, and the dean, candidates for the A. B. degree may elect a special sequence of courses (not to exceed 18 hours) in Foods and Nutrition, or in Household Equipment, or in Textiles, and may count the sequence, as a minor. Students taking one of these sequences are not eligible to any further privilege of election under the nine-hour rule.

Combined Courses

Arts and Science and Engineering. Students who pursue a combined course in Arts and Science and Engineering leading to two degrees may count toward the A. B. degree twenty hours from certain courses in the Engineering curricula. The Dean should be consulted for details.

Arts and Science and Law. Seniors who have taken the Junior year in the College of Arts and Science of the University of Missouri and become candidates for both the degree in Arts and Science and the degree in Law may count toward the A. B. degree work from

the first year in Law to an amount not exceeding 30 hours. Under special circumstances this privilege may be extended to Juniors with the consent of the deans of the College of Arts and Sciences and the School of Law.

Arts and Science and Medicine. Seniors who have taken the Junior year in the College of Arts and Science of the University of Missouri and who become candidates for both the degree in Arts and Science and the degree in Medicine may count toward the A. B. degree 30 hours from the following courses in the medical curriculum: Anatomy (15), Embryology (3), Histology (6), Neuro-Anatomy (4), Bio-chemistry (9), Physiology (10), Pharmacology (5), and Advanced Physiological Chemistry (3-4).

CREDIT FROM THE EXTENSION DIVISION: Credit will be given for work done in the Extension Division, but such credit may not exceed 20 normal credit hours for one calendar year. The last 24 hours of work for the degree must be done in residence.

CREDIT FOR OTHER COURSES: Credit of 1½ hours a semester is given for the practical and theoretical work of the first two years in military science and tactics including practical work in physical training. Credit of 2 hours a semester will also be given for the practical and theoretical work combined for the last two years of the curriculum of the Reserve Officers' Training Corps. The maximum credit, however, for both practical and theoretical work in military science and tactics may not exceed 12 hours.

Credit of 1 hour a semester is given for work in the University chorus and in the University orchestra, but the maximum in either or both subjects shall not exceed 4 hours.

Credit will also be given for work done in any institution of good standing upon the following courses: (1) the Bible as literature, maximum 4 hours; (2) life and literature of the New Testament, maximum 2 hours; (3) Hebrew history, maximum 3 hours (4) psychology of religion, maximum, 3 hours; (5) comparative religions, maximum 2 hours; (6) modern religious thought, maximum 2 hours; (7) Christian ethics, maximum 2 hours; (8) Hebrew language and literature, maximum 11 hours; (9) fundamental moral and religious values, maximum 2 hours; (10) history of the Christian Church, maximum 3 hours; (11) origins of the Christian Church, maximum 3 hours; (12) New Testament Greek, maximum 5 hours (prerequisite, at least two semesters in classical Greek); (13) principles of moral and religious education, max mum 2 hours (14) history of religion in America, maximum 2 hours; (15) elementary syriac, maximum 4 hours; (16) elementary arabic, maximum 4 hours; (17) Assyrian for beginners, maximum 4 hours; (18) introduction to Egyptian, maximum 4 hours; (19) religion of the ancient Hebrews, maximum 2 hours; (20) Post-Exile religion of the Jews, maximum 2 hours; (21) Post Biblical Hebrew, maxi-

mum 4 hours; (22) The Ancient Orient, maximum 3 hours; (23) Geography of Palestine, maximum 2 hours; provided that in the judgment of the Dean of the College of Arts and Science, and of the instructor in charge of the subject most closely related, the work in these courses in the institution giving them is done in a satisfactory manner.[1]

In case any one or more of these courses is taken by a student while he is enrolled as a student in this University, his registration for such courses must meet with the approval of the dean and the instructor or instructors above mentioned, and must be subject to the usual restrictions as to total number of hours' credit registered for in any semester; and the total credit for such courses shall not exceed 14 hours.

COURSES WITHOUT CREDIT FROM OTHER DIVISION: Students may, with the consent of the dean of the college, elect certain courses from other divisions for which credit is not given in the College of Arts and Science.

HONOR-RANK LIST: At the end of each year a "Rank List" will be published containing the names of students in the college who have maintained an average of "M" plus or better in the year's work. The names of seniors who graduate with distinction will also be included.

Special honors will be awarded in rare cases upon recommendation of a committee, by vote of the faculty, to students who by some specific piece of work show unusual scholarly aspirations and attainments. In such cases an appropriate diploma or testimonial will be furnished.

GRADUATION WITH DISTINCTION

Students may receive the degree of Bachelor of Arts with Distinction in the subject in which their major lies, under conditions that vary somewhat in different departments. In most departments the candidate must pass with distinction a special Comprehensive Examination on the entire field of his specialization (major and minor) at the close of his senior year. The object of the examination is to test the candidate's grasp of the subject as a whole. Readings or other assignments are prescribed and the departments advise the candidates either individually or as a group. For work done in preparation for his examination outside his regular courses the candidate may be allowed not to exceed three hours of credit in each semester of his senior year.

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[1]It is understood that the subjects most closely related to the above courses are (1) the Bible as literature, English; (2) history of the Jews, and church history, History; (3) comparative religions; (4) Christian ethics; (7) fundamental moral and religious values, Philosophy; (5) Hebrew language and literature, and New Testament Greek, Greek; (6) social significance of the teachings of Jesus, Sociology.

Those who enter for Distinction but fail to achieve it will be given such grade upon the number of hours for which they have enrolled in the special work as their showing in the special examination justifies.

In the department of mathematics and in the department of geology and geography the requirements for Graduation with Distinction do not include a Comprehensive Examination. In mathematics, the candidate has the privilege of enrolling in the departmental seminary and in the Mathematics Club, and must present two acceptable papers before this club in the course of his senior year. In geology and geography he is required to attend the departmental seminary, to do certain prescribed reading, and to prepare an acceptable paper on a subject approved by the department; and he has the privilege of enrolling in a special honors course restricted to candidates for Distinction. For this work he may receive credit toward graduation to an amount not to exceed two hours in each semester of his senior year.

Students wishing to work for Distinction in any subject should consult their adviser when they make out their major and minor schedule. They may apply for candidacy at the beginning of their junior year; and their candidacy must be approved by the department not later than the third week of their senior year.

RESIDENCE: Students are expected to spend normally eight terms in residence, and no student shall be recommended for the degree who has not spent the equivalent of six terms in the college. Credit will be given, however, for time spent in other institutions of college rank and for work done in the Extension Division. The last twenty-four (24) hours taken by a student in fulfillment of the requirements for graduation, however, must be done in residence. The dean, however, if he consisers it advisable, may permit a student who lacks not more than twelve hours of having completed the requirements for graduation to complete his work in another institution.

For further information regarding the College of Arts and Science, address F. M. TISDEL, DEAN, FACULTY OF ARTS AND SCIENCE, UNIVERSITY OF MISSOURI, COLUMBIA, MISSOURI.

COLLEGE OF AGRICULTURE

The College of Agriculture was established by acts of Congress and by laws enacted by the Missouri General Assembly. The character of the instruction to be given in this College is to some extent specified in the legal enactments providing for its establishment.

The object of this instruction is to train men and women for success in the vocation of agriculture. The College aims to educate farmers, farm managers, fruit growers, grain growers, dairymen, poultrymen, and stockmen. It prepares men for responsible positions as teachers in agricultural colleges, investigators in experiment stations, for extension work in agriculture and home economics, as teachers of vocational agriculture, for service in the United States Department of Agriculture, and for business related to commerce in agricultural commodities.

Endowment of the College

1. *First Morrill Act:* The proceeds from the sale of 275,000 acres of land granted to Missouri by the Act of Congress of July 2, 1862. A part of this land has been sold and the sum invested in State Certificates of Indebtedness yielding 5 per cent interest, and in municipal and drainage district bonds. The sum received annually from this source now amounts to approximately $20,000.00. The Missouri Legislature has by law provided that one-fourth of this amount shall go to the School of Mines and Metallurgy at Rolla.

2. *Second Morrill Act:* An annual appropriation of $25,000 by Act of Congress, approved August 30, 1890. One-sixteenth of this amount is by law appropriated to the Lincoln University at Jefferson City for the education of negro children in agriculture and mechanic arts. One-fourth of the remainder is by law apportioned to the School of Mines and Metallurgy at Rolla.

3. *Nelson Amendment:* An appropriation of $25,000 annually by Act of Congress, approved March 4, 1907. A part of this money may be used for the special preparation of instructors for teaching the elements of agriculture and mechanic arts. This fund is apportioned in the same manner as that of the Second Morrill Act.

4. *Hatch Act:* An act of Congress, approved March 2, 1887, appropriating $15,000 annually to the Agricultural Experiment Station for investigation in agriculture.

5. *Adams Act:* An Act of Congress, approved March 16, 1906, appropriating $15,000 annually to the Agricultural Experiment Station for fundamental research in agriculture and the related sciences.

6. *Smith-Lever Act:* An Act of Congress, approved May 8, 1914, appropriating $156,882.37 annually to Missouri for agricultural extension teaching and demonstration of improved agricultural and home economics practices.

7. *Purnell Act:* An Act of Congress, approved February 24, 1925, appropriating $60,000 to the Agricultural Experiment Station for the year ending June 30, 1935.

8. *Capper-Ketcham Act:* An Act of Congress, approved May 22, 1928, appropriating $36,381.84 annually to Missouri for agricultural extension work under the same general conditions as the Smith-Lever act.

9. *Additional Co-operative Fund:* An Act of Congress, approved June 27, 1930, appropriating annually $34,000 to Missouri for additional co-operative agricultural extension work.

Buildings

Mumford Hall: This building contains approximately 60,000 square feet of floor space, housing in addition to several large classrooms, the agricultural library, the offices of the Dean and Director, the Agricultural Editor, the University Photographer, and the Departments of Animal Husbandry, Soils, Agricultural Economics, and Rural Sociology.

Waters Hall: A two-story stone building housing the Departments of Field Crops, Poultry Husbandry, Agricultural Education, and the Agricultural Extension Service.

Whitten Hall: A two-story stone building containing classrooms, laboratories, offices and preparation rooms for horticulture and entomology.

Dairy Building: A stone building, two stories, with laboratories for farm dairying, testing milk and its products, dairy bacteriology, the University creamery, research, classrooms, and offices.

Schweitzer Hall: A two-story stone building for agricultural chemistry containing the offices and general chemical laboratories of the Agricultural Experiment Station, several large student laboratories, and classrooms. The basement contains storerooms, coolers, and demonstration rooms.

Lefevre Hall: A modern biological laboratory building in which students enrolled in the College of Agricultural receive fundamental training in botany and zoology.

Veterinary Building: The Department of Veterinary Science is housed in a three-story stone building devoted exclusively to investigation and instruction. The building contains laboratories for anatomy, physiology, investigations in contagious and infectious diseases, and operating rooms for clinics.

Gwynn Hall: A two-story building with well lighted basement with classrooms, reading rooms and special laboratories for work in clothing, foods, textiles, applied art, nutrition and research work in the various phases of home economics.

Poultry Building: Several buildings are available for instruction in poultry husbandry. Among them is a student laboratory building. There are also a fifteen-pen laying and breeding house, a large number of portable colony houses, a feed house and houses for experimental work. Over one thousand fowls representing the popular varieties, are available for instructional and experimental purposes.

Agricultural Engineering Buildings: A two-story stone building contains offices, classrooms, drafting room, and field machinery and home equipment laboratory; and a one-story stone building contains the metal and woodworking shops, gas engine and tractor laboratories.

Live Stock Judging Pavilion: This building is 90 by 160 feet, with an arena 50 by 120 feet, and has a seating capacity of 1,500. This structure is well lighted and heated and is provided with locker room and shower baths.

Barns and Shelters: The Department of Animal Husbandry is equipped with a modern horse barn, with a capacity of thirty horses. The first story is of stone work, concrete floors, well lighted and ventilated. The second story furnishes space for feed room and hay storage. A 250-ton stone silo and a steel silo are a part of the equipment of this department. There are two cattle sheds, one 300 feet in length and divided into 15 lots, and the other 100 feet in length with lots for experimental and investigational work. The equipment also includes a modern hog barn with concrete floors and iron pen divisions, a dipping tank, suitable equipment of individual hog shelters, and a sheep barn. A beef cattle barn that houses 100 head of cattle and feed enough to carry them through the winter is available. The dairy barn is modern in every detail, has stanchions for 56 cows, 5 box stalls and calf pens. Three small pens provide space for the herd bulls and experimental heifers. The milk room is modern.

University Serum Farm and Laboratory: A laboratory for the preparation of anti-hog-cholera serum, a barn for hyperimmune hogs with a capacity of 1,000 animals, a virus laboratory and infection pens with several smaller structures are located on a 90-acre farm two miles north of Columbia.

Laboratories

Agricultural Engineering: The agricultural engineering laboratory contains a large assortment of the best modern machinery, including one or more of the principal field and power machines.

For instruction in gas engines and tractors, the laboratory is equipped with twenty stationary and portable gasoline and oil engines, and eight to ten of the latest types of tractors with suitable equipment for testing same. Lighting units are provided for work on farm-lighting systems. Drafting tables are provided to accommodate the men designing farm buildings. The equipment for concrete work includes a complete set of concreting tools, molds for building blocks, forms for fence posts, water troughs and tanks, and tile machines, with small apparatus for testing cement and aggregates. A level and transit with complete set of tools are provided for tile drainage work. Complete sets of small hand tools both for metal working and woodworking, are available for work in farm shop practice. Other farm shop equipment includes forges, anvils, a power drill, a power grinder, and a power saw.

Agricultural Chemistry: The laboratory for undergraduate instruction in agricultural chemistry, and the chemical laboratories of the Agricultural Experiment Station, located in Schweitzer Hall, provide facilities for instruction, and for research in animal nutrition, analysis of fertilizers, foods, feeding stuffs, detection of adulteration and artificial coloring. Opportunity is offered for a study of the provisional and official methods of the Association of Official Agricultural Chemists.

Botany: Laboratories for general physiological and structural botany, and culture rooms for physiological, mycological, and bacteriological work are in Lefevre Hall. They are equipped with compound and dissecting microscopes, microtomes, steam and steam-pressure sterilizers, incubators, balances, precision apparatus, and glassware. The herbarium amply illustrates the local flora.

Dairy Husbandry: Facilities for instruction include a herd of dairy cattle consisting of 120 head representing the four leading dairy breeds, laboratories for the testing of milk and its products, farm dairying and dairy bacteriology. A special feature of the equipment is the University creamery, with equipment for the handling of market milk and the manufacture of butter, ice cream and cheese, with a refrigeration plant and cold-storage facilities.

Entomology: The laboratories and insectary located in Whitten Hall are supplies with microscopes, dissecting instruments, microtomes, breeding cages, aquaria, spraying machines, insecticides and reagents. The museum contains collections of several thousand species of the more injurious and beneficial insects, arranged to illustrate their habits of work and life history.

Horticulture: The horticultural laboratories occupy about 12,000 square feet of forcing space under glass, a laboratory for the propagation of dormant plants, and storage room for cuttings, bulbs,

stocks, and scions. The department also has laboratories for soil examinations and investigation of special horticultural problems regarding plant growth. The out-of-door collection on the horticultural grounds comprises about one thousand varieties of fruits, ornamental shrubs, and trees for a study of planting, pruning, cultivating, and spraying.

Field Crops: The field crop laboratories include a judging and exhibition room for judging, grading, and handling grains, a room for storing demonstration material, and a germinating room.

Soils: Laboratories for investigation and instruction in soil physics, soil bacteriology, and soil fertility are maintained. These are equipped for mechanical and chemical analysis of soils.

LAND: The College of Agriculture owns and operates twelve hundred acres of land, all of which is utlized for instructional and investigational purposes. Each of the Departments of Animal Husbandry, Dairy Husbandry, Entomology, Field Crops, Horticulture, Poultry, Soils and Veterinary Science maintains a considerable area of land as a part of its equipment. The Department of Veterinary Science operates a 90-acre farm three miles from the College exclusively for the manufacture and distribution of anti-hog-cholera serum. The Department of Horticulture has developed an 80-acre fruit farm at Turner Station, six miles from Columbia.

LIVE STOCK EQUIPMENT: The leading breeds of live stock of all classes are maintained. All the live stock is used for instructional or experimental purposes and students have the advantage of knowing how the live stock is bred, how it is cared for and the results that are obtained from it.

A. *Beef Cattle:* A herd of about 25 Herefords, 25 Shorthorns, 15 Aberdeen-Angus, seventy-five per cent of which have been bred by the University of Missouri, is maintained. Fat steers, bred and exhibited by the University, have won many prizes at the Missouri State Fair at Sedalia and the International Live Stock Exposition at Chicago.

B. *Horses:* A stud of 20 head of Percheron horses is maintained. A few American saddle mares and colts are kept. Several pairs of mules, together with the draft horses, perform all the farm work on the University Farm. Eighty per cent of this equipment has been bred on the University Farm.

C. *Hogs:* The Poland-China herd consists of about 15 brood sows with their offspring. The Duroc-Jersey herd is similar in size and quality. Specimens of other breeds are maintained from time to time. A good-sized herd of Duroc-Jerseys is maintained in a special swine-breeding experiment.

D. *Sheep:* A flock of 100 high-class sheep, including Shropshires, Hampshires, Southdowns, and Dorsets, is maintained.

E. *Dairy Herd:* The Dairy Department maintains a herd of about 120 head of the Jersey, Holstein, Guernsey and Ayrshire breeds. Complete milk and butter records are kept on each cow. The student is given instruction in the breeding, feeding, care and management of dairy cattle. Several cows in this herd hold milk and butterfat records which rank them among the best specimens of dairy cattle in America. Some of the outstanding sires of the Jersey and Holstein breeds have been developed in this here.

LIBRARIES: The agricultural library has commodious quarters in Mumford Hall—an attractive reading room, a seminar room and stack room. The library has 19,552 bound volumes besides many unbound volumes. In addition to these, there are 5,000 volumes on agricultural subjects in the general library.

PRACTICAL EXCURSIONS: Visits to successful farms, breeding establishments and to agricultural fairs and expositions are made under the guidance of instructors for the study of special phases of agriculture. The principles taught in the classroom are observed in their application to practical agricultural operations.

ADMISSION

Information concerning the requirements for admission is given on page 45. The requirements for admission to graduate instruction will be found on page 48.

New students generally register at the beginning of the first semester, but may enter the College of Agriculture at the beginning of either semester or the Summer Session.

CURRICULA IN THE COLLEGE OF AGRICULTURE

Detailed description, pages 128 to 137.

In the description of these curricula, a year is understood to mean two semesters.

A. Four-year curriculum in agriculture leading to the degree of Bachelor of Science in Agriculture (B. S. in Agr.).

B. Four-year curriculum for the training of teachers of vocational agriculture, leading to the degree of Bachelor of Science in Agriculture (B. S. in Agr.).

C. Four-year curriculum in Home Economics, leading to the degree of Bachelor of Science in Home Economics (B. S. in H. Ec.).

D. Four-year curriculum in Agricultural Journalism, leading to the degree of Bachelor of Science in Agriculture (in Agricultural Journalism) B. S. in Agr. (in Agr. Jour.).

E. Two-year curriculum in Rural Public Welfare, leading to the degree of Bachelor of Science in Rural Public Welfare.

F. Short courses in Agriculture—see Special Announcements.

SUMMER SESSION: Many of the prescribed subjects and electives indicated in the following curricula are repeated during the Summer Session for the convenience of those students who desire to take them.

REGULATIONS, GRADES AND CREDITS: The general regulations governing grades and credits (see page 96) apply to all courses in this College. Students of exceptional ability may shorten the period of residence by superior scholarship. Students who in any term fall behind in more than 38 per cent of the hours in which they are registered at the end of that term, or who fall more than 8 hours behind the total number of hours for which they have been registered up to that time, will be dropped from the College. The cumulative (8-hour) rule does not apply to work taken during the first term of the freshman year, but the application of the 38 per cent rule in the case of such students shall be at the discretion of the Dean. All students who have been dropped under these rules are permitted to return after one semester.

POINT SYSTEM: Candidates for degrees must complete the same number of points as the number of hours required for the respective degrees. The basis for evaluating points is as follows: Three points for each hour of E grade; two points for S grade; one point for M grade and no points for I or F grades. Advanced standing shall be valued as of M grade.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE

The degree of Bachelor of Science in Agriculture will be awarded to candidates who have satisfactorily completed the required subjects and total number of hours in the respective curricula.

A. FOUR-YEAR CURRICULUM IN AGRICULTURE

All candidates for the degree must complete 85 hours in the subjects listed in Curriculum A, p. 130, 12 hours elected from technical agricultural courses, and 29 hours from any subjects offered in the University of Missouri, or other standard college, making a total of 126 hours.

TECHNICAL AGRICULTURAL ELECTIVES: Agricultural subjects accepted in fulfillment of the twelve hours of technical agricultural electives include all courses below those numbered 200 now being offered in the departments of Agricultural Chemistry, Agricultural Economics, Agricultural Engineering, Animal Husbandry, Dairy Husbandry, Field Crops, Horticulture, Poultry Husbandry, Soils, Veterinary Science, Entomology (with the exception of courses 104, 116, and 117), together with courses 115 and 117 in Rural Sociology and 100 and 102 in Botany.

SPECIAL TRAINING: Students who desire a more specialized training in pure or applied science will be permitted to substitute such subjects for agricultural electives. Substitutions for the technical agricultural requirements are permitted only when the teacher in charge of the major subject of specialization has definitely approved the particular courses which are offered for such substitutions and in every case the special subjects selected must be approved by the Dean.

It is the policy of the faculty to encourage students preparing themselves for college teaching or research to enter the Graduate School for more advanced study in special lines. The required undergraduate curriculum offers an adequate background for graduate students preparing themselves for college teaching and research. Students, who in their last semester need only a few hours to complete the requirements for the B. S. degree and who desire to use the remainder of their time in graduate study, should enroll in both the College of Agriculture and the Graduate School.

CREDITS FROM STANDARD AND JUNIOR COLLEGES

All students are encouraged to enroll as resident students in the College of Agriculture for four years. However, if the student for various reasons desires to enroll in a standard or junior college for two years, he may do so without loss of time by completing the following subjects in such institutions:

	Hours
General Biology or Zoology	3
Botany	3
Bacteriology	3
Geology	3
Physics or Mathematics	5
Chemistry—General Inorganic	5
Chemistry—Organic	3
English	6
Economics	3
Military	6

In addition to the preceding subjects, an additional twenty-nine hours of free elective courses may be submitted and will be accepted for this requirement in Curriculum A. Fourteen hours of free elective courses may be submitted toward the completion of Curriculum B.

Students enrolled in Curriculum A, B, and D who have not completed the required number of hours in Military and Physical Education must make up the deficiency with credits in other subjects.

Curriculum A

Required subjects for the degree in agriculture are listed by years: Freshman, sophomore, junior, and senior. A year is understood to mean the work of two semesters. The normal enrollment in any one semester may not exceed 17½ hours, including Military Science and Tactics, except in the case of very superior students, when an increased enrollment is permitted upon recommendation of the adviser and approval of the Dean. *Students may select the order in which they enroll for the courses listed.* However, the faculty reserves the right to maintain a proper balance of enrollment in the various courses.

Freshman

English 1 must precede English 2. All freshman subjects are offered both semesters.

	hours
English 1, Composition and Rhetoric	3
English 2, Composition and Rhetoric	3
Agricultural Economics 1f or w, Principles of Agricultural Economics	3
Agricultural Engineering 1f or w, Farm Power and Machinery I	3
Animal Husbandry 1f or w, Animal Husbandry	3
Dairy 1f or w, Elements of Dairying	3
Entomology 1f or w, Applied Entomology	3
Field Crops f or w, Field Crops	3
Horticulture 1f or w, General Horticulture	3
Poultry 1f or w, Elementary Poultry Raising	3
Military and Physical Education 1	1½
Military and Physical Education 2	1½
	33

Sophomore

Chemistry 1, or Botany 1, or Zoology 1 may be exchanged with an equivalent number of hours in agricultural subjects listed in the freshman year, providing, however, that Botany 1 is completed before enrollment in Zoology 1.

	hours
Botany 1f, General Botany	3
Chemistry 1f or w, General Inorganic Chemistry	5
Chemistry 15f or w, Elementary Organic Chemistry	3
Geology 2f or w, Physical Geology	3
Rural Sociology 95f, Rural Sociology	3
Soils 1f or w, Soils	5
Veterinary Science 1f or w, General Veterinary Science	3
Zoology 1w, General Zoology	3
Military and Physical Education 3	1½
Military and Physical Education 4	1½
	31

Junior

	hours
Agricultural Chemistry 101f Agricultural Chemistry	5
Animal Husbandry 100f, Animal Nutrition	3
Animal Husbandry 101w, Animal Breeding or Horticulture 115w, Evolution of Horticultural Plants or Field Crops 101w, Field Crop Improvement	3
Field Crops 100w, Field Crop Management	2
Botany, 3f, Bacteriology	3
Physics 1w, Elementary College Physics or Mathematics 8w, General Mathematics	5
Elective	11
	32

Senior

30 hours, all elective.

Electives listed in the junior and senior years consist of 12 hours of technical agricultural electives as outlined and 29 hours of free elective. The term "free elective" means any subject for which University credit is recorded. This gives students in the College of Agriculture opportunity to broaden their training by election of subjects in other fields than agriculture.

WOMEN STUDENTS: In the above curriculum women students must substitute Physical Training for Military Science and Tactics, and may make the following substitutions: Home Economics 121 for Animal Husbandry 100, Physiology 100 for Veterinary Science 1. Any Home Economics course may be substituted for all or a part of the required twelve hours of technical agricultural electives.

B. FOUR-YEAR CURRICULUM FOR TRAINING TEACHERS OF VOCATIONAL AGRICULTURE

The Federa' Board for Vocational Education has designated the College of Agriculture as the approved institution in Missouri to prepare teachers of vocational agriculture for the secondary schools of this State. It is the purpose of this course to give a thoroughly practical training in agriculture and in education, including methods of teaching and practice teaching. A special department of agricultural education is maintained to insure the successful training of men for this important work. The curriculum offered by this institution has the approval of the State and Federal Boards of Vocational Education and complies fully with the provisions of the Federal Vocational Education Act (Smith-Hughes).

Requirements for the Degree, Bachelor of Science in Agriculture: All candidates preparing to teach vocational agriculture in high schools are required to complete 126 hours of University work, including military science and physical education. Each student

is required to complete in a satisfactory manner the prescribed courses printed in the Curriculum B, and in addition to elect 14 hours. Students who intend to teach must have had two years of continuous and satisfactory farm experience.

Curriculum B

Freshmen

The schedule for Freshmen is the same as that shown in Curriculum A.

Sophomore

	Hours
Chemistry, 1f or w, General Inorganic Chemistry	5
Botany 1f, General Botany	3
Veterinary Science, 1f or w, General Veterinary Science	3
Rural Sociology, 95f, Rural Sociology	3
Military and Physical Education	1½
	15½
Geology, 2f or w, Physical Geology	3
Chemistry, 15f or w, Elementary Organic Chemistry	3
Physics, 1w, Elementary Physics or Mathematics, 8w	5
Agricultural Education, F100w, Foundations of Vocational Agriculture	3
Military and Physical Education	1½
	15½

Junior

	Hours
Field Crops, 100f, Field Crop Management	2
Animal Husbandry, 100f, Animal Nutrition	3
Soi s, 1f, Soils	5
Botany, 3f, Bacteriology	3
Education, A102f, Educational Psychology	3
	16
Agricultural Engineering, 10w, Farm Shop	3
Agricultural Economics, 110w, Farm Management	3
Zoology, 6w, Agricultural Zoology	3
Animal Husbandry, 101w, Animal Breeding, or Horticulture, 115w, Eval. of Hort. Plants, or Field Crops, 101w, Field Crops Improvement	3
Agricultural Education, F105w, Special Methods in Teaching Vocational Agriculture	3
	15

Senior

	Hours
Agricultural Engineering Elective	3
Education, D140f, H. S. Administration for Teachers	2
Electives	11
	16
Agricultural Chemistry, 101w, Agricultural Chemistry	5
Agricultural Education, F156w, Student Teaching in Vocational Agriculture	3
Agricultural Education, F120w, Community Educational Activities	2
Agricultural Education, F107w, Supervised Farm Practice in Vocational Agriculture	2
Electives	3
	15

C. The Four-Year Curriculum in Home Economics

The following curriculum in Home Economics is offered to meet the needs of special groups preparing for home-making, hospital dietitians, laboratory research workers in foods and nutrition or textiles, textiles and clothing specialists, and extension workers.

The freshman and sophomore requirements are the same in the various groups. A total of 122 hours is required. Freshman and sophomore required Home Economics courses are 1, 10, 15, 16, 20, 50, 51.

Curriculum C

Freshman

Fall Term:	*Hours*
English, 1f, Composition and Rhetoric	3
Chemistry, 1 or 2, Inorganic Chemistry	5
Physical Training	½
Home Economics (chosen from groups 1, 2, 3, or 5 on page 134)	4 or 5
Electives	3 or 2
	15½
Winter Term:	
English, 2w, Composition and Rhetoric	3
Botany 1, or Zoology 1	5
Physical Training	½
Home Economics (chosen from the groups of courses listed on page 134). See Home Economics Department for sequence	4 or 5
Electives	3 or 2
	15½

Sophomore

Fall Term:	*Hours*
Chemistry, 15, Organic Chemistry	3
Botany, 3, General Bacteriology	3
Physical Training	½
Home Economics (chosen from the groups of courses listed below). See Home Economics Department for sequence	4 or 5
Sociology 1, General Sociology	5
	15½ or 16½

Winter Term:	
Education, A102, Educational Psychology	3
Physiology, 100, Elementary Physiology	5
Physical Training	½
Home Economics (chosen from the groups of courses listed below). See Home Economics Department for sequence	3
Economics 1, General Economics	5
	16½

GROUPS OF HOME ECONOMICS COURSES TO BE TAKEN DURING FRESHMAN AND SOPHOMORE YEARS.

			Hours
Group 1	H. E. 1f or w	Food and Nutrition	5
Group 2	H. E. 10f or w	Home Problems	2
	H. E. 20f or w	Home Nursing and Health	2
Group 3	H. E. 15f	Design	2
	H. E. 50f	Textiles and Clothing	3
Group 4	H. E. 16w	Design	2
	H. E. 51w	Textiles and Clothing	3
Group 5	H. E. 10f	Home Problems	2
	H. E. 15f	Design	2
Group 6	H. E. 16w	Design	2
	H. E. 50w	Textiles and Clothing	3
Group 7	H. E. 51f	Textiles and Clothing	3
	H. E. 20f	Home Nursing and Health	2

In the junior and senior years students must select one of the following groups and complete all of the subjects listed in that group:

Students before planning a schedule for the junior and senior years must consult the Home Economics Department in order that proper sequence of courses may be followed.

(1) *General Home Economics Course:*

Courses: Home Economics 110, 115, 117, 120, 121, 122, 145, 150, 160; Physics 1; free electives, 27 hours. (Electives in Literature, History, Sociology, Economics, Journalism, Art, Music and Psychology are recommended.)

(2) *Hospital Dietitian's Course:*

Courses: Home Economics 115, 117, 120, 121, 122, 123, 124, 160, 170; Physics 1; Chemistry 25; Physiology 103; Bio-Chemistry 111; free electives, 17 hours. (Electives in Science and Economics are recommended.)

(3) *Course for Laboratory Research in Foods and Nutrition:*

Courses: Home Economics 115, 117, 120, 121, 122, 160; Chemistry 25, 110; Bio-chemistry 111; Physics 1; Physiology 103; free electives, 19 hours. (Electives in Economics, Statistics, Sociology, Mathematics and Science are recommended.)

(4) *Course for Laboratory Research in Clothing and Textiles:*

Courses: Home Economics 115, 117, 145, 150, 152, 155, 160; Physics 1; Chemistry 25 and 110; free electives, 24 hours. (Electives in Physical Chemistry, Statistics, Advertising and Art are recommended.)

(5) *Course for Clothing and Art Specialists:*

Courses: Home Economics 110, 111, 115, 117, 145, 146, 150, 152, 160; Physics 1; Art 5 hours; French 1; History 1, 106; free elective to total 122 hours. (Electives in History, Economics, Art, and Advertising are recommended.)

(6) *Course for Extension Workers:*

Courses: Home Economics 110, 115, 117, 120, 121, 122, 145, 150, 160; Physics 1; Rural Sociology 117, 191; free electives, 21 hours. (Electives in Sociology, Agricultural Economics, Journalism, Poultry Husbandry, Public Speaking, and Physical Education are recommended.)

Suggested Supplementary Courses

The following are suggested as desirable elective courses for students in Home Economics:

Art 104, 105, Applied Art 50, Botany 100, Chemistry 25, 130, History of Art 111, 112, 113, 115, Economics 17, Education F116, English 3, 60, 6, 75, Greek 10, History 1, 106, 110, 155, 180, Home Economics 111, 123, 124, 146, 152, 155, 170, Horticulture 1, Journalism 102, 170, Medical Bacteriology 101, Philosophy 112, Physical Education 54, Physics 1, Physiology 100, 101, 103, 111, Political Science 1, Poultry Husbandry 2, Psychology 1, Rural Sociology 117, 190, 191, Sociology 112, 113, 114.

D. Four-Year Curriculum in Agricultural Journalism

The College of Agriculture, co-operating with the School of Journalism, offers a four-year course in agricultural journalism. The purpose of this course is to train men and women for successful service in the field of agricultural journalism. An effort is made to give to the student a broad foundation in the subject of agriculture, and a knowledge of the principles and practices of journalism, with particular emphasis on agricultural journalism.

The degree of Bachelor of Science in Agriculture (in Agricultural Journalism) will be given to students registered in the College

of Agriculture who complete all of the requirements in the curriculum and electives to make a total of 126 hours.

The University of Missouri offers exceptional facilities for such training because of the high standards of instruction in its School of Journalism and the excellent facilities for agricultural training in the College of Agriculture.

The School of Journalism offers a similar course leading to the degree of Bachelor of Journalism. See Announcement, School of Journalism.

Curriculum D

Four-Year Curriculum in Agricultural Journalism

Freshmen and Sophomores

Freshmen and sophomores take the courses shown in the Curriculum A on page 130, excepting that Journalism 100 and 101 must be substituted for 6 hours in the sophomore year; the subjects so replaced must be taken later.

Juniors and Seniors

Junior and senior requirements are as follows: Animal Husbandry 100; Chemistry 15; Field Crops 100; Animal Husbandry 101, Field Crops 101, or Horticulture 115; Journalism 102, 103, 110, 111, 120, 123, 170, 171, 172. Free electives, 21 hours.

Curriculum E

E. Two-Year Curriculum in Rural Public Welfare

This curriculum is designed to afford professional training in the various fields of public welfare as carried on in towns of under ten thousand population and in the open country, including such positions as county superintendent of public welfare, boys' and girls' club agent, family welfare and child welfare executives, visiting teacher, probation officer, boy scout and campfire executives, public health nurses, Red Cross secretaries, and psychiatric social workers.

Requirements for Admission: The requirements for admission to this curriculum, as a regular student, are the satisfactory completion of (1) a four years' high school course, or its equivalent, (2) the first four semesters' work or 60 hours' credit, together with no less than 60 points (exclusive of the regular work in physical training and military science) in the College of Arts and Science in the University of Missouri or the equivalent, and (3) the approval of the chairman of the Department of Rural Sociology. In addition to this, introductory courses in Sociology, Preventive Medicine, Psychology, and Economics or American Government are required as prerequisites. Those who have not completed these courses will be required to take them as a part of the 60 hours required for the degree.

Requirements for the Degree: During the junior and senior years, the student must complete 60 hours of work as outlined below. The eighteen hours of electives may be so chosen from the various departments within the University as to meet the vocational needs of the individual student with the approval of the chairman of the Department of Rural Sociology.

PRACTICE WORK: Four hundred clock hours or six semester hours of practice work are required for graduation. Arrangements have been made with a number of city and county institutions and agencies with which students may pursue practice work in their particular fields under proper supervision.

Curriculum E

	Hours
Sociology, 110, Social Pathology	3
Sociology, 112, Child Welfare	3
Sociology, 114, Family	3
Home Economics, 30, Foods in Relation to Health	3
Psychology, 122, Abnormal Psychology	3
Rural Sociology, 115, Rural Sociology	3
Rural Sociology, 117, Community Organization	3
Rural Sociology, 130, Social Case Work I	3
Rural Sociology, 135, Family Case Practice	6
Rural Sociology, 140, Social Case Work II	2
Rural Sociology, 190, Leadership	3
Rural Sociology 191, Psychiatric Social Work	2
Rural Sociology, 193, Administration of Public Welfare	3
Rural Sociology, 194, Social Legislation	2
Vocational Courses	10
Elective Courses	8
Total	60

GRADUATE WORK: Students who can pursue at least one year of graduate study are advised to elect a general course during their undergraduate work and then enter the Graduate School for their specialization.

F. SHORT COURSES IN AGRICULTURE

Each year a number of Short Courses are offered by the College of Agriculture in response to demands for instruction in certain phases of agriculture. Special announcements are published for these courses.

FARMERS' WEEK SHORT COURSE

Each year the College of Agriculture offers a one-week short course for the farmers of the State.

ADDITIONAL INFORMATION

Further information regarding any of the curricula offered by the College of Agriculture may be secured by writing the DEAN'S OFFICE, COLLEGE OF AGRICULTURE, UNIVERSITY OF MISSOURI, COLUMBIA, MISSOURI.

AGRICULTURAL EXPERIMENT STATION

STATION STAFF

WALTER WILLIAMS, LL. D. ..... President
FREDERICK A. MIDDLEBUSH, Ph. D. ..... Acting President
F. B. MUMFORD, M. S. D. Agr. ..... Director
S. B. SHIRKY, A. M. ..... Assistant to the Director
MISS ELLA PAHMEIER ..... Secretary

Agricultural Chemistry:
A. G. HOGAN, Ph. D.
L. D. HAIGH, Ph. D.
E. W. COWAN, A. M.
LUTHER W. RICHARDSON, Ph. D.
U. S. ASHWORTH, Ph. D.
S. R. JOHNSON, M. S.

Agricultural Economics:
O. R. JOHNSON, A. M.
F. L. THOMSEN, Ph. D.
C. H. HAMMAR, Ph. D.
B. H. FRAME, A. M.

Agricultural Engineering:
J. C. WOOLEY, M. S. in A. E.
M. M. JONES, M. S. in A. E.
G. W. GILES, B. S. in A. E.

Animal Husbandry:
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L. A. WEAVER, B. S.
A. G. HOGAN, Ph. D.
F. B. MUMFORD, M. S. D. Agr.
F. F. McKENZIE, Ph. D.
*J. E. COMFORT, A. M.
H. C. MOFFETT, A. M.
S. R. JOHNSON, A. M.
C. E. TERRILL, B. S.
A. J. DYER, B. S. in Agr.

Botany and Pathology:
W. J. ROBBINS, Ph. D.
C. M. TUCKER, Ph. D.

Dairy Husbandry:
A. C. RAGSDALE, M. S.
WM. H. E. REID, A. M.
SAMUEL BRODY, Ph. D.
C. W. TURNER, Ph. D.
E. R. GARRISON, A. M.
HARRY A. HERMAN, A. M.
WARREN C. HALL, A. M.
R. C. PROCTOR, B. S. in E.
E. P. REINEKE, B. S.
E. T. GOMEZ, A. M.

Entomology:
LEONARD HASEMAN, Ph. D.
T. E. BIRKETT, A. M.

Field Crops:
W. C. ETHERIDGE, Ph. D.
*C. A. HELM, A. M.
*L. J. STADLER, Ph. D.
*B. M. KING, A. M.
*E. MARION BROWN, A. M.
*MISS CLARA FUHR, M. S.

Home Economics:
MABEL V. CAMPBELL, A. M.
JESSIE ALICE CLINE, A. M.
ADELLA EPPEL GINTER, M. S.
HELEN BERESFORD, B. S.
BERTHA BISBEY, Ph. D.
JESSIE V. COLES, Ph. D.
BERTHA K. WHIPPLE, Ph. D.

Horticulture:
T. J. TALBERT, A. M.
H. G. SWARTWOUT, A. M.
A. E. MURNEEK, Ph. D.
C. G. VINSON, Ph. D.
FRANK HORSFALL, JR., A. M.
R. A. SCHROEDER, B. S. in Agr.
GEORGE E. SMITH, B. S. in Agr.

Poultry Husbandry:

H. L. KEMPSTER, M. S.
E. M. FUNK, A. M.

Rural Sociology:

E. L. MORGAN, Ph. D.
L. G. BROWN, Ph. D.

Soils:

M. F. MILLER, M. S.
H. H. KRUSEKOPF, A. M.
W. A. ALBRECHT, Ph. D.
**HANS JENNY, D. Sc.
L. D. BAVER, Ph. D.
H. F. WINTERKORN, Ph. D.

Veterinary Science:

A. J. DURANT, A. M., D. V. M.
CECIL ELDER, A. M., D. V. M.
J. W. CONNAWAY, D. V. M., M. D.
ANDREW UREN, D. V. N.
O. S. CRISLER, D. V. M.
HAROLD C. MCDOUGLE, A. M.
P. L. PIERCY, D. V. M.

Others:

R. B. PRICE, B. L., Treasurer
LESLIE COWAN, B. S., Sec'y of University
A. A. JEFFREY, A. B. Agr. Editor
J. F. BARHAM, Photographer
LEON WAUGHTAL, Assistant Photographer
JANE FRODSHAM, Librarian

*In cooperative service with the U. S. Dept. of Agri.
**On leave.

GENERAL STATEMENT

This Station was established by the Act of Congress of 1887, and by the acts of the General Assembly of Missouri accepting its provisions. By an order of the Board of Curators of the University it was made a division of the College of Agriculture.

The special function of the Agricultural Experiment Station is to conduct original research in the various branches of agriculture. At this time investigations are in progress relating to the maintenance of soil fertility, the renovation of wornout soil, rotation of crops, the adaptability of new plants to Missouri's soil and climate; the most economical methods of beef and pork production; dairying; animal diseases, their prevention or cure; animal and plant breeding; the propagation, selection, breeding and improvement of fruits and vegetables; tests of varieties of orchard and small fruits; insect pests and fungous diseases. In addition to these experiments conducted on the College grounds the Station is making soil and crop tests on the principal soil types of the State. Preliminary to these tests and fundamental to all permanent improvements in the system of cropping and soil management, the Agricultural Experiment Station has made a systematic survey of the soils of the State, outlining and studying each type in detail. A reconnaissance survey of the entire State has been completed, as well as a detailed and final survey of 58 individual counties.

The results of all these investigations are published in the form of bulletins and annual reports, which are distributed free to all who make a request for them. Requests for Experiment Station publications should be made to F. B. MUMFORD, DIRECTOR OF THE AGRICULTURAL EXPERIMENT STATION, COLUMBIA, MISSOURI.

AGRICULTURAL EXTENSION SERVICE

STAFF MEMBERS

A. With Headquarters at the University—

1. Administrative and Supervisory Officers

WALTER WILLIAMS, LL. D. ..... President of the University
F. B. MUMFORD, M. S., D. Agr. ..... Dean of the College of Agriculture
R. R. THOMASSON, B. S. in Agr.
Assistant Director in Charge of the Agricultural Extension Service
J. W. BURCH, B. S. in Agr., M. A. ..... Ass't Director, Agr. Ext. Service
*J. F. NICHOLSON, B. S., M. S. ..... State Extension Agent
C. C. HEARNE, B. S. in Agr., M. S. ..... State Extension Agent
J. ROSS FLEETWOOD, B. S. in Agr., M. S. ..... State Extension Agent
F. E. Rogers, B. S. in Agr. ..... State Extension Agent
DAVID MEEKER, B. S. in Agr. ..... State Extension Agent
J. D. MONIN, JR., B. S. in Agr. ..... State Extension Agent
ESSIE M. HEYLE, Ph. B., A. M. ..... In Charge Home Economics Extension

2. Subject-Matter Specialists

AGRICULTURE

Agricultural Economics:
D. C. WOOD, B. S., A. M.
D. B. IBACH, B. S. in Agr., M. S. in Agr.

Agricultural Engineering:
G. E. MARTIN, B. S. in Agr. Engineering

Animal Husbandry:
T. A. EWING, B. S. in Agr.

Horticulture:
W. R. MARTIN, JR., B. S. in Agr.
J. W. C. ANDERSON, B. S., M. A.

Dairy Husbandry:
M. J. REGAN, B. S., A. M.
J. E. CROSBY, JR., M. A., B. S. in Agr.

Veterinary:
PAUL PIERCY, D. V. M. (half-time)

Field Crops:
I. P. TROTTER, M. S., B. A., B. S. in Agr.
**C. A. HELM, B. S. in Agr., M. A. (half-time)

Poultry Husbandry:
BERLEY WINTON, B. S. in Agr., A. M.

Soils:
O. T. COLEMAN, B. S. in Agr.

Entomology:
GEO. D. JONES, B. S. in Agr.

HOME ECONOMICS

Clothing:
MARY E. ROBINSON, B. S. in H. E., M. A.

Nutrition:
FLORA L. CARL, B. S., M. A.
**ELIZABETH RANDLE, B. S., M. S.

Home Management:
IDA FRA CLARK, B. S., A. M.
JULIA M. ROCHEFORD

*On leave.
**Temporary appointee.

3. Boys' and Girls' Club Agents

THEODORE T. MARTIN, A. B.
JANE HINOTE, B. S.
R. H. EMBERSON, B. S. in Ed.

4. Other Staff Members

A. A. JEFFREY, A. B. ..... Agricultural Editor
L. R. GRINSTEAD, B. J. ..... Assistant Agricultural Editor
J. R. JORDAN ..... Accountant

B. With Headquarters away from the University—

1. County Extension Agents

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M. D. AMBURGEY, B. S. in Agr., A. M.
ROBERT B. BAKER, B. S. in Agr.
PAUL BEBERMEYER, B. S. in Agr., M. S.
N. H. BENNING, B. S. in Agr.
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ROY I. COPLEN, B. S. in Agr.
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E. T. ITSCHNER, B. S. in Agr.
WM. J. KEEGAN, B. S. in Agr.
C. C. KELLER, B. S. in Agr.
A. W. KLEMME, B. S. Agr., M. S.
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OSCAR MEIER, B. S. in Agr.
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L. J. WORMINGTON, B. S. in Agr.
N. D. WRINKLE, B. S. in Agr.
R. L. FURRY, B. S. in Agr.
PAUL M. BERNARD, B. S. in Agr., M. A.
FRANK B. VEATCH, B. S. in Agr.

*On leave.

Emergency County Agents

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Arnold Barber, B. S. in Agr.
G. M. Barnhart, B. S. in Agr.
Rolla A. Baugher
D. E. Bellairs, B. S. in Agr.
Thos. A. Blacklock, B. S. in Agr.
Leslie B. Broom, B. S. in Agr.
R. Q. Brown, B. S. in Agr.
John Burkeholder, B. S. in Agr.
C. W. Campbell, B. S. in Agr.
J. B. Carmichael, B. S.
H. G. Crawford, B. S. in Agr.
L. W. Doran, B. S. in Agr.
V. M. Emmert, B. S. in Agr.
John N. Falloon, B. S. in Agr.
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V. L. Gregg, B. S. in Agr.
J. C. Halasey, B. S.
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B. K. Miller, B. S. in Agr.
C. E. Neff, B. S. in Agr., M. A.
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Harold Slusher, B. S. in Agr.
Geo. Penn Smith, Jr., B. S. in Agr., A. B.
H. B. Steele, B. S. in Agr.
Nolan A. Walker, B. S. in Agr.
F. P. Ward, B. S. in Agr.
R. L. Barrett, B. S. in Agr., A. M. (3 cos.)
Ted L. Joule, B. S. in Agr. (2 cos.)
J. C. Caldwell, B. S. in Agr.
John W. Woodward, B. S. (2 cos.)
Carl Durtschi, B. S. in Agr. (2 cos.)

Assistant Agents

[illegible] M. Baldwin, B. S. in Agr.
Dorris Dudley Brown, B. S. in Agr.
Miller Carpenter, B. S. in Agr.
Malcolm Clough, B. S. in Agr.
E. S. Goodrich, B. S. in Agr.
H. W. Guengerich, B. S.
Albert Hagan, B. S. in Agr.
Hensley Hall, B. S. in Agr.
Vance Henry, B. S. in Agr.
Harold Lemar, B. S
Russell Lander, B. S. in Agr.
Glen E. Mutti, B. S. in Agr.
Jamie Naggs, B. S. in Agr.
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Fred C. Richmond, B. S. in Agr.
Paul M. Vandiver, B. S. in Agr.
Merle E. Vaughan, B. S. in Agr., M. A.
Leonard Voss, B. S. in Agr.
L. F. Wainscott, B. S. in Agr., A. M.

3. County Home Economics Agents

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Freida Mae Bennett, B. S. in Ed.
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Ruth Foster, B. S. in Ed., M. A.
Elsie I. Jarrell, B. S.
Mary Esther Loughead, B. S., M. A.
Nina Olive McCracken, B. S. in Ed.
Cecile Manikowske, B. S. in Agr., M. S.
Mary Mabel McMahon, B. S. in Agr.
Mrs. Claire L. Montgomery, B. S. in H. E.
Ruth Muhleman, B. S. in H. E.
Margaret Nelson
Anne Sillers, B S.
Elizabeth Stockard, B. S. in Ed.
Margaret Huston Tuller, A. B.

General Statement

The Agricultural Extension Service was established by the Board of Curators of the University, June 8, 1914. Approximately one-half of its support comes from Federal funds allotted to the State under the terms of the Smith-Lever Act of Congress, approved May 8, 1914, and later supplementary acts of Congress. The balance of the financial support accruing to this Service is derived from State and county appropriations supplemented by funds contributed by various organizations, principally the County Farm Bureaus of the State.

The Agricultural Extension Service is a teaching branch of the University. It is organized and administered for the specific purpose of giving information in subjects relating to agriculture and home economics to persons who are not resident at the University. It teaches both adults and young people—the latter through the agency of the Boys' and Girls' 4-H clubs.

Instruction is given mainly by the use of demonstrations established on farms and in farm homes. Local organizations and local leadership are utilized to the fullest extent possible to the end that people may be taught in groups corresponding in a way to classes on the campus. Large use is made of printed circulars.

All lines of instruction are organized on a project basis. Extension instruction is based mainly upon county and community programs of work. These programs, in turn, are based upon the conscious needs of counties and communities for instruction in agriculture and home economics of immediate local significance.

The regular extension projects of the College of Agriculture include:

1. *Boys' and Girls' 4-H Club Work.*—This project provides the personnel and general "set-up" for the giving of instruction to boys and girls between the ages of 10 and 20 years. These young people are organized into groups called "clubs." Each club has its adult local leader and its own officers. The lines of instruction given to club members are indicated by the following listing of clubs: Market Pig, Purebred Gilt, Sow and Litter, Baby Beef, Beef Calf, Purebred Heifer, Ewe and Lamb, Fat Lamb, Stock Judging, Dairy Calf I, Dairy Calf II, Dairy Calf III, Cow Testing, Health and Sanitation, Terracing, Cow and Calf Club, Bee Club, Corn Club I, Corn Club II, Grain Judging, Cotton, Soybean, Grain Sorghum Growing, Garment Making I, Garment Making II, Garment Making III, Baking, Canning I, Canning II, Hot Lunch, Supper, Health and First Aid, Young Housekeepers, More Attractive Homes, Potato, Sweet Potato, Tomato, Poultry I—Baby Chick, Poultry II—Flock Management, Poultry III—Poultry Breeding.

2. *County Agent Work.*—Under this project provision is made for the placing of extension representatives of the College of Agri-

culture in single counties or in group of counties. Plans for the financing and supervision of county and district agents are outlined in the project.

3. *County Home Demonstration Work.*—This project is similar to the preceding. It provides for the placing of home economics representatives of the College in counties where satisfactory working arrangements can be made.

4. *Extension Work in Clothing.*—Provides for the giving of instruction in the selection, construction and renovation of wearing apparel.

5. *Home Management.*—Provides instruction in matters that have to do with the efficient household, with considerable attention to making homes more restful, livable and attractive, both inside and out.

6. *Nutrition.*—Provides instruction in all phases of human nutrition for both adults and children.

7. *Health and Household Sanitation.*—As its name implies, this project provides for the giving of instruction to rural people in matters affecting the health of individuals and communities.

8. *Agricultural Economics.*—Provides instruction in various phases of agricultural economics with special emphasis on the marketing of farm products and the financing of farm enterprises. The farm management phase of this project provides instruction in farm organization, farm accounting and the application of business practices to the operation of the farm as a unit.

9. *Agricultural Engineering.*—Provides the means of giving instruction on practical and efficient methods and practice in problems relating to engineering phases of farming.

10. *Extension Work in Soils and Field Crops.*—Provides for the giving of instruction in the wide range of problems relating to soil maintenance and improvement as well as the production of field crops common to Missouri.

11. *Extension Work in Animal Husbandry.*—Provides instruction in the breeding, feeding and management of cattle, horses-sheep and swine.

12. *Extension Work in Dairy Husbandry.*—Provides for the giving of instruction in the specialized dairy field. This project deals with all phases of dairy production and gives considerable attention to dairy manufactures.

13. *Extension Work in Poultry Husbandry.*—Provides instruction in the breeding, feeding and management of the poultry flock and the care of poultry products.

14. *Extension in Horticulture.*—This project provides for the giving of instruction in all lines of orcharding, small-fruit production, and truck farming.

15. *Rural Sociology.*—Provides instruction in community organization for community betterment in the open country.

16. *Soil Erosion Control.*—Provides instruction on all problems relating to the control of loss of soil from the effects of erosion.

17. *Farmers' Week.*—Under this project an annual short course of four days' duration for farmers is held at the University.

18. *State 4-H Club Roundup.*—As a means of developing leadership in connection with the conduct of Boys' and Girls' 4-H Club work an annual gathering of club leaders and outstanding club members is held at the College. The meeting lasts four days. It is known as State 4-H Club Roundup.

19. *Publications.*—The College of Agriculture issues extension circulars, leaflets, and posters dealing with all phases of agriculture and home economics. These publications are furnished without cost to residents of Missouri making personal request for them.

20. *Administration.*—This project provides the administrative organization necessary to the conduct of the extension activities of the College.

For information concerning any of the foregoing projects of the Extension Service of the College of Agriculture, write to R. R. THOMASSON, ASST. DIRECTOR IN CHARGE, AGRICULTURAL EXTENSION SERVICE, COLUMBIA, MISSOURI.

SCHOOL OF BUSINESS AND PUBLIC ADMINISTRATION

In January, 1914, the Board of Curators of the University of Missouri established the School of Commerce as a division of the University. Three years later the scope of the school was enlarged and its title was changed to that of Business and Public Administration.

It is the aim of this school to equip students with a thorough knowledge of the general principles of business and public administration and to furnish them with training for the special fields of commerce and social and public service.

The School of Business and Public Administration is a professional school with general ideals and standards similar to those of the schools of Law, Medicine, Education and Journalism. In common with these schools, it requires for admission two years of college work.

Upon entering the school, the student has his choice among the following seven curricula, each embracing four semesters of work:

I. Accounting and Statistics.
II. Banking, Finance and Investments.
III. Manufacturing and Commerce.
IV. Industrial Relations and Personnel Management.
V. Government Service.
VI. Foreign Service.
VII. Social Service.

In each of these curricula emphasis is placed upon the importance of fundamental subjects as essential preparation for professional work. The special requirements of these curricula are indicated below.

The School of Business and Public Administration has been furnished quarters in the old Law Building on the West Campus of the University. Laboratory equipment is provided for the classes in elementary and advanced accounting and statistics.

A municipal reference bureau, maintained as a part of the Extension Division of this University, affords an opportunity for bringing students into contact with problems in public administration.

Field work in community organization is available within close proximity to the University and is required of students in the curriculum in social service. It has been organized in communities actually at work in the development of their own affairs.

Requirements for Admission

The requirements for admission to the School of Business and Public Administration as a regular student are the satisfactory completion of (1) a four-years' high school course, or its equivalent,

and (2) the first four semesters' work, or 60 hours' credit (exclusive of the required work in physical training and military science) in the College of Arts and Science of the University of Missouri or its equivalent. Before entering this school students should complete the equivalent of the courses in the College of Arts and Science in General Economics and American Government. Those who intend to take curriculum I, II, III or IV should complete, in addition to the above requirements, at least 3 hours of college mathematics. Students contemplating entering curriculum I or II should take the course mathematics 55 before entering the School, if possible. General Sociology should be taken by students in Curriculum IV, V, or VII and Preventive Medicine for Curriculum IV or VII. It is recommended that students entering Curriculum V take 3 hours of college mathematics, and students entering Curriculum VI take History 3, The Modern World, and History 8, American History.

All students who are candidates for a degree must be admitted as regular students. In addition, persons more than 21 years old, with proper qualifications, may be admitted as special students and permitted to take certain subjects without meeting the regular requirements for admission. For the general regulations applying to special students, see page 51.

Full information relating to admission will be found on page 46. All communications regarding entrance should be addressed to the Registrar, University of Missouri, Columbia.

Requirements for Graduation

In order to receive a degree the student must have completed the 60 hours of college credit required for admission and 60 hours of credit for work included in one of the curricula in the School of Business and Public Administration. He must also have completed a total of 120 points. In making these points the student must secure, in the course, required in his curriculum, four-fifths as many points as hours required. Each hour of credit in this school is valued in points as follows: E, 3 points; S, 2 points; M, 1 point. "Passed" grades and "Advanced standing" are treated as of M grade. No points are given for I and F grades.

The degree of Bachelor of Science in Business Administration will be conferred upon those students who complete the curriculum in accounting and statistics; banking, finance, and investments; manufacturing and commerce; or industrial relations and personnel management.

The degree of Bachelor of Science in Public Administration will be conferred upon those students who complete the curriculum in government service; foreign service; or social service.

Honor-Rank List.—The faculty recently has decided to publish an annual list of students in the school making grades distinctly above average.

CURRICULA.—Seven curricula are offered for the purpose of guiding students in their preparation for special fields of Administration. In order to meet the needs and purposes of a particular student, modifications of any of the curricula may be made with the consent of the Dean.

It is assumed that students who enter any of the curricula have completed college courses in General Economics and American Government. Those who have not done this will be required to take these courses as part of the 60 hours required for the degree. The same is true of 3 hours of college mathematics for curricula I, II, III and IV; the course in General Sociology for curricula IV, V, and VII; and the course in Preventive Medicine for curricula IV and VII.

I. CURRICULUM IN ACCOUNTING AND STATISTICS

For students preparing for the public practice of accounting or for the various types of accounting and statistical work connected with corporate business enterprises.

General Subject	No. of Course	Special Title	Credit Hours
Accounting and Statistics	17f or w	Elementary Accounting	5
Accounting and Statistics	107f or w	Elementary Statistics	3
Accounting and Statistics	108w	Business Statistics	3
Accounting and Statistics	117f or w	Intermediate Accounting	4
Accounting and Statistics	121f	Industrial Accounting	2
Accounting and Statistics	128f	Managerial Accounts and Statistics	3
Economics and Finance	105f or w	Money, Credit and Banking	5
Economics and Finance	118w	Corporation Finance	3
Economics and Finance	122f or w	Investment	3
Selected from list below, at least			15
Elective			14
Total			60

Suggested Elections:

General Subject	No. of Course	Special Title	Credit Hours
Accounting and Statistics	109f	Correlation	2
Accounting and Statistics	120w	Problems in Accounting Practice	3
Accounting and Statistics	127w	Advanced Statistics	3
Accounting and Statistics	134f	Auditing	3
Accounting and Statistics	138f	Mercantile Organization and Credits	3
Accounting and Statistics	190f	Business Cycles, Forecasting, and Stabilization	3
Economics and Finance	119f or w	Economic Control	3
Economics and Finance	150f or w	Business Law	3
Mathematics	4f or w	Analytic Geometry	5
Mathematics	5f or w	Differential Calculus	5
Mathematics	55f or w	Mathematics of Finance	3
Mathematics	100f or w	Integral Calculus	5

II. Curriculum in Banking, Finance and Investments

For students expecting to do administrative or research work in commercial or investment banks, brokerage houses, investment trusts, or the financial divisions of the government.

General Subject	No. of Course	Special Title	Credit Hours
Accounting and Statistics	17f or w	Elementary Accounting	5
Economics and Finance	105f or w	Money, Credit and Banking	5
Accounting and Statistics	107f or w	Elementary Statistics	3
Economics and Finance	115w	Public Revenues	3
Accounting and Statistics	117f or w	Intermediate Accounting	4
Economics and Finance	118w	Corporation Finance	3
Economics and Finance	119f or w	Economic Control	3
Economics and Finance	122f or w	Investment	3
Economics and Finance	124f	Foreign Exchange	2
Economics and Finance	130f	Banking Systems	3
Economics and Finance	150f or w	Business Law	3
Mathematics	55f or w	Mathematics of Finance	3
Selected from list below, minimum of			5
Elective			15
Total			60

Suggested Elections:

General Subject	No. of Course	Special Title	Credit Hours
Economics and Finance	106f or w	Transportation and Public Utilities	3
Economics and Finance	221w	International Finance	2
Accounting and Statistics	108w	Business Statistics	3
Accounting and Statistics	190w	Business Cycles, Forecasting, and Stabilization	3

III. Curriculum in Manufacturing and Commerce

For students who desire a general course in business administration.

General Subject	No. of Course	Special Title	Credit Hours
Accounting and Statistics	17f or w	Elementary Accounting	5
Economics and Finance	105f or w	Money, Credit and Banking	5
Economics and Finance	106f or w	Transportation and Public Utilities	3
Economics and Finance	110f	The Labor Market	3
Economics and Finance	111w	Trade Unionism	3
Economics and Finance	118w	Corporation Finance	3
Economics and Finance	119f or w	Economic Control	3
Economics and Finance	150f or w	Business Law	3
*Electives to be chosen from courses listed below			15
Elective			17
Total			60

**Suggested Elections:*

General Subject	No. of Course	Special Title	Credit Hours
Accounting and Statistics	107f or w	Elementary Statistics	3
Accounting and Statistics	117f or w	Intermediate Accounting	4
Accounting and Statistics	121f	Industrial Accounting	2
Accounting and Statistics	128f	Managerial Accounts and Statistics	3
Accounting and Statistics	138f	Mercantile Organization and Credits	3
Economics and Finance	136w	Personnel Management	3
Economics and Finance	137f	Principles of Business Management	3
Geography	125f or w	Advanced Economic Geography	3

IV. Curriculum in Industrial Relations and Personnel Management

For students who desire to prepare for positions in the labor management divisions of manufacturing or commercial enterprises.

General Subject	No. of Course	Special Title	Credit Hours
Accounting and Statistics	17f or w	Elementary Accounting	5
Economics and Finance	105f or w	Money, Credit and Banking	5
Accounting and Statistics	107f or w	Elementary Statistics	3
Economics and Finance	110f	The Labor Market	3
Economics and Finance	111w	Trade Unionism	3
Economics and Finance	136w	Personnel Management	3
Economics and Finance	137f	Principles of Business Management	3
Sociology	110f or w	Social Pathology	3
Psychology	1f or w	General Psychology	3
Psychology	2w	Applied Psychology	3
Psychology	122f or w	Abnormal Psychology	3
*Elective			23
Total			60

*The elective work in this curriculum should include two of the following courses:

Accounting and Statistics	138f	Mercantile Organization and Credits	3 hours
Economics and Finance	118w	Corporation Finance	3 hours
Sociology	113w	Constructive Social Policies	2 hours

V. Curriculum in Government Service

For students who wish to qualify for positions with national, state, or municipal governmental departments, governmental research agencies, and private firms engaged in governmental work. The curriculum aims to train students in the fundamentals of our system of government, to provide them with a thorough knowledge of the more important phases of public administration, and to equip them with specialized training in government finance, accounting, or statistics.

General Subject	No. of Course	Special Title	Credit Hours
Political Science	100w	European Governments	5
Political Science	101f	Local Rural Government	3

V—Continued.

General Subject	No. of Course	Special Title	Credit Hours
Political Science	106f	Municipal Government and Administration	5
Political Science	108w	State Administration	3
Political Science	112f	National Administration	3
Political Science	120w	The American Constitution	3
Political Science	203f	Principles and Problems of Public Administration	3
Accounting and Statistics	17f or w	Elementary Accounting	5
Economics and Finance	106f or w	Transportation and Public Utilities	3
Economics and Finance	115w	Public Revenues	3
Economics and Finance	119f or w	Economic Control	3
Economics and Finance	150f or w	Business Law	3
Elective			18
Total			60

VI. Curriculum in Foreign Service

For students interested in qualifying for the diplomatic or consular service, for the work of commercial attachés in the Department of Commerce, or for employment in the foreign departments of private business corporations. The curriculum aims to provide both the cultural background and the specialized training that such employment demands.

General Subject	No. of Course	Special Title	Credit Hours
Political Science	100w	European Governments	5
Political Science	104w	Colonial Government	3
Political Science	109f	International Law	3
Political Science	115w	Administration of American Foreign Relations	2
History	106f or w	Contemporary Europe	3
History	110f or w	Recent United States History	3
History	168w	Diplomatic History of Europe, 1871-1930	3
History	190f	American Diplomatic History	3
History	218w	Recent Diplomatic Problems	2
Accounting and Statistics	17f or w	Elementary Accounting	5
Economics and Finance	105f or w	Money, Credit and Banking	5
Economics and Finance	124f	Foreign Exchange	2
Economics and Finance	150f or w	Business Law	3
Geography	125f or w	Advanced Economic Geography	3
Elective			15
Total			60

Note—Students who complete the Foreign Service Curriculum must have credit for fifteen semester hours in one foreign language or its equivalent.

VII. Curriculum in Social Service

For students who are preparing for urban social work, religious education, visiting teacher, city or county superintendent of public welfare, or secretary of young men or young women Christian associations. Special groups of vocational courses have been arranged for each of these classes of work.

General Subject	No. of Course	Special Title	Credit Hours
Sociology	110f or w	Social Pathology	3
Sociology	111f or w	Criminology	3
Sociology	113w	Constructive Social Policies	2
Sociology	114w	The Family	3
Sociology	116f	Urban Sociology	3
Sociology	222f	Methods of Social Research	3
Rural Sociology	117f	Community Organization	3
Rural Sociology	120f	History of Social Work	2
Rural Sociology	131f or w	Social Case Work I	3
Rural Sociology	135f or w	Family Case Practice	6
Rural Sociology	140w	Social Case Work II	2
Rural Sociology	190f	Leadership	3
Psychology	1f or w	General Psychology	3
Psychology	125f	Social Psychology	3
Elective			18
Total			60

Note—Students in this curriculum are advised to meet the Field Work requirement by spending eight weeks, preferably during the summer, between the Junior and Senior years, under supervision of the director in an urban social agency.

Elective Courses: The elective part of the curricula may be taken in any division of the University. It is expected that the subjects elected will be related to the curriculum of the student and will tend to make him more efficient in his special field. All elections must be made with the advice and approval of the Dean.

No student may take more than 16 hours a week for credit.

Fees: For information regarding fees, see pages 63 to 70.

For explanation of the numbering of courses, credit, etc., see Sec. III.

For further information regarding the School of Business and Public Administration, address Frederick A. Middlebush, Dean, Faculty of Business and Public Administration, University of Missouri, Columbia, Missouri.

SCHOOL OF EDUCATION

The School of Education exists for the purpose of giving professional training to men and women who expect to make teaching, school supervision or school administration a career. Its purposes are based on the belief that teaching, helping teachers through supervision and providing the administration organization under which teachers and supervisors may work most effectively, are fields requiring expert technical service. It is the object of the School of Education to furnish the training for this sort of service.

Among the types of positions now being held by students graduating from the School of Education since 1905 are the following: Elementary School teachers, Junior High School teachers, Senior High School teachers, College teachers, County Superintendents of Schools, Junior High School principals, Senior High School principals, Elementary School principals, City School superintendents, Directors of Bureaus of Research, College Deans, School Psychologists, teachers of Special Classes, State Superintendents of Public Schools and College Presidents

The growth of the School of Education at this, as at other universities, is the result of a demand on the part of the school authorities for teachers who, in addition to being thoroughly equipped with knowledge, know how to utilize this knowledge in the training which the schools must give. To make this utilization of knowledge in the training of children, the teacher, supervisor or superintendent must have at least three things besides a knowledge of subject-matter:

1. Knowledge and appreciation of the part that education has played and must in the future play in the survival and progress of mankind.
2. Thorough acquaintance with the known facts about human mentality, how it develops, and the conditions which are conducive to its greatest efficiency.
3. Knowledge of and training in the use of those techniques in the various fields of school work, which scientific study and the best experience have found to be the most effective.

Preparation for teaching, supervision, or school administration embodying these three lines of work, represents one of the highest types of professional training and offers to those whose abilities and interests lead them to undertake it, opportunities for a career that will challenge the best they have to give to the world.

TYPES OF UNDERGRADUATE TRAINING: While there are certain fundamental lines of training that all teachers and educational workers should have, the complexity of school work and the many types of training offered make it necessary to have groups of courses designed to train people for definite kinds of educational work. These groups of courses are shown below together with the name of the adviser for each curriculum.

		Adviser	*Room*
1.	High School Teachers	See page 160.	
2.	Elementary School Teachers	Mr. Phillips	Univ. El. Sch.
3.	Teachers of Industrial Arts	Mr. Selvidge	111A Eng.
4.	Teachers and Supervisors of Art	Mr. Hudson	409 Jesse
5.	Teachers and Supervisors of Music	Mr. Sleeper	201 Lathrop
6.	Teachers of Physical Training (men)	Mr. Edwards	Rothwell Gym.
7.	Teachers of Physical Training (women)	Miss McKee	Women's Gym.
8.	Teachers of Vocational Home Economics	Miss Irons	8 Gwynn
9.	Teachers of Vocational Agriculture	Mr. Dickinson	122 Waters

Students planning to specialize for one of the fields of school work listed above should, as soon as possible after entrance to the School of Education, consult the proper adviser and fill out a subject of specialization card containing a list of all subjects to be taken for the degree. This card may be secured in room 101 Jesse Hall.

FACILITIES FOR OBSERVATION, DEMONSTRATION, AND PRACTICE TEACHING: The School of Education has for practice, demonstration, and experimental purposes two schools illustrating all grades of instruction in the public schools. The University Elementary School includes the kindergarten and grades one to six. The University Junior-Senior High School includes grades seven to twelve. In addition to the opportunities for practice teaching and observation in the University schools, the University co-operates with the Columbia school board in providing facilities for practice teaching in a number of subjects and with the school board of Boonville in providing practice teaching in Vocational Agriculture and Vocational Home Economics and the school boards of Salisbury and Eldon in providing practice teaching facilities in Vocational Agriculture.

SCHOLARSHIPS IN EDUCATION: In addition to the regular University fellowships, scholarships and prizes described, two special scholarships are available to students in the School of Education: the S. H. Ford Scholarship and the Peabody Scholarship in Education, described elsewhere.

REQUIREMENTS FOR ADMISSION: The requirements for admission to the School of Education are the satisfactory completion of

1. A four-year high school course or its equivalent, and
2. Sixty semester hours of credit which may be accepted toward the degree of B. S. in Education.

Subjects and Fields of Specialization

For the degree of B. S. in Education the student must complete the requirements in one of the following groups:

High School Teachers: A total of at least 20 hours in education, including 3 hours of educational psychology, 3 hours of history of education, 3 hours of technique of teaching in high school, 2 hours of high school administration for teachers, 2 hours of preventive medicine, 2 hours in the teaching of the subject of specialization, and 5 hours of practice teaching.

He must have in at least one of the subjects of specialization given not less than the minimum requirement of University credit as specified. If he enters with advanced standing he must complete at least one course with not less than 3 hours' credit in his subject of specialization under the advice of the adviser in that subject.

He must demonstrate to the satisfaction of the faculty his ability to teach successfully by practice teaching in the high school maintained for this purpose, excepting that a student who furnishes satisfactory evidence of successful experience as a teacher may have such experience accepted in partial or total fulfillment of this requirement. No advanced standing, however, is given for teaching experience gained as a teacher receiving a salary.

Elementary School Teachers: A total of 25 hours in education, including 3 hours of educational psychology, 3 hours of elementary school organization and management, 2 hours of preventive medicine, 6 hours as assistant teacher in the University Elementary School, 2 hours of elementary school music methods, 3 hours of history of education, 3 hours of diagnostic testing and remedial teaching, and 3 hours of technique of teaching in elementary schools. (See suggested curriculum.)

Teachers of Industrial Arts: A total of 20 hours in education, including 3 hours of educational psychology, 3 hours of history of education, 3 hours of technique of teaching in high school, 2 hours of the teaching of industrial arts, 2 hours of preventive medicine, 2 hours of high school administration for teachers and 5 hours of practice teaching. (See suggested curriculum.)

Teachers and Supervisors of Art: A total of 20 hours in education, including 3 hours of educational psychology, 3 hours of history of education, 3 hours of technique of teaching in elementary or high school, 2 hours of either high school administration for teachers or elementary school organization and management, 2 hours of teaching of art, 2 hours of preventive medicine, and 5 hours of practice teaching.

Women Teachers of Physical Education: A total of 20 hours in education, including 3 hours of educational psychology, 3 hours of

history of education, 3 hours of technique of teaching in high school, 2 hours of preventive medicine, 2 hours of high school administration for teachers, or elementary school organization and management, 2 hours of the teaching of gymnastics and 6 hours of practice teaching.

Men Teachers of Physical Education: A total of 20 hours in education, including 3 hours of educational psychology, 3 hours of history of education, 3 hours of technique of teaching in high school, 2 hours of preventive medicine, 2 hours of high school administration for teachers, or elementary school organization and management, 2 hours of the teaching of physical education, and 5 hours of practice teaching.

Teachers and Supervisors of Music: A total of 20 hours in education, including 3 hours of educational psychology, 3 hours of history of education, 3 hours of technique of teaching in either elementary or high school, 2 hours of preventive medicine, 3 hours of public school music methods, 2 hours of high school administration for teachers, and 6 hours of practice teaching. (See suggested curriculum.)

Teachers of Vocational Home Economics: For the four-year course leading to the degree of B. S. in Education with a life certificate in vocational home economics, see the special four-year curriculum for the training of teachers of vocational home economics in the University catalog.

Vocational Agriculture: See suggested curriculum under Agriculture.

Recommendations of Teachers

Graduates and students of the School of Education are placed in desirable positions through the Committee on Recommendations. During the past year teachers were placed in positions as teachers in elementary schools, high schools, teachers colleges, and universities, and as supervisors, principals, and superintendents.

The Committee serves as a ready and complete source of reference for all who are enrolled. A complete set of data and references is sent to school authorities upon request, thus saving the inconvenience and uncertainty of giving individual references each time one makes application for a position.

Students and teachers should register with the Committee as early as March in order that a complete file of recommendations may be secured and so that the Committee may nominate them for positions as soon as they are available. All data are strictly confidential and for the mutual benefit of the teacher and those employing her.

An enrollment fee of two dollars is charged, which partially covers the cost of postage and correspondence. No other fee is charged by the Committee.

All correspondence with regard to the placement of teachers should be addressed to: COMMITTEE ON RECOMMENDATIONS, UNIVERSITY OF MISSOURI, COLUMBIA, MISSOURI.

REGULATIONS AND REQUIREMENTS

SUGGESTIONS REGARDING PREPARATION FOR ADMISSION: Students desiring to specialize in home economics, physical training, music, art or industrial art, English and social studies should take elementary courses in these subjects during the freshman and sophomore years in the College of Arts and Science although credit toward the Bachelor of Arts degree may not be given for all of these courses. All students desiring to enter the School of Education at the opening of the Junior year should study the various programs of specialization carefully in planning the work of the Freshman and Sophomore years.

As soon as a student has determined upon the subject or field of work in which he wishes to specialize for a teacher's certificate, he should consult the adviser in that field or subject, in order that the most advantageous courses may be selected. The selection of a subject or field of specialization must in any case be made and a list of the courses to be completed filed with the Dean when the student enters the School of Education. For a list of advisers, see page 160.)

SPECIAL STUDENTS: All students who are candidates for certificates to teach or for the degree must be admitted as regular students of the School of Education.

In addition to these, persons with proper qualifications who wish, without reference to the degree or life certificate, to make a serious study of some special phase of education or to gain a knowledge of fields they have hitherto neglected, e. g., theory and practice of art, industrial arts, music, physical education, agriculture, may be admitted as special students. Such students are subject to the general rules of the University regarding special students.

HOURS TO BE CARRIED: Students are permitted to carry not more than 16 credit hours each semester or eight hours during a summer session.

RESIDENCE REQUIREMENTS: A student must spend his senior year in the University of Missouri in order to obtain the degree of B. S. in Education. Students entering with advanced standing must take at least three courses in education to fulfill the requirements for the degree, and must take at least one course with not less than three hours' credit in the subject of specialization if a candidate for the life certificate. Work done in the Summer Session at Rolla will be counted as work in residence.

ELECTIVE WORK: In general, any study in the University which will tend to make the candidate for the degree a more efficient teacher or specialist in the study of education may be elected, but he will not be permitted to elect studies at random.

SEQUENCE OF COURSES IN EDUCATION: The sequence of courses (except as outlined in Special Curricula) in education should be as follows:

1. *Educational Psychology* (Education A102) should be taken during the first term of the first year in the School of Education. With the consent of the instructor, students in other schools and colleges may be admitted to this course during the last term of the sophomore year.
2. *History of Education* (Education B125) should be taken during either term of the first year.
3. *Technique of Teaching in High School* (Education D110) should be taken during either term of the first year, provided the student has had course A102 Educational Psychology.
4. *The course in the methods of teaching the subject in which the student specializes for the life certificate* should be taken during the first term of the second year. Prerequisite A102.
5. *Practice Teaching* should be taken either term of the second year.
6. *High School Administration for Teachers* (Education D140) should be taken during either term of the second year. Prerequisite A102.

Preventive Medicine (preventive medicine course 1), required at present in place of school hygiene, may be taken at any convenient time.

DEGREES AND CERTIFICATES: The School of Education confers only one degree, Bachelor of Science in Education (B. S. in Ed.).

The School of Education is authorized by the Legislature of Missouri to confer certificates, valid for life, or for two years, according to the preparation of the candidates, upon persons who, in the judgment of the faculty, are considered qualified to teach in the public schools of the State. For requirement, see below:

REQUIREMENTS FOR GRADUATION WITH THE DEGREE OF BACHELOR OF SCIENCE: In order to secure the degree of Bachelor of Science in Education (B. S. in Ed.), the candidate must fulfill the following requirements:

1. He must be regularly admitted to the School of Education.
2. He must complete the professional courses in education listed in one of the groups under the caption "Subjects and Fields of Specialization," and also complete other work approved by the adviser in conformity with the corresponding suggested curriculum.
3. He must in his junior year pass a test of proficiency in English, excepting that a student whose English is found to be unsatisfactory will be given a further test at the beginning of his senior year. No student will be recommended for graduation until his English is satisfactory.
4. He must complete a total of sixty hours.

5. He must complete a total of 120 points of college work, including the 60 hours' work required for admission to the School of Education and the 60 hours' work required in the School of Education. Each hour of credit is valued in point as follows: E, 3 points; S, 2 points, M, 1 point. No points are given for the I and F grades. "Passed" grades and advanced standing are treated as of M grades.

6. He must be recommended by the faculty of the School of Education.

REQUIREMENTS FOR A LIFE CERTIFICATE TO TEACH: Students granted the degree B. S. in Education will be granted a life certificate to teach in the public schools of Missouri. The requirements for the certificate and degree are identical.

REQUIREMENT FOR TWO YEARS' CERTIFICATE TO TEACH: Upon the completion of not less than 30 hours' work, including 3 hours of educational psychology, 3 hours of technique of teaching, 6 hours of elective work in education, and three-fourths of the minimum requirement in one of the subjects of specialization for a life certificate to teach, a certificate valid for two years may be granted to candidates regularly enrolled in the School of Education. This certificate will not be renewed. The 30 hours in the School of Education and the 60 hours in the College of Arts and Science, which are necessary for entrance to the School of Education, make a total of 90 hours of college work necessary for the two-years' certificate to teach. Students entering with advanced standing are not eligible to this certificate if they have not completed at least 20 hours of work in the University of Missouri.

SPECIALIZATION AND ADVISERS

Teachers pursuing special curricula should consult the advisers listed below. These advisers will assist the student in making out a subject of specialization card which, when approved by the Dean, will constitute the work required for the degree and life certificate. In all cases the required professional education courses listed under the field of specialization must be taken. High school teachers are required to have a major in one and a minor in another of the subjects of specialization listed as follows:

MAJOR AND MINOR REQUIREMENTS FOR HIGH SCHOOL TEACHERS

Subject	*Minimum Requirement for Major*	*Minimum Requirement for Minor*	*Adviser*	*Room No. of Adviser*
Agriculture	(a)	22	Mr. Dickinson	122 Waters
Art	(a)	20	Mr. Hudson	410 Jesse
Biology	24	15	Mr. Curtis	110 Lefevre
Chemistry	24	15	Mr. Schlundt	110 N. Chemistry
English[1]	29	18	Mr. Moffett	209 Jesse
French	24	15	Mr. Trombly	205 Jesse
Geography	24	15	Mr. Bratton	102 Swallow
General Science	40[2]	30[3]	Mr. Watkins	105 Univ. H. S.
German	24	15	Mr. Almstedt	309 Jesse
Home Economics	(a)	22	Miss Irons	8 Gwynn
Latin	24	15	Miss Cauthorn	211 Jesse
Mathematics	24	15	Mr. Westfall	208 Eng.
Music	(a)	20	Mr. Sleeper	201 Lathrop
Physical Education	(a)	20[4]	Mr. Edwards Miss McKee	Rothwell Gym. Women's Gym.
Physics	24	15	Mr. Stewart	104 Physics
Physiology and Hygiene	24	15	Mr. Greene	107 McAlester
Social Studies[1]	40	30	Mr. Ellis	316 Jesse
Spanish	24	15	Mr. Warshaw	312 Jesse

(a) For Major requirement, see special curriculum.

[1]See description of majors on succeeding pages.

[2]Ten hours physics, ten hours chemistry, ten hours biological science, preferably divided between botany and zoology. Five hours should be added to the ten hours in at least two of these fields.

[3]Fifteen hours biological science, ten hours physics, five hours chemistry.

[4]State Department requirements for the approval of physical education demand 24 hours in that field including a total of 10 hours in anatomy, physiology, and hygiene.

SELECTION OF MAJORS AND MINORS

Students are required to have an academic minor as well as a major. Exception is made for students enrolling in specialized curricula such as physical education, vocational home economics, music, art, etc.

In all the first-class high schools of Missouri, excepting those of the three largest cities, more than fifty per cent of the teachers teach two or more subjects. In first-class high schools in towns having a population of 2,500 or less, approximately 52 per cent of the teachers teach two subjects and 16 per cent teach three or more. Studies made in other states show similarly that high school teachers except in certain highly specialized fields must be prepared to teach in at least two academic groups of subjects. Where students plan from the beginning of their college work to become junior or senior high school teachers it is possible to arrange two

teaching minors in addition to a major subject. Where possible this is a desirable thing to do, because it enables the student to fit into more teaching situations and thus increases the opportunities for employment after graduation.

Importance of Choosing Proper Majors and Minors

Other things being equal, it would seem to be reasonable that students should major and minor in those subjects which make the strongest appeal to their interests. There are, however, certain modifications of this principle which should be very seriously considered by the student who is beginning his professional preparation for high school teaching. In the first place the facts are, for students in general, that those who do well in one subject are likely to do well in all others. It seems to be true that likes and dislikes of various subjects depend to a very great extent on prejudices formed on account of the personalities of teachers or the methods used in the early study of a given subject or because of some imaginary special ability in some one field of study.

The matter of personal likes and dislikes of various subjects should be considered in the light of the extent to which any given subject is studied in the high schools of Missouri and the subjects that commonly go together in the programs of Missouri high school teachers. In Missouri what subject is most frequently taught in combination with English? What subject is most frequently taught in combination with Latin, mathematics, science, etc.? A study of several years ago reveals the great variety of teaching combinations which occur in the high schools of the State. The most frequent combinations are as indicated in the accompanying table. Owing to the great changes made in our high schools within the last two years, this table should be used only as a most general guide.

Teaching Combinations in Missouri High Schools

	Minor Subjects		
Major Subject	*First in Frequency*	*Second in Frequency*	*Third in Frequency*
English	Social Studies	Latin	Home Economics
Social Studies	English	Mathematics	Physical Ed.
Mathematics	Science	Social Studies	Latin
Science	Mathematics	Physical Ed	Soc. Studies
Physical Ed	Social Studies	Science	Mathematics
Agriculture	Mathematics	Social Studies	Science
Latin	English	Mathematics	Social Studies
Home Economics	English	Social Studies	
Commercial	Mathematics	Social Studies	
Music	English	Social Studies	Drawing
Teacher-Training	Social Studies	English	
Manual Training	Physical Education	Agriculture	Science
French	English	Latin	Social Studies
Spanish	English	Social Studies	Latin

These combinations were determined from a tabulation of the teaching programs of more than 2,400 Missouri high school teachers outside the cities of Kansas City, St. Louis and St. Joseph. They show that the social studies are most frequently taught in combination with English, that Latin is next, and home economics the third most frequent combination with English. In the same manner the most frequent combinations that go with other subjects are shown.

To assist superintendents and high school principals so as to secure the best teaching combinations, the following are suggested as most feasible especially in small high schools:

1. English and languages.
2. Social studies.
3. Mathematics and science.

Desirable Training for High School Activities

In choosing high school teachers, principals and superintendents are always anxious to find candidates who are able to handle extra-curricular activities or who have developed some particular ability which will contribute to the life of the high school. From the point of view of getting a position and becoming indispensable after one has been secured, such specialized abilities as those which enable teachers to direct glee clubs, coach athletic teams, coach debating teams, manage student publications, and sponsor high school clubs of various kinds are extremely important. There are many opportunities at the University for securing training and experience in these fields. It is strongly recommended that prospective high school teachers take advantage of them.

Special Undergraduate Curricula in Education

The special curricula which follow have been worked out for the guidance of students who wish to prepare for definite lines of work. The curriculum in vocational home economics is a required one but the others are headed "suggested" with only the professional education courses definitely fixed. All students planning to specialize in the fields for which curricula are suggested, are required, on entering the School of Education to work out with their respective advisers a complete list of all courses to be taken for the degree. This list must be filed with the Dean of the School of Education.

SUGGESTED CURRICULUM FOR TEACHERS IN ELEMENTARY SCHOOLS, INCLUDING THE KINDERGARTEN

Junior Year

First Semester	*Hours*	*Second Semester*	*Hours*
[1]Educational Psychology, A102	3	[1]Technique of Teaching in Elementary Schools E121	3
[1]Elementary School Organization and Management E120	3	[1]Preventive Medicine	2
Art	5	Handwork, F119 or F121	3
[1]Elementary School Music Methods[2]	2	Sociology	5
Elective	3	Elective	3
	16		16

[2]Prerequisite: The ability to sing simple songs and the equivalent of courses 5 and 6, Dictation and Ear-training, in the School of Fine Arts.

Senior Year

First Semester	*Hours*	*Second Semester*	*Hours*
[1]History of Education, B125	3	[1]Assistant in Elementary School, E151	3
[1]Diagnostic Testing and Remedial Teaching, A140	3	Plays and Games	2
[1]Assistant in Elementary School, E151	3	Elective (Science and History)	6
Elective (Literature)	2–4	Elective	5
Elective	4–2		
	15		16

[1]Required education courses.

For those students who desire to specialize in Kindergarten the following electives are appropriate:

E122 Child Study
E123 Kindergarten Methods and Management
E125 Primary Materials and Methods in Reading
E129 Technique of Handling the Problem Child
E166 Problems of Teaching Literature in the Grades
20 Home Nursing and Health
160 Home Care and Training of Children

Students completing the Elementary and Kindergarten curriculum will be required to have a minor of at least 15 semester hours.

Suggested Curriculum for Teachers of Industrial Arts

Junior Year

First Semester	*Hours*	*Second Semester*	*Hours*
Woodwork, F10f	2	Shop Work for Junior High School, F1	2
Tools and Materials, F5f	2	Pattern Making	2
Mechanical Drawing	3	Introduction to Art	5
[1]Educational Psychology, A102	3	[1]Princ. of Trade and Indus. Teach., F194	3
[1]History of Education, B125	3	[1]Technique of High School Teaching, D110	3
Elective	2	Elective	1
	15		16

Senior Year

First Semester	*Hours*	*Second Semester*	*Hours*
Metal Work, F2	2	[1]High School Administration for Teachers, D140	2
[1]Administration of Industrial Education, F196	2	Machine Work, F4w	2
[1]Student Teaching, D150	5	[1]Educational Guidance, D221	2
[1]Preventive Medicine	2	Elective	10
Elective	5		
	16		16

Suggested Curriculum for Teachers and Supervisors of Art

With Minor in English, Modern Language, or Social Studies.

The equivalent of the Freshman-Sophomore curriculum given by the College of Fine Arts (see page 209) is required for admission into the Junior year of the curriculum given as follows:

Junior Year

First Semester	*Hours*	*Second Semester*	*Hours*
Minor Subject	4	[1]Technique of Elementary, E121, or High School Teaching, D110	3
[1]Educational Psychology, A102	3	[1]Teaching of Art, D103	3
[1]History of Education, B125	3	Composition II	2
Drawing, 88	4	Weaving	2
Bookbinding	2	Painting, 77, or Minor Subject	4
		History of Art	2
	16		16

[1]Required education courses.

Senior Year

First Semester	*Hours*	*Second Semester*	*Hours*
Minor Subject	2	Minor Subject	3
[1]Student Teaching, D150	5	Composition III	2
[1]Elementary School Organization and Management, E120, or High School Administration, D140	2	Artcraft IV	2
		Intermediate Handwork, F121	3
		Supervision and Criticism, F140	2
Primary Handwork, F119	3	Pottery or Minor Subject	2
Drawing 88 or Design 70	4	Elective or Minor Subject	2
	16		16

Note: If Preventive Medicine was not taken in the Sophomore year it must be completed during the Junior or Senior year.

If English is carried as a minor, care should be taken that the total number of hours in English is at least eighteen. If a Social Studies minor is planned, a total of thirty hours must be presented in this field. If Modern Languages constitute the minor, at least fifteen hours in some one language must be presented. Minors must be planned with the help of minor advisers.

ART COURSES: It is a distinct advantage to the student to elect the three fundamental courses—Introduction to Art, Representation, and Design—as a part of his Freshman and Sophomore work.

It will be greatly to the student's advantage to elect courses in as many of the following subjects as possible during the first two years of college work:

	Hours		*Hours*
English Literature	5	Psychology	4–6
Social Science	5–10	French	10
Biological Science	3–5	Mathematics	3
Chemistry	5	Physics	5

This curriculum will be adjusted to the needs of the individual student as much as possible. The better the high school or junior college preparation the more liberty there will be in junior and senior electives.

MAJORS AND MINORS IN ENGLISH

Students wishing to make their major in English are advised to take in their Freshman year, besides the required composition courses (English 1 and 2), which are not counted toward a major or minor, the course in Masterpieces (English 5 or 6).

In the Sophomore year they should take English 30 and 40 (English Life and Literature), prerequisites to upper-class courses in English literature, the course in Public Speaking (75f or 75w), and the course in Oral Interpretation of Literature (74f or 74w).

The major in English is twenty-nine hours, and must include at least one course in advanced composition (50 or 60), the course in Public Speaking (75), one course in the English Language (119 or 120), one course in English literature before the eighteenth century, and one course in later literature (after 1660). Upon the basis of these requirements majors will be built up under the direction of the adviser for the department to meet the needs of different students. At least twelve of the hours must be made up of upperclass courses. With the required courses here specified there will be six hours of free electives.

A minor in English requires, besides the Life and Literature course (30f and 40w) or its equivalent, the four basic courses of the major (in advanced composition, the English language, and the earlier and later literature), and the course in Oral Interpretation of Literature (74f or 75w).

Majors and Minors in General Science

Students wishing to make a major in general science should take ten hours in physics, ten hours in chemistry, and ten hours in biological science, preferably distributed between botany and zoology or human physiology. In addition students should add a minimum of at least five hours to each of two of these fields. Such students will be qualified to teach, under present regulations, general science and the two other sciences in which a minimum of fifteen hours has been attained.

Students wishing to make a minor in general science should take fifteen hours in biological sciences, ten hours in physics and five hours in chemistry. Such students, under present regulations, will be qualified to teach general science and biology. An additional five hours in physics will qualify these students to teach general science, biology, and physics.

There are almost no positions for teachers of single sciences in Missouri high schools. Teachers of science must be qualified to teach all of the natural sciences commonly offered in the high schools. The large majority of Missouri high schools offer general science. The other sciences commonly offered are general biology, physics, and chemistry. Physiology and hygiene are frequently offered. These courses are sometimes taught by science teachers and sometimes by physical education teachers.

At the present time high school teachers of science must have five hours of biology, five hours of physics, and five hours of chemistry, and a minimum of fifteen hours in each special science taught.

Teachers approved for small first-class high schools should be qualified to teach both science and mathematics.

Requirements for High School Teachers of Speech

Any prospective teacher of English who wishes to qualify as a teacher of Speech (speech training, oral interpretation, dramatics, public speaking, and debating) must meet the definite requirements of the State Department of Education. He must, therefore, complete all of the requirements for the English major as stated above and in addition to courses 73, 74 and 75, which constitute an introduction to the three phases of speech, at least one course from each of the following groups:

I. Public Speaking

105f Argumentation ..... 3 hours
106w Debating ..... 3 hours
114w Public Address ..... 3 hours

II. Dramatics

107f and
108w Dramatic Interpretation ..... 3 or 6 hours
109w Stagecraft and Acting ..... 3 hours
110f Advanced Dramatic Production ..... 3 hours

III. Rhetoric

115w Rhetorical Criticism ..... 3 hours

Suggested Curriculum for Teachers of Physical Education—Men

Men students who wish to major in Physical Education are advised to take in the Freshman year as a part of the required Arts and Science work, Zoology, as it is a prerequisite to Anatomy.

In the Sophomore year they should take Anatomy 107f, General Sociology, Physiology 100w, and General Economics 1, or Political Science 1w.

In the Junior and Senior years such students must enroll in the School of Education and complete the following program of studies:

Junior Year

First Semester	*Hours*	*Second Semester*	*Hours*
[1]Educational Psychology (Section II), A102f	3	[1]Technique of High School Teaching, D110w	3
[1]History of Education, B125f	3	[1]Teaching of Physical Education, D119w	2
Playgrounds, 51f, or Athletics and Recreation, 55f	2	Minor Sports, 56w, or Plays and Games, 54w	2
History of Physical Education, 52f	2	Methods and Practice of Major Sports, 103w	2
Methods and Practice of Major Sports, 102f	2	Athletic Training and Conditioning, 105w	2
*Elective	4	Kinesiology, 111w	3
		Principles of Physical Education, 152w	2
	16		16

Senior Year

First Semester	*Hours*	*Second Semester*	*Hours*
[1]Student Teaching, D150f	3	[1]High School Administration for Teachers, D140	2
Methods and Practice of Major Sports, 104f	2	[1]Student Teaching, D150w	3
Physical Examinations and Remedial Gymnastics, 181f	3	Organization and Administration of Physical Education, 190w	3
*Elective	8	*Elective	8
	16		16

[1]Required education courses.

*Note—Electives must be so arranged that a teaching minor in any one of the subject-matter fields such as mathematics, science, or social studies may be completed.

Men students who wish to minor in Physical Education, see page 169.

If Preventive Medicine was not taken in the Sophomore year it must be completed during the Junior or Senior year.

Suggested Curriculum for Teachers of Physical Education—Women

Students who wish to major in Physical Education are advised to take in the Freshman year, besides the required Arts and Science work, the following courses: Physical Education 41f, 42w, and the required courses 3f and 4w. Zoology should be elected, as it is a prerequisite to Anatomy, which must be taken in the Sophomore year. In the Sophomore year, they should take five hours Sociology, English 73w, Anatomy 107f, Physical Education courses 43f, 44w, 51f, 54w, and the required courses 7f and 8w.

In the Junior and Senior years such students must enroll in the School of Education and complete the following program of studies:

Junior Year

First Semester	*Hours*	*Second Semester*	*Hours*
[1]Educational Psychology (Section II), A102f	3	Physiology, 100w	5
[1]History of Education, B125f	3	[1]Technique of High School Teaching, D110w	3
History of Physical Education, 52f	2	[1]Teaching of Physical Education, D119w	2
Gymnastics and Athletics, 115f	1	Kinesiology, 111w	3
Elementary Folk Dancing, 125f	2	Gymnastics and Athletics, 116w	1
Minor Sports Technique, 130f	2	Principles of Physical Education, 152w	2
Elective	3		
	16		16

Senior Year

First Semester	*Hours*	*Second Semester*	*Hours*
Student Teaching, D150f	3	[1]High School Administration for Teachers, D140	2
Gymnastics and Athletics, 117f	2	[1]Student Teaching, D150w	3
Theory of Interpretative Dancing, 128f	2	Gymnastics and Athletics, 118w	2
The Technique of Hockey and Basket Ball, 129f	2	Technique of Baseball, Field and Track, 159w	2
Physical Examinations, 181f	3	Organization and Administration of Physical Education, 190w	3
Elective	4	Electives	4
	16		16

[1]Required education courses.

Electives for Majors in Physical Education

Physical Education courses 27f, 28w, 35f, 126w, 134w, 136f, 140w, 160f, and Elementary Artcraft, Foods and Nutrition, English or Public Speaking, Music, and Voice work.

Requirements in Practical Work for Majors in Physical Education—Women

All women who are majoring in Physical Education must have completed by the end of the Senior year at least two seasons of practical work in hockey, soccer, basket ball, dancing, and swimming, and at least one season in volley ball, tennis, field and track, indoor or outdoor baseball, and archery.

Minor in Physical Education

The Director of Physical Education must be consulted before the election of any course in Physical Education. The minor is intended to meet the needs of students who wish to combine the teaching of their major subject with Physical Education.

Men and women students must complete a total of 20 hours in Physical Education. Physiology or Anatomy is a prerequisite for all courses in Physical Education.

The following courses are suggested for the minor for women: 54w, 115f, 116w, 117f, 118w, 119w, 125f, and 190w, and the technique courses in the division in which the student is interested.

The following courses are suggested for the minor for men: 51f or 54w, 55f, 56w, 102f, 103w, 104f, 119w, 152w, and 190w.

If preventive medicine was not taken in the Sophomore year, it must be completed during the Junior or Senior year.

Suggested Curriculum for Teachers and Supervisors of Music

For the Freshman-Sophomore curriculum, see page 204.

Junior Year

First Semester	*Hours*	*Second Semester*	*Hours*
Piano Problems 57f	2	Piano Problems, 58w	2
Musical Form, 111f, or Musical Analysis, 113f	2	Musical Form, 112w, or Musical Analysis, 114w	2
Orchestral Instruments, 144f	1	History of Music, 124w	3
History of Music, 123f	3	*Music in Intermediate Grades, E130w, or Music Supervision, E180w	2
*Music in Primary Grades, E129f	2	[1]History of Education, B125w	3
Conducting, 145f	1	[1]Technique of High School Teaching, D110w	3
[1]Educational Psychology, A102f	3	Elective	1
Chorus, 41f, or Orchestra, 43f	0		
Elective	2		
	16		16

Senior Year

First Semester	*Hours*	*Second Semester*	*Hours*
Orchestration, 117w, or Applied Music†	2	Orchestration, 118w, or Applied Music†	2
High School Music Methods, D131f	3	Music Teaching in Secondary Schools, D181w	2
[1]High School Administration for Teachers, D140f	2	[1]Student Teaching, D150w	3
[1]Student Teaching, D150f	3	Chorus, 42w, or Orchestra, 44w	1
Chorus, 41f, or Orchestra, 43f	1	Elective	8
Elective	5		
	16		16

[1]Required education courses.

*For classroom teachers.

†In excess of the required 14 hours.

Substitutes may be offered for certain courses in methods and musical content by students preparing themselves to be special teachers in grade schools or high schools.

If Preventive Medicine was not taken in the Sophomore year it must be completed during the Junior or Senior year.

Suggested Curriculum for Majors in Social Studies

Because of the breadth of training required by teachers of social studies, it is essential that the students preparing to teach this field should start their preparation early. The following is suggested as the best plan to fit the normal student who intends to major in this field. In the Freshman year the student should take six hours of history, from courses 1, 2 and 3; in the Sophomore year the student should take American History, course 8; American Government, course 1; preventive medicine, course 1; and four hours in his minor subject.

Junior Year

First Semester	*Hours*	*Second Semester*	*Hours*
General Economics, 1f	5	General Sociology, 1w	5
[1]Educational Psychology, A102f	3	[1]Technique of High School Teaching, D110w	3
[1]History of Education, B125f	3	Recent United States History, 110w	3
Contemporary Europe	3	Minor Subject	5
Minor Subject	2		
	16		16

Senior Year

First Semester	*Hours*	*Second Semester*	*Hours*
[1]Teaching Social Studies in High School, D121f	2	[1]High School Administration for Teachers, D140	2
[1]Student Teaching, D150f*	5	Social Studies Electives**	5
Social Studies Elective**	3	Minor Subject	4
Minor Subject	4	Electives	5
Elective	2		
	16		16

[1]Required education courses.

*Practice Teaching may be postponed until the second semester. If this is desired, the social studies electives in the second semester should be carried in the first semester.

**All social studies electives must be selected with the help of the adviser.

If Preventive Medicine was not taken during the Sophomore year it must be completed during the Junior or Senior year.

For his minor, the student must have two of the history courses 1, 2, and 3, American History, Contemporary Europe, Recent United States History, American Government, General Sociology, and General Economics. He is advised to elect Education D121.

Curriculum for Teachers of Vocational Home Economics

Freshman[1]

First Semester	*Hours*	*Second Semester*	*Hours*
English 1, Composition and Rhetoric	3	English 2, Composition and Rhetoric	3
Chemistry 1 or 2, Inorganic Chemistry	5	Botany 1, or Zoology 1	5
Physical Education	½	Physical Education	½
Home Economics (chosen from the group of courses listed below)	7	Home Economics (chosen from the group of courses listed below)	7
	15½		15½

[1]For the first two years students may register in the College of Agriculture or the College of Arts and Science. In order to avoid conflicts in the junior and senior years, it is highly important that all the above required courses be included in the work of the first two years.

Sophomore[1]

First Semester	*Hours*	*Second Semester*	*Hours*
Chemistry 15, Organic Chemistry	3	[2]Education, A102, Educational Psychology	3
Botany 3, General Bacteriology	3	Physiology, 100, Elementary Physiology	5
Sociology 1	5	General Economics 1	5
Physical Education	½	Physical Education	½
Home Economics (chosen from the group of courses listed below)	3–5	Home Economics (chosen from the group of courses listed below)	0–2
Elective	0–2	Elective	1–3
	16½		16½

HOME ECONOMICS COURSES TO BE TAKEN DURING FRESHMAN AND SOPHOMORE YEARS

H. E. 1f or w., Selection and Preparation of Food	5
H. E. 10f or w, Home Problems	2
H. E. 20f or w, Home Nursing and Health	2
H. E. 15f, Design	2
H. E. 16w, Design	2
H. E. 50f or w, Textiles and Clothing	3
H. E. 51w, Textiles and Clothing	3
	19

Junior

First Semester	*Hours*	*Second Semester*	*Hours*
Physics 1, Elementary College Physics	5	[2]Education D110, Technique of Teaching in High School	3
[2]Education B125, History of Education	3	[2]Education F175, Organization and Administration of Vocational Home Economics	3
H. E. 121, Nutrition	4	H. E. 145, Costume Design	2
H. E. 117, Economic Problems of the Household	3	H. E. 122, Dietetics	3
or		H. E. 117, Economic Problems of the Household	3
H. E. 120, Food Buying	3	or	
or		H. E. 120, Food Buying	3
H. E. 150, Buying Clothing and Textiles	3	or	
		H. E. 150, Buying Clothing and Textiles	3
		Elective	2
	15		16

[1]For the first two years the students may register in the College of Agriculture or the College of Arts and Science. In order to avoid conflicts in the Junior and Senior years, it is highly important that all the above required courses be included in the work of the first two years.

[2]Required education courses.

Senior

First or Second Semester	*Hours*	*First or Second Semester*	*Hours*
[2]Education D140, High School Administration for Teachers...	2	H. E. 160, Home Care and Training of Children.....	3
[2]Education F110, Teaching of Home Economics.....	2	H. E. 115, Home Management..	4
[2]Education D150, Student Teaching in Vocational Home Economics.....	5	H. E. 110, Home Furnishing....	3
H. E. 117, Economic Problems of the Household.....	3	Ed. F116, Teaching of Related Subjects.....	2
or		Elective.....	3–4
H. E. 120, Food Buying.....	3		
or			
H. E. 150, Buying Clothing and Textiles.....	3		
Elective.....	3–4		
	15–16		15–16

[2]Required education courses.

Graduate Work In Education

To be admitted to candidacy for the degree of Master of Arts with a major in Education, students must have completed at least fifteen semester hours of professional education courses, including courses in educational psychology, history and principles of education, school administration, and methods of teaching.

Choice of Major Adviser

Graduate students in education should first of all decide on the particular line of school work for which they wish to prepare. They should then consult the faculty adviser in the field of their major interest and in consultation with him make out a complete program of studies for the desired degree. Some of the fields of specialization follow, along with the names of the appropriate advisers in the Department of Education:

Graduate Specialty	*Faculty Adviser*	*Room No.*
Educational Psychology.....	Mr. Irion.....	101 Jesse Hall
	Mr. Saupe.....	408 Jesse Hall
History and Philosophy of Education...	Mr. Coursault.....	104 Jesse Hall
City, County, and State School Administration.....	Mr. Capps.....	104 Jesse Hall
	Mr. Carpenter.....	304 Jesse Hall
	Mr. von Borgersrode.	7 Jesse Hall
Educational Tests and Measurements...	Mr. Capps.....	104 Jesse Hall
	Mr. Saupe.....	408 Jesse Hall

Graduate Specialty	*Faculty Adviser*	*Room No.*
Secondary Education	Mr. Watkins	Univ. H. S.
	Mr. Rufi	304 Jesse Hall
	Mr. Elliff	203 Jesse Hall
Teaching of English	Mr. Moffett	209 Jesse Hall
Teaching of Social Studies	Mr. Ellis	316 Jesse Hall
Educational Guidance	Mr. Germane	7 Jesse Hall
Elementary Education	Mr. Phillips	Elem. School
Industrial Education	Mr. Selvidge	111A Engineering
Agricultural Education	Mr. Dickinson	122 Waters Hall
Home Economics Education	Miss Irons	8 Gwynn Hall

Courses Recommended for All Graduate Students in Education

For many lines of graduate work in education advisers insist on students having during the first semester the following courses if they have not been taken as undergraduate work:

C170 Educational Statistics
D207 Tests and Measurements for Secondary Schools
or
E205 Tests and Measurements for Elementary Schools

General background courses commonly recommended for all graduate students in education who have not had the equivalent as undergraduate work are:

A205f Psychology of Education
B271f Philosophy of Education
C209f State and National School Administration

Dissertation Optional for the Degree of Master of Arts with Major in Education

A dissertation is not required of students majoring in education for the degree of Master of Arts. However, a student may offer, subject to the approval of his major adviser, an acceptable dissertation counting four to eight hours' credit in the total of thirty-two hours required for this degree.

Because of the fact that the tendency the country over is in the direction of establishing a standard of at least one year of graduate study for supervisors and administrators, the undergraduate curricula in those fields have been eliminated. It will still be possible for undergraduates looking forward to administrative and supervisory work to take certain courses in those fields as undergraduates. The major portion of the training, however, should be confined to post-graduate study.

Suggested Graduate Programs of Study

Thirty-two semester hours of work are required for the Master's degree. At least half of this must be in courses number 200 and above. While the advisers take into consideration the individual needs and desires of the students as well as the previous training which the student has had, it may be suggestive to list certain sample graduate programs for students majoring in Education:

Suggested Graduate Program for Students Majoring in Educational Psychology*

First Year of Graduate Work

A176	Psychology of Elementary School Subjects	3 hours
A202	Intelligence Testing	3 hours
A205	Psychology of Education	3 hours
B271	Philosophy of Education	3 hours
C170	Educational Statistics	3 hours
C210	City School Administration	3 hours
E205	Tests and Measurements in Elementary Schools	3 hours
106 or 111	Genetics	2 hours
125	Social Psychology	3 hours
	Elect with consent of Adviser	6 hours
		32 hours

Second Graduate Year

A206	Mental Hygiene	3 hours
A208	Psychology of High School Subjects	3 hours
A200	Seminar in Educational Psychology	4 hours
A250	Special Investigations in Educational Psychology	6 hours
C201	Methods of Educational Research	3 hours
122	Abnormal Psychology	3 hours
197	The Psychology of Learning	3 hours
	Elect with consent of Adviser	7 hours
		32 hours

Third Graduate Year

A200	Seminar in Educational Psychology	4 hours
A207	Differential Psychology	3 hours
A290	Research in Educational Psychology	8 hours
198	Systematic Psychology	3 hours
209	Psychological Textbooks	3 hours
	Elect with consent of Adviser	4 hours
		25 hours

*Since most candidates specializing in Educational Psychology find it profitable to do so only if they carry on the work to the completion of the requirements for the degree Doctor of Philosophy, a full three-year program has been outlined. The first year marks the program for the Master's Degree.

SUGGESTED PROGRAM OF STUDIES FOR THE DEGREE OF MASTER OF ARTS WITH A MAJOR IN SCHOOL ADMINISTRATION

All students are required to complete the following courses:

C200	Seminar in Educational Administration	1–3 hours
C209	State and National School Administration	2½–3 hours
C210	City School Administraton	2½–3 hours

In consultation with his major adviser a student will usually select three of the following courses:

C170	Educational Statistics	2½–3 hours
C211	Administration of Pupil Personnel	2½–3 hours
C212	School Building Problems	2½–3 hours
C240	School Finance	2½–3 hours

In consultation with his adviser a student usually selects at least one course from each of the following fields:

Philosophy and Psychology of Education
Elementary Education—supervision, curriculum, or measurement courses
Secondary Education—administration, supervision, curriculum, or measurement courses

Other requirements:

1. The general prerequisite for graduate work with a major in education, namely, that the student must present at least fifteen hours of acceptable undergraduate work in education, applies to all majors in School Administration.

2. A student should present at least one undergraduate major in a subject-matter field. Furthermore, it is very desirable that he carry course work in some subject-matter field on the graduate level during his work for the degree Master of Arts.

3. Courses in eduation other than those listed above, or in subject-matter fields, may be selected by the student in consultation with his adviser.

SUGGESTED GRADUATE PROGRAM FOR HIGH SCHOOL PRINCIPALS

(Starred courses are required)

*A205	Psychology of Education	2½–3 hours
*B271	Philosophy of Education	2½–3 hours
*C209	State and National School Administration	2½–3 hours
*D201	Extra-Curricular Activities	2½–3 hours
*D206	High School Administration	2½–3 hours
*D215	High School Supervision (or D205)	2½–3 hours
*D230	The Junior High School	2 hours
*D245	The High School Curriculum	2½–3 hours
		19½–23 hours

ADDITIONAL COURSES TO MAKE UP THE REQUIREMENT OF THIRTY-TWO HOURS ARE TO BE SELECTED FROM THE COURSES LISTED BELOW:

A208	Psychology of High School Subjects	2½–3 hours
B275	College Teaching Methods	2½–3 hours
C170	Educational Statistics	2½–3 hours
C210	City School Administration	3 hours
C211	Administration of Pupil Personnel	3 hours
C212	School Building Problems	3 hours
C240	School Finance	3 hours
C273	Junior College Administration	3 hours
D200	Seminar in Secondary Education	Arr.
D207	Tests and Measurements for Secondary Schools	3 hours
D221	Educational Guidance	2½–3 hours
D240	Improvement of High School Teaching	2 hours
D246	Curriculum Construction for Secondary Schools	2½–3 hours
E184	Projects in Moral Education	2 hours

Students who have carried considerable undergraduate work in Education are not only permitted to include from eight to twelve hours of graduate work in subject-matter fields in their programs for the Master of Arts degree but are encouraged to do so.

SUGGESTED GRADUATE PROGRAM FOR STUDENTS MAJORING IN EDUCATION, DIVISION OF HIGH SCHOOL TEACHING

A205	Psychology of Education	3 hours
A208	Psychology of High School Subjects	2½–3 hours
B271	Philosophy of Education	2½–3 hours
D207	Tests and Measurements for Secondary Schools	3 hours
D240	Improvement of High School Teaching	2 hours
D245	High School Curriculum	2½–3 hours
D250	Special Investigations in Secondary Education	1–3 hours
		17½–20 hours

ADDITIONAL COURSES WHICH MAY BE ACCEPTED OR SUBSTITUTED FOR ONE OF THE ABOVE WITH THE CONSENT OF THE ADVISER TO MAKE A TOTAL OF THIRTY-TWO HOURS

A207	Differential Psychology	3 hours
B190	Comparative Education	2 hours
C170	Educational Statistics	2½–3 hours
C201	Methods of Educational Research	2 hours
D181	Problems in High School Music Teaching	2 hours
D201	Extra-Curricular Activities	2½–3 hours
D210	English Methods	2–3 hours
D212	Problems in the Teaching of General Science	2 hours
D215	High School Supervision	3 hours
D220	Problems in the Teaching of Social Studies	3 hours
D221	Educational Guidance	2½–3 hours
D230	Junior High School	2 hours
D246	Curriculum Construction for Secondary Schools	2½–3 hours

Graduate Courses Other Than Education

Each candidate for a degree with a major in Education who expects to do high school teaching or high school supervision should carry from twelve to fourteen hours of graduate work in the subject-matter field of major interest. Graduate advisers in these subject-matter fields should be consulted concerning such courses.

Students desiring a major in Education for high school teaching must have had at least twenty hours of undergraduate work in Education from an acceptable institution. They must have had sufficient undergraduate training in some subject-matter field to be acceptable candidates for graduate courses in that field. Such subject-matter training must meet with the approval of the department in which the work is taken.

Suggested Graduate Program for Educational Guidance

This program is recommended for all those who plan to do work in student advisement and educational guidance or to specialize as counselors in secondary schools.

(Starred courses are required.)

*A205	Psychology of Education	2½–3 hours
*A202	Intelligence Testing	2–3 hours
*A206	Mental Hygiene	2½–3 hours
*B271	Philosophy of Education	2½–3 hours
*C170	Educational Statistics	2½–3 hours
*D201	Extra-Curricular Activities	2½–3 hours
*D221	Educational Guidance	2½–3 hours
*F194	Principles of Trade and Industrial Teaching	2–3 hours
*122	Abnormal Psychology	3 hours
*191	Psychiatric Social Work	2 hours
		24–29 hours

Suggested Elective Courses to Make up the Requirement of Thirty-two Hours

A208	Psychology of High School Subjects	2–3 hours
C211	Administration of Pupil Personnel	2½–3 hours
D206	High School Administration	2½–3 hours
D220	Problems in the Teaching of Social Studies	3 hours
D240	Improvement of High School Teaching	2 hours
D250	Special Investigations in Secondary Education	1–3 hours
E139	Technique of Handling the Problem Child	2–3 hours
E184	Projects in Moral Education	2–3 hours
F221	Vocational Guidance	2 hours

Students who have considerable undergraduate credit in Education are urged to minor in sociology, or at least to elect 8 to 12 hours of graduate work in such courses as: 110, Social Pathology; 111, Criminology; 114, The Family; and 118, Social Case Work.

SUGGESTED GRADUATE PROGRAM FOR ELEMENTARY SCHOOL PRINCIPALS

A176	Psychology of Elementary School Subjects	2–3 hours
A202	Intelligence Testing	3 hours
A205	The Psychology of Education	3 hours
C170	Educational Statistics	3 hours
C210	City School Administration	3 hours
E204	Elementary School Supervision	3 hours
E205	Tests and Measurements for Elementary Schools	3 hours
E206	Curriculum Construction	3 hours
E208	The Work of the Elementary School Principal	3 hours
E250	Special Investigations in Elementary Education	3 hours
	Electives	2 hours
		32 hours

SUGGESTED GRADUATE PROGRAM FOR SUPERVISORS IN ELEMENTARY SCHOOLS

A176	Psychology of Elementary School Subjects	3 hours
A202	Intelligence Testing	3 hours
A205	The Psychology of Education	3 hours
C170	Educational Statistics	3 hours
C209	State and National School Administration	3 hours
E204	Elementary School Supervision	3 hours
E205	Tests and Measurements for Elementary Schools	3 hours
E206	Curriculum Construction	3 hours
E250	Special Investigations in Elementary Education	3 hours
	Electives	5 hours
		32 hours

SUGGESTED ELECTIVES

A206	Mental Hygiene	2½–3 hours
B271	Philosophy of Education	2½–3 hours
E125	Primary Materials and Methods in Reading	3 hours
E139	The Technique of Handling the Problem Child	3 hours
E165	Problems in the Teaching of Reading	3 hours
E166	Problems in Teaching of Literature in the Grades	3 hours

COLLEGE TEACHING

Advanced graduate students planning to take up college teaching and desiring professional training courses as part of their preparation are advised to consider the following courses:

B275 College Teaching Methods
C273 Junior College Administration

Other courses which may be of special value and which may be taken provided the student meets the prerequisites are:

A207 Differential Psychology
B271 Philosophy of Education

Students planning to teach Education courses in junior colleges should have special preparation in Education with an emphasis on Elementary Education.

For further information concerning the School of Education, address THEO. W. H. IRION, DEAN, FACULTY OF EDUCATION, UNIVERSITY OF MISSOURI, COLUMBIA, MISSOURI.

COLLEGE OF ENGINEERING

The purpose of the College of Engineering is to train men for positions in fields of technical activity, and also for executive and administrative service in industry and transportation, and to a lesser degree, in commerce.

The various curricula are intended to introduce the student into distinct fields of engineering practice and in all cases they are based on fundamental training in English, the sciences, and in economics. Each curriculum is based upon some well organized field of engineering activity, but the student will have opportunity to secure special training if he develops a marked aptitude for some specific field of work.

Buildings

The Departments of Electrical and Mechanical Engineering occupy the lower floor of the Engineering Building, the Engineering Building Annex and Engineering Shops. The Department of Civil Engineering is housed in a portion of Switzler Hall and the Civil Engineering Laboratories. The work in Chemistry required of students in Chemical Engineering is given in the Chemistry Building on the Francis Quadrangle. The work of Agricultural Engineering is carried on in the Agricultural Engineering Building and in the Agricultural Engineering Laboratories, both of which are on the University Farm.

Laboratories

Agricultural Engineering: The agricultural engineering laboratory contains a large assortment of the best modern machinery, including one or more of the principal field and power machines. For instruction in gas engine and tractors, the laboratory is equipped with twenty stationary and portable gasoline and oil engines and eight to ten of the latest types of tractors with suitable equipment for testing same. Lighting units are provided for work on farm-lighting systems. Drafting tables are provided to accommodate the men designing farm buildings. The equipment for concrete work includes a complete set of concreting tools, molds for building blocks, forms for fence posts, water troughs and tanks and tile machines, with small apparatus for testing cement and aggregates. Surveying equipment, terracing and ditching machines are available for use in classes in drainage and erosion control. Complete sets of small hand tools, both for metal working and woodworking, are available for work in farm shop practice. Other farm shop equipment includes forges, anvils, a power drill, a power grinder, and a power saw.

CHEMICAL ENGINEERING: The laboratories in general chemistry are situated in the New Chemistry Building. Three laboratories in Schweitzer Hall are devoted to qualitative and quantitative analysis. Large laboratories are available for general work in Organic Chemistry, and more advanced work along organic lines is provided for in a furnace room and laboratory for the preparation of organic compounds. The laboratory in Physical Chemistry is equipped for instruction in Electrochemistry and Radioactivity in addition to the usual lines of work.

The chemical engineering laboratory, located in the Chemistry Building on the Francis Quadrangle, contains large and small filter presses, high speed and basket centrifuges, large and small autoclaves, furnaces, large acid-proof stoneware pots, boiling kettles and vacuum filters, various sorts of grinding apparatus, special pieces of equipment for the study of theories of design, and numerous smaller pieces of accessory equipment. A special dryer affords an opportunity to study the drying of any material over a wide range of conditions in which the humidity, temperature and air velocity can be varied at will. Measuring and recording instruments are provided for testing the efficiencies of the various types of apparatus, and for studying their actual operation in comparison with the theory for that type of unit chemical engineering operation. Advanced students have an opportunity to pursue work in some of the unit operations of chemical engineering and in certain phases of applied chemistry.

CIVIL ENGINEERING: The equipment for testing materials includes several vertical testing machines with all the necessary accessories for tension, compression, and transverse tests on iron, steel, cement, concrete, and brick.

The road materials laboratory contains machines for making complete tests upon stone for road purposes, a standard rattler for paving-brick tests, and apparatus required in investigating bituminous road materials.

A new hydraulic laboratory has been equipped for the study of problems where large quantities of flowing water are needed. Two large size, direct-current electric motor-driven centrifugal pumps have been installed, which supply water for investigations relating to the flow of water in flumes, large pipes, and conduits; to the discharge over dams and weirs, through racks, sluices and submerged orifices; and to other features encountered in water power and water supply developments.

A complete selection of surveying instruments includes those used in ordinary field practice, precise surveying, geodetic work, hydrographic surveying, water supply, and stream measurement.

ELECTRICAL ENGINEERING: The electrical engineering laboratories include the junior and senior dynamo laboratories, the

communications laboratory, the Ralph E. Porter Memorial laboratory, the high-voltage laboratory and the research laboratory.

The two dynamo laboratories contain alternating and continuous-current generators and motors, transformers, regulators and converters. An adequate supply of instruments and auxiliary test equipment, including three electrical dynamometers, are available for making complete performance tests of electrical machines. This equipment includes valuable gifts and loans by electrical manufacturing and utility companies.

The communications laboratory was established through the perpetual loan of special laboratory equipment by the American Telephone and Telegraph Company and its associated company the Southwestern Bell Telephone Company. The laboratory equipment includes variable-frequency oscillators amplifier-volt-ammeters and high-frequency ammeters and voltmeters, two artificial lines each equivalent to 220 miles of No. 12 wire at 800 cycles, an impedance bridge, tube tester and miscellaneous equipment.

The Ralph E. Porter Memorial laboratory was established by Mr. and Mrs. J. F. Porter of Kansas City, Missouri, in memory of their son Ralph E. Porter of the class of 1926. The equipment, which is separately housed in a special laboratory, includes automatic switchboards, meters, transformers, motors and a varied assortment of demonstration apparatus.

The high-voltage laboratory contains a 10 KVA, 110 to 100,000 volt testing transformer with control panel and regulating device, two small 10,000-volt transformers, an oil testing transformer and oil drying equipment. High voltage testing instruments, insulators, etc., complete the equipment, which is housed in a separate building.

The research laboratory contains special facilities for the investigation of such problems as heat conductivity of insulating paints and varnishes, surface iron losses in rotating machines, and steady state and transient synchronous machine operation.

MECHANICAL ENGINEERING: The mechanical engineering laboratory contains several different types of steam engines, a steam turbine, condensers, gas and oil engines, a two-ton compression refrigeration machine, centrifugal pump dynamometer-driven, triplex and duplex steam pump and a variety of other machinery and equipment. Standard equipment for determining the analysis and calorific value of coals and gases is provided. The laboratory is supplied with the usual equipment of indicators, gauges, water and gas meters, scales, and other necessary accessories.

The central power plant of the University is used for conducting boiler tests under actual operating conditions.

There is located in the Engineering Shops a well-equipped pattern shop, moulding room, forge shop and gas furnaces for the heat treatment of steel and a general machine shop. There is

also a production shop equipped with production machines. This shop is used as a laboratory to illustrate the best methods of factory organization and production.

The shops also are equipped with a high-grade, high-powered, motor-driven lathe for experimental purposes. It is used in making production tests to determine the proper kinds of tools and the best cutting speeds for machine work on various kinds of metals. The lathe is equipped with elaborate indicating and recording devices by which highly accurate data may be secured.

LIBRARY: The engineering library in the Engineering Building has over 10,415 standard engineering books. These have been very carefully selected and include the works of all the best American and English engineering authors. About 181 periodicals are regularly received, together with publications recording the transactions of the more important engineering societies.

ADMISSION, CURRICULA, AND DEGREES

REQUIREMENTS FOR ADMISSION: The requirements for admission to the College of Engineering are fifteen units, the equivalent of the four-year high school course. The following specific units are required: Three units in English; one unit in Algebra; and one unit in Plane Geometry are required; one-half unit in Solid Geometry; one-half unit in Advanced Algebra; one unit in Physics and one unit in Chemistry are recommended.*

Students who contemplate entering the College of Engineering with advanced standing from Junior Colleges should include as many of the Freshmen and Sophomore requirements listed in the printed curricula, beginning on page 187, as possible. Mathematics and physics are prerequisites to many of the advanced courses and their omission in the early years will delay graduation. A careful planning of the Junior College work in connection with a study of the engineering curricula will enable most students to graduate without loss of time.

CURRICULA AND DEGREES: The degree of Bachelor of Science in Engineering is given on the basis of 136 hours' credit in subjects specified in the printed curricula beginning on page 187. Candidates for this degree must present evidence of having had at least two months' practical experience in some field of engineering or other activity closely related to engineering. Furthermore, at least 36 hours of the required work of the third and fourth years in any curriculum shall be of the grade "M" or above.

All the above curricula with the exception of chemical and agricultural engineering, are practically the same for the first two

*At present students unable to meet above requirements in Mathematics will be admitted but will be required to register and successfully pass Mathematics I before proceeding with regular freshman Mathematics 2.

years. The purpose of this plan is to lay a foundation in the fundamentals of a general education; to establish a basis of English, mathematics, physics and chemistry upon which the more technical training may be built. With the exception of chemical and agricultural engineering the choice of a field may be deferred until the beginning of the junior year. In consultation with a faculty adviser a student at this time makes his choice of a major field of work as indicated by the printed curricula.

While the curricula are based upon the plan of industrial divisions and retain the historic names of "Civil," "Electrical" and "Mechanical" engineer, and other more recently recognized, yet the student has the opportunity of securing the advantage of a "functional" division if he so chooses. For instance, a "management" or "supervision" division is easily formulated from courses listed under the statements relating to railway and administrative engineering, electrical railway engineering, factory production, labor supply, management and shopwork engineering, and from courses elected in the School of Business and Public Administration.

Students desiring to continue work beyond the four-year curricula may register in the Graduate School for the degree of Master of Science in Engineering. The rules and regulations covering the requirements for the graduate degree will be found in the announcement of the Graduate School.

Agricultural Engineering

(Administered jointly by the Dean of the Faculty of Agriculture and the Dean of the Faculty of Engineering.)

The curriculum in agricultural engineering is planned to prepare the student for experimental design, or sales work with farm machinery, equipment or building concerns, superintendency of farms where machinery, irrigation, drainage, erosion control, or buildings play an important part in their management, teaching or extension work with the various agricultural colleges, or engineering work with large land holding or management companies. The curriculum emphasizes the fundamentals of engineering and includes sufficient work in agriculture to furnish a basis for engineering work in this field.

Chemical Engineering

The curriculum in chemical engineering is planned to meet the demands of the chemical and allied process industries for men with engineering training and a special knowledge of chemistry and its applications. This combination is obtained by relating a thorough training in general engineering subjects, mathematics, physics and English to the viewpoint and knowledge given by a full major in chemistry and Chemical Engineering.

Men with such training may continue in one or more of the following lines: The process industries, in which some material or combination of materials is subjected to a series of operations part of which are of a chemical nature; industrial manufacture of chemical products; development of laboratory processes into larger scale plant operations; the design and installation of special equipment of plant work; research and experimental investigations designed to furnish information for the development of plant methods and administrative and sales work where technical engineering and chemical knowledge are required. In order to further strengthen the correlation between instructional work and industrial activity the student, during his senior year, will be required to participate in an inspection trip to one of the industrial districts of the state.

A student chapter of the American Institute of Chemical Engineers affords the student an opportunity of making professional contacts before graduation.

Civil Engineering

The field covered by this curriculum is wide, embracing topographical, railway and administrative, hydraulic, structural, municipal and highway engineering. It is the aim to give a broad general training which will later serve as a foundation for the development of any special line of civil engineering, and to fit men for technical and administrative positions in the promotion, design, construction, operation, and management of those projects and corporations with which the civil engineer is connected. The training is largely fundamental in nature but sufficient detail practice is included to enable the graduate to immediately occupy a productive and remunerative position. A large percentage of graduates fill administrative positions, some entirely outside of engineering.

Electrical Engineering

The curriculum in electrical engineering is intended to prepare the student for entry into any one of the many branches of the electrical industry, such as manufacturing, wire or wireless telephony and telegraphy, the electric power and railway industries, etc. In any of these fields the engineer may engage in the work of investigation, design, construction, administration, or he may deal largely with the commercial aspects of the industry.

The specialized training in electrical engineering is preceded by a broad foundation in liberal, scientific, and general engineering studies. This is followed by analytical and experimental study of electrical machine theory and performance, and the transmission of electrical energy for radio communication and power uses.

Management Engineering

The curriculum in management engineering is designed to give a basic training in science and the fundamental technical phases of engineering. Upon this is built a study of management as it concerns engineering enterprises, such as construction, manufacturing, distribution, financing, labor relations, marketing, accounting and valuations. It is designed particularly for those students who desire to engage in the business side of engineering enterprises rather than in the technical or research fields. A rather wide range of electives permits a student to specialize in the field of his particular interest.

Mechanical Engineering

In addition to the broad, general background in engineering training, the curriculum in mechanical engineering provides training in fields relating to manufacturing, management, design and those phases of power engineering dealing with the problems of the development of engineering properties, planning and installing equipment, power plant operation, inspection and testing.

The continued development of our manufacturing industries involves increased attention to the problems of economy in production and in the careful planning of all engineering properties. The solution of these problems calls for the best thought of the well-trained engineer and no field offers greater returns or a better opportunity for a high type of constructive work.

Four Year Curricula in Engineering Leading to the Degree of Bachelor of Science in Engineering

First Year

Required of all groups

Subject	Department and Course No.	Semester First		Second
English Composition and Rhetoric	English 1f, 2w	3		3
Trigonometry and Algebra	Math. 2f	5		
Analytical Geometry	Math. 4w			5
General Inorganic Chemistry	Chem. 1f or w	5	or	5
Engineering Drawing	M. E. 1f, 2w	3		3
*Pattern Making	M. E. 25f or w	2	or	2
or				
†General Inorganic Chemistry	Chem. 2w			3
Forge and Machine Work	M. E. 30f or w	2	or	2
Introduction to Engineering	Eng 1f	1		
Military Science and Physical Education	M. S.	1½		1½
		16½		17½

Second Year

Required of all groups

Subject	Department and Course No.	Semester First		Second
Calculus	Math. 5f, 100w	5		5
General Physics	Phys. 3f, 4w	5		5
Elementary Surveying	C. E. 2f or w	3	or	3
or				
†Qualitative Analysis	Chem. 27f	3		
General Economics	Econ. 1f or w	5	or	5
Public Speaking	English 75f or w	3	or	3
Military Science and Physical Education	M. S.	1½		1½
		16½		17½

*The sequence of courses in Agricultural Engineering will be arranged in consultation with the Chairman of that Department. Students in Agricultural Engineering should register for Farm Shop Work, 10f or w instead of Pattern Making.

†Students in Chemical Engineering will take General Inorganic Chemistry in the first semester and 2w the second semester; and Quantitative Analysis, 27f, instead of Elementary Surveying, 2f.

Before the end of his Sophomore year the student will choose his special branch of engineering as represented by one of the following:

Agricultural Engineering

Third Year

Mechanics of Engineering	Mechanics 100f	4	
Mechanics of Materials	Mechanics 101w		4
Materials of Construction	C. E. 132f	3	
Hydraulics	C. E. 140w		3
Mechanisms	M. E. 100f	3	
Heat Machinery	M. E. 131f	3	
Farm Power and Machinery, I and II	A. E. 1f or w, 112w	3	3
Special Problems in Agr. Eng	A. E. 150f	1	
Technical Composition	English 103w		2
Soil Management	Soils 1w		5
		17	17

Fourth Year

Drainage and Erosion Control	A. E. 121f	2	
Farm Buildings	A. E. 103w, 104w		5
Soil Surveying and Land Appraisal	Soils 125f	3	
Special Problems in Agr. Eng	A. E. 100f	3	
Electrical Machinery	E. E. 101w		5
Electives, to be approved by Adviser		9	7
		17	17

Chemical Engineering

Third Year

Subject	Department and Course No.	Semester First	Second
Organic Chemistry	Chem. 110f, 112w	5	3
Mechanics of Engineering	Mechanics 100f	4	
Mechanics of Materials	Mechanics 101w		4
Hydraulics	C. E. 140f	3	
Electrical Machinery	E. E. 101w		5
Quantitative Analysis	Chem. 121w		5
Materials of Construction	C. E. 132f	3	
Technical Composition	English 103f	2	
		17	17

Fourth Year

Chemical Engineering	Chem. Eng. 100f, 151w	5	5
Physical Chemistry	Chem. 131f	5	
Heat Machinery	M. E. 131f	3	
Mechanisms	M. E. 100w		3
Electives		3	9
		16	17

Civil Engineering

Third Year

Mechanics of Engineering	Mechanics 100f	4		
Mechanics of Materials	Mechanics 101w			4
Materials of Construction	C. E. 132f or w	3	or	3
Hydraulics	C. E. 140f or w	3	or	3
Mechanisms	M. E. 100f or w	3	or	3
Heat Machinery	M. E. 131f or w	3	or	3
Electrical Machinery	E. E. 101f or w	5	or	5
Higher Surveying	C. E. 104f	4		
Graphic Statics	C. E. 120f or w	2	or	2
Technical Composition	English 103f or w	2	or	2
		16		17

Fourth Year

Route Surveys	C. E. 111f	4	
Stresses	C. E. 121f	3	
Masonry Structures	C. E. 125f	3	
Sanitary Problems	C. E. 152w		2
Structural Design	C. E. 122w		3
Roads and Pavements	C. E. 151w		2
Hydraulic Engineering	C. E. 143w		3
Electives		8	7
		18	17

Electrical Engineering

Third Year

Subject	Department and Course No.	Semester First	Second
Mechanics of Engineering	Mechanics 100f	4	
Mechanics of Materials	Mechanics 101w		4
Materials of Construction	C. E. 132f	3	
Hydraulics	C. E. 140w		3
Mechanisms	M. E. 100f	3	
Heat Machinery	M. E. 131w		3
Electrical Machinery	E. E. 101f	5	
Alternating Currents	E. E. 110w		4
Technical Composition	English 103f	2	
Electives			3
		17	17

Fourth Year

Electrical Machinery B	E. E. 111f, 112w	4	4
Electrical Power Distribution	E. E. 130w		3
Communication	E. E. 134f	4	
Radio Communication	E. E. 135w		3
Electives		9	7
		17	17

Management Engineering

Third Year

Materials of Construction	C. E. 132f or w	3	or	3
Mechanisms	M. E. 100f or w	3	or	3
Elementary Accounting	Acct. and Stat. 17f or w	5	or	5
Mechanics of Engineering	Mechanics 100f	4		
Mechanics of Materials	Mechanics 101w			4
Money, Credit and Banking	Ec. & Fin. 105f or w	5	or	5
Labor Supply	M. E. 145w			2
Heat Machinery	M. E. 131f or w	3	or	3
American Government	Pol. Sci. & Pub. Law 1f or w	5	or	5
		17		17

Fourth Year

Subject	Department and Course No.	Semester First		Second
Corporation Finance	Econ. & Fin. 118f or w	3	or	3
Electrical Machinery	E. E. 101f or w	5	or	5
Transportation and Public Utilities	Econ. & Fin. 106f or w	3	or	3
Hydraulics	C. E. 140f or w	3	or	3
Business Relations	C. E. 112f or w	3	or	3
Business Law	Econ. & Fin. 150f or w	3	or	3
Technical Composition	English 103f	2		
Electives		6		6
		17		17

Mechanical Engineering.

Third Year

Mechanics of Engineering	Mechanics 100f	4		
Mechanics of Materials	Mechanics 101w			4
Materials of Construction	C. E. 132f or w	3	or	3
Mechanisms	M. E. 100f or w	3	or	3
Machine Design A	M. E. 101w			3
Heat Machinery	M. E. 101f or w	3	or	3
Hydraulics	C. E. 140f or w	3	or	3
Electrical Machinery	E. E. 101f or w	5	or	5
Technical Composition	English 103f or w	2	or	2
Factory Production	M. E. 142w			3
Electives		3		
		18		18

Fourth Year

Power Plant Economy	M. E. 132f	3		
Principles of Thermodynamics	M. E. 136f	3		
Mechanical Laboratory	M. E. 121f and w	2		2
Power Plant Machinery	M. E. 133w			3
Advanced Thermodynamics	M. E. 137w			3
Labor Supply	M. E. 145w			2
Electives		8		6
		16		16

Graduate Work in Engineering

Students who have completed the work for the degree of Bachelor of Science in Engineering may register in the Graduate School of the University and pursue work for the degree of Master of Science with designation of the field of specialization in Engineering. Such advanced study is particularly important for those who wish to engage in research work or in teaching.

For further information concerning the College of Engineering, address E. J. McCaustland, Dean, Faculty of Engineering, University of Missouri, Columbia, Missouri.

THE ENGINEERING EXPERIMENT STATION

OFFICERS OF THE STATION

WALTER WILLIAMS, LL. D.....President of the University
ELMER JAMES MCCAUSTLAND, C. E., M. C. E.....Director

The Engineering Experiment Station was established by the Board of Curators, July 1, 1909.

The object of the station is to be of service to the people of the State of Missouri by investigating such problems in engineering lines as appear to be of the most direct and immediate benefit, by publishing these studies and information in the form of bulletins, and by research of importance to the manufacturing and industrial interests of the state and to engineers.

The staff of the station at present consists of a director, together with a number of teachers who have undertaken research under the direction of the station.

Bulletins have been published as follows:

[1]Vol. 1, No. 1, *Acetylene for Lighting Country Homes*, by J. D. Bowles, research assistant, 1909-10.

[1]Vol. 1, No. 2, *Water Supply for Country Homes*, by K. A. McVey, research assistant, 1909-10.

[1]Vol. 1, No. 3, *Sanitation and Sewage Disposal for Country Homes*, by W. C. Davidson.

[1]Vol. 2, No. 1, *The Heating Value and Proximate Analysis of Missouri Coals*, by C. W. Marx and Paul Schweitzer. (A reprint.)

[1]Vol. 2, No. 2, *Friction and Lubrication Testing Apparatus*, by Allan E. Folwers.

[1]Vol. 2, *Tests of Road Materials of Missouri*, by W. S. Williams and Warren Roberts.

[1]Vol. 3, No. 1, *The Use of Metal Conductors to Protect Buildings from Lightning*, by E. W. Kellogg.

[1]Vol. 3, No. 2, *Firing Tests on Missouri Coal*, by H. N. Sharp, research assistant, 1911-12.

[1]Vol. 3, No. 3, *A Report on Steam Boiler Trials Under Operating Conditions*, by A. L. Westcott.

[1]Vol. 4, No. 1, *Economics of Rural Distribution of Electric Power*, by L. E. Hildebrand, research assistant, 1912-13.

[1]Vol. 4, No. 2, *Comparative Tests of Cylinder Oils*, by M. P. Weinbach.

[1]Vol. 4, No. 3, *Artesian Waters of Missouri*, by A. W. McCoy, research assistant, 1912-13.

[1]Vol. 4, No. 4, *Friction Tests of Lubricating Greases and Oils*, by A. L. Wescott.

[1]Out of print.

[1]No. 14, *A Study of the Effects of Heat on Missouri Granites*, by W. A. Tarr and L. M. Neuman, research assistant.

[1]No. 15, *A Preliminary Study Relating to the Water Resources of Missouri*, by T. J. Rodhouse.

[1]No. 16, *The Economics of Electric Cooking*, by P. W. Gumaer.

[1]No. 17, *Earth Roads and the Oiling of Roads*, by H. A. LaRue.

[1]No. 18, *Heat Transmission Through Boiler Tubes*, by E. A. Fessenden and Jiles W. Haney, research assistant, 1913-14, 1914-15.

No. 19, *Geology of Missouri*, by E. B. Branson.

[1]No. 20, *Energy Necessary to Shear Steel at High Temperature*, by Guy D. Newton.

[1]No. 21, *Water Supply and Sewage Disposal for Country Homes*, by E. J. McCaustland.

No. 22, *Study Relating to the Water Resources of Missouri*, by T. J. Rodhouse.

No. 23, *Experiments on the Extraction and Recovery of Radium from American Carnotite Ores*, by H. H. Barker, research professor Engineering Experiment Station, and Herman Schlundt.

No. 24, *The Grading of Earth Roads*, by H. A. LaRue.

No. 25, *Experiments on Sun Flower Seed Oil*, by H. E. French and R. O. Humphrey.

[1]No. 26, *Directory of Alumni and Former Students, College of Engineering.*

No. 27, *Tests on Lubricating Oils, by* Dr. Mary V. Dover.

No. 28, *Reinforced Brickwork*, by Mason Vaugh.

A standardizing laboratory has been established and apparatus is now available for many types of standardizing work.

For further information regarding the Engineering Experiment Station, address DIRECTOR OF THE ENGINEERING EXPERIMENT STATION, UNIVERSITY OF MISSOURI, COLUMBIA, MISSOURI.

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[1]Out of print.

COLLEGE OF FINE ARTS

The College of Fine Arts was established by the Board of Curators in December, 1923. It is an institutional member of the National Association of Schools of Music, which admits to membership only those schools able to meet its exacting standards. It offers to its students opportunities for professional and cultural training in music and the other fine arts and affords students in other divisions of the University an opportunity to cultivate these subjects as elements in liberal education.

THE COLLEGE OF FINE ARTS OFFERS:

1. PROFESSIONAL COURSES IN MUSIC—

a. Four-year courses with major specialization in Piano, Voice, Violin, Violoncello, Organ, Musical Theory, and History of Music, leading to the degree of Bachelor of Fine Arts (B. F. A.) in Music.

b. A four-year course with major specialization in Public School Music, administered conjointly with the School of Education, leading to the degree of Bachelor of Science in Education (B. S. in Ed.) and carrying a life certificate to teach in the public schools of Missouri.

c. Courses in Clarinet, Flute, and other orchestral instruments, not leading to a degree in themselves, but acceptable for credit in other musical curricula.

d. Preparatory work (sub-freshman) in Piano, Violin, Violoncello, Flute, Clarinet, and other orchestral instruments.

2. PROFESSIONAL COURSES IN ART—

a. Four-year courses with major specialization in Architecture, Decorative Design, Painting, and Applied Arts leading to the degree of Bachelor of Fine Arts (B. F. A.) in Art.

b. A four-year course with major specialization in Art Education, administered conjointly with the School of Education, leading to the degree of Bachelor of Science in Education (B. S. in Ed.) and carrying a life certificate to teach in the public schools of Missouri.

3. NON-PROFESSIONAL COURSES IN MUSIC AND ART—

a. A four-year cultural course with major specialization in the general field of the fine arts, including the art of music, the graphic and applied arts, the literary arts, and the dramatic

arts, and leading to the degree of Bachelor of Fine Arts without qualification.

b. A four-year course with major specialization in the general field of music, leading to the degree of Bachelor of Fine Arts without qualification.

c. A similar course in the graphic and applied arts and leading to the same degree.

Requirements for Admission: For information in regard to requirements for admission, see page 46.

Entrance Credits in Music: Entrance credits in Applied Music (Piano, Voice, Violin, Viola, and Violoncello) to a maximum of two units when accompanied by the one-unit course in the Fundamentals of Music will be accepted by certificate from those secondary schools in Missouri in which the study of applied music is conducted in accordance with the "Plan Providing for the Giving of Credit Toward Graduation from Secondary Schools for Outside Study of Piano, Violin, Violoncello, Viola, and Voice, under private teachers." This plan represents an agreement entered into by the State Department of Education, the University of Missouri Committee on Accredited Schools and Colleges, and the Executive Council of the Missouri Music Teachers Association. All work in applied music from outside Missouri or work done in Missouri under conditions other than those prescribed in the plan referred to will be accepted only by examination.

Entrance Credits in Music by Examination: For admission to freshman standing in Piano or in Organ, the student must be able to play acceptably at least three of the two-part Inventions of J. S. Bach, one of the easier Sonatas of Haydn or Mozart, and all major and minor scales, through three octaves. Such scales should be played from memory.

For admission to freshman standing in Violin, the student must have the ability to play acceptably the first ten of the Kayser Etudes, or the equivalent, and major and minor scales in one octave through nine keys. Such scales should be played from memory.

For admission to freshman standing in Violoncello, the student must have the ability to play acceptably the first book of Dotzauer or the equivalent, and major and minor scales in one octave through nine keys. Such scales should be played from memory.

Three units of entrance credit will be given for the above degree of attainment (two n applied music, one in fundamentals of music) when it is accompanied by adequate work in elementary theory, rudiments of music, and ear training. Such credit will be given by examination.

For admission to freshman standing in the course majoring in Theoretical Music, or the course majoring in Public School Music, the student may offer the three units required for admission

in either Piano, Violin or Violoncello; or he may upon examination be granted three units in any recognized orchestral instrument, when qualified by adequate work in elementary theory, rudiments of music, and ear training, provided he has studied such instrument for not less than three years immediately preceding admission.

Music students having fifteen acceptable units of entrance credit in academic subjects, but deficient in Applied Music, will be admitted to the College of Fine Arts, but cannot receive credit for courses in Piano, Violin, Violoncello, Organ, or Orchestral Instruments until freshman standing in these subjects has been granted.

FEES: For information in regard to scholarships, fees, etc., see *General Information.*

ENROLLMENT: Students may enroll at any time for private lessons in Applied Music. Credit will not be given, however, unless enrollment is made at the beginning of a semester.

All University work, including private lessons, conforms to the University calendar. Lessons falling at times when the University is not regularly in session are not given.

Lessons missed through the student's own negligence will not be made up.

Students may not take less than two lessons per week without special consent of the Dean. The maximum credit granted for one lesson per week in Applied Music will not exceed one hour per semester. No refund will be allowed for cancellation of work in applied music, except in cases of long-continued illness.

Under exceptional conditions single lessons in applied music may be had by special students with the approval of the Dean at single-lesson rates. Such lessons must be paid for in advance.

A special honor roll is published each year containing the names of all students who have maintained an average grade of S or better, for an entire year, in work counting toward the B. F. A. degree, and of upper classmen who have received a grade of S or better, in at least five hours of upper classmen work counting toward the B. F. A. degree. Honor students will receive preference in recommendations for positions.

CONCERTS AND RECITALS: Concerts and recitals by visiting artists and musical organizations are given from time to time. The admission is kept as low as possible in order that such opportunities of hearing good music may be within the reach of all. The student-activity ticket contains coupons admitting to all the concerts of the regular University Concert Series.

Recitals, public and private, are given at frequent intervals by members of the faculty of the College of Fine Arts and by advanced

students. Students are required to take part in such recitals whenever called upon to do so by their instructors. Weekly student recitals are held each Tuesday afternoon from three to four o'clock. Attendance is required of all music students who are required to participate when called upon to do so by their instructors.

MUSICAL ORGANIZATIONS: The University Chorus rehearses once each week, and prepare several large choral works for presentation with soloists and orchestra from time to time during the year. Faculty, students, and singers from the community are admitted to membership after conference with the director of the chorus. All vocal students in the College of Fine Arts, subject to the approval of their teacher and the dean, are required to sing in the University Chorus. All members of the Men's Glee Club and the Woman's Glee Club, subject to the approval of the director of the chorus and the leaders of the glee clubs, are expected to sing in the University Chorus. In recent years the University Chorus has given performances of the following choral masterpieces: Elijah, Mendelssohn; Manzoni Requiem, Verdi; Messiah (twice), Handel; Faust, Gounod; A Tale of Old Japan, Coleridge-Taylor; The Swan and the Skylark, Goring-Thomas; Hora Novissima, Parker; Carmen, Bizet; a German Requiem, Brahms; Martha, Flotow; La Vita Nuova, Wolf-Ferrari; and Samson and Delilah, Saint-Saens. Credit, two hours at the end of the second term.

The University Orchestra rehearses once each week. Concerts are given from time to time. Faculty, students, and players of orchestral instruments from the community are admitted to membership after conference with the director of the orchestra. All students of Violin, Violoncello, or other orchestral instruments are required to play in the University Orchestra. Credit, two hours at the end of the second term.

The University Band. See page 251 of this catalog.

The Men's Glee Club and the Women's Glee Club are student organizations. They give local and out-of-town concerts, and are open to any regularly enrolled student in the University who can meet their vocal requirements. Members of both these organizations are expected to sing in the University Chorus, subject to the approval of the director of that organization and the leaders of the glee clubs.

ART COLLECTIONS AND EXHIBITIONS: Besides a number of well lighted and suitably equipped studios and lecture rooms the University has a collection of plaster casts of famous statues and relief, and a large number of lantern-slides and photographs to illustrate the world's art.

Exhibitions of original paintings, etchings, crafts, architectural drawings, etc., are held from time to time which art students are required to study. These represent modern as well as older practice.

Several organizations, such as the Sketch Club, give students an opportunity for original endeavor. The designing of stage sets, posters, etc., is encouraged.

The student's work is the property of the school whenever desired for exhibition or other purposes; all work must be turned in at the end of the term or whenever requested by the instructor. Work not needed will be returned to the student.

Fine Arts Day is a special day set aside during the spring of the year for the purpose of fostering an interest in the fine arts. A convocation, with a speaker famous in some field of art, an exhibition of art work, and a public recital by students of the College of Fine Arts are special features of the day.

STUDENT LOAD: The regular student load is sixteen hours per semester, exclusive of Military Science and Tactics, or Physical Education. Upper-class students in the College of Fine Arts who have an average grade of M or better in the previous semester, may carry for credit, with the approval of the Dean, hours in excess of sixteen. No student is permitted to carry less than twelve hours except by special consent of the Dean. Students majoring in applied music are required to study their major subject throughout the entire period of their candidacy for that major.

MAJORS AND MINORS: The requirements for majors and minors in music departments are as follows:

	Major	Minor
Piano	40	25
Violin or Violoncello	38	25
Organ, including 10 hours of piano	38	25
Voice, including 6 hours of piano and 4 hours of diction	36	20
Theory and History of Music	46	34

REQUIREMENTS IN ENGLISH: All students must in their junior year pass a test of their proficiency in English. No student will be recommended for graduation until his English is satisfactory.

REQUIREMENTS FOR GRADUATION: The College of Fine Arts confers the degree of Bachelor of Fine Arts without qualification for courses of a cultural character in the general field of the fine arts. For professional courses with major specialization in Piano, Voice, Violin, Violoncello, Organ, Musical Theory and History of Music, Architecture, Decorative Design, and Painting the degree of Bachelor of Fine Arts is conferred, qualified by the department (Music or Art) in which the major work is done.

The following general requirements apply to all candidates for the degree:

1. He must have been regularly admitted to the College of Fine Arts.

2. The work of the senior year (last twenty-four hours) must have been done in residence.

3. He must have been regularly recommended by the faculty of the College of Fine Arts.

4. He must have completed a total of 126 hours of University work acceptable toward the degree.

5. He must have completed a total of 126 grade points. Each hour of credit is valued in points as follows: The grade of E carries 3 points; S, 2 points; M, 1 point; passed grades and advanced standing are treated as of M grade. No points are given for I grades.

The following requirements (6, 7, 8, 9, 10, 11 and 12) apply to candidates for the professional degree with major specialization in some specialized field of Music or Art:

6. The required 126 hours shall include—

Professional courses in art or music, except for voice majors	80 hours
Professional music courses for voice majors	76 hours
Required academic courses, except for voice majors	35 hours
Required academic courses for voice majors	39 hours
Physical education for women	2 hours
Military training for men	6 hours
Electives, either professional or academic	5–9 hours

7. All required work in the professional group of courses shall be passed at a minimum average grade of M, i. e., the number of grade points shall equal or exceed the number of hours.

8. In music the required professional group of courses shall include one of the following:

a. A major in Applied Music and a minor in Historical and Theoretical Music.

b. A major in Historical and Theoretical Music and a minor in Applied Music.

9. a. Applied music majors at the end of the junior year will present an informal recital of a grade of difficulty meeting the approval of the Committee on Senior Standing. They will also appear before that committee for such tests in musicianship as it may care to impose. Senior standing will be granted in accordance with the actual musical ability of the student, irrespective of the number of credit hours already accumulated. Such tests will include a general survey of reportoire, and the performance of works selected therefrom, sight-reading, scales and arpeggios, etc. Voice majors will demonstrate their ability to perform in an adequate manner piano accompaniments from the standard song-literature, such as Schubert, Schumann, and others. Further study will be required in their major field, without credit, of those who fail to pass this examination. Applied music majors are not permitted to take examinations for senior standing until their work in other fields is of equal rank.

b. Applied Music majors at the end of the senior year will present from memory a recital program one hour in length, of a grade of difficulty meeting the approval of the Committee on Senior Standing in Music. Memorizing for Organ majors is left to the judgment of the individual teacher.

c. Theory of Music majors will present a program of original compositions occupying at least one hour. These majors will also present as a thesis a composition in one of the larger forms, either for a single instrument or for some combination of instruments, meeting the approval of the Committee on Senior Standing in Music.

10. In Art the required professional group of courses shall include the equivalent of one of the prescribed curricula (see pages 205 to 209) with major specialization in Painting, Architecture, Decorative Design, or Applied Arts.

11. In all departments except voice the 35 hours of required academic work shall include:

a. Six hours of English Composition and Rhetoric, completed during the freshman year.

b. Six hours of History (courses History 2 and 3 preferred).

c. Three hours of Aesthetics (Philosophy 117w).

d. A sequence of closely correlated studies for a minimum, of fifteen hours, selected with the approval of the faculty adviser from the following fields of work:

Literature

Language: French, German, Italian, Spanish

Science and mathematics: Botany, zoology, chemistry, geology, astronomy, physics, mathematics

Social Studies: Citizenship, economics, history, sociology, political economy.

Philosophy and psychology.

e. The remaining five hours, with the approval of the faculty adviser, may include additional work from the fields listed under d, or may be selected from the following list: Education, Bible, Classical Language and Archaeology, Music (for art students), and Art (for music students).

12. The 39 hours of academic work required of voice majors shall include:

a. Six hours of English Composition and Rhetoric, completed during the freshman year.

b. Three hours of Aesthetics (Philosophy, 117w).

c. Fifteen hours each of French and German. If a student presents three units in one of these languages or has done two units so well that he can take the third five-hour course in that language, he will be excused from ten hours of that language. If he is prepared to enter the second course in one of these languages he will be excused from five hours of that language. Hours freed as a

result of such exemptions shall be used with approval of the faculty adviser for work selected from the following fields: English, history, language, education, philosophy, psychology, history of art.

13. The electives may consist of additional courses in art or music, or may be chosen from any work offered for credit by any department in the University of Missouri.

14. For the Bachelor of Fine Arts degree with major specialization in the general field of the fine arts (music, graphic and applied arts, literature, and dramatic arts), the required 126 hours shall represent a correlated plan of study to be selected from the following table of courses and include in each field not less than the listed minimum, nor less than the listed minimum of upperclass work, nor more than the listed maximum. A total minimum of thirty hours of upperclass courses shall be included.

	Minimum of Upperclass Courses	*General Minimum*	*General Maximum*
English	9	21	30
History of Music	6	10	18
History of Art	4	10	24
Applied Music or Painting or Design or Applied Art	0	24	40
Theoretical Music	0	4	20
Philosophy	6	6	10
Greek and Latin Masterpieces in English Translation	2	2	5
History	0	6	20
Sociology and Economics	0	0	10
One modern language—French, German, Italian	0	15	27
Mathematics	0	0	10
Physical or Biological Science	0	0	10
Psychology	0	0	7
Bible and Religion	0	0	6
Journalism	0	0	15
Physical Education or Military Science.	0	2–6	2–6
Additional Electives	3		
	30	100–104	

14. For the Bachelor of Fine Arts degree with major specialization in the general field of music or the graphic and applied arts the 126 hours shall include: a. Fifty hours of academic work selected from the list above under paragraph 11 and including the requirements specified therein. b. If the course is taken with major specialization in the general field of music, 70 hours of courses in that field shall be offered including a minor in applied music and a minor in historical and theoretical music.

c. If the course is taken with major specialization in the general field of the graphic and applied arts, 70 hours of courses in these fields shall be offered, including two minors of 20 hours each and at least 15 hours in history of art. d. The remaining hours necessary to make a total of 126, including the required physical education or military science, may be selected from courses in music, in art, or in academic subjects. The 70-hour group in music or in art must be passed at an average grade of M or better.

Suggested Curricula

These curricula include all courses required for the degree, in proper sequence of prerequisites.

With Applied Music Major in Piano, Organ, Violin, or Violoncello

Freshman Year

	Semester	
	First	*Second*
Rudiments of Music	0	..
Dictation and Ear Training, 5f and 6w	2	1
Harmony, 1w	..	3
English, 1f and 2w	3	3
History, 2f and 3w	3	3
Applied Music Major	*	*
Academic Sequence (11d)	5	3
Chorus, 41f and 42w, or Orchestra, 43f and 44w	0	0
Physical Education or Military	½ or 1½	½ or 1½

Sophomore Year

Harmony, 2f and 3w	3	4
Dictation and Ear Training, 7f	1	..
Counterpoint, 101f and 102w	3	3
Appreciation of Music, 21f and 22w	2	2
Academic Sequence (11d)	2	2
Applied Music Major	*	*
Chorus, 41f and 42w, or Orchestra, 43f and 44w	0	0
Physical Education or Military	½ or 1½	½ or 1½

Junior Year

Musical Form, 111f and 112w, or		
Musical Analysis, 113f and 114w	2	2
History of Music, 123f and 124w	3	3
Ensemble, Piano or String	1	1
Applied Music Major	*	*
Chorus, 41f and 42w, or Orchestra, 43f and 44w	1	1
Academic Sequence (11d)	3	3

*Required hours in Applied Music not included in above.

Senior Year

	Semester	
	First	*Second*
Applied Music Major	*	*
Teaching Applied Music Major or Improvisation and Service Playing (Organ)	1	1
Ensemble, String	1	1
Chorus, 41f and 42w, or Orchestra, 43f and 44w	1	1
Aesthetics	..	3
Electives	6	3

Applied Music Major in Voice

Freshman Year

Rudiments of Music	0	..
Dictation and Ear Training, 5f and 6w	2	1
Harmony, 1w	..	3
English, 1f and 2w	3	3
French, 1f and 2w	5	5
Voice, 61f and w	*	*
Academic Sequence (11d)	4	2
Chorus, 41f and 42w	0	0
Physical Education or Military	½ or 1½	½ or 1½

Sophomore Year

Harmony, 2f and 3w	3	4
Dictation and Ear Training, 7f	1	..
French, 3f; German, 1w	5	5
Counterpoint, 101f and 102w	3	3
Voice	*	*
Piano	*	*
Chorus, 41f and 42w	0	0
Physical Education or Military	½ or1½	½ or 1½

Junior Year

Musical Analysis, 113f and 113w or Musical Form, 111f and 112w	2	2
Appreciation of Music, 21f and 22w	2	2
German, 2f and 3w	5	5
Piano	*	*
Voice	*	*
Chorus, 41f and 42w	1	1

Senior Year

History of Music, 123f and 124w	3	3
Voice Teaching	1	1
Diction	2	2
Voice	*	*
Aesthetics, 117w	..	3
Chorus, 41f and 42w	1	1
Electives	5	2

*Required hours in Applied Music not included in above.

With a Major in Theory of Music

Students are not permitted to specialize in Theory of Music until the junior year. In freshman and sophomore years they will follow the curriculum for piano, organ, violin, or violoncello major.

Junior Year	Semester First	Semester Second
Musical Form, 111f and 112w	2	2
History of Music, 123f and 124w	3	3
Polyphonic Forms, 103f and 104w	2	2
Orchestral Instruments, 143f and 144w	1	1
Piano	*	*
Chorus, 41f and 42w, or Orchestra, 43f and 44w	1	1
Academic Sequence (11d)	4	4
Senior Year		
Composition, 103f and 104w	2	2
Orchestration I and II, 117f and 118w	2	2
Teaching of Theory, 119f and 120w	1	1
Ensemble, Piano or String	1	1
Piano	*	*
Aesthetics, 117w	..	3
Electives	8	5

With a Major in Public School Music

Freshman Year	Semester First	Semester Second
Rudiments of Music	0	..
Dictation and Ear Training 5f and 6w	2	1
Harmony 1w	0	3
English 1f and 2w	3	3
History 2f and 3w	3	3
Applied Music	*	*
Academic Sequence	5	3
Chorus, 41f and 42w or Orchestra, 43f and 44w	0	0
Physical Education or Military	1 or 1½	1 or 1½
Sophomore Year		
Harmony 2f and 3w	3	4
Dictation and Ear Training	1	..
Counterpoint	3	3
Appreciation of Music	2	2
Applied Music	*	*
Orchestral Instruments, 142f and 143w	1	1
Academic Sequence	3	3
Chorus, 41f and 42w, or Orchestra, 43f and 44w	0	0
Physical Education or Military	1 or 1½	1 or 1½

*Required hours in Applied Music not included in above.

In the junior and senior years students will enroll in the School of Education leading to the degree of Bachelor of Science in Education. For junior-senior schedules, see page 170.

Curricula for the Department of Art

One of the following curricula in proper sequence is suggested for the degree of Bachelor of Fine Arts with a major in Art. The electives must include five hours credit in courses in the academic field as described under No. 11e, on page 200.

Architecture

Freshman

	Hours		Hours
English	3	English	3
History, 2 or 3	3	History, 2 or 3	3
Introduction to Art, 2f	5	Drawing, 88aw	4
Art History, 11f	2	Composition I, 19w	1
Elective	2	Art History, 12w	2
Military or Physical Education	1½ or ½	Elective	2
		Military or Physical Education	1½ or ½
	16½ or 15½		16½ or 15½

During the following vacation the student will be required to present: *a*, two months in an approved office, or *b*, a measured project and five sketches.

Sophomore

	Hours		Hours
Design, 70af	5	Drawing, 88bw	4
Academic Sequence (11d)	8	Architectural Design, 71w	5
Architectural Design, 71f	2	Construction, 81w	2
Military or Physical Education	1½ or ½	Academic Sequence (11d)	3
		Elective	1
		Military or Physical Education	1½ or ½
	16½ or 15½		16½ or 15½

During the following vacation the student will be required to present: *a*, two months in an approved office; or *b*, twenty subjects in pencil, pen or water color; or *c*, measured project and ten sketches.

Junior

	Hours		Hours
History of Architecture, 104f	3	History of Architecture, 105w	3
Construction, 121f	2	Historic Ornament I, 142w	2
Architectural Design, 171f	5	Architectural Design, 171w	5
Academic Sequence (11d)	4	Construction, 181w	2
Elective	2	Drawing, 88bw	4
	16		16

During the following vacation the student will be required to present: *a*, two months in an approved office; or *b*, twenty subjects in pencil, pen, or water color; or *c*, measured projects in ten sketches.

Senior

	Hours		Hours
Domestic Architecture, 162f	5	Civic Buildings, 172w	5
Specifications I, 163f	1	Construction, 181w	2
Historic Ornament II, 152f	2	Specifications II, 173w	1
Drawing, 188f	4	Collaborative Design, 192w	5
Elective	4	Aesthetics, Philosophy, 117w	3
	16		16

Painting

Freshman

	Hours		Hours
English	3	English	3
History, 2 or 3	3	History, 2 or 3	3
Introduction to Art, 2f	5	Art History, 12w	2
Art History, 11f	2	Drawing, 88aw	4
Elective	2	Composition I, 19w	1
Military or Physical Education	1½ or ½	Elective	2
		Military or Physical Education	1½ or ½
	16½ or 15½		16½ or 15½

Sophomore

	Hours		Hours
Design, 70af	5	Painting, 77w	4
Academic Sequence (11d)	5	Drawing, 88bw	4
Drawing, 88bf	4	Composition III, 79w	2
Composition II, 59f	2	Academic Sequence (11d)	5
Military or Physical Education	1½ or ½	Military or Physical Education	1½ or ½
	17½ or 16½		16½ or 15½

Junior

	Hours		Hours
Painting, 177f	4	Painting, 177w	4
Drawing, 188f	4	Drawing, 188w	4
Advanced Composition, 179f	3	Advanced Composition, 179w	3
Academic Sequence (11d)	5	Art History	3
		Elective	2
	16		16

Senior

	Hours		Hours
Painting, 177f	4	Painting, 177w	4
Drawing, 188f	4	Advanced Composition, 179w	6
Advanced Composition, 179f	3	Aesthetics, Philosophy, 117w	3
Art History	3	Elective	2
Elective	2		
	16		15

Decorative Design

(Textile Design; Interior Decoration; Commercial Design.)

Freshman

	Hours		Hours
English	3	English	3
History, 2 or 3	3	History, 2 or 3	3
Introduction to Art, 2f	5	Drawing, 88aw	4
Art History, 11f	2	Composition, 19w	1
Elective	2	Art History, 12w	2
Military or Physical Education	1½ or ½	Elective	2
		Military or Physical Education	1½ or ½
	16½ or 15½		16½ or 15½

Sophomore

	Hours		Hours
Design, 70af	5	Design, 70bw	4
Painting, 77f	4	Drawing, 88bw	4
Academic Sequence (11d)	5	Academic Sequence (11d)	5
Elective:		Elective:	
[1]Art, 101f; [2]Art, 71f, or [3]Art, 59f	2	[1]Art, 106w; [2]Art, 81w; [1,2]Art, 90w, or [3]Journalism, 120w	3
Military or Physical Education	1½ or ½	Military or Physical Education	1½ or ½
	17½ or 16½		17½ or 16½

Junior

	Hours		Hours
Design, 170f	4	Design, 170w	4
Art History	3	Historic Ornament I, 142w	2
Academic Sequence (11d)	5	Drawing, 88bw	4
Elective:		Art History	3
[1,2]Art, 91f; or [3]Art, 79f	4	Elective:	
		[3]Journalism, 121w and 131w	3
	16		16

[1]For students of Textile Design.
[2]For students of Interior Decoration.
[3]For students of Commercial Design.

Senior

	Hours		Hours
Design, 170f	5	Design, 170w	10
Historic Ornament II, 152f	2	Aesthetics, Philosophy, 117w	3
Painting, 177f	4	Elective	2
Drawing, 188f	4		
	15		15

Applied Arts

Freshman

	Hours		Hours
English	3	English	3
History, 2 or 3	3	History, 2 or 3	3
Artcraft I, 50f	3	Introduction to Art, 2w	5
Basketry, 103f	2	Art History, 12w	2
Art History, 11f	2	Elective	3
Elective	3	Military or Physical Education	1½ or ½
Military or Physical Education	1½ or ½		
	17½ or 16½		17½ or 16½

Sophomore

	Hours		Hours
Drawing, 88af	4	Drawing, 88bw	4
Design, 70af	5	Design, 70bw	4
Academic Sequence (11d)	5	Academic Sequence (11d)	5
Composition I, 19f	1	Artcraft II, 60w	2
Military or Physical Education	1½ or ½	Military or Physical Education	1½ or ½
	16½ or 15½		16½ or 15½

Junior

	Hours		Hours
Artcraft III, 101f	2	Painting, 77w	4
Drawing, 88bf	4	Bookbinding, 109w	2
Pottery I, 107f	2	Weaving, 106w	2
Art History	3	Pottery II, 108w	3
Academic Sequence (11d)	5	Composition II. 59w	2
		Art History	3
	16		16

Senior

	Hours		Hours
Artcraft IV, 102f	2	Painting, 177w	4
Design, 170f	4	Design, 170w	4
Drawing, 188f	4	Composition II, 59w	2
Education	3	Aesthetics, Philosophy, 117w	3
Elective	2	Elective	2
	15		15

FOR TEACHERS AND SUPERVISORS OF ART

With Minor in English, Modern Language, or Social Studies

Freshman

	Hours		Hours
Artcraft I	2	English	3
English	3	Foreign Language	5
Foreign Language	5	History, 1, 2 or 3	3
History, 1, 2 or 3	3	Introduction to Art	5
Applied Arts (Basketry or Artcraft II)	2	Military or Physical Education	½ or 1½
Military or Physical Education	½ or 1½		
	16½ or 17½		16½ or 17½

Sophomore

	Hours		Hours
Science, or Psychology and Minor Subject	5	Minor Subject	5
History of Architecture	3	History of Architecture	3
Preventive Medicine	2	Design 70	5
Drawing 88	4	Artcraft III	2
Composition I	1	Art Masterpieces	1
Military or Physical Education	½ or 1½	Military or Physical Education	½ or 1½
	15½ or 16½		16½ or 17½

In the junior and senior years, students will enroll in the School of Education leading to the degree of Bachelor of Science in Education. For junior-senior schedules, see page 164.

For further information regarding the College of Fine Arts, address JAMES T. QUARLES, DEAN, FACULTY OF FINE ARTS, UNIVERSITY OF MISSOURI, COLUMBIA, MISSOURI.

GRADUATE SCHOOL

The University of Missouri offers graduate instruction in classical languages and archaeology, modern languages, philosophy and psychology, education, social sciences, journalism, mathematical and physical sciences, biological sciences, the fine arts, home economics, agriculture, and engineering. The Faculty of the Graduate School has charge of all graduate work in the University.

ADMISSION: Graduates of the colleges and universities comprising the Missouri College Union and of other reputable colleges and universities are admitted to the Graduate School. Graduates of Missouri State Teachers Colleges, whose first regular enrollment for college work in a teachers college was subsequent to September 1, 1916, and who have completed the 120-hour curriculum, will be admitted to the Graduate School. The list of universities and colleges approved by the Association of American Universities will be used as a guide in the case of graduates of institutions formerly not admitted.

Admission to this school, however, shall not be understood as implying admission to candidacy for advanced degrees, which is subject to the regulations indicated below.

Students are admitted to the Graduate School by the Registrar of the University, to whom applications for admission and official transcripts of records, including statement of degree or degrees, should be sent before the opening of the session.

GRADUATE SCHOLARSHIPS AND FELLOWSHIPS: For statements regarding scholarships and fellowships offered to graduate students see page 75.

REGISTRATION: Directions for registration will be placed in each student's hands by the Registrar. One and one-half days (see calendar, page 3) are set apart for registration in the fall. The student should consult his major adviser, or the representative of that department in which he wishes to major, and have his course of study outlined and ready to present to the dean.

PART-TIME REGISTRATION BY STUDENTS WITHIN REACH OF COLUMBIA BY MOTOR AND RAIL

Teachers, ministers, professional men, and other who are within easy reach of Columbia by motor or rail may register for graduate seminaries, individual conferences, and courses which are given only once or twice a week and which, if due request is made, may be scheduled at a time convenient to the members of the class. Residence credit is given for this work.

Regulations Governing the Degree of Master of Arts

1. General Statement

The degree of Master of Arts is offered to students who have spent in residence at least two semesters or four summer sessions (with the exception noted below) exclusively devoted to advanced courses of study and who have submitted an acceptable dissertation, when required by the department of the candidate's major subject, and passed a final examination.

2. Acceptance of Candidates

After admission to the Graduate School, a student wishing to become a candidate for this degree must fill out, in consultation with his major adviser (and minor adviser if a minor is offered), upon a blank form provided for the purpose, a full statement of all work he proposes to offer for the degree, and must present it to the Dean of the Graduate Faculty not later than one month after his or her registration, as indicated in the School Calendar (see page 3).

In making such application, the student must indicate his major field of work (and minor field if a minor is offered), the subject of the dissertation, when one is required, the undergraduate prerequisites completed and uncompleted for graduate work, in the special field, the course of study selected by him with the advice of his major adviser (and minor adviser if a minor is offered), secure the signature of his major adviser (and minor adviser if a minor is offered) to the blank form indicated above, before presenting it to the Graduate Office for approval. He may, however, defer submitting the subject of the dissertation for not more than two weeks after filing the application.

A student who fails to file application for his degree in due time may not be recommended for the degree at the appropriate commencement.

3. Requirements for the Degree of Master of Arts

a. *Residence:* Two semesters of sixteen weeks each, or four summer sessions of eight weeks each, devoted to advanced courses of study are required for the degree of Master of Arts. The minimum residence at the University is three summer terms or one semester and a summer term. Not more than a total of 8 hours toward the Master of Arts degree may be earned off the University campus, by non-resident research, by correspondence, in extension center courses or in another university having a recognized Graduate School (see next page under 4). No work shall be counted as residence unless the student is in actual attendance at the University for the number of hours per week for which such credit is given.

b. *Course of Study:* Over and above the prerequisites for graduate work in the special field thirty-two hours selected from courses receiving graduate credit, as listed in the announcement of the graduate school, must be completed. Not less than 16 hours must be in courses numbered 200 and above. For courses not listed in this announcement the office of the Dean of the Graduate School should be consulted. Courses numbered below 100 do not receive credit toward an advanced degree.

The course of study for the degree of Master of Arts may be chosen from one or more departments provided it constitutes a unified program approved by the major adviser and the Dean of the Graduate School. A minor need not be offered in fulfillment of the requirements for the degree of Master of Arts. If a minor is offered it must be not less than ten hours, must be approved by the professor of the minor subject and shall be included in the final examination.

c. *Dissertation:* The dissertation, when required, must demonstrate the student's capacity for research and independent thought and must be submitted to the Graduate Faculty on or before the final date set in the Graduate Calendar. The student should consult the chairman of the department in which he wishes to major in regard to the requirements for the dissertation and the Dean of the Graduate Faculty for information regarding the form in which the dissertation must be submitted.

Credit for the dissertation is counted in terms of hours in making up the total of 32 hours required for the degree; the number of hours credit that may be allowed for the dissertation varies with different departments.

d. *Final Examination:* Each candidate for the degree of Master of Arts is required to pass a final examination evincing a mastery of the fundamental principles of the work included in the course of study offered for the degree.

4. Correspondence and Extension Center Courses

A total of eight hours or the equivalent of one summer session may be earned through the University of Missouri Extension Division, by correspondence courses and extension center courses conducted by members of the Graduate Faculty. The correspondence courses and extension center courses must have been approved for graduate credit and must be approved also for inclusion in the course of study for the master's degree by the major professor and the Dean of the Graduate School.

Graduate work by correspondence to be applied toward a Master of Arts degree may be taken only after the completion of at least one summer of residence in the Graduate School of the University of Missouri.

For further information in regard to correspondence and extension center courses address the Director of University Extension, University of Missouri.

The Graduate School will not accept from any other institution credit earned through correspondence or extension.

5. Non-Resident Research

When the facilities or materials necessitate the work being done away from the University, a student, upon the recommendation of the major adviser and the approval of the Administrative Committee of the Graduate School, may regularly enroll for research work to be done away from the University. This will be known as non-resident research and must be indicated as "non-resident" on the course card and on the Registrar's records. To enroll for non-resident research a student must have been in residence in the Graduate School at least one full summer term or one semester of part time. Candidates for the Master of Arts degree may not register for non-resident research for more than 4 hours per semester. The total credit toward the Master of Arts degree for work done away from the University is limited to 8 hours. (See under Residence.) The results of non-resident research must ordinarily form part of a dissertation duly presented to the Graduate Faculty in partial fulfillment of the requirements for an advanced degree.

6. Advanced Standing for the Master of Arts Degree

(a) *From other institutions:* Not more than eight of the thirty-two hours required may be transferred from another institution and such credit will be accepted only in case the other institution has a recognized graduate school. Of such credit transferred only that approved by the major adviser and the Dean of the Graduate School may be included in the program (see course of study) offered toward the degree of Master of Arts.

(b) *From the University of Missouri:* Seniors, who at the beginning of any semester have a graduation requirement for the bachelor's degree of fifteen hours or less, may be permitted, with the approval of the appropriate deans, to register simultaneously in the Graduate School for courses sufficient to make a full program. Students who graduated with excess undergraduate credits before 1923 will *not* receive credit for the same hereafter. Students who graduated between 1923 and 1925 received credit as heretofore; but each year, in order, one of the years between 1923 and 1925 was eliminated from this category, until February, 1932, this privilege was abolished altogether.

Similar credits may be allowed a student for excess undergraduate work from another institution having a graduate school, to

the extent of one-half of one semester (namely, eight hours), if such advanced standing would be granted by the graduate school of that institution. If the institution in question has not a graduate school that may be recognized as such, no advanced standing will be allowed.

The student will be held responsible in the master's examination for all credits in advanced standing presented in candidacy for the degree.

7. Requirements for the Degree in Exceptional Cases

Attention is called to the fact that graduate work cannot be subjected to rigid regulation, and the Graduate Faculty reserves the right to deal with exceptional cases on individual merit.

8. Recommendation for the Degree

With the approval of the professors concerned, such candidates as have fully met all requirements may at the close of the fall or winter terms, or any summer session, be recommended by the Graduate Faculty for the degree of Master of Arts.

Regulations Governing the Degree of Master of Science in Engineering with Designation

The regulations governing the degree of Master of Science in Engineering with designation of the field of specialization are the same as those governing the degree of Master of Arts.

Regulations Governing the Degree of Doctor of Philosophy

1. General Statement

The degree of Doctor of Philosophy is offered to students who have pursued advanced courses of study without serious interruption for a period of at least six semesters, who have submitted an acceptable dissertation, passed all prescribed examinations and satisfactorily met all other requirements described below.

It should be emphasized that the requirements for this degree are not computed in terms of time and courses, but that the degree is conferred only upon such students as have reached, after long study, a high attainment in some special branch of learning and have given the clearest evidence of their ability to carry on independent, original research by reason of having made an actual contribution to knowledge of a character approved by competent judges.

2. Acceptance of Candidates

In order to be accepted by the Graduate Faculty as a candidate for the degree of Doctor of Philosophy, the student must give evidence that he has completed an under graduate course of study

such as is offered by colleges of good standing and that he has received a baccalaureate degree equivalent to the baccalaureate degree of the University of Missouri.

He must also declare his candidacy by filling out, not later than the beginning of his second year of graduate work,[1] a blank form provided for the purpose, secure thereto the signature of the adviser under whose direction he desires to do his research work, and present it to the Dean of the Graduate School for his approval. When such approval is given the dean shall appoint, in consultation with the adviser, an advisory committee to confer as to the future work of the candidate.

3. REQUIREMENTS FOR THE DEGREE

(a) *Residence:* The candidate must pursue advanced courses of study without serious interruption for a period of six semesters. If any of the years of advanced work have been passed away from the University the faculty reserves the right to decide in each case whether these years may be properly regarded as spent in university studies under suitable guidance and favorable conditions. Private study or study pursued at a distance from libraries and laboratories will not be considered as equivalent to university work. In any case, the student must spend the two semesters immediately preceding his final examinations in residence at the University of Missouri unless specifically authorized by the Graduate Faculty to do otherwise.;

(b) *Subjects of Study:* The subjects of study may be chosen from one or more departments, as may be determined by the advisory committee; but shall constitute a definite plan of training for research or scholarly investigation in some particular field.

(c) *Dissertation:* The dissertation, embodying the results of original investigation, must be written upon a subject approved by the adviser and must be submitted in typewritten form four weeks before the commencement at which the degree is sought. It then becomes the property of the University. A brief biographical sketch of the writer must be appended to the dissertation. The student should consult the Dean of the Graduate Faculty for information regarding the form in which the dissertation must be presented.

Upon receiving the dissertation a committee is appointed whose duty it is to report upon it in writing to the Graduate Faculty.

The candidate is required to print the dissertation with such revision as the faculty may allow. Before his degree is conferred, the candidate is required to deposit 100 printed copies of his dissertation in the University Library. Or, in case the dissertation has

[1]With the consent of the adviser and the dean, students who have done graduate work elsewhere may be admitted to candidacy at a later stage in their study.

not been printed before the conferring of the degree, the candidate may (1) deposit with the Secretary of the University a statement from a responsible publishing agency certifying to the fact that a contract has been entered into for the printing of the dissertation, and that the required number of copies will be furnished within a reasonable time; or (2) the candidate may deposit with the Secretary of the University a financial guarantee sufficient to print the required number of copies for the University. With the special permission of the Dean of Graduate Faculty, the publication of a substantial contribution to knowledge may be accepted in lieu of the publication of the entire dissertation.

(d) *Examinations:* Upon the request of the major adviser a committee, consisting of the members of the advisory committee and such others as the dean may select, shall be appointed to take charge of all examinations and to report upon the same to the dean in writing.

At least one year before the final examination, the candidate is required to pass a preliminary examination conducted by the examining committee. This examination may, with the consent of the dean, be met at the beginning of the last year of residence.

The final examination may be either written or oral, or both, and, if oral, may be conducted in the presence of the faculty.

(e) *Languages:* Before being admitted to the preliminary examination the candidate must give satisfactory evidence of ability to translate French and German readily at sight. In especial cases, with the approval of the Administrative Committee of the Graduate School, students may be allowed to substitute other languages. In the case of a candidate for the doctorate majoring in French or German some other language, modern or ancient, shall be substituted for the language of the major.

(f) *Conferring of Degree:* Upon the satisfactory completion of all requirements, the candidate may be recommended by the Graduate Faculty for the degree of Doctor of Philosophy.

The courses of study open to graduate students may be found in Section III of this catalog.

A special bulletin of the Graduate School is issued each year. This contains a detailed announcement of all courses, entrance requirements, rules and regulations of the Graduate School, and should be consulted by persons desiring full information concerning the school. For this bulletin, or for further information concerning the work of the Graduate School, address DEAN OF THE GRADUATE FACULTY, UNIVERSITY OF MISSOURI, COLUMBIA, MISSOURI.

SCHOOL OF JOURNALISM

The School of Journalism, the oldest school of journalism in the world, is a professional school, having begun instruction leading to a degree in journalism in the fall of 1908. It is a charter member of the American Association of Schools and Departments of Journalism.

Equipment

Jay H. Neff Hall, the School's building, is a modern and completely equipped newspaper plant, located at the northeast corner of Francis Quadrangle. It is the gift of Ward A. Neff, a graduate, in honor of his father, who was formerly a Kansas City publisher. As a newspaper plant it is fitted for the work of reporters, copy readers, editorial, sport, and feature writers, book reviewing and editing of special pages and departments, rural and class journalism, a complete photo-engraving plant for the making of newspaper cuts, and several newspaper mat services and other equipment necessary for the writing and selling of newspaper advertising, as well as necessary materials for the handling of circulation and business management problems for both a daily "wire-serviced" newspaper and the typical country weekly.

Four publications are used for practice work: *The Columbia Missourian*, the *Columbia Herald-Statesman*, the *Centralia Courier*, and the *Sturgeon Leader*. All news, editorial, feature, and advertising work is done by students in journalism, under direct supervision of faculty members, all of whom are men and women of newspaper experience. This laboratory practice is combined with work in the classroom, which trains for a high standard of ethics and a better understanding of the moral problems that confront workers in the newspaper profession.

The journalism library, in charge of a trained librarian, is open from 8:30 o'clock in the morning until 9 o'clock at night, and contains approximately 4,347 volumes, and receives 292 periodicals and newspapers from all over the world.

The school is equipped with direct-line telephone service to all departments, many typewriters, a motion picture machine, a slide machine, two printer-telegraph machines supplying a full leased wire from the United Press, four type-setting machines, a complete stock of type for daily use, a rotary newspaper press with all equipment necessary for proper operation, a dark-room, cameras, and photo-engraving materials for a complete photographic laboratory and the making of newspaper cuts.

Aims of the School

The School of Journalism exists to serve the newspapers of the state. The primary aim is to equip students for work on newspapers and other periodicals. Its methods conform to the most modern standards of journalism. Regular attendance is required at all times. Graduates are working as editors, copy readers, editorial writers, feature writers, editors of special pages and departments, book reviewers, free lance writers, novelists, Sunday editors, teachers of journalism, writers for agricultural and trade and class journals, on women's pages, sports writers, illustrators, cartoonists, advertisement copy writers, copy salesmen, for advertising agencies, advertising managers, classified department managers, newspaper promotion workers, in the field of publicity, radio writing, play writing, motion picture work in both editorial and advertising, business and advertising managers, and press association correspondents, abroad and at home. The School issues regularly, a directory of graduates and former students.

Admission

The School's students are made up of the following classes:

1. Students who have completed at least two years of study in the College of Arts and Science of the University of Missouri, or in some other recognized college of liberal arts. These may enter as regular students and complete the requirements for the degree of Bachelor of Journalism in two years. Students who have more than two years of college credit may reduce the length of their stay, but the sequence of courses makes it necessary for every student to spread his professional courses over at least three semesters, or two semesters and a summer term, or an intersession. The student who combines his studies in the School of Journalism with studies in the College of Arts and Science may obtain degrees from both in five years.

2. Students who have completed a four-year academic course and received a bachelor's degree. These may obtain the degree of Bachelor of Journalism upon the successful completion of the required professional courses. This may be done in three semesters, or two semesters and a summer term, or an intersession.

3. Special students—persons more than 21 years old who do not meet the requirements of admission as regular students, and who are not candidates for degrees. The attention of men and women of journalistic experience but no college education is called to this class. These students may take such courses as they are prepared to enter, without regard to the requirements for graduation.

4. Students from other divisions in the University, to whom certain courses in Journalism are open.

5. Graduate students in Journalism. Most of such students hold Bachelor's degrees in journalism. They enroll in the Graduate School of the University of Missouri, but take their principal work in the School of Journalism.

Effective September 1, 1936, the following courses, in addition to the specific requirements of the College of Arts and Science (students transferring from other institutions must present satisfactory equivalents), must be included in the 60 hours required for admission to the School: English Life and Literature, 6 hours; American Government, 5 hours; General Economics, 5 hours. While not required, General Psychology, 3 hours, and General Sociology, 5 hours, are urgently advised.

It is suggested that the student have a working knowledge of typewriting before entering the School of Journalism.

Prospective students should consult the yearly School of Journalism Announcement as early as possible in their college careers. In this will be found suggestions as to preliminary work before entering the School.

Requirements for Graduation

The School of Journalism confers one undergraduate degree, Bachelor of Journalism (B. J.). A student specializing in agricultural journalism will have the notation (in Agricultural Journalism) made upon his diploma.

To obtain the degree of Bachelor of Journalism the student must fulfill the following conditions:

1. He must be regularly admitted to the School.

2. He must complete at least 30 hours in Journalism, including 6 hours of History and Principles of Journalism, 6 hours of The News and Reporting 1, 4 hours of Copy Reading, 3 hours of Advertising Principles and Practice, and in addition, (a) 3 hours of Reporting 11 and 2 hours more of Copy Reading 11, or (b) 10 hours more of courses in Advertising, or (c) 10 hours of courses in Illustration, or (d) 6 hours of courses in Special Writing, or (e) 10 hours of courses in Rural Journalism.

3. In addition to the 60 hours required for admission, he must complete at least 20 hours in courses intended for upperclassmen (listed in the catalogue as 100 and above) in some of the following departments: Accounting and Statistics, Art, Bible and Religion, Classical Languages, Economics and Finance, English, Geography, Germanic Languages, History, Home Economics, Mathematics, Philosophy, Political Science and Public Law, Psychology, Sociology, and Spanish. (This requirement may be in part waived on condition that the work presented by the student at admission shows, in the opinion of the Dean, sufficient acquaintance with a given subject.)

4. He must complete a total of 60 hours.

5. He must earn 60 points on the following basis: Grade of E, 3 points for each hour of credit; grade of S, 2 points for each hour; grade of M or grade of Passed, also credit for Advanced Standing (work done elsewhere and presented at admission), 1 point for each hour; grades lower than M, no points.

No student may take more than 16 hours or less than 12 hours a term, except that the Dean of Journalism may reduce the minimum. A student's program should be about half professional and half academic subjects each term.

All regular students in Journalism must pass, at a date to be announced and near the close of the first semester of their first term in Journalism, a test of their proficiency in English. No student will be recommended for any degree unless his English is satisfactory.

To obtain the degree of Bachelor of Journalism (in Agricultural Journalism) the student must fulfill the following conditions:

1. He must be regularly admitted to the School.

2. He must complete at least 30 hours in Journalism, including 6 hours of History and Principles of Journalism, 6 hours of The News and Reporting 1, 4 hours of Copy Reading, 3 hours of Advertising Principles and Practice, 5 hours of the Rural Newspaper, and 3 hours of The Agricultural Press.

(These requirements may be in part waived on condition that the work presented by the student at admission shows, in the opinion of the Dean, sufficient acquaintance with a given subject.)

3. He must complete 30 hours of technical courses in agriculture.

4. He must complete a total of 60 hours.

5. He must earn 60 points on the following basis: Grade of E, 3 points for each hour of credit; grade of S, 2 points for each hour; grade of M or grade of Passed, also credit for Advanced Standing (work done elsewhere and presented at admission), 1 point for each hour; grades lower than M, no points.

GRADUATE WORK: A person who holds a bachelor's degree in Journalism may in one additional year receive the degree of Master of Arts. Information for graduate students will be found in the Graduate School Announcement.

SUMMER SESSION: The School of Journalism offers all laboratory courses during the Summer Session, and some lecture courses, including all the basic courses required for a degree in Journalism. A maximum of 8 hours credit may be earned during this eight-week session. Special information will be found in the Summer Session Bulletin.

INTERSESSION: Students adequately prepared may enter the Intersession of five weeks during August and the first part of September. The work, giving one credit hour for each week, is in

laboratory courses: Reporting, Copy Reading, Editorial Writing, Country Newspaper Production, Advertisement Writing, Advertising Salesmanship, and the three graduate courses in desk-methods.

SCHOLARSHIPS, PRIZES AND AWARDS: In addition to general University scholarships, prizes, and awards, open to all students in the University, a number are offered each year exclusively for students in Journalism. These are: Five John W. Jewell; Jay L. Torrey, Eugene Field, Journalism Alumni, Journalism Students Association, Sigma Delta Chi, and Theta Sigma Phi. The prizes and awards are: Special Distinction, Walter Williams Award; Agricultural Journalism Award, Sigma Delta Chi Honor Awards, Oliver N. Gingrich Merit Award, Theta Sigma Phi Prize, Gamma Alpha Chi Prize, Alpha Delta Sigma Prize, and the A. C. Bayless Award. The Francis Scholarship in Creative Literature for women is open to women showing special ability in the languages, the social sciences, or journalism.

JOURNALISM WEEK: Addresses by journalists of state, national, and international importance are arranged from time to time throughout the school year. A large number of these are given at the annual Journalism Week, held the early part of May, which has brought nation-wide attention to the School. The Missouri Press Association and the Missouri Writers' Guild hold their state meetings at this time. Meetings are open to the public without formality. Anyone interested may obtain information as to the program by writing a few weeks in advance to the Dean of Journalism.

RELIGIOUS JOURNALISM: Credit is given for a course in religious journalism, and for certain other courses, taught in the Bible College of Missouri, whose campus adjoins that of the University.

BULLETINS ON JOURNALISM: The School of Journalism tries to be of the greatest possible service to the profession of journalism in general, as well as to give instruction on the campus. One of the School's activities is the publication of a series of bulletins for distribution among workers in journalism. These now number 71 and most of them may be obtained free. A complete list may be found in the School of Journalism Announcement.

For bulletins and catalogues mentioned and for further information regarding the School of Journalism, address PROFESSOR FRANK L. MARTIN, ASSOCIATE DEAN, FACULTY OF JOURNALISM, UNIVERSITY OF MISSOURI, COLUMBIA, MISSOURI.

SCHOOL OF LAW

The School of Law was organized in 1872. It has been a member of the Association of American Law Schools since the latter's organization, is on the list of law schools approved by the Council of the Section on Legal Education and Admission to the Bar of the American Bar Association, and is the only such school in the state outside of the City of St. Louis.

Equipment

Building: Lee H. Tate Hall, the School's building, a modern and completely equipped structure, is located at the southeast corner of Francis Quadrangle. It was erected in 1927 as a memorial to the late Lee H. Tate, a graduate of the School in the class of 1913. This fine and useful memorial was made possible largely through the generosity of Mr. and Mrs. Frank R. Tate, of St. Louis, the parents of Lee H. Tate.

Library: The law library contains approximately 35,000 volumes, and includes both the original and the reprints of the English reports; the Irish, Scotch, and Canadian Reports; several sets of the reports of the Supreme Court of the United States; the reports of all of the Federal courts; all of the state reports; full sets of the National Reporter System; the necessary digests, and a valuable collection of statutes, session laws, standard treatises, legal periodicals, and encyclopedias.

The library is in charge of a trained librarian, and is open to students from 8 o'clock in the morning until 10 o'clock at night.

Aims of School

The School of Law exists to serve the state and its bar. The primary aim is to equip students for the practice of law. To this end, its methods conform to the most modern standards of legal education. Written examinations are given in all courses at the end of each course. Regular attendance is required at all class exercises.

The School of Law does not seek merely a large number of students, and the entrance requirements are such as to admit only those whose education and maturity fit them for serious study. Also, the School recognizes a duty to the state beyond the equipment and training of practitioners. Many of the University students who do not intend to practice find its courses valuable training for citizenship, for business careers, and for the service of the public on Commissions and in the Legislature. The School attempts to serve the bar of the state by the publication of the Law Series of the University of Missouri Bulletin, hereinafter described.

Honors and Prizes

The Order of the Coif, a national law school honor society, maintains a chapter in this School. The members are elected each year by the faculty from the ten per cent of the members of the senior class who have the highest rank in scholarship. Membership in the Order is the highest scholastic honor that a law student can attain. Election to the Order is the equivalent of graduation with distinction.

Rollins Scholarship
William Mack Prize
Alexander Martin Prize
John D. Lawson Prize
University of Missouri Law School Foundation Prize
Judge Shepard Barclay Prize

See announcement of scholarships and prizes under general information, pages 75 to 90.

Admission

Preliminary Training: The requirements for admission are the satisfactory completion of (1), a four-years' high school course, or its equivalent, and (2), the completion of one-half of the work, exclusive of correspondence work, acceptable for a Bachelor's degree granted, on the basis of a four-year period of study, by the University of Missouri or any college or university accredited therewith. The Association of American Law Schools, of which this Law School is a member, interprets this requirement to mean that a candidate shall present at least 60 semester hours (or their equivalent) of college work taken in an accredited school and exclusive of credits earned in such courses as non-theory courses in Military Science, Hygiene, Domestic Arts, Physical Education, Vocal or Instrumental Music.

All students intending to study law should consult the Dean of the Law School before registering in regard to their pre-legal studies.

Methods of Admission: Admission may be by certificate from colleges and universities composing the Missouri College Union, or from other reputable colleges and universities. (Acceptance of such certificates lies wholly with the Committee on Entrance of the University, and all correspondence regarding admission should be addressed to the Registrar.)

Admission to Advanced Standing: Advanced standing may be allowed for work acceptable to the faculty which has been taken and completed with a passing grade in a school approved by the Faculty. In no case, however, will advanced standing be allowed for more than two years of work at an approved school or schools. Hence, at least one year's work must be completed at this Law School in order to receive its law degree.

Applications for advanced standing should be made to the Dean and be accompanied by a certificate from the appropriate office of the school where the applicant took his work for which such standing is sought.

ADMISSION OF SPECIAL STUDENTS: No special students will be admitted to the School.

ELIMINATION OF STUDENTS

Some students qualified for admission fail to measure up to the standards maintained in the School. Such delinquent students are eliminated in accordance with the rules stated on page 98 of this catalog.

CURRICULUM—DEGREE

THREE-YEAR CURRICULUM: The curriculum of the School of Law extends through three school years of two terms each. In order to be graduated, a student must have completed, with passing grade, seventy-nine (79) hours of law work. The work of the students will normally be distributed as follows: Thirty (30) hours in the first year, twenty-five (25) in the second, and twenty-four (24) in the third.

No student, except in exceptional cases with the permission of the Dean, will be permitted to take more than 13 hours of class work in any term during his second and third years.

In addition, the student must have received 53 points. One point is given for each hour in those courses in which the student receives the grade of M; two points for each hour in those courses in which the student receives the grade of S; and three points for each hour in those courses in which the student receives the grade of E. All students are required to earn the 53 points necessary for graduation from the first 79 hours of work passed in the School.

The point requirement in the case of a student admitted with advanced standing will be proportionally reduced. In no case will points be allowed towards the Bachelor of Laws degree on account of work taken at other institutions.

The curriculum requires six terms in residence for its completion, and no student will be graduated without six terms of attendance except on account of admission to advanced standing for work in other institutions. The degree of Bachelor of Laws (LL. B.) is conferred upon regular students who have satisfactorily completed the course.

The curriculum requiring six terms in residence for its completion is one arranged for full-time students and is prescribed by the standards of the American Bar Association issued on February 1, 1930. Those requirements provide that an approved school "shall require its students to pursue a course of three years' duration if

they devote substantially all of their working time to their studies and a longer course equivalent in the number of working hours if they devote only part of their working time to their studies."

Unless, therefore, a student enrolled in the regular full-time course in this School devotes substantially all of his time to his law work, he is not meeting the requirements of the American Bar Association. Accordingly, a student who is engaged in outside work that is calculated to prevent his devoting substantially his full working time to the study of law will be required to lengthen the period of his study. The standards of the American Bar Association provide that a part-time course "shall cover a period of at least four years of at least 36 weeks each and shall be the equivalent of a full-time course." Students in this School who are not devoting substantially all of their working time to their studies will be required to arrange their schedule and curriculum on the basis of a part-time course.

COMBINED CURRICULUM IN ARTS AND LAW: Seniors in the College of Arts and Science may elect courses from the first year in the School of Law for a maximum credit of 30 hours. Such 30 hours of law work are acceptable to the Faculty of the College of Arts and Science towards a Bachelor of Arts degree. A combined curriculum of this character will enable a student to obtain the degrees of Bachelor of Arts and Bachelor of Laws in twelve terms.

[1]PROPOSED CURRICULUM FOR 1935-1936

First Year

Fall Term

Subjects	*Hours*
Contracts	3
Torts	3
Property I (Personal)	3
Common Law Pleading	3
Legal Ethics	2
Legal Bibliography	1
	15

Winter Term

Subjects	*Hours*
Contracts	3
Torts	3
Property I (Real)	3
Criminal Law	3
Equity I	3
	15

Second Year[3]

Subjects	*Hours*
[2]Equity II	3
[2]Evidence	3
[2]Code Pleading	3
Property II	2
Bills and Notes	3
Insurance	2
	16

Subjects	*Hours*
[2]Evidence	2
Criminal Procedure	2
Wills	3
Property II	3
Sales	3
Persons	2
Agency	3
	18

Third Year[4]

Subjects	*Hours*	*Subjects*	*Hours*
[2]Practice	2	[2]Practice	3
Corporations	2	Creditors' Rights	3
Conflicts	3	Equity III	3
Trusts	3	Constitutional Law	3
Constitutional Law	2	Taxation	3
Administrative Law	3	Corporations	2
	15		17

[1]It is possible that there may be some changes, without notice, in the curriculum.

[2]All first-year courses are required. Courses in the second and third years marked (2) are required; the others are elective.

[3]Second-year students may, with the permission of the Dean, elect third-year courses if necessary to make a program.

[4]Third-year students may, with the permission of the Dean, elect second-year courses if necessary to make a program.

A detailed description of the courses in law may be found on page 324 of this catalog.

Law Series, University of Missouri Bulletin

The School of Law publishes the Law Series of the University of Missouri Bulletin. The purpose of this publication is to present to the Missouri Bar the results of legal study and research in the field of Missouri law carried on at the School. The Series is edited by the faculty and a board of student editors chosen by the faculty from the members of the second and third-year classes. Student editors are chosen on the basis of legal scholarship. Election to the board is an honor and a student editor has an unusual opportunity to gain experience in legal research, which should better fit him for the practice of law.

Each number of the Series contains at least one leading article on some phase of Missouri law written by a member of the faculty and notes on recent Missouri cases, written by student editors under the direction of a member of the faculty.

For further information concerning the School of Law, address W. E. Masterson, Dean, Faculty of Law, University of Missouri, Columbia, Missouri.

SCHOOL OF MEDICINE

HISTORICAL: The Medical department of Kemper College ("McDowell Medical College"), founded in St. Louis in 1840, was the first medical school established west of the Mississippi River. In 1845 this school became the medical department of the University of Missouri. Shortly before the Civil War it was discontinued. It was re-established in Columbia in December, 1872. The curriculum was at first only two years in length, but this was extended to three years in 1891 and to four years in 1899.

In 1910 the last two years of the medical curriculum were suspended temporarily because of the limited clinical facilities in Columbia at that time. This action was taken with the understanding that these studies would be resumed as soon as medical facilities became adequate. From 1910 to 1930, therefore, only the first two years of the medical curriculum were offered. A third year curriculum was offered in 1931, and a small class completed the work in 1932. Due to financial conditions the University found it necessary again to discontinue the third year, effective September, 1932.

ORGANIZATION AND SUPPORT: The School of Medicine of the University of Missouri is an integral part of the University, being located on the University Campus. In addition to medical work it offers courses for arts and graduate credit to students enrolled in other divisions of the University in so far as its capacity allows. The School of Medicine is supported by funds assigned to it by the University from state appropriations and by special laboratory fees of students.

POLICY: The School of Medicine has always stood for the highest standards of medical education, and was a pioneer in introducing and developing the laboratory method. Laboratory work in anatomy, chemistry, and microscopy was required of students from the date of re-establishment in 1872. A few years later laboratory work in pathology and in physiology was added, and in 1891 the laboratories of histology and bacteriology were established. The School of Medicine of the University of Missouri was also one of the first schools to place these fundamental medical sciences in charge of specialists who are not allowed to practice medicine, but who are required to devote their time exclusively to teaching and investigation.

A thorough course of instruction with the highest standard of scholarship has been established and maintained.

The aim of the School of Medicine is threefold:

(1) To give thorough laboratory and clinical training in all medical subjects.

(2) To contribute to the advancement of medicine by original investigation in the various sciences upon which modern medicine is based.

(3) To promote the diffusion of medical knowledge among the citizens of the state.

Equipment

Medical Laboratory Building, McAlester Hall: This is a three-story stone and brick building, 325x48 feet, specially designed for the medical laboratories, and is well equipped to meet the needs of modern laboratory instruction and research. The following is a brief list of the various rooms and equipment in this building:

The Department of Anatomy occupies the greater part of the third floor of the medical building. For class work there are available laboratories for human dissection, topographic and applied anatomy, and microscopic anatomy, with all the necessary equipment and material for a thorough study of these subjects. A lecture room and technical preparation room, and the laboratories of the staff with adequate equipment for research are also located on this floor.

The Department of Physiology and Pharmacology occupies the following rooms: A large laboratory, with adjoining storeroom, equipped with tables, lockers, and sets of apparatus for the students in physiology and pharmacology; a blood pressure room, particularly for mammalian experiments; a research laboratory, thoroughly equipped for advanced students in physiology and pharmacology; animal room; mechanics shop; lecture room (in common with, pathology).

The Department of Biochemistry has a well equipped teaching laboratory with a capacity of 48 students, and a smaller laboratory for advanced classes, in addition to space for research, for offices, seminar and the like. The equipment is adapted for work in general physiological chemistry, blood chemistry, urine analysis, and nutrition.

Laboratories, and equipment of the rooms which serve as offices and workroom for the personnel of the Department of Pathology are as follows: A large preparation or technician's room; store rooms; an animal room; a room for autopsies; a room for gross museum specimens, work in gross pathology and students in advanced and research pathology; a museum collection of specimens in Kaiserling for systematic demonstration of gross pathology; a student slide loan collection of over 380 slides representing so far as possible the various histological phases of the more common disease processes; modern microscopes with oil-immersion lenses for rental to students; equipment for a limited number of students in

clinical pathology; balopticon projection apparatus for slides and opaque objects; microscope projection apparatus; lantern slides; an extensive collection of demonstration slides for microscope projection teaching laboratory, and lecture room.

The Department of Bacteriology and Preventive Medicine occupies seven rooms. A teaching laboratory provided with necessary incubator space is used in conjunction with the Department of Pathology. The diagnostic laboratory of the department, which serves the University Hospitals, provides excellent material for work in Medical bacteriology and serology. A limited number of microscopes are available for the use of advanced students. Microscopes for general use are shared with the Department of Pathology.

Facilities are provided for advanced students to carry on fundamental investigations of bacteriological and immunological problems.

On the third floor of the Medical Building the United States Bureau of Fisheries Research Laboratories occupy a suite of rooms, specially equipped for physiological and biochemical research on the lower animals and for problems of general physiology. The Bureau of Fisheries has provided a considerable amount of special apparatus for this research unit which draws its personnel from graduate students in the University.

OTHER BUILDINGS: In several other buildings on the University campus instruction is offered in many lines open to medical students as electives, and of especial service to those taking the combined curriculum in medicine and in arts and science.

MEDICAL LIBRARY: The medical library located in ample new quarters in the medical building, is open 8 hours daily, except Saturday afternoons and Sunday. It contains 12,503 volumes and the more important current journals. The principal medical works of reference are included and 135 leading medical periodicals are received regularly and placed on file. Complete sets of most of these journals are available. The main University library also contains works of interest and value to the medical sciences.

The library has a complete card catalog of all its books and periodicals. Books may be loaned to any reputable physician in the state provided he pay transportation charges on them. The out-of-town borrower should indicate the subject on which he wants information if he is unable to give the author and title of the books.

FEES AND EXPENSES

For information in regard to fees and expenses see the section *Expenses* under *General Information*. Textbooks and stationery costs from $25 to $50 per year. For cost of board and lodging, see page 67.

Scholarships

The Rollins scholarship in the School of Medicine is a prize of $50, which is awarded to that member of the first-year class (fourth year of combined curriculum) who has made the best record during the course.

The Charles Wilson Greene Scholarship in Physiology and the Clarence Martin Jackson Scholarship in Anatomy. These Scholarships have been made available to medical students by some of the members of the Medical Class of 1909. They are intended primarily to encourage and support those students who are engaged in advanced work in the fields of anatomy and physiology.

Extension Laboratory Service

The department of pathology will, within the limit of its capacity, receive for examination and diagnosis such material as may be submitted by physicians of the state.

Requirements for Admission

Admission to First-Year Class: For detailed statement, see page 47. The classes are limited in membership because of the inability of the school to properly accommodate all qualified applicants for admission. Application for admission should be in the hands of the Registrar at the earliest possible time prior to the opening of the session.

New students are not enrolled in the classes at the beginning of the winter term unless they have finished satisfactorily all the courses that have been taken by the class into which admission is requested.

Advanced Standing: Every applicant for advanced standing is required to present credentials from an acceptable college showing satisfactory completion of courses equivalent to those for which he seeks credit. Moreover, the usual entrance requirements to the first-year class must be satisfied, and evidence of good moral character must be presented to the Dean of the School of Medicine.

Special students will not be admitted to the School of Medicine.

The Combined Courses in Art and Medicine

Students in the Division of Medicine will receive the degree of Bachelor of Science (B. Sc.) upon the satisfactory completion of the first two years of the medical curriculum.

Students who have completed the junior year in the College of Arts and Science may count 30 hours from the School of Medicine toward completion of the 124 hours needed for the degree of Bachelor of Arts (A. B.). They must conform to the major and minor requirements in Arts and Science.

All correspondence regarding admission should be addressed to The Registrar, University of Missouri, Columbia, Missouri.

CURRICULUM

Hours exclusive of examination periods.

First Year

First Semester:	Weekly Class Hours	Total Clock Hours	Credit Hours
Anatomy	12	192	7
Embryology	6	96	4
Histology	4	64	2
Physiological Chemistry	11	176	6
Totals	33	528	19
Second Semester:			
Anatomy	12	192	7
Histology	6	96	4
Neuro-Anatomy	6	96	4
Physiology:			
Muscle and Nerve	5	80	3
Circulation and Respiration	4	64	2
Totals	33	528	20

Second Year

First Semester:	Weekly Class Hours	Total Clock Hours	Credit Hours
Bacteriology	9	144	6
Materia Medica	4	64	2
Physiology:			
Alimentary Mechanisms	5	80	3
Central Nervous System and Sense Organs	4	64	2
General Pathology	9	144	6
Topographic and Applied Anatomy	4	64	3
Totals	35	560	22
Second Semester:			
Special Pathology	9	144	6
General Hygiene	2	32	2
Minor Surgery	3	48	2
Physical Diagnosis	5	80	3
Pharmacology	8	128	5
Electives	7	112	3-5
Totals	34	544	21–23

SCHEDULE OF HOURS FOR THE FIRST YEAR CLASS

First Semester

	8–9	9–10	10–11	11–12	1–2	2–3	3–4
Monday	Anatomy				Physiological Chemistry		
Tuesday	Histology						
Wednesday	Anatomy				Physiological Chemistry		
Thursday	Physiol. Chem.	Embryology					
Friday	Anatomy				Physiological Chemistry		
Saturday	Physiol. Chem.	Embryology					

Second Semester

	8–9	9–10	10–11	11–12	1–2	2–3	3–4
Monday	Anatomy				Neuro-Anatomy		
Tuesday	Physiology				Histology		
Wednesday	Anatomy						
Thursday		Histology			Physiology		
Friday	Anatomy				Neuro-Anatomy		
Saturday	Physiology						

SCHEDULE OF HOURS FOR THE SECOND YEAR CLASS

First Semester

	8–9	9–10	10–11	11–12	1–2	2–3	3–4
Monday	Pathology				Bacteriology		
Tuesday	Physiology				Materia Medica		
Wednesday	Pathology	Topo. and App. Anatomy			Bacteriology		
Thursday	Physiology				Materia Medica		
Friday	Pathology				Bacteriology		
Saturday	Physiology	Topo. and App. Anatomy					

Second Semester

	8–9	9–10	10–11	11–12	1–2	2–3	3–4
Monday	Pharmacology				Pathology		
Tuesday	Pathology	Physical Diagnosis			Electives		
Wednesday	Pathology	Hygiene	Minor Surgery	Phys. Diag.			
Thursday	Pharmacology				Electives		
Friday	Pathology	Hygiene	Minor Surgery		Pathology		
Saturday	Electives	Physical Diagnosis					

A special bulletin of the School of Medicine is issued each year. This contains a detailed announcement of all courses, entrance requirements, schedules, a roster of students and the rules and regulations of the School of Medicine. This bulletin should be consulted by persons desiring full information concerning the School of Medicine. For information address DUDLEY S. CONLEY, DEAN, FACULTY OF MEDICINE, UNIVERSITY OF MISSOURI, COLUMBIA, MISSOURI.

UNIVERSITY HOSPITALS

Staff and Administrative Officers

DUDLEY S. CONLEY, M. D. ..... *Director of the Hospitals*
DAN G. STINE, M. D. ..... *Director of the Medical Service*
M. PINSON NEAL, M. D. ..... *Pathologist and Director of Hospital Laboratory*
WILLIAM J. STEWART, M. D. ..... *Orthopedist*
NEWELL R. ZIEGLER, M. D. ..... *Bacteriologist*
CLAUDE R. BRUNER, M. D. ..... *Oculist and Aurist*
RICHARD S. BATTERSBY, M. D. ..... *Pediatrist*
AUGUST W. KAMPSCHMIDT, M. D. ..... *Urologist*
C. W. DIGGES, D. D. S. ..... *Consulting Dental Surgeon*
KARL D. DIETRICH, M. D. ..... *Assistant Surgeon*
MAURICE E. COOPER, M. D. ..... *Instructor in Medicine*
KENNETH C. BECK, M. D. ..... *Resident Physician*
JAMES A. JARVIS, M. D. ..... *Resident Physician*
JOHN J. MILROY, B. S. ..... *Intern*
FRANK E. DEXHEIMER, M. D. ..... *Anaesthetist*
MILDRED W. BROWN, M. S. ..... *Assistant, Hospital Laboratory*
LOUISE HILLIGASS, R. N. ..... *Superintendent*
PEARL B. FLOWERS, R. N. ..... *Director of Nursing Personnel*
AMY LEGER ELKINS, R. N. ..... *Assistant Director of Nursing Personnel*
BEATRICE ANN ROSEBROUGH, B. S. ..... *Dietitian*
JOHANNA HORROCKS, R. N. ..... *Supervisor, Operating Rooms*
BARBARA FREEMAN, R. N. ..... *Supervisor, Student Health Service*
RUTH WILLIAMSON, R. N. ..... *Supervisor, Medical and Surgical Service*
ARDIS WILMORE, R. N. ..... *Supervisor, Obstetrical Service*
NELLIE M. BENDON, R. N. ..... *Supervisor, Communicable Disease Nursing Service*
NADYNE ANDERSON, R. N. ..... *Supervisor, Orthopedic Service*
FAYE FRANKLIN, R. N. ..... *Night Supervisor*
ELIZABETH KELLY ..... *Physiotherapist*

UNIVERSITY HEALTH SERVICE

D. G. STINE, M. D. ..... *Chairman, Physician*
D. S. CONLEY, M. D. ..... *Surgeon*
C. R. BRUNER, M. D. ..... *Oculist and Aurist*
W. J. STEWART, M. D. ..... *Orthopedist*
K. D. DIETRICH, M. D. ..... *Assistant Surgeon*
MAURICE E. COOPER, M. D. ..... *Instructor in Medicine*
KENNETH C. BECK, M. D. ..... *Resident Physician*
JAMES A. JARVIS, M. D. ..... *Resident Physician*
F. E. DEXHEIMER, M. D. ..... *Anaesthetist*
M. P. NEAL, M. D. ..... *Pathologist*
N. R. ZIEGLER, M. D. ..... *Bacteriologist*

Hospital Buildings

The first building of the University Hospitals was made possible by the gift of William L. Parker and was therefore named the Parker Memorial Hospital. In the words of the donor the hospital is "for the benefit of the School of Medicine." The surgical amphitheater and operating rooms were provided by a gift of the late Adolphus Busch. In 1924 a new building connected with Parker Memorial Hospital was completed and named the Noyes Hospital after Dean Guy Lincoln Noyes. They are equipped with modern service laboratory and complete X-ray, metabolic and electrocardiographic equipment.

Crippled Children's Service

In 1927 and under an Act of the Legislature a state service for treatment of indigent crippled children was established at the University Hospitals. This service is under the direction of a full time orthopedic surgeon assisted by the members of the staff of the University Hospitals. Clinics are held in various counties throughout the state and treatment is available to any indigent child who in the opinion of proper medical examiners may be benefited by orthopedic treatment. Through a bequest by Mrs. Georgia Brown Blosser there is now connected with the Crippled Children's Service the Georgia Brown Blosser Home at Marshall, Missouri. This was opened January 1, 1934. For further particulars address Miss Louise Hilligass, Superintendent, Noyes Hospital, Columbia, Mo.

School of Nursing

Historical: The School of Nursing of the University of Missouri was organized in 1901, and was conducted in connection with the Parker Memorial Hospital. In 1920 the School of Nursing became a definite part of the University and a combined course of five years in Nursing and Arts was offered to students who met the entrance requirements of the College of Arts and Science.

In 1931 the freshman-sophomore requirement in foreign language was withdrawn from the nursing curriculum and the students enrolled in the School of Nursing were given the privilege of meeting that requirement after the completion of the nursing course.

The course in nursing as offered by the University of Missouri has many distinct advantages. Opportunity is given for an academic and scientific preparation for nursing, plus the accumulation of university credit towards the academic degree of A. B. While the course is still a combined course in Nursing and Arts, it is no longer a five-year combined course and the sixty hours of credit towards the A. B. degree is not given until the requirement in foreign language is met.

Students in the School of Nursing are entitled to all privileges allowed other University women.

The student nurses are required to pay the same fees as are paid by other students. Maintenance is provided in the student nurses' residence.

Requirements for Admission

All candidates for admission to the School of Nursing must be approved by the Principal of the School, and must be graduates of fully accredited four-year high schools presenting at least fifteen units including three units in English, two units in Mathematics two units in a single Foreign Language, one unit in Social studies, one unit in Science, preferably Chemistry, Biology, Zoology or Physiology.

The Combined Course in Nursing and Arts

Preliminary Course: The first four months cover the preliminary course. At the expiration of that time the student is regularly enrolled as a member of the school, provided the student is qualified. The course in nursing covers three full years including the preliminary period. At the satisfactory completion of the course, the student receives the Degree of Graduate Nurse and fifty hours of credit toward the A. B. degree. By fulfilling the junior and senior requirements of the College of Arts and Science one may obtain the degree of Graduate Nurse and the A. B. degree in five years, provided the freshman-sophomore requirements are met before enrolling in the School of Nursing.

Students in the School of Nursing may also be enrolled in the College of Arts and Science.

Advanced Standing for Graduate Registered Nurses

Graduate registered nurses who wish to receive the A. B. degree from the University of Missouri will be granted credit for their nursing work, provided such courses in nursing have been taken in accredited schools of nursing which satisfy the requirements of the School of Nursing of the University of Missouri, and provided further, that such students are approved for admission to the College of Arts and Science.

Application for advanced standing should be made to the Principal, School of Nursing, University of Missouri, Noyes Hospital, Columbia, Missouri.

Curriculum, School of Nursing

First Year

Fall Term	*Credit Hours*
English. 1f. Composition and Rhetoric	3
Anatomy. 107f. Elementary Anatomy	3
Zoology. 1f. General Zoology	5
Nursing. 1f. Elementary Nursing	2
Nursing. 2f. Nursing Ethics	1
Physical Education. 1f. Required course for Freshman Women	½
	14½

Winter Term	
Physiology. 1w. Elementary Physiology	5
English. 2w. Composition and Rhetoric	3
Preventive Medicine. 1w. Preventive Medicine	2
Nursing. 6w. Materia Medica	2
Nursing. 8w. Nursing in Medical Diseases	2
Nursing. 21w. Hospital Laboratory	2
Physical Education. 2w. Required course for Freshman Women	½
	16½

Summer Term

First-year students are given supervised Ward practice in University Hospitals during June and July.

Second Year

Fall Term	*Credit Hours*
Home Economics. 1f. Selection and Preparation of Foods	5
Psychology. 1f. General Psychology	3
Nursing. 5f. History of Nursing	1
Nursing. 7f. Surgical Nursing	2
Nursing. 10f. Nursing in Communicable Diseases	1
Nursing. 22f. Hospital Laboratory	3
Physical Education. 1f. Required course for Sophomore Women	½
	15½

Winter Term	
Chemistry. 1w. Inorganic Chemistry	5
Mathematics. 1w. General Mathematics	3
Nursing. 15w. Diets in Disease	3
Nursing. 11w. Gynecological Nursing	1
Nursing. 18w. Nursing in Occupational, Venereal and Skin Diseases	1
Nursing. 22w. Hospital Laboratory	2
Physical Education. 2w. Required course for Sophomore Women	½
	15½

		Summer Term	*Credit Hours*
Nursing.	9s.	Nursing Ethics and Current Problems	1
Nursing.	17s.	Nursing, Eye, Ear, Nose and Throat	1
Nursing.	20s.	Survey of the Nursing Field	1
Nursing.	22s.	Hospital Laboratory	5
			8

THIRD YEAR

		Fall Term	
Bacteriology.	3f.	General Bacteriology	3
Sociology.	1f.	General Sociology	5
Nursing.	16f.	Orthopedics and Physio-therapy	1
Nursing.	19f.	Nursing in Mental and Nervous Diseases	1
Nursing.	23f.	Hospital Laboratory	4
			14

At the completion of the fall term of the third year, the senior students affiliate with the Cook County Hospital School of Nursing, Chicago, Illinois, for the course 12w Obstetrical Nursing (1) and 13w Nursing in Diseases of Children (1). This affiliation consists of six months intensive training in obstetrics and pediatrics and includes sixty hours of lectures, demonstrations and recitations.

A special announcement, giving detailed information concerning the School of Nursing, will be sent on request. Address the PRINCIPAL, SCHOOL OF NURSING, NOYES HOSPITAL, COLUMBIA, MISSOURI.

SCHOOL OF MINES AND METALLURGY
(AT ROLLA)

General Information

In 1870 the General Assembly, in accepting the donation by the federal government of lands for educational purposes, established an Agricultural College and School of Mines and Metallurgy, "the leading object of these colleges" being "to teach such branches as are related to agriculture and mechanic arts and mining, including military tactics, and without excluding other scientific and classical studies, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." The Statutes fix the status of the School of Mines and Metallurgy as a division of the University of Missouri. Its affairs are under the immediate supervision of the Executive Committee, consisting of three members of the Board of Curators of the University.

Admission

Information concerning the requirements for admission is given on page 46.

Location

The School of Mines and Metallurgy is at Rolla, the county seat of Phelps County, on the St. Louis & San Francisco Railroad, approximately halfway between St. Louis and Springfield, at the intersection of United States Highways 63 and 66.

Rolla is on the crest of the Ozark uplift. It has an elevation of 1,140 feet above the sea level and enjoys an agreeable and notably healthful climate. It is within easy reach of the lead and zinc districts of the southwest, and of the lead and iron regions of the southeast, where opportunities to observe processes of mining and smelting the latter ores are at hand. The numerous and varied smelting and chemical plants in and about St. Louis likewise offer good opportunity for the study of processes.

Equipment

Grounds and Athletic Field: The campus of the School of Mines is situated in the highest part of the City of Rolla and is thirty-two acres in extent. It contains beautiful lawns and groves of native oak and maple shade trees. The Jackling Athletic Field has a baseball diamond, a football gridiron, and a four-hundred-forty-yard running track, and tennis courts. The golf links of the school, containing approximately eighty acres, is situated just west of the city limits and within four blocks of the campus.

BUILDINGS: There are thirteen buildings on the campus: Power Plant, Chemical Hall, Rolla Building, Workshops, Director's Residence, Mechanical Hall, Norwood Hall (engineering building), Ore Dressing and Metallurgy Building, Parker Hall, Jackling Gymnasium, Mine Experiment Station Building, Garage and Warehouse.

LIBRARY: The library contains 35,000 carefully selected volumes, not including unbound material. Works on engineering, mathematics, chemistry, physics, mining, metallurgy, geology and mineralogy afford students reading in connection with their class work. The library also contains standard works in English and American poetry, fiction, biography, and history. It is well provided with encyclopedias and works of general reference.

LABORATORIES

BIOLOGY: The biological laboratories are well equipped for work in this field. The equipment includes microscopes, autoclaves, incubators, electro-titration apparatus, surface tension machine, microtome, centrifuge, and a rather comprehensive medical library. Specimens of the flora and fauna of the Ozarks are collected and preserved for class use.

CHEMISTRY: One entire building is devoted to chemistry. The laboratories for general chemistry include desks and equipment for 192 students. The quantitative laboratories include desks and equipment for 120 students (including analytical weights, platinum crucibles, and standardized burettes). The physical laboratories accommodate 48 students. The organic laboratories accommodate 30 students. The industrial laboratory will accommodate from 10 to 15, and the refining laboratory 8. The machines installed in the industrial laboratory include mixing and grinding machines, filter presses, centrifuges, apparatus for dry distillation of woods, petroleum stills for distillation and cracking of crude petroleum, standard apparatus for oil testing as found in modern oil laboratories, etc., caustic pot, nitrator, sulphanator, fusion kettle, autoclave, glass enameled, non-corrosive and standard kettles, drying ovens, mixing and storing tanks, and the incidentals necessary for the operation of the units.

CIVIL ENGINEERING: The equipment for field practice includes 30 transits, 20 plane tables, 21 levels, and other necessary equipment. A number of transits are equipped with solar attachments and others with auxiliary telescopes for mine surveying. Apparatus is provided for laboratory work in hydraulics and structural material. A Highway Testing Laboratory is equipped with apparatus for the testing of cement, sand, gravel, and stone, according to prescribed specifications.

GEOLOGY and MINERALOGY: The equipment includes reference, working, and cabinet collections of minerals, ores, rocks, and fossils; a working collection of wooden and glass models and natural crystals; full sets of maps and reports, and sets of geological relief models. There is also a collection of 3,500 specimens representing the mineral wealth of Missouri. Rock-breaking and sectioning machines, instruments for geological surveys, and microscopes for petrographic work are included in the equipment.

An unusually fine collection of micro-fossils has been built up, and the laboratories are fully equipped for work in micro-paleontology.

DRAWING: Four large rooms on the third floor of Norwood Hall are used as drawing laboratories and lecture rooms. These are equipped with locker desks, large drawing boards, steel tee squares, steel protractors, and other instruments intended for precise drawing in advanced classes. A large collection of models is available for drawing exercises. A separate copy room equipped with modern Pease electric blue-printing outfit, mimeograph, and other miscellaneous copying and printing equipment is maintained.

ELECTRICAL ENGINEERING: The equipment of the electrical engineering laboratories includes instruments for the study of the methods of electrical measurements and for the testing of the magnetic properties of iron and steel; practically all types of modern electric machines and the necessary instruments for making standard tests on the machines; power control equipment and instruments and apparatus for the study of radio communication.

METALLURGY AND ORE DRESSING: The department, recognizing the distinct fields of physical and process metallurgy, has laid out its curriculum and secured its equipment with this in mind. Laboratories are provided for process metallurgy, pyrometallurgy, hydrometallurgy, metallography, and electrometallurgy. Also for the various thermal, chemical and physical tests, as well as structure study in the physical metallurgical field. The laboratories are amply equipped and adequate facilities are provided so as to promote and enable students to carry out original research work in any of these fields. The State Experiment Station's equipment affords an opportunity for the more advanced students interested in metallurgy and ore dressing to carry out research problems in this branch of the metallurgical field.

MINING: The mining department occupies the second floor of the Experiment Station building. The space includes a large lecture room, drafting room, exhibit room and four offices. On display in the exhibit room are a number of models illustrating mining methods, head frames, mine timbers, reversible mine fan, rock drills in sections, safety lamps, mine-rescue apparatus, explosives, wire ropes, and various other mining appliances. The

department has several hundred lantern-slides of mining scenes and mining machinery and also many mine maps and drawings. The surveying equipment, already referred to under Civil Engineering, includes a number of mining transits with auxiliary telescopes which are used for the field work in mine surveying.

In order to provide a laboratory where practical instruction in mining and mine surveying can be given, the school has equipped a small experimental mine. This mine has all equipment necessary for its operation.

PHYSICS: The department has the necessary equipment for instruction in physical measurements in mechanics, sound, heat, light, and electricity.

RESEARCH: The mining and metallurgical research laboratories are provided with the necessary equipment both for scientific study of the fundamental physical and chemical principles underlying mining and metallurgical technology and for the testing of commercial processes on an experimental or semi-commercial scale. The work is conducted in co-operation with the United States Bureau of Mines.

MECHANICAL ENGINEERING: The equipment includes steam driven A. C. and D. C. generators, water tube and fire tube boilers, turbines, separate steam engines used for tests, compressors, fans, centrifugal and reciprocating pumping machinery, condensers and auxiliaries, internal combustion engines and such pieces of laboratory apparatus as are needed in making tests on all of these.

The various shops, in which the student is given training in forging and machine tool work, are well equipped to accommodate classes. There is a six-station oxyacetylene welding outfit in connection with the shops.

CERAMIC ENGINEERING: The department of ceramic engineering is equipped with semi-commercial scale equipment for making and studying all kinds of ceramic ware, including pottery, chinaware, porcelain, building brick, sewer pipe, drain tile, firebrick, spark plugs, electric insulators, etc. The equipment includes potter's wheels, jiggers, lathes, a complete slip house outfit, an auger machine, dry presses, gypsum moulds, wooden moulds, etc., with which the dry press, stiff mud, soft mud, throwing, turning, jiggering, and pressing methods of forming the ware may be employed.

The kilns used in firing the ware include a muffle kiln, a high temperature direct-fired kiln, pot furnaces of various kinds, and electric furnaces of both the metal and gran-annular resister type.

A physical testing laboratory is fully equipped for all of the standard tests on raw clay. The many articles of equipment include elutriators, tensile strength and modulus of rupture machines, volumeters of various types, apparatus for hydrogen ion determination, etc.

The grinding and preparation laboratory is equipped with jaw crushers, rolls, disc pulverizers, squirrel cage disintegrators, dry pans, and riddles.

In addition, special equipment is installed for all the standard tests on ceramic materials, including a chemical laboratory for analysis, electric furnaces for P. C. E. test, and kilns for testing refractories under load at high temperature.

Expenses

Matriculation Fee: A Matriculation Fee of $10.00 is charged each student at the time of his first registration in the school. This fee is charged only once to each student.

Tuition Fee: Tuition is free to all students who are residents of Missouri. Non-residents of Missouri pay a tuition fee of $80.00 per year.

Contingent Deposits: A deposit of $30.00 is required from each student to cover the cost of extra supplies and damage to apparatus. This deposit must be renewed if at any time exhausted, and at the end of the school year whatever sum may remain to the credit of the depositor is returned to him.

Registration, Hospital, and Library Fee: A registration, hospital, and library fee of $30.00 a semester will be charged all students.

Laboratory Fee: A uniform charge of $15.00 per semester is made to cover the cost of materials used in the laboratories of the school. In case of withdrawal from school within two weeks of the opening of a semester this fee will be refunded. In case of withdrawal between the second and the tenth week of a semester one-half of this fee will be refunded.

Fee for Repeating Course: A fee of $2.00 per credit hour will be charged for every course of study repeated by a student by reason of the student's failure to pass the subject or other reason for which the student may be held responsible.

Summer Surveying Fee: A fee of $15.00 is charged all students registering for the course in Plane Surveying (Number 102) which is offered during the summer.

Student Activity Fee: A fee of $7.50 per semester is charged for the use of the gymnasium and for admission to all athletic contests, for the use of the golf course, and subscriptions to the two school publications.

Lecture Course Fee: A fee of $2.00 is charged to cover the cost of the lecture course given during the year. Each student is given a ticket admitting him and a friend to each number of the course.

DIPLOMA FEE: A fee of $5.00 is charged to any student to whom a diploma is issued.

INSPECTION TRIPS: The senior inspection trips required in mining, metallurgical, civil, electrical, chemical engineering and ceramic courses cost from $40 to $100.

GRADUATE

1. All regular graduate students pay the following fees each semester so long as they are registered for graduate work:

Registration, Hospital and Library Fee	$30.00
Tuition Fee, if Non-Resident	40.00
Student Activity Fee	5.00
Lecture Course Fee	2.00
Incidental or Laboratory Fee	15.00
Contingent Deposit for Non-Laboratory Students	10.00
Contingent Deposit for Laboratory Students	30.00

In case the student is carrying six hours or less and has no laboratory courses, he will not be required to pay the incidental or laboratory fee of $15.00.

2. Graduate assistants and instructors pay the following fees for each semester that they are registered as graduate students:

Registration, Hospital and Library Fee	$30.00
Student Activity Fee	5.00
Lecture Course Fee	2.00

3. In the case of graduate assistants who do part of their work during the summer with the approval of the Graduate Committee, no fees are necessary for such summer work.

LIVING EXPENSES: Table board costs about $25 per month at the present time. Room rent costs from $5 to $10 per month depending on the nature of the accommodations.

PHYSICAL TRAINING

For the physical training of students, excellent opportunities are afforded by the Jackling Gymnasium and the Jackling Field. The former, completed in 1915, is a strictly modern fireproof building and is equipped with baths, dressing rooms, lockers, a swimming pool 20 feet wide and 60 feet long and various kinds of apparatus and game courts usually found in modern gymnasiums. Class work, consisting of games, setting-up exercises, developing exercises, calisthenics, the use of dumbbells, clubs, and wands is given under the supervision of the Director of Physical Training. Instruction in swimming and wrestling is also given, the aim of this work

being to develop health, strength, vitality and cohesion of movement.

Jackling Field, constructed in 1909 by means of a gift from Mr. D. C. Jackling, '92, adjoins the Gymnasium and provides a football gridiron, a baseball diamond, and a quarter-mile running track for class and intercollegiate games and events. A number of tennis courts about the campus are maintained in good order. An excellent 9-hole golf links near the campus is maintained for the benefit of the students.

The school encourages rational athletics and a participation in intra and intercollegiate sport, all branches of which are under the direct supervision of the Director of Physical Training and management of the Board of Control. The membership of the Board of Control consists of the Director of Physical Training, the Chairman of the Faculty Committee on Athletics, the President, and the Student Manager of the Athletic Association, and the Secretary of the Executive Committee of the Board of Curators as ex-officio treasurer.

Military Training

The War Department maintains at the Missouri School of Mines an Engineer Unit of the Reserve Officers' Training Corps.

Military Science and Tactics is required of all physically fit Freshmen and Sophomores and may be elected by Juniors and Seniors. When a student joins the R. O. T. C. the War Department furnishes his equipment and uniform for the freshman and sophomore courses and commutation of uniform, amounting to $29.00 and $7.00 for the junior and senior courses respectively. The student who fully completes the first year of the Advanced Course satisfies completely his financial obligation and is no further financially bound, although he is under the obligation to continue his uniform in service during the ensuing year if he remains a member of the R. O. T. C. After two years' service the uniform becomes the exclusive property of the student. The uniform worn by the freshmen and sophomores is the R. O. T. C. uniform furnished by the War Deparment and that worn by the juniors and seniors is the officer's uniform.

The four-year instruction is divided into the basic course and the advanced course. The basic course consists of the first two years in the department of Military Science and Tactics and corresponds to the freshman and sophomore years of the academic department. Two credit hours per semester are given toward graduation for the basis course. When a student has satisfactorily completed the basic course and is recommended for further training he may elect the advanced course for the two remaining years. The advanced course consists of theoretical work at the institution and practical work during a R. O. T. C. summer camp elsewhere de-

scribed in this catalog. During the two years advanced course the student receives in addition to his uniform, a cash remuneration amounting to about $7.50 a month. He also receives three credit hours per semester.

Rules and Regulations

The School Year: The regular school year comprises two semesters of eighteen weeks each. The curricula are based on the fall and spring semesters, and are normally completed in four years. However, an opportunity may be offered in some courses to make up deficiencies or complete prerequisites during the summer.

The Credit Hour: A credit hour is the credit obtained for satisfactorily passing a course of one hour in the classroom per week for one semester. In computing the relation between laboratory and class room hours, three laboratory hours are considered the equivalent of one class room hour.

The Normal Schedule: The standard schedule carries not less than sixteen and not more than twenty credit hours. Departure from these limits requires special permission of the Faculty.

System of Grading: The following system of recording grades has been adopted:

E —Excellent	95-100%	3 Grade Points per Credit Hour
S —Superior	85-94%	2 Grade Points per Credit Hour
M—Medium	75-84%	1 Grade Point per Credit Hour
I —Inferior	65-74%	0 Grade Point per Credit Hour
F —Failure	below 65%	1 Negative Point per Credit Hour

Minimum Requirements: For graduation a total of at least 150 credit hours plus the required courses in Military Science and Tactics and Physical Education, are required. At least 120 grade points, and an average of 0.75 grade points per credit hour, are also required.

A student who fails to pass at least ten (10) credit hours in a semester will be placed on scholastic probation for his next semester in school. A freshman who fails under this ruling at the end of his first semester may at the discretion of the Student Advisor be required to repeat his entire first semester's work, in which case his record for the first semester shall be cancelled.

A student who falls under this ruling for a second time shall be dropped from school. All cases of this kind shall be reported to the Curricula Committee of the Faculty, which shall decide whether or not the student may be readmitted to school, and if so, under what conditions.

A student whose grade point average is below 0.30 at the end of his second semester shall be placed on Scholastic Probation for his next semester in school. A student whose grade point average is between 0.45 and 0.60 at the end of his third semester shall be placed on Scholastic Probation for his next semester in school.

A student whose grade point average is below 0.45 at the end of his third semester, or below 0.60 at the end of his fourth or any subsequent semester, shall be dropped from school. Such a student shall be reported to the Curricula Committee of the Faculty, which shall decide whether or not the student may be readmitted to school, and if so, under what conditions.

ABSENCES: A student shall have added to his requirements for graduation one credit hour for sixteen unexcused absences during a semester, two credit hours for twenty-four unexcused absences during a semester, or three credit hours for twenty-eight unexcused absences during a semester. A student who has unexcused absences in excess of sixteen may be placed on disciplinary probation at the discretion of the Student Advisor.

A student who has unexcused absences either on the day preceding or on the day following a regular holiday or vacation period shall have added to his requirements for graduation one or more credit hours, at the discretion of the Student Advisor.

DEGREES

BACHELOR'S DEGREES: Bachelor of Science, Bachelor of Science in Mine Engineering, Bachelor of Science in Metallurgy, Bachelor of Science in Civil Engineering, Bachelor of Science in Mechanical Engineering, Bachelor of Science in Electrical Engineering, Bachelor of Science in Chemical Engineering, and Bachelor of Science in Ceramic Engineering.

The candidate for the degree of Bachelor of Science, or Bachelor of Science in an engineering curriculum, shall complete, in residence for at least the Senior year, the prescribed course of study in the corresponding curriculum.

COMBINATION CURRICULA: Combination curricula leading to two engineering degrees can be arranged for any two of the foregoing degrees. The amount of additional time will be at least forty semester hours in excess of that required for one degree, and may be more. For instance, a joint curriculum, Mechanical and Electrical Engineering, can be taken in five years. Where the curricula are more diverse, six years may be required.

MASTER'S DEGREES: Master of Science, Master of Science in Mine Engineering, Master of Science in Metallurgy, Master of Science in Civil Engineering, Master of Science in Mechanical

Engineering, Master of Science in Electrical Engineering, Master of Science in Chemical Engineering, Master of Science in Ceramic Engineering.

The candidate for the degree of Master of Science shall hold the degree of Bachelor of Science, or its equivalent, from an institution of recognized standing. The candidate for the degree of Master of Science in an engineering curriculum shall hold the degree of Bachelor of Science in that curriculum from an institution of recognized standing. Candidates for either degree must complete in residence a one-year's course of graduate work, approved by the Committee on Graduate Students, and shall submit an acceptable thesis.

ENGINEER OF MINES, METALLURGICAL ENGINEER, CIVIL ENGINEER, MECHANICAL ENGINEER, ELECTRICAL ENGINEER, CHEMICAL ENGINEER, AND CERAMIC ENGINEER.

The candidate for an engineering degree shall hold a degree of Bachelor or Master of Science in an engineering curriculum from this institution, and shall submit an acceptable thesis covering professional investigation within the chosen field, together with a satisfactory record of at least five years' professional experience in this field, provided that if the degree of Bachelor or Master of Science has been granted in the same Department in which the engineering degree is desired, then a satisfactory record of at least three years of professional experience shall be submitted.

An engineer holding two bachelor's degrees may obtain two engineering degrees provided that he satisfies the requirements as stated above for each of the two degrees. This means that at least three years must elapse between the granting of two engineering degrees. Applications for engineering degrees must be in the hands of the Registrar not later than April 1, of the year in which the degree is to be granted, and final copies of theses must be in the hands of the head of the department in which the degree is sought not later than May 1, of the same year.

DOCTOR OF PHILOSOPHY: Candidates for the degree of Doctor of Philosophy (in Mining, Metallurgy, Chemistry and Geology) must register with the Graduate School of the University of Missouri and be subject to all the regulations of the Graduate School. A complete statement of the rules governing the granting of the degree of Doctor of Philosophy may be found on pages 214 to 216. Work done in residence either at Rolla or at Columbia may count toward the degree. The examinations are conducted by a committee appointed by the chairman of the Committee on Graduate Students at Rolla and the Dean of the Graduate School at Columbia. The degree is conferred by the University of Missouri.

Curricula

Curricula Offered: The School of Mines and Metallurgy offers the following curricula. The Roman numerals identify the curricula:

I. Mine Engineering.
II. Metallurgy.
III. Civil Engineering.
IV. Science.
V. Mechanical Engineering.
VI. Electrical Engineering.
VII. Chemical Engineering.
VIII. Ceramic Engineering.

The several courses of study are arranged to contain all the necessary fundamental sciences and language and the essential technical subjects in such order as to lead to a logical and coherent technical education. In recognition of the demand from the mineral industry and the engineering profession for specific technical training, certain definite options are offered. The mine engineering student who does not care to take the General Mining course may specialize in (a) Mining Geology, (b) Petroleum Engineering. Students are strongly advised to take the General Course unless they have special qualifications or reasons for pursuing one of the options. The choice of the Geology or Petroleum Engineering options, should be made in the Sophomore year. Preceding the work of the Junior year, the courses are largely fundamental, and all regular students are required to take full work in English, Physics, General Chemistry and Mathematics.

Two options in Chemical Engineering are offered—Chemical Engineering and Petroleum Refining.

The Science Curriculum, IV, offers opportunity to specialize in: Biology, Ceramics, Chemistry, Drawing, Economics, English, Geology, Metallurgy or Physics. The work of the last two years is largely elective under the advice of the head of the department in which the student is majoring.

Credit Required for Degree: In order to receive a degree it will be necessary to obtain credit in all of the required subjects listed in one of the regular curricula and sufficient additional credit in elective subjects to make a total of 150 credit hours, exclusive of the required physical education and Military Science of the freshman and sophomore years.

Graduate Courses: Graduate work is offered in all departments. The work is elective, under the advice of the faculty.

Laboratory Training: The School of Mines and Metallurgy maintains adequate laboratories for practical instruction. The

school has been in existence for sixty years and has acquired, especially in geology and mineralogy, metallurgy, mining, and chemistry, excellent collections and equipment. The surroundings of the school lend themselves well to field work in geology. The Mining Department operates an experimental mine, located within a short distance from the school campus. Every effort is made to ground the students thoroughly in the fundamental sciences, and to make the technical instruction practical as well as scientific. The school keeps in close touch with the mining and metallurgical operations in the several mining districts of the state. All curricula are the same in the Freshman year and differ but slightly in the Sophomore year. The student thus need not make a choice of special work until after being well started in his course.

PHYSICAL TRAINING AND MILITARY SCIENCE AND TACTICS: Military Science and Tactics and Physical Training are required of all physically fit male students in the Freshman and Sophomore years. For further information on military instruction and the Reserve Officers' Training Corps, refer to the section in the catalog on "Military Science and Tactics."

PRACTICAL WORK: Before receiving a degree in any engineering course, in addition to completing a curriculum as outlined, the student must have worked not less than eight weeks in the industry or line of work in which he is specializing. If he is not able to fulfill this requirement, he may spend not less than four weeks in observation, note-taking and sketching, at some mine, mill or other industrial plant, or on any work designated by the department concerned. A regularly supervised inspection trip may be taken in place of this prescribed work, if offered by the department.

Suitable reports and satisfactory credentials are required on all the work described above. This work should be done during the summer following the Junior year, is possible.

Students in Curricula I, II, III, VI, VII, and VIII are also required to take an inspection trip during the Senior year.

A special catalog of the School of Mines and Metallurgy is issued each year. It contains a detailed announcement of all curricula, statement of courses, entrance requirements, rules and regulations of the School of Mines and Metallurgy, and should be consulted by persons desiring full information concerning this school. For copy of this catalog, or for further information concerning the work of the School of Mines and Metallurgy, address CHARLES H. FULTON, DIRECTOR, SCHOOL OF MINES AND METALLURGY, ROLLA, MISSOURI.

RESERVE OFFICERS TRAINING CORPS

The Missouri State Military School

The Missouri State Military School is an integral part of the University of Missouri (Revised Statutes of Missouri) and under the provisions of the Act of Congress approved July 2, 1862, usually referred to as the Morrill Act, the University of Missouri was designated as a land grant University of Missouri. The Act requires the University to maintain military training in its curriculum as its contribution toward National Defense, in return for which instructors, equipment, uniforms and funds are furnished to the University by the United States.

Organization: The R. O. T. C. at this University consists of a senior Field Artillery unit and a senior Infantry unit. A member of the R. O. T. C. is not in the Army of the United States and membership in the R. O. T. C. carries no legal obligation to serve in the army or any of the armed forces, either in peace or in war. Aside from the actual and immediate value of this training to the individual, and its contingent value to the nation in emergency, it has a very definite and practical value in peace in that it emphasizes discipline, leadership, physical fitness, loyalty, patriotism, concentration, self-respect and team work, all of which are qualities essential for success in any walk of life.

All students taking military instruction compose the University corps of cadets. The corps of cadets is organized as a provisional brigade consisting of a band, one provisional regiment of Field Artillery and one provisional regiment of Infantry. All units are commanded by Advanced Course students who have been carefully selected for these commands on the basis of merit. Non-commissioned officers are carefully selected from members of the basic course.

The Band: The band consists of about 65 members under a band leader employed by the University. The entire band is uniformed, drilled and disciplined as a part of the R. O. T. C. Students of the Basic Course R. O. T. C. who are members of the band are excused from certain military drills for their work in the band. The band is required to rehearse approximately three hours per week, and to attend such military ceremonies, formal concerts, mass meetings, etc., as may be prescribed. Members of the band have $50.00 of their fees refunded as provided in the Catalog under "Expenses and Aids."

Arrangement of Work: In so far as practicable, instruction is given by the applicatory method and is co-ordinated with subjects taught in other departments of the University. The course is

divided into two parts, the Basic Course consisting of the first four semesters and the Advanced Course consisting of the last four semesters including one summer camp of about six weeks' duration.

The Basic Course requires four hours per week of the student's time including classroom work, practical instruction, and the time required for study. The Advanced Course similarly requires six hours of the student's time.

During the period December 1 to March 1st, Freshmen and Sophomores, pursuing the military courses, take two hours per week in physical training in lieu of an equivalent number of hours in military instruction.

Instructors are detailed to the University by the War Department from the commissioned personnel of the regular army. An enlisted detachment is maintained to care for the horses and other federal property.

REQUIRED COURSES: All physically fit male freshmen and sophomores are required to pursue the course in military and physical training, the successful completion of which when entered upon is a prerequisite for graduation.

No qualified student will be excused therefrom except for reasons of great weight presented to and approved by the Faculty Committee appointed by the Executive Board.

ELECTIVE COURSE: Selected students who have completed the basic course or its equivalent are eligible for the advance course.

The War Department pays to each advanced course student commutation of subsistence at the rate of 26 cents a day for the fiscal year 1934-35. This amount varies from year to year. The period of time for which this payment is made includes one summer vacation, less the six weeks spent in camp.

For each unauthorized absence from prescribed R. O. T. C. instruction, the student forfeits 50 cents of this commutation for each hour of such absence.

Summer Camps: During the summer, the War Department holds camps in the several corps areas for R. O. T. C. advanced course students. The purposes of these camps is to give more practical application to the theoretical work of the classroom than is given at the institutions.

These camps usually begin about June 10th, and continue for six weeks. Five cents a mile to and from camp is paid each student to cover railroad fare and other traveling expenses. The Camp for Field Artillery training is held at Ft. Riley, Kansas, and for Infantry training, at Ft. Leavenworth, Kansas.

At the camps, uniforms, quarters, bedding, medical attention and excellent food are furnished free by the United States Government and in addition the student receives pay at the rate of $21.00 a month.

It is the present policy of the War Department to send advanced course students to camp after they have completed the first year of the advance course. However, special authority may be given to students to postpone attendance at camp until they have completed the four semesters of school work of the advanced course.

ACADEMIC CREDIT: Students pursuing the R. O. T. C. courses at the University of Missouri receive credits toward a degree as indicated in the following table:

	Basic Course		*Advanced Course*	
Schools and Colleges	*1st yr.*	*2nd yr.*	*3rd yr.*	*4th yr.*
Arts and Science (*)	3	3	4	4
Agriculture	3	3	4	4
Engineering	3	3	4	4
Fine Arts (*)	3	3	4	4
B. and P. A.			4	4
Education			4	4

(*) Total credits may not exceed 12.

MILITARY DEPOSITS: Military equipment, including a uniform, is furnished to each student taking this course for which a deposit of $5.00 is required in addition to the regular fee of $3.50 per credit hour. The deposit is refunded when the uniform and equipment is returned in satisfactory condition.

All students enrolling in either basic or advanced courses are required to sign an agreement to reimburse the University for any loss or damage in excess of the deposit. This requirement also applies to members of the University band.

UNIFORMS: Under existing federal laws and regulations the War Department allots to the University of Missouri commutation of uniform for the fiscal year 1934-35 as follows:

(a) For each basic student, $9.00 per annum.

(b) For each first year advanced student, $29.00 per annum.

(c) For each second year advanced student, $7.00 per annum.

These amounts vary slightly from year to year.

The basic course uniforms remain the property of the University. Advanced course students must guarantee payment for their uniforms, which they are permitted to retain. The University authorities cannot assume responsibility of any changes in the foregoing regulations which may be necessitated by changes in federal laws and regulations.

In case a uniform becomes so worn or soiled as to be unfit for wear, the student may be held responsible to the extent determined upon by proper authority.

All cadets are required to attend formations for practical instruction in uniform, and to observe military courtesy and discipline while in uniform.

Equipment of Field Artillery

Gun Equipment: One complete 3-inch battery American material and eight French 75mm. guns; Colt's automatic pistols, caliber .45; Battery reel cart.

Motor Equipment: Two 5-ton field artillery tractors (Holt); two 1½-ton cargo trucks (White); one 1½-ton truck (Chevrolet).

Fire Control Equipment: Ten battery commander's telescopes, model 1917; four American aiming circles; 10 French aiming circles; 30 field glasses, type EE; 5 range finders (1 meter base), and other instructional equipment.

Engineer Equipment: Plane tables and sketching outfits; alidades, compasses, etc.

Signal Equipment: Telephones, switchboards for two-way communication.

Animals: Sixty-eight horses are used in the classes of Equitation, B. C. Detail work, and Driving and Draft.

Equipment of Infantry

600 Springfield rifles, Model 1903, caliber, .30.
A supply of regulation infantry packs including mess equipment and shelter tents.
Colt's automatic pistols, caliber, .45.
Gallery rifles and gallery ammunition.
Service ammunition and target material for practice on target range.
Nine Browning machine guns, Model 1917.
Eight machine gun tripods, Model 1917.
Machine gun fire-control equipment, including range finder, 80 cm. base.
Machine gun carts and harness.
Nineteen Browning automatic rifles.
Two 37 mm. guns and carts.
Two 3-inch trench mortars.
A supply of sketching boards, topographical equipment, including compasses, alidades, etc., maps and other instructional equipment.
A supply of Type EE field glasses.
300-yard outdoor Rifle Range.
Indoor Gallery Range.

EXTENSION SERVICE

Administrative and Supervisory Officers

WALTER WILLIAMS, LL. D. . . . . President of the University
ROBERT L. DAVIDSON, JR., A. B., B. S. in Ed., A. M. . . . . Acting Director of University Extension
BESSIE E. BROWNE, A. B., A. M. . . . . Correspondence Instructor in Sociology
MRS. LYNDE C. BARNETT . . . . . Secretary, Correspondence Department
JOHN R. COPE, B. S. in Ed., A. M., Ph. D. . . . . Correspondence Instructor in Education
MARTIN LUTHER FAUST, A. B., A. M., Ph. D. . . . . In Charge of Municipal Reference Bureau
MRS. SARA SAPER GAULDIN, B. J., A. M. . . . Correspondence Instructor in English
MRS. MARGARET R. KIMES . . . . . Assistant in Charge of Visual Education Service
MRS. MONIA COOK MORRIS, A. B., B. S. in Ed., A. M. . . . . Correspondence Instructor in History
OLIVER THEODORE SNODGRASS, B. S., M. S. . . . . Correspondence Instructor in Mathematics

The University of Missouri wishes to bring a complete practical education within the reach of every citizen of the state. To assist in accomplishing this purpose, the Extension Division has been established. By means of correspondence courses, extension center and extension class courses, a thorough course of training at the lowest possible cost is offered to all who have been unable to attend established institutions.

The University means to go even further than this in its efforts to be of service to the public. It intends to interest itself in the solution of all live problems, to bring itself into closer touch with the daily life of the people, and to assist, wherever proper and legitimate, in forwarding every beneficial movement which concerns the interests of the state.

The Extension Division of the University was formally established by the Board of Curators in January, 1910, though extension lectures and extension teaching had been carried on for many years. The extension work is being administered by the following committee:

Professors J. H. Coursault, R. R. Thomasson, T. C. Morelock, H. M. Belden, Jonas Viles, L. M. Short, J. E. Wrench, Jessie V. Coles, and Acting Director R. L. Davidson, Jr., Chairman.

Departments of Extension Work

The Extension Division at the present time offers the following lines of service:

1. Correspondence Courses.
2. Extension Class Courses.
3. Visual Education Service.
4. Debating Service.
5. Municipal Reference Bureau.

Correspondence Courses

By means of the mail the college is taken to the student. Teaching by correspondence has been proved successful after thorough trial and has many advantages of its own, among them thoroughness of instruction.

Procedure: Any person desiring to take courses by correspondence should write for an application blank and for a copy of the last announcement of the Extension Division, then select such course or courses from the announcement as seem desirable, fill out the blank with all the information called for, and return it, together with the required fee, to the University Extension Division. As soon as the student is fully approved and enrolled in the course, the assignments, with instructions for study and directions for returning the prepared lessons, will be forwarded. The student is permitted to pursue his studies as rapidly as is consistent with good work, though ordinarily a 5-hour course, consisting of forty assignments, can be done by the average student in twenty weeks, with a minimum time for study of two hours a day for six days a week.

Courses Offered: Courses are offered in the following subjects: Accounting and statistics, agriculture, Bible, chemistry, classical languages and archaeology, economics and finance, education, English, French, geography, German, history, home economics, Latin, mathematics, physical education, physics, physiology, political science, preventive medicine, psychology, rural sociology, sociology, Spanish.

The courses in agriculture meet the needs of persons desiring to teach agriculture or to pass state examination in that subject.

Cost of Courses: The enrollment fees are as follows:

1-hour course (8 assignments)	$4.00
2-hour course (16 assignments)	8.00
3-hour course (24 assignments)	12.00
4-hour course (32 assignments)	16.00
5-hour course (40 assignments)	20.00

The instructor in any particular course may require assignments to be rewritten, or may vary the total number of assignments in case it is found necessary to do so.

The fees barely cover the actual expense of conducting the courses, hence they do not include textbooks. By proper arrangements and upon payment of a small rental fee, students may borrow from the Extension Division library the reference books needed in a number of the courses.

Students are expected to pay full postage both ways on manuscripts sent to the University.

The cost of taking work in the regular session, including room and board, is about $20 a credit hour, counting $300 a term as average expenses of a student. The cost of taking a course by correspondence (exclusive of postage) is $4.00 a credit hour, which represents only about one-fifth the total costs of courses to students in attendance at the University. Correspondence work affords an excellent opportunity for those students who wish to do part of their college course at a minimum expense while engaged in other work.

General Information on Correspondence Courses: For admission to courses for University credit a student must meet the regular University entrance requirements or be 21 years old and qualified for the work desired. The ability of the student to enter upon the work of any individual course is passed upon by the instructor in charge of the course.

Students less than 21 years old who are not graduates of a four-year high school, fully accredited with the University of Missouri at the time of their graduation, should communicate with the Registrar of the University, Columbia, Missouri, concerning their admission to the University before making application for correspondence courses.

Correspondence work is as thorough as that done in actual attendance.

Courses may be begun at any time.

No preliminary examination is required.

Students are not allowed, except by special permission, and then only when they are carrying less than the maximum amount of work, either to begin or to continue correspondence courses while taking work in residence at the University of Missouri or at any other school.

The time required for the preparation of a lesson is usually from one to one and a half hours daily for six days a week, depending upon the ability of the student.

High school courses are also offered by correspondence. Persons interested in these courses should write for the University Bulletin on high school subjects.

In no case shall extramural work be counted in lieu of the requirement of two terms' resident work. In all cases where correspondence courses are to count for credit in the senior year, the approval of the dean must be secured.

Students who have been in attendance at the University of Missouri for one summer session in the Graduate School, can, with the approval of the professor of their major subject and of the Dean of the Graduate School, take a maximum of eight hours' work by correspondence for graduate credit. All students who have had graduate work in residence must have included on the application for the A. M. degree filed in the office of the Dean of the Graduate School the particular course or courses they wish to take for graduate credit by correspondence.

Correspondence or extension work with other institutions will not be accepted for graduate credit at the University of Missouri.

The maximum work by correspondence, extension center, and extension class courses is limited to ten normal credit hours for one calendar year, except by special permission. By special permission this amount may be increased to twenty hours.

The time allowed for the completion of a correspondence course is one year from the date of enrollment, except upon the payment of an extension fee. During an instructor's vacation, a substitute is provided to carry on his course whenever possible.

PAYMENT OF FEES: All remittances for correspondence courses should be made payable to the order of the University of Missouri and mailed to the University Extension Division, University of Missouri, Columbia, Missouri.

Fees paid for correspondence courses will be refunded only when the student's application is not approved.

For information regarding correspondence courses, write to UNIVERSITY EXTENSION DIVISION, UNIVERSITY OF MISSOURI, COLUMBIA, MISSOURI.

EXTENSION CLASS SERVICE

EXTENSION CENTER COURSES: Courses were offered in extension centers during 1934-35, chiefly in the subject of education.

HOW EXTENSION CENTERS ARE FORMED: Interested people in any community should write to the Extension Division stating that they wish an extension course. Information will be promptly given, advising what courses are available.

HOW UNIVERSITY CREDIT IS OBTAINED AT EXTENSION CENTERS: Students enrolled in extension centers who desire University credit for a course must, in addition to attending lectures given by the instructor, write papers in each course and take a final examination. The tuition for extension center courses is $18.00 per student for a three-hour credit course, a proportionate amount being charged for courses giving different credit.

No credit received in an extension center course may be applied toward the Ph. D. degree. Eight hours' credit in extension center courses is the maximum which may be applied toward the A. M.

degree. Students applying for graduate credit in extension center courses must, like correspondence students wishing graduate credit, obtain approval of the professor of their major subject and of the Dean of the Graduate School. No graduate credit will be granted for an extension center course unless the student is enrolled in the Graduate School at the time the course is taken.

EXTENSION CLASS COURSES: In order to serve better the needs of the state, and especially the needs of the teachers of Missouri, the Extension Division of the University has inaugurated a plan of Extension Classes. Under this plan a large number of courses regularly offered at the University will be offered by local instructors in cities and towns of the state where satisfactory arrangements can be made. The teachers will be special members of the Faculty of the State University and the courses will be in every way the equivalent of the same courses offered in residence at the University.

REGULATIONS

1. Extension class instruction may be given in co-operation or connection with other schools of the state wherever satisfactory arrangements can be made.
2. The instructors in such courses shall be chosen, appointed, and paid by the University of Missouri.
3. The minimum qualifications of instructors in such work shall be as follows:

   a. The A. M. degree.
   b. Adequate special training in the subject taught.
   c. Superior teaching ability.

4. The instructors must be approved by the chairman of the department, the dean of the school or college concerned, and the Director of University Extension.
5. Only regularly approved courses may be offered and the instructor must follow the syllabus supplied by the chairman of the University department concerned.
6. At the close of each course a final written examination, consisting of questions supplied by the chairman of the University department concerned, shall be held, covering the entire course, and the examination papers, after having been graded by the instructor, shall be filed with the Director of University Extension.
7. In extension class courses the instructor must meet the class approximately the same number of hours which instructors in the University meet their classes carrying the same amount of credit.
8. A tuition fee of $6.00 per credit hour shall be paid by each student at the time the course begins. This fee must be paid before the student is entitled to take the work of the course. No tuition fees will be refunded.

9. Before any such course can be definitely approved by the University, satisfactory arrangements for the necessary reference books, laboratory equipment, and laboratory supplies must be made either by the school co-operating or by the class receiving this instruction.

10. No graduate credit is allowed for extension class courses.

ARRANGEMENT OF COURSES: Groups of teachers wishing to arrange for an extension class course should communicate with the Extension Division, stating the number of persons interested and giving information as to the qualifications of the person in the community best adapted to act as instructor. In case no such person is available in the community, the University will arrange, whenever possible, to send an instructor who is qualified.

For information concerning Extension Center or Extension Class courses, write to Extension Class Service, Jesse Hall, Columbia, Missouri.

VISUAL EDUCATION SERVICE

Over one hundred and seventy-five lantern slide sets containing from 10 to 100 slides each, 1,000 individual slides, and 35 mm. motion-picture films upon approximately 250 subjects can be furnished to schools, churches, farmers' clubs, colleges and other educational institutions for a small inspection fee and transportation charges. A rental fee is charged for a few special films.

A library of 16 mm. films has been started and now contains about 100 reels, all on safety stock. These are excellent for classroom use and cost the user considerably less than the 35 mm. films.

Several subjects have recently been added to the film strip library which now contains over 150 strips on various subjects, including about 50 on agriculture.

For information concerning this material, write to Visual Education Service, 23 Jesse Hall, Columbia, Missouri.

MISSOURI HIGH SCHOOL DEBATING LEAGUE

At the meeting of Missouri high schools at the University in May, 1914, arrangements were made for the organization of a Missouri High School Debating League. Any high school or academy of Missouri which is on the accredited list of the University of Missouri may become a member of this league by paying the annual dues, which are $3.50. Debating contests are held between the various schools composing the league, and a final contest determining the winning team for the state is held at the University. A scholarship of the value of $75 is given to the best individual debater. This scholarship is not transferable. The subject for debate by the league during 1934-35 was "RESOLVED:

That the Federal Government should adopt the policy of equalizing educational opportunity throughout the nation by means of annual grants to the several states for public elementary and secondary education."

Municipal Reference Bureau

During the year 1915-16 the University established a Municipal Reference Bureau, which furnishes information free of charge to cities and towns of Missouri on questions relating to civic affairs. The information to be furnished covers such topics as finance, public works, public utilities, city planning, zoning, health, welfare, traffic, and other municipal undertakings. Ordinances will be drafted or revised on request, and advice given as to powers of the municipality in handling local problems as they arise. The information supplied is strictly nonpartisan in character. Controversial questions, properly requiring the services of an attorney, cannot be answered. All inquiries from citizens or public authorities of towns and cities in Missouri will receive prompt attention.

Send all inquiries concerning civic affairs or municipal administration to Municipal Reference Bureau, 206 B. & P. A. Building, University of Missouri, Columbia, Missouri.

For general information concerning University extension activities, write to University Extension Division, University of Missouri, Columbia, Missouri.

SUMMER SESSION

The Summer Session of the University of Missouri at Columbia is organized as an integral part of the University. The session is eight weeks in length. All regulations concerning entrance requirements, requirements for graduation, and rules for the government of students are in effect in the Summer Session.

Every division of the University is in operation during the summer with the exception of the Schools of Law and Engineering. The wide range of courses offered in practically every division of the University makes possible the accommodation of students who, for any reason, may wish to continue their work for degrees in Arts and Science, Agriculture, Business and Public Administration, Education, Fine Arts, Journalism, and Medicine.

THE FACULTY: The members of the Summer Session faculty are drawn from the regular staff of the University and all courses are offered by thoroughly trained instructors. In some cases, teachers from other institutions are employed.

EQUIPMENT: Practically the entire equipment of the University—buildings, grounds, libraries, laboratories, shops, fields, and museums—is available for the Summer Session work.

SCOPE OF SUMMER SESSION: In addition to offering students the general educational advantages which the course of the fall and winter semesters represent, the University endeavors to provide in its Summer Session for all teachers who have special interests either practical or theoretical. City superintendents, county superintendents, high school and grade school principals, high school teachers, grade teachers, special teachers, teachers of music and art, supervisors of industrial arts, teachers of vocational subjects, teacher-training teachers, teachers of physical education, teachers of subnormal pupils, graduate students in education, and college teachers of education will find courses directly related to their special interests.

GRADUATE WORK: The Summer Session places emphasis on graduate courses leading to advanced degrees.

In many departments it is possible to complete all the requirements for the Master's or Doctor's degree in summer sessions.

The Summer Session for 1935 will open on Monday, June 10. Detailed announcements of the courses and other matters concerning the Summer Session are made in a special bulletin issued by the University. For copy of bulletin, or for additional information concerning the Summer Session, address DIRECTOR OF SUMMER SESSION, UNIVERSITY OF MISSOURI, COLUMBIA, MISSOURI.

SECTION III

STATEMENT OF COURSES

For the convenience of the student in making out his schedule of studies, the subjects in the STATEMENT OF COURSES are arranged alphabetically, as follows:

Accounting and Statistics, page 264.
Agricultural Chemistry, page 265.
Agricultural Economics, page 266.
Agricultural Education, page 268.
Agricultural Engineering, page 268.
Agricultural and Home Economics Extension, page 269.
Agricultural Journalism, page 323.
Anatomy, page 269.
Animal Husbandry, page 270.
Art, Theory and Practice of, page 271.
Arts, Applied, page 274.
Art, History of, page 275.
Astronomy, page 276.
Bacteriology and Preventive Medicine, page 276.
Bible and Religion, page 277.
Bio-Chemistry, page 280.
Botany, page 280.
Chemistry, page 282.
Citizenship, page 283.
Classical Languages and Archaeology, page 283.
- Archaeology, page 283.
- Greek, page 284.
- Latin, page 284.
- Sanskrit, page 285.

Dairy Husbandry, page 286.
Economics and Finances, page 288.
Education, page 289.
Engineering, page 298.
- Agricultural, page 268.
- Chemical, page 298.
- Civil, page 299.
- Electrical, page 301.
- Mechanical, page 303.
- Management, page 302.
- Mechanics, page 303.

English, page 305.
Entomology, page 308.
Field Crops, page 309.
French and Italian, page 310.
Geology and Geography, page 311.
Germanic Languages, page 313.
History, page 314.
Home Economics, page 316.
Horticulture, page 318.
Journalism, page 320.
Law, page 324.
Mathematics, page 328.
Medicine, page 329.
Military Science and Tactics, page 329.
Music, page 330.
Nursing, page 336.
Pathology, page 337.
Philosophy, page 338.
Physical Education, page 339.
Physics, page 342.
Physiology and Pharmacology, page 343.
Political Science and Public Law, page 344.
Poultry Husbandry, page 346.
Psychology, page 347.
Rural Sociology, page 348.
Sociology, page 349.
Soils, page 351.
Spanish, page 352.
Surgery, page 353.
Veterinary Science, page 353.
Zoology, page 354.

Courses for underclassmen are distinguished by numbers below 100, courses for upperclassmen and graduates by numbers 100 to 199; courses for graduates, by numbers 200 to 299. For statement of courses numbered 100-199 which receive graduate credit, see Announcement of Graduate School, published separately. A capital letter preceding the number of a course indicates one of the special classes of courses into which the work of a large department is divided, as in the case of Education A102f and Education C150w.

The letter following the number of the course indicates in which term the course is offered; thus, 100f is offered in the fall term; 100 w, the winter term. For statement of courses offered in the Summer Session, write to the Director of the Summer Session for the special announcement of the Summer Session.

The number of hours credit for each course is given in parentheses at the end of the description of the course, just before the name of the teacher. A separate schedule of courses is issued for each term, giving the hours and places of meeting, as well as an indication of the divisions in which credit is allowed for the various courses. Students will obtain these schedules when they register.

Students are advised to consult the announcements of the schools and colleges in Section II of this catalog before making out their programs of study.

The University reserves the right to cancel or change any course listed herein without further notice.

ACCOUNTING AND STATISTICS

The course in General Economics is prerequisite to all courses in this department. A grade of M or better in either General Economics or Elementary Accounting is required for admission to more advanced courses in the department.

17f and w. ELEMENTARY ACCOUNTING. Fundamental principles and their application. Analysis of the balance sheet and income statement in their usual and special forms. (5) MR. BAUER.

107f and w. ELEMENTARY STATISTICS. The elementary principles of statistics as applied in the scientific study and interpretation of business, economic, and social problems. Emphasis is placed primarily on a critical appreciation of the general processes involved rather than on a detailed study of technique. Students in other divisions who are interested primarily in sampling, frequency distribution analysis, testing the homogeneity of experimental data, tests of significance or reliability of computed values, etc., may register for partial credit after consultation with the instructor. (3) MR. HARTKEMEIER.

108w. BUSINESS STATISTICS. Prerequisite, 107. A study of the statistical work of a large number of existing business organizations. The student learns how statistical methods are used in actual practice, what they are intended to accomplish, and how successful they are. (3) MR. HARTKEMEIER.

109f. CORRELATION. The measurement of relationship between variables. the correlation of time series, and the relation between correlation and causation, Detailed instruction in technique and machine computation. (2) MR. HARTKEMEIER.

117f and w. INTERMEDIATE ACCOUNTING. Prerequisite, course 17. An intensive study of the evaluation and treatment of assets and liabilities including consideration of related principles of profits determination. Also a study of special problems such as depreciation, branch house accounting, statements of affairs, fiduciary accounts and consolidated statements. (4) MR. SCOTT.

120w. PROBLEMS IN ACCOUNTING PRACTICE. Prerequisite, 117. Solution and discussion of problems taken principally from C. P. A. examinations, and a brief study covering the planning and installation of accounting systems. (3) MR. BAUER.

121f. INDUSTRIAL ACCOUNTING. Prerequisite, course 117. A study of industrial accounting technique and its place in the development of accounts. (2) MR. SCOTT.

123w. CONSOLIDATED STATEMENTS. Prerequisite, course 117. A study of the problems raised by the necessity of adjusting accounts to the current trend towards consolidation in business organization. (2) MR. SCOTT.

127w. ADVANCED STATISTICS. Prerequisite, 107. Curve fitting, sampling, probability and the analysis of variance and covariance. The theory of nonlinear, partial, and multiple correlation. (3) MR. HARTKEMEIER.

128f. MANAGERIAL ACCOUNTS AND STATISTICS. Prerequisites, courses 107 and 117. A study of the use of accounts and statistics for the purpose of the direction of business policy. (3) MR. SCOTT.

133w. MUNICIPAL AND INSTITUTIONAL ACCOUNTING. Prerequisite, 117. Accounting and budgetary control as related to the financial problems of governmental and institutional organizations. (2) MR. BAUER.

134f. AUDITING. Prerequisite, 117. Principles and procedures. A summary review of accounting principles in their relation to the work of the public accountant. (3) MR. BAUER.

138f. MERCANTILE ORGANIZATION AND CREDITS. Prerequisite, 17. The administration of the relations of business enterprise with outside parties—current creditors, customers, etc.—with especial emphasis on retail selling methods. (3) MR. BAUER.

190f. BUSINESS CYCLES, FORECASTING, AND STABILIZATION. Prerequisite, 107, or consent of the instructor. The theory, history, and statistics of business cycles and the problems of their prediction and control. Their relation to speculative and investment transactions. (3) MR. HARTKEMEIER.

195f and w. SPECIAL PROBLEMS. (1-3).

225w. ADVANCED ACCOUNTING THEORY. A study of the functions of accounts; their development; their place in the current business regime; and their relation to the process of economic development. (3-5) MR. SCOTT.

231f and w. SPECIAL STUDIES. (1-3)

290f and w. RESEARCH. Credit to be arranged. MR. BAUER; MR. HARTKEMEIER; MR. SCOTT.

AGRICULTURAL CHEMISTRY

101w. GENERAL AGRICULTURAL CHEMISTRY. Prerequisite, chemistry 15. A chemical study of those materials and products recognized as pertaining to agriculture. (5) MR. HOGAN.

111f and 112w. AGRICULTURAL ANALYSIS. Quantitative analysis of agricultural products. (3-5). MR. RICHARDSON.

201f and 202w. SEMINAR. (1) MR. HOGAN.

204f. PHYSIOLOGICAL CHEMISTRY OF THE DOMESTIC ANIMAL. Prerequisite, 5 hours of organic chemistry. Designed to meet the requirements of students fitting themselves for investigation in animal nutrition. Offered in alternate years; given in the year 1935-36. Three lectures. (3) MR. HOGAN.

205f. PLANT CHEMISTRY. Prerequisite, 3 hours of physical chemistry. This course is designed for students interested in horticulture, botany, or work of similar nature. Offered in alternate years; given in the year 1935-36. Three lectures, two laboratory periods. (3-5). MR. VINSON.

206f. DAIRY CHEMISTRY. Prerequisite, 5 hours of organic chemistry. The chemistry of milk constituents, their properties and physiological significance; the chemical processes involved in the manufacture of dairy products. Offered in alternate years; not given in the year 1935-36. (4) MR. ————.

207f. COLLOID CHEMISTRY. Prerequisite, 3 hours of physical chemistry. General principles of colloid chemistry and properties of the naturally occurring colloids of importance in agriculture and biology. Three lectures, two laboratory periods, a special problem. (3-6) MR. JENNY.

209f and 210w. SPECIAL INVESTIGATIONS. (2-6) MR. HOGAN; MR. BRODY; MR. JENNY; MR. VINSON.

212f and 213w. RESEARCH. This course may be elected either as major or minor and may include a thesis showing the results of the investigation. Subjects may be selected in (a) animal nutrition; (b) composition of animal tissues; (c) composition of feedingstuffs, fertilizers, soils, etc.; (d) the chemical problems involved in the dairy industries; (e) the chemical composition of plant tissues; (f) quantitative methods of determining plant constituents; (g) problems involving colloidal behavior. (4-8) MR. HOGAN; MR. BRODY; MR. JENNY; MR. VINSON.

AGRICULTURAL ECONOMICS

1f. AGRICULTURAL ECONOMICS. An introduction to the field of Agricultural Economics. Particular emphasis is placed upon economic principles as they relate to agriculture. (3) MR. HAMMAR.

10w. ADVANCED AGRICULTURAL ECONOMICS. A continuation of course 1f devoted to the economic problems of agriculture in production, taxation, foreign exchange, marketing, and in economic control. (2) MR. HAMMAR.

25f. FARM ACCOUNTS. Methods and practice in keeping farm accounts; especial attention to farm financial records, feed records, labor records, production records, and methods of determining livestock and crop production costs. (3) MR. FRAME.

101f. PRINCIPLES OF MARKETING AND COOPERATION. A survey of the marketing system as a whole: the various types of middlemen and their functions, the general weaknesses of the system, and suggested remedies; the possibilities and limitations of co-operative marketing, and factors determining success or failure. (3) MR. THOMSEN.

107w. FARM FINANCE. Prerequisite, course 1f. A study of the financing of farm credit needs based upon a brief survey of the financial structure, money and banking. Particular attention will be given to those institutions that are sources of agricultural credit, i. e., the Federal Reserve System, Federal Land Bank, Intermediate Credit Bank, etc. (3) MR. HAMMAR.

110w. GENERAL FARM MANAGEMENT. Prerequisites, 1f or its equivalent and either farm experience or five semesters' work completed in a standard agricultural course. A study of the elementary principles of farm management and

the methods developed for analyzing a farm business, judging its efficiency by these principles, and the working out of corrections for weaknesses found in the farming system. (3) MR. JOHNSON.

121w. ECONOMIC HISTORY OF AGRICULTURE. Prerequisite, courses 1f and 10w. A general historical survey of the economic development of American agriculture. (2) MR. JOHNSON.

125f. AGRICULTURAL STATISTICS. This course includes a study of the collection, analysis, and presentation of agricultural statistics and is designed to furnish a knowledge of statistical methods sufficient for all ordinary requirements in agricultural work. (3) MR. FRAME.

127f. AGRICULTURAL PRICES. Prerequisite, course 1f. A study of the various factors that affect the prices of farm products, and the use of current market information in planning what to produce and where and when to sell. (3) MR. THOMSEN.

130f and w. SPECIAL PROBLEMS. Prerequisite, the introductory course in the phase of agricultural economics in which the special problem falls. Special studies and readings by individual students wishing further work in some phase of agricultural economics but who finds it impossible to take additional regular course work in this particular phase. Credit to be arranged. MEMBERS OF THE STAFF.

132w. COMMODITY PRICES AND MARKETING. Prerequisites, courses 101f and 127f or consent of instructor. Marketing and price problems of livestock, grains, fruits and vegetables, poultry and dairy products, cotton. Application of principles to practical problems encountered in the field. (3) MR. THOMSEN.

133w. MARKET ANALYSIS. Prerequisites, courses 25, 101f, 127f, and 132w. A study of the factors affecting the efficiency of individual marketing agencies or business firms; consumer research; analyzing the markets for products of individual firms; administrative problems of financing and operation. (2) MR. THOMSEN.

150w. LAND ECONOMICS. Prerequisite, course 1f. A critical examination of the system of land utilization in the United States. The course is developed about the topics of conservation, land classification, land utilization, land valuation, tenancy and the agricultural ladder, land taxation, and the land policies of the United States. (2) MR. HAMMAR.

190f. LAND RENTING AND MORTGAGE PROBLEMS. Prerequisites, 25f, 110w, and 125f. The economic and farm management aspects of the problems connected with tenant operated farms; adjusting rates to allow for changing costs and changing price level; farm management principles involved in drawing the lease agreements, etc. (2) MR. JOHNSON.

200f and w. SEMINAR. Special lectures and reports on economic problems in agriculture. (1)

201w. ADVANCED PRICE ANALYSIS. Prerequisites, courses 125f, 127f, and 132w, or consent of instructor. Technical methods of analyzing prices, and solution of specific price problems by students. (2) MR. THOMSEN.

205w. CURRENT ECONOMIC PROBLEMS OF AGRICULTURE. Prerequisite, 16 hours of agricultural economics or their equivalent. Analysis of the more important current economic problems of the farmer, together with proposed remedies. (3) MR. JOHNSON.

207f. AGRICULTURAL POLICY. Prerequisite, 14 hours of agricultural economics or their equivalent. A topical study of the farmer in his public relations with special reference to public finance, land utilization, and agricultural production. (2) MR. HAMMAR.

210w. Advanced Farm Management. Prerequisite, course 110w. A study of the application of farm management principles on individual farms. Detailed analyses will be made on from 25 to 40 farms. Wherever possible, personal visits to the farm will be made. (3) Mr. Johnson.

225w. Advanced Agricultural Statistics. Prerequisite, 125f or its equivalent. A study of the Poisson, Binomial and Normal distributions, tests of significance, and analysis of variance. Suited to all agricultural research, but especially adapted to students in the biological sciences. (3) Mr. Frame.

240f and w. Research in Agricultural Economics. (Credit to be arranged.) Teacher selected by student.

AGRICULTURAL EDUCATION

See *Methods in Agriculture*, page 295.

AGRICULTURAL ENGINEERING

1f and w. Farm Power and Machinery I. Principles of operation, adjustment and repair of gas engines, tractors and common farm machines (mowers, planters, plows, binders). Selection and management of farm machinery and power equipment. Determination of costs of service from farm machines, and the relation of these costs to crop production costs. Laboratory practice in operating, adjusting and testing. (3) Mr. Jones.

10f and w. Farm Shop Work. Selection and use of tools for the farm repair shop. Methods and practices in repairing farm machinery and equipment. Farm blacksmithing and iron work, pipe fitting, soldering, rope splicing, harness sewing, tool sharpening, and farm woodwork. (3) Mr. Jones.

103w. Farm Buildings. The place of buildings in the business of farming. Arrangement of buildings on the farmstead and planning of barns, hog houses, poultry houses, granaries, etc., for economy, convenience, sanitation and appearance. Building materials, their adaptability and use. Rafter cutting, farm concrete and masonry work. Blue print reading and cost estimation. Modernizing the farm home. Water supply and sewage disposal. (3) Mr. Wooley.

104w. Farm Buildings Laboratory. Prerequisite, course 103, or registration therein. Practice work in use of different building materials, testing ventilation systems, planning farm and farm building layout, designing farm structures. (2) Mr. Wooley.

112w. Farm Power and Machinery II. A continuation of course 1f and w. Advanced work on gas engines and tractors. Harvesting and threshing machinery; feed grinders; ensilage cutters. Farm lighting plants; electric service from power lines; electric motors for farm work. (3) Mr. Jones.

121f. Drainage and Erosion Control. A study of the place of terraces, drains and dams in the modern farming program. Field practice in laying out and constructing terraces, ditches, tile drains, barriers and soil-saving dam. Elementary drainage law, district organization, etc. (3) Mr. Wooley.

122f. Irrigation and Drainage. Prerequisite, agricultural engineering 121f, or its equivalent. Water rights. Irrigation by pumping. Methods of applying water to the land. Irrigation of different crops. The measurement of water. The drainage of irrigated land. The course covers irrigation and drainage from the farmer's point of view. (2) Mr. Wooley.

150f and w. Special Problems in Agricultural Engineering. Primarily for advanced undergraduates. Problems assigned or elected by the student subject to approval. (1-5) Mr. Wooley; Mr. Jones.

200f and w. SEMINAR. Studies of recent investigations in agricultural engineering and related fields; discussion of current literature; preparation and presentation of papers. (1) MR. WOOLEY; MR. JONES.

281s. ADVANCED FARM MECHANICS. Advanced study of principles and theories as applied to mechanical work on the farm, with laboratory practice contributing to a development of a knowledge of mechanics. The course is designed with special reference to the needs of teachers of vocational agriculture. (2) MR. JONES.

285f and w. SPECIAL INVESTIGATIONS IN AGRICULTURAL ENGINEERING. Research on minor problems not leading to a thesis. (Credit to be arranged.) MR. WOOLEY; MR. JONES.

299f and w. RESEARCH IN AGRICULTURAL ENGINEERING. Original research in farm power and machinery, farm buildings, drainage, or erosion control Thesis required. (Credit to be arranged.) MR. WOOLEY; MR. JONES.

AGRICULTURAL AND HOME ECONOMICS EXTENSION

100f and w. FIELD WORK IN AGRICULTURAL EXTENSION. This is a field laboratory course involving a period of not less than six weeks. Students who have completed the work of the junior year are eligible to apply for admission to this course. Such application should be made in the semester preceding that in which the course is desired. (5 hours) MR. HEARNE.

200f and w. SPECIAL PROBLEMS IN AGRICULTURAL AND HOME ECONOMICS EXTENSION. Studies in the field of extension work in agricultural and home economics. Critical studies will be made of such problems as: (1) relative effectiveness of different types of extension teaching; (2) methods of measuring results of extension work; (3) the place of local leadership in the extension program; (4) systems of training local extension leaders; (5) methods of financing extension programs, together with studies of all other factors that influence the effectiveness of extension activities. (2-5) MR. HEARNE.

AGRICULTURE

See announcement of curricula, pages 128 to 137. See also

Agricultural Chemistry, page 265.
Agricultural Economics, page 266.
Agricultural Education, page 295.
Agricultural Engineering, page 268.
Agricultural and Home Economics Extension, page 269.
Agricultural Journalism, page 323.
Animal Husbandry, page 270.
Dairy Husbandry, page 286.
Entomology, page 308.
Field Crops, page 309.
Home Economics, page 316.
Horticulture, page 318.
Poultry Husbandry, page 346.
Rural Sociology, page 348.
Soils, page 351.
Veterinary Science, page 353.

ANATOMY

101f. ELEMENTARY ANATOMY. A course designed to outline a few of the fundamentals of both gross and microscopic anatomy. No actual dissection is undertaken, but dissections made by medical students are studied. (Prerequisite, five hours of general zoology.) (3) MR. CROUCH.

102f. EMBRYOLOGY. A study of the development of the individual based upon man and the higher mammals. Open only to medical and graduate students. (4) MR. WELLS; MR. ELLIOTT.

103f. HISTOLOGY. A study of the microscopic structure of the fundamental tissues of the human body. (2) MR. WELLS; MR. ELLIOTT.

104w. HISTOLOGY. A continuation of course 103f. A study of the microscopic structure of the organs of the human body. (4) MR. WELLS; MR. ELLIOTT.

105f. HUMAN DISSECTION. A study of the gross structure of the human body, dissection progressing in the following order: Thorax, superior extremities, neck and head. (7) MR. OVERHOLSER; MR. CROUCH; MR. ELLIOTT.

106w. HUMAN DISSECTION. A continuation of course 105f. Dissection of the abdomen, pelvis, perineum and lower extremities. (7) MR. OVERHOLSER; MR. ELLIOTT.

107f. TOPOGRAPHIC AND APPLIED ANATOMY. A course devoted to the practical consideration of the principal structures stressed in clinical surgery supplemented with a study of cross-sections of the human body. (105f and 106w are prerequisite.) (3) MR. OVERHOLSER; MR. CROUCH.

108w. NEUROLOGY. The gross and microscopic structure of the central nervous system and the sense organs are studied. (4) MR. CROUCH.

200f and w. SEMINAR. The presentation and discussion of original investigation and current literature. Open to students in courses numbered above 200. (1)

201f and 202w. SPECIAL STUDIES IN ANATOMY. The intensive study of regions or systems as preparation for specialization in medicine. This may include developmental and microscopic as well as gross anatomy. (102 to 106 are prerequisite.) (Hours to be arranged.) MR. OVERHOLSER; MR. CROUCH; MR. WELLS.

290f and w. RESEARCH. The facilities of the department are available to students qualified to undertake investigation in anatomy. (4 to 8)

ANIMAL HUSBANDRY

1f and w. ANIMAL HUSBANDRY. A general survey of the development of the live stock industry and present conditions. The fundamentals of live stock judging and its relation to production. The work covers horses, mules, cattle, sheep, and hogs. (3) MR. WEAVER; MR. COMFORT; MR. MOFFETT; MR. DYER.

2f. BREEDS OF LIVE STOCK. History, development, and characteristics of the leading breeds of live stock; pedigrees and performances of superior individuals among horses, cattle, sheep, and swine. (3) MR. TROWBRIDGE.

3w. LIVE STOCK JUDGING. Prerequisite, course 1. A study of various classes of farm animals, with particular reference to breed character, and differences. Comparative judging, supplemented by reference reading and illustrated lectures. (3) MR. MOFFETT.

4f and w. SLAUGHTERING OF DOMESTIC ANIMALS AND CUTTING AND CURING OF MEATS. Prerequisite, course 1. Special attention will be given to the grading, selection and identification of carcasses and wholesale and retail cuts of meat. (2) MR. COMFORT.

5f. CUTTING AND CURING OF MEATS. This course is for women. Special attention will be given to a study of factors affecting the quality and palatability of meat, identification and selection of wholesale and retail cuts of meat. (1) MR. COMFORT.

100f. PRINCIPLES OF ANIMAL NUTRITION. Must be preceded or accompanied by organic chemistry, course 15. The laws of animal nutrition; adapta-

tion of facts of physiological chemistry to feeding of domestic animals. (3) MR. HOGAN.

101w. ANIMAL BREEDING. Prerequisite, general zoology, 1. Principles and practices involved in the improvement of domestic animals; physiology of reproduction, growth, and development; master breeders, variation, heredity, close breeding, cross breeding, grading, prepotency, pedigree, selection, and allied subjects in their relation to live stock improvement. (3) MR. TROWBRIDGE; MR. MCKENZIE; MR. COMFORT.

102f. ADVANCED LIVE STOCK JUDGING. Prerequisite, course 3, live stock judging. A continuation of the comparative judging work given in course 3; includes excursions to live stock shows and noted breeding farms. (3) MR. MOFFETT.

103w. LIVE STOCK PRODUCTION. Prerequisites, courses 1 and 100. Systems of beef, pork, sheep, horse and mule production, including breeding, feeding and management of commercial and purebred live stock. (5) MR. WEAVER.

107f. LIVE STOCK MANAGEMENT. Prerequisite, 103w. The operation of live stock farms. Special studies concerning the various classes of live stock and their products. (1-2) MR. TROWBRIDGE; MR. WEAVER.

111f and w. SPECIAL PROBLEMS. Primarily for advanced undergraduates; topics assigned or chosen subject to approval. (1-3) MEMBERS OF THE DEPARTMENTAL STAFF.

200f and w. SEMINAR. Critical consideration of research and particular subjects. Review of current literature. (1) MEMBERS OF THE DEPARTMENTAL STAFF.

204w. ANIMAL NUTRITION. Prerequisite, course 100. A study of the more important contributions to the knowledge of animal nutrition; designed for students specializing in some phase of animal industry. Alternates with agricultural chemistry 204f, physiological chemistry of the domestic animal. Given in the year 1934-35. (2) MR. HOGAN.

206f. ANIMAL BREEDING INVESTIGATIONS. Prerequisites, courses 101w and veterinary science, 1f. Study of specimens and original investigations; current literature on anatomy and physiology of reproduction. (2) MR. MCKENZIE.

207w. LIVE STOCK FEEDING INVESTIGATIONS. Prerequisite, course 103w. A study of more important investigations in feeding cattle, hogs, sheep, horses, and mules. (2) MR. TROWBRIDGE; MR. WEAVER

291f, 292w. RESEARCH. Investigation in live stock production, animal breeding, nutrition, or physiology of reproduction. The results are to be presented in a carefully organized written report or thesis. MR. MUMFORD; MR. TROWBRIDGE; MR. HOGAN; MR. WEAVER; MR. MCKENZIE.

ARCHAEOLOGY

See under Classical Languages and Archaeology. (Page 283).

ART

Theory and Practice

Certain courses indicate (*) continue through more than one semester until the requirements of the specific curriculum have been met. The amount of credit for which a student may be permitted to register in any semester is indicated for each course, subject to the approval of the chairman of the department

At the end of the semester differential credit (no readjustment of fees for differential credit)—in hours, not exceeding 20% of the amount for which the student is registered in that particular course may be added or deducted in accordance with the actual work done, as determined by a jury composed of the faculty of the department concerned.

Fundamental Courses

2f and w. INTRODUCTION TO ART. Open to all students. The elementary principles of design and representation presented in lectures and laboratory. Practice with pencil, charcoal, and water colors. Should be accompanied by course Art History 11f or 12w. (5) MR. SHANE; MR. ADAMS.

88af and w. DRAWING (elementary). Prerequisite, course 2. Study of the principles of delineation, making use of the antique cast. (4) MR. SHANE.

70af and w. DESIGN (elementary). Prerequisite, course 2. Theoretical study of the principles of design with technical application. (5) MR. HANSON.

Painting

19f and w. COMPOSITION I. Prerequisite, course 2. Linear and pattern relationships in pictorial design with accent on expressive organization. (1) MR. HUDSON.

59f. COMPOSITION II. Prerequisite, course 19. Color organization in pictorial design. (2) MR. HUDSON.

79w. COMPOSITION III. Prerequisite, course 59. Designing of the easel picture in color. (2) MR. HUDSON.

179f and w. ADVANCED COMPOSITION.* Prerequisite, course 79. Projects in the designing of easel pictures and mural decorations terminating in the execution of such a project in a professional manner, for a total of 16 hours credit. Students in this course are required to pay a registration fee in the Beaux-Arts Institute of Design. Normal credit determined by conference at time of registration. (2-8) MR. HUDSON.

151f. ILLUSTRATION I. Prerequisite, courses 19 and 59. Projects in story illustration in black and white, using pen and ink and water color as a medium. (2) MR. ADAMS.

153w. ILLUSTRATION II. Prerequisite, course 151. Continuation of Illustration I. (2) MR. ADAMS.

88bf and w. DRAWING.* Prerequisite, 4 hours credit in elementary class. Drawing from the human figure for a total of 8 hours credit. Normal credit 4 hours each semester. (2-6) MR. ADAMS.

188f and w. DRAWING.* Prerequisite, 12 hours credit in course 88. Advanced study of the human figure, for a total of 12 hours credit. Normal credit 4 hours each semester. (2-6) MR. HUDSON.

77f and w. PAINTING.* Prerequisite, courses 2, 88 (elementary), and 70 (elementary). Painting in oil from the still-life. Normal credit 4 hours each semester. (2-6) MR. ADAMS.

177f and w. PAINTING.* Prerequisite, 4 hours credit in course 77. Painting from the human head and figure with accessories, for a total of 16 hours credit. Normal credit, 4 hours each semester. (2-6) MR. SHANE.

Decorative Design

70bf and w. DESIGN.* Prerequisite, 5 hours credit in elementary class. Advanced application of design theories. Normal credit 4 hours each semester. (2-6) MR. HANSON.

90w. HISTORY OF FURNITURE I. A survey of the development of furniture with analytical study of the more important periods. Required of all decorative design majors specializing in interior decoration. (1) MR. HANSON.

91f. HISTORY OF FURNITURE II. Continuation of course 90 which is prerequisite. Required of all decorative design majors specializing in interior decoration. (1) MR. HANSON.

170f and w. DESIGN.* Prerequisite, 9 hours credit in course 70. Study of the methods and technique of the important phases of design with ultimate specialization in one or more specific fields, for a total of 26 hours credit. Normal credit determined by conference at time of registration. (2-11) MR. HANSON.

Architecture

71f and w. ARCHITECTURAL DESIGN.* Introductory study of the principles of architectural composition and presentation followed by simple problems of from one to four weeks from a given program with a twelve-hour preliminary sketch for a total credit of 7 hours. Normal credit 2 hours in first semester and 5 hours in second semester. (1-7) Text: Esquie-Vignola and Gromort L'Architecture Classique. MR. BILL.

171f and w. ARCHITECTURAL DESIGN.* A continuation of course 71, which is prerequisite, consisting of Beaux-Arts analytique and sketch problems. For a total credit of 15 hours. Students in this course are required to pay a registration fee in Beaux-Arts Institute of Design and expressage on drawings to and from exhibitions. Normal credit 5 hours each semester. (3-7) MR. BILL.

81w. CONSTRUCTION. Prerequisite, Architectural Design, course 71. Simple structural problems, scale and full sized details of interior and exterior woodwork, brick bonds and stone coursing, lettering and tracing of working drawings. (2) Text: Rouillion & Ramsey, Architectural Details. MR. BILL.

181f and w. CONSTRUCTION.* A continuation of course 81, which is prerequisite. Mathematics II and Civil Engineering II must accompany. The application of mathematics to the designing of structures in wood, steel, and masonry and the study of heating, lighting, and sanitation for all classes of buildings, for a total credit of 6 hours, the final 2 hours of which shall be given in connection with courses 162 and 172. Normal credit 2 hours per semester. (1-3) MR. BILL.

104f. HISTORY OF ARCHITECTURE I. The prerequisite for Architects is course 2 and Introduction to History; waived in case of non-majors. An historical analysis of the architecture of Egypt, Mesopotamia, Greece, Rome, and Europe to the 15th century with illustrated lectures. Individual research and drawings required of majors in architecture. Text: Kimball History of Architecture. (3) MR. BILL.

105w. HISTORY OF ARCHITECTURE II. Prerequisite, course 104; waived in case of non-majors. Renaissance and Modern Architecture. A continuation of course 104 to and including present day architecture. Individual research and sequence of the two courses required of majors in architecture. Text: Kimball, History of Architecture. (3) MR. BILL.

142w. HISTORIC ORNAMENT I. Individual library research and laboratory study supplemented by informal lectures on the historic styles of architecture and furniture with the designing and modeling in clay from a given program. Text: Hamlin, History or Ornament. (2) MR. BILL.

152f. HISTORIC ORNAMENT II. A continuation of Historic Ornament I, with submitted B. A. I. D. archaeology projects. (Registration in the B. A. I. D. required for this course. See course 171.) (2) MR. BILL.

162f. DOMESTIC ARCHITECTURE. Prerequisite, course 181. The problem of the residence with a final problem of 4 weeks devoted to rendered presentation and working drawings. (5) MR. BILL.

172w. CIVIC BUILDING. Prerequisite, course 162. The problem of the non-residential building with an 8-week final problem with rendered presentation and working drawings. (5) MR. BILL.

163f. SPECIFICATIONS I. The critical study and practice writing of specifications for all types of buildings with especial application to the final problem in course 162f together with informal lectures and discussions by the instructor and visiting architects on the office practice and conduct of the profession of architecture and the relations of the architect with the clients, the contractors and the community. Text: Blake, Law of Architecture and Building; A. I. A. Handbook of Professional Practice. (1) MR. BILL.

173w. SPECIFICATIONS II. A continuation of course 163 with especial application to the final problem in course 172w. (1) MR. BILL.

192w. COLLABORATIVE DESIGN. A thesis designed in conjunction with students representing the other arts. Required of all majors in Architecture. (5) MR. BILL.

Applied Art

50f and w. ART CRAFT I. An introduction to the problems of construction and the fundamental principles of design as related to materials. It emphasizes the essential value of the elements of beauty in daily life. It is planned to meet the needs of students who have had little or no previous training and are unaware of any artistic ability. Projects in paper, cloth, leather, clay, stenciling, lettering, and the principles of costume design. Practical work with lectures and discussions on principles of design. (3) MISS DOBBS; MISS WULFEKAMMER.

60f and w. ART CRAFT II. Toymaking. This course deals with toymaking as a craft. Emphasis is given to its use as an elementary school project, its use as a medium in occupational therapy, and its commercial value. Processes involve fundamental mechanical principles, the use of common tools and materials and the application of principles of design. Practical work, with emphasis upon procedure and methods of presentation. (2-4) MISS DOBBS.

101f and w. ART CRAFT III. Prerequisite, Art Craft I or Introduction to Art. Problems similar to those in Art Craft I, but of greater difficulty and including leather work, block printing, wood carving, and simple problems in art metal. Emphasis on the principles of design and projects related to house furnishing. (2) MISS DOBBS; MISS WULFEKAMMER.

102f and w. ART CRAFT IV. Prerequisite, Art Craft III and Introduction to Art. Individual work upon one or two crafts. Emphasis upon historic background, structural design, and development of skill. (2-4) MISS DOBBS.

103f and w. BASKETRY. Practical work with reeds, splints, raffia, pine needles and other material. Emphasis on historic background, structural design, and relation to playground work and occupational therapy. (2½) MISS DOBBS.

106f and w. HAND LOOM WEAVING. Practical work in the weaving of textiles, including plain weaving of scarfs, rugs, and similar articles and pattern weaving. Emphasis upon structural design, pattern drafting, and historic background. (2) MISS DOBBS.

107f and w. POTTERY I. Prerequisite, working knowledge of design. Practical work in the fundamental processes of pottery making, including modeling, molding, firing, and glazing. Emphasis on structural design, technical processes, and historic background. (2) MISS DOBBS.

108f and w. POTTERY II. Continuation of Pottery I which is prerequisite to this course. (3) MISS DOBBS.

109w. BOOKBINDING. Includes the making of books and binding of magazines, together with some preliminary work with cardboard in making portfolios, boxes, etc. Emphasis on structural design and historic background. (2) MISS WULFEKAMMER.

See also METHODS IN INDUSTRIAL EDUCATION.

G120f. HANDWORK FOR PRIMARY GRADES. (3) Description on page 297.

G121w. HANDWORK FOR INTERMEDIATE GRADES. (3) Description on page 297.

G140w. SUPERVISION AND CRITICISM OF ELEMENTARY HANDWORK. (2) Description on page 297.

Graduate Courses

220f and w. GRADUATE COLLABORATION. Advanced designing in conjunction with students representing other arts. (8) FINE ARTS STAFF.

230f and w. SPECIAL TOPICS. Original work in the student's chosen field. (8) FINE ARTS STAFF.

240f and w. HISTORIC RESEARCH. Investigation of historic precedent and methods. (4) FINE ARTS STAFF.

200f and w. SEMINAR. To be arranged. FINE ARTS STAFF.

HISTORY OF ART

11f. INTRODUCTION TO ANCIENT AND MEDIAEVAL ART. Architecture, sculpture, and painting of the Ancient Orient, Greece and Rome, and mediaeval Europe. Illustrated lectures and collateral reading. (2) MR. WELLER.

12w. INTRODUCTION TO RENAISSANCE AND MODERN ART. Continuation of course 11f, tracing the general evolution of art from the XV century to contemporary times. Illustrated lectures and collateral reading. (2) MR. WELLER.

13w. HISTORY OF FRENCH PAINTING. After a discussion of mediaeval and renaissance French art, particular emphasis is placed upon the developments of the XIX and XX centuries. Illustrated lectures and collateral reading. (2) MR. WELLER.

16f. HISTORY OF ENGLISH AND AMERICAN PAINTING. The interrelations of the art of the two countries, and the influence of contemporary society and literature are stressed. Illustrated lectures and collateral reading. (2) MR. WELLER.

112r. HISTORY OF ITALIAN RENAISSANCE PAINTING. A study of Italian painting from the late XIII to the late XVI centuries, stressing the general characteristics of the Renaissance period, the individual qualities of local schools, and the evolution of style. Illustrated lectures and individual investigation. (3) MR. WELLER.

113w. HISTORY OF THE NORTHERN RENAISSANCE. A study of the art of Flanders, Germany, and Holland from the XV to the XVII centuries, emphasizing the relationship of art with race, history, and philosophy. Illustrated lectures and individual investigation. (3) MR. WELLER.

114f. MASTERPIECES OF ARCHITECTURE AND SCULPTURE. A general course stressing aesthetic principles rather than historical development. Illustrated lectures and collateral reading. (1) MR. WELLER.

115w. MASTERPIECES OF PAINTING. Continuation of course 114f. Illustrated lectures and collateral reading. (1) MR. WELLER.

116w. HISTORY OF ITALIAN RENAISSANCE SCULPTURE. The evolution of Italian sculpture from Niccolo Pisano to Bernini, with emphasis upon the relationship of sculpture with the contemporary architecture and painting. Illustrated lectures and collateral reading. (2) MR. WELLER.

118w. HISTORY OF PRINTS. The technique and stylistic evolution of woodcut engraving, etching, lithograph, mezzotint, etc., from late mediaeval to contemporary times, bringing out the influence of time and place upon art forms. Illustrated lectures and collateral reading. (2) MR. WELLER.

ASTRONOMY

1f and w. DESCRIPTIVE ASTRONOMY. Prerequisite, Plane Geometry. An introduction to astronomy. (5)

104f. PRACTICAL ASTRONOMY. Prerequisite, differential calculus. Determination of azimuth, time, longitude and latitude, chiefly with the engineer's transit and the sextant. Laboratory course. (3)

105w. ADVANCED PRACTICAL ASTRONOMY. Prerequisite, course 104. Precise observations with the instruments of the observatory. Laboratory course. (2)

110w. HISTORY OF ASTRONOMY. Prerequisite, course 1. (3)

120w. ASTROPHYSICS. Prerequisite, course 1, differential calculus, and college physics. (3)

125f. NUMERICAL ANALYSIS. Prerequisite, integral calculus. (3)

150f. CELESTIAL MECHANICS I. (3)

206w. THEORY OF ORBIT DETERMINATION. (3)

210w. CELESTIAL MECHANICS II. (3)

BACTERIOLOGY AND PREVENTIVE MEDICINE

The courses listed below are designed not only for students in the School of Medicine, but also for those interested in other aspects of bacteriology.

5f, w. PREVENTIVE MEDICINE. Value of preventive medicine; methods of spread and the prevention of specific communicable diseases; elements of school hygiene. (2) credits. MR. ZIEGLER AND STAFF.

No credit is given in the medical curriculum for course 5.

101f. MEDICAL BACTERIOLOGY. Prerequisite, General Bacteriology and Organic Chemistry 110. The relation of bacteria to disease; the fundamental principles of infection, immunity, vaccine and serum therapy. Sophomore medical students and others by permission. 9 hours (6) credits. MR. ZIEGLER; MR. PETERSON.

102w. GENERAL HYGIENE. Prerequisite, Bacteriology 101, or its equivalent. Deals in a somewhat detailed manner with the fundamental principles of public and personal hygiene. Sophomore medical students and others. 2 hours (2) credits. MR. MOON; MR. ZIEGLER.

200w. IMMUNITY. Prerequisite, Bacteriology 101, Theory of immunity; antigenantibody reactions; opsonins; preparation of vaccines; Wassermann reaction. 4 hours (2) credits. Offered in alternate years. MR. ZIEGLER.

201f and w. SPECIAL INVESTIGATIONS. Qualified students are assigned a problem in bacteriology or immunology for special study. Prerequisite, General Bacteriology and Organic Chemistry 112, or Medical Bacteriology. Hours and credit arranged. MR. ZIEGLER; MR. MOON.

202w. PUBLIC HEALTH AND SANITATION. Prerequisite, General Bacteriology and Organic Chemistry 110. Canning inspection; testing of disinfectants; bacteriology of water and sewage; sanitary surveys. 5 hours (3) credits. Permission of instructor required. Offered in alternate years. MR. ZIEGLER; MR. MOON.

225f and 226w. ADVANCED BACTERIOLOGY. Designed to give the student more detailed information and training in the newer aspects of bacteriology and immunology. Assigned reading and laboratory work with lectures on special topics. (Hours and credits arranged.) MR. ZIEGLER; MR. MOON.

250f and w. SEMINAR IN BACTERIOLOGY. A presentation and critical discussion of current literature and original investigation in the field of Bacteriology and Immunology. (1) credit. MR. ZIEGLER.

290f and w. RESEARCH. Prerequisite, Bacteriology 225 or 226. Graduate students of suitable preliminary training may pursue original investigation in the field of Bacteriology and Immunology. Credit arranged. MR. ZIEGLER; MR. MOON.

BIBLE AND RELIGION

Courses in Biblical and religious subjects taught in the Bible College of Missouri at Columbia may be taken for credit toward degrees in the University of Missouri. Nos. 3-140, 159, and 175 are accredited toward the degree of A. B.; a student may elect as many as fourteen hours toward that degree. Nos. 158-169, and 239 are accredited primarily toward the degree of B. S. in Education. Nos. 190 and 191 are accredited primarily toward degree of Bachelor of Journalism.

Students may take a major or a minor from the foregoing courses toward the degree of B. S. in Public Administration, or in Rural Public Welfare; and other courses toward other degrees, as approved by Deans of the respective Schools.

3f and w. FUNDAMENTAL, MORAL AND RELIGIOUS VALUES. An investigation of moral and spiritual qualities vital to the individual and society. Credit for freshmen only. (2) MR. AGEE.

7f and w. BIBLE AS LITERATURE I. The historic, story, and wisdom materials of the Old Testament. Prerequisite, sophomore standing or above. (2) MR. EDWARDS.

8f and w. BIBLE AS LITERATURE II. The lyric and prophetic materials of the Old Testament. Prerequisite, sophomore standing or above. (2) MR. EDWARDS.

(*The two preceding courses supplement each other. They seek a knowledge of the contents and appreciation of the Holy Scriptures as works of literary art.*)

9f and w. LIFE AND LITERATURE OF THE NEW TESTAMENT. A study of the central documents of the Christian religion to determine their origin, authorship, literary structure, nature, and permanent value. Prerequisite, sophomore standing or above. (2) MR. AGEE.

21f and 22w. INTRODUCTION TO THE STUDY OF NEW TESTAMENT GREEK. The characteristics of the language; a drill on the forms and syntax, the building of

a New Testament vocabulary, a translation of Mark. Three times per week the first semester, and twice per week the second semester. Prerequisite, Greek 3 and 5. (5) MR. AGEE.

105f. THE ANCIENT ORIENT. The rise of civilization in Egypt and Mesopotamia, and the political history of ancient kingdoms and empires. The history of Assyria with special reference to the Hittites and Syria-Palestine through the Amarna period will be studied. Material civilization as well as spiritual culture, art, literature and religion will receive special consideration. (3) MR. KEYFITZ.

106w. THE EARLY HISTORY OF ISRAEL. A survey of the history of Israel from settlement in Palestine to the end of the Maccabean period. The evolution of government, law, religion, and prophecy will form the chief content of this course. The contacts of Palestine with its neighbors and their influence upon Israel's ideas and institutions will be especially stressed. (3) MR. KEYFITZ.

108f. ORIGINS OF THE CHRISTIAN CHURCH. A study of the ideals and environment out of which the Christian Church sprang, and of its early development. Source materials, Pre-Christian life and literature of the Jewish people; customs, philosophical and religious beliefs of contemporary nations; New Testament and other first century writings. (2) MR. HEARN.

109f and w. HISTORY OF THE CHRISTIAN CHURCH. A survey of the outstanding developments in the life of the church from the Apostolic age to the present. The history of the church will be considered in the light of political, economic, and social movements.

110f and w. PSYCHOLOGY OF RELIGION. Intended to familiarize the student with the most important results of the psychological study of religion, and to form a basis for the interpretation of the meaning of religion in personal and social life. Prerequisite, Introductory course in Sociology or Psychology. (3) MR. HOERNER.

114f and 115w. HEBREW LANGUAGE. Three times per week through two semesters. Beginner's course; the alphabet, grammatical principles, acquisition of vocabulary, and translation of Gen. I-VIII, with some easy sight reading. Three times per week through two semesters. (6) MR. KEYFITZ and MR. EDWARDS.

116f and 117w. HEBREW LANGUAGE. Advanced course. A knowledge of the forms is presupposed. Introduction to syntax. Selections from the prophets and Hagiographa. During the second semester the student will be introduced to Aramaic forms, and will read selections from Daniel. Three times per week the first semester and twice per week the second semester. (5) MR. KEYFITZ.

118f and 119w. POST-BIBLICAL HEBREW. Lectures on the history of Post-Biblical Hebrew literature. Reading of representative selections from Talmudic, Midrashic, and modern prose and poetry. Open to students who qualify in knowledge of Hebrew. (4) MR. KEYFITZ.

(Two hours weekly through two semesters. During the second semester the course will be conducted in Hebrew.)

121f and w. COMPARATIVE RELIGION. A rapid survey of the chief religions now prevailing in the world, including Hinduism, Buddhism, Confucianism, Zoroastrianism, Islam, Judaism, and Christianity. Prerequisite, Junior standing. (2) MR. HEARN.

122f and w. CHRISTIAN ETHICS. The ethical significance of the life purpose and religious consciousness of Jesus, in comparison with other ethical ideas and with reference to the moral problems of our modern world. Prerequisite, Junior standing. (2) MR. HEARN.

130f and 131w. ELEMENTARY SYRIAC. A beginner's course in Syriac. Grammar and reading of easy selections from Kalilah wa-Dimnah. (4) MR. KEYFITZ.

133f and 134w. ELEMENTARY ARABIC. An elementary course in Arabic grammar, exercises in the language and reading of selected portions in the Arabian Nights. (4) MR. KEYFITZ.

136f and 137w. ASSYRIAN FOR BEGINNERS. An introductory course in cuneiform. Grammar and selected readings in Assyrian annals. Delitzsch Assyrische Lesestücke will be used. (4) MR. KEYFITZ.

138f and 139w. INTRODUCTION TO EGYPTIAN. The student will be introduced to hieroglyphics through selected readings from Sinuhe and other Egyptian narratives. The course will be accompanied by a study of Egyptian grammar. (4) MR. KEYFITZ.

140f and w. RELIGION OF THE ANCIENT HEBREWS. A comparative study of the religions of Egypt and Mesopotamia, and their influence on the religion of Palestine. A survey of religious development in pre-Hebrew days. Types of early Hebrew religious belief. The religion of the prophets. The rise of henotheism, and the triumph of monotheism. (2) MR. KEYFITZ.

142w. POST-EXILIC RELIGION OF THE JEWS. The progress of religious thought under Ezekiel and other post-exilic prophets. The development of democracy in religious practice, and later in education. The importance of the synagogue. Further progress in Judaism under the Scribes, the Pious, and the Pharisees. (2) MR. KEYFITZ.

145f and w. HISTORY OF RELIGION IN AMERICA. A study of the religious background of the early colonists, the distinctive features of American religious history, the growth of denominations, movements toward unity, and other modern trends. (2) MR. HEARN.

158w. ORGANIZATION AND ADMINISTRATION OF RELIGIOUS EDUCATION. A survey of the modern church school organized to meet the needs of childhood, youth, and adult life. Practical consideration of equipment, administration, development of leadership, courses of instruction, training in worship, and expressional activities. Prerequisite, enrollment in School of Education, or course 159. (2) MR. HOERNER.

159f and w. PRINCIPLES OF MORAL AND RELIGIOUS EDUCATION. An examination of the principles underlying moral and religious education; the application of these to concrete and practical problems in home, church, and school; the implications of current psychological, philosophical, and theological concepts. Prerequisite, introductory course in Sociology or Psychology. (2) MR. HOERNER.

161f and w. PRACTICE TEACHING IN RELIGIOUS EDUCATION. An examination of the methods of Religious Education. Observation and Practice Teaching. Prerequisite, Educational Psychology, and History of Education. MR. HOERNER.

167f. HISTORY OF RELIGIOUS EDUCATION. Significant early epochs in the development of a system of Christian Education; religious education in America; the development of Sunday Schools; beginnings of week-day religious instruction; the development of religious education in higher institutions of learning, and present tendencies in religious education. (2) MR. HOERNER.

168f and w. PRINCIPLES AND METHODS OF TEACHING THE BIBLE. A study of the value of the Bible to moral and religious education; an evaluation of current methods of interpretation; the proper organization of courses; a study of effective methods of teaching the Bible, including a study of Biblical Knowledge Tests. (3)

169w. The Curriculum of Religious Education. A study of the historical development of curricula in religious education, and an evaluation of principal theories in curriculum building. (2) Mr. Hoerner and Mr. Grant.

175w. Biblical Geography and History. A study of the geographical aspects of Palestine and surrounding regions in relation to the political, social, cultural, and religious development of the Hebrews. Prerequisite, upperclassman standing. (2) Mr. Edwards.

190w. Religious Journalism I. To acquaint the student with sources of religious information, ecclesiastical terminology, current religious movements, outstanding religious leaders, organization of leading denominations, and religious journals. Practice is given in the writing of religious articles. (2) Mr. Hoerner.

191w. Religious Journalism II. Laboratory in the writing of religious articles and news stories. (2) Mr. Hoerner.

239f and w. Field Work in Religious Education. Practice work under the supervision of the Department of Religious Education. (1-6) Not more than three hours' credit can be obtained in a given semester. Prerequisite, courses 159, 158. Mr. Hoerner.

BIO-CHEMISTRY

Two beginning courses, 101w for 3 hours and 106f for 6 hours are offered. The two together give 8 hours.

101w. Elementary Physiological Chemistry. An outline of vertebrate physiological chemistry, with principal reference to the conditions in man; about 25 lectures and 25 laboratory periods are given. Prerequisite, organic chemistry, 3 hours. Not open for medical credit. (3) Mr. Gulick, Mr. Mayer.

106f. Physiological Chemistry. Prerequisite, organic chemistry, course 110f or equivalent. (6) Mr. Gulick, Mr. Calvin, Mr. Mayer.

108w. Toxicology. The chemical identification of toxic substances. (2) Mr. Gulick.

200f and w. Bio-Chemistry Seminar. Roundtable reviews of research topics and literature, led by the staff and graduate students. (1) Mr. Gulick.

203f and 204w. Advanced Physiological Chemistry. A course extending and supplementing Course 106f. The prosecution of a short experimental problem required. (3-4) Mr. Gulick.

205f and w. The Blood. A chemical, physiological and clinical study. Prerequisite, 106f or equivalent. (3 or 4) Mr. Calvin.

215f and 216w. Bio-Chemical Problems. Assigned problems in elementary research. (2-10) Mr. Gulick, Mr. Calvin.

290f and w. Research. Investigation of unsolved problems under the guidance of the staff. Mr. Gulick, Mr. Calvin.

BOTANY

Juniors and seniors taking Course 1 receive 4 hours' credit.

Greek 13 (Greek for students of the Sciences) is recommended to students specializing in Botany.

1fw. General Botany. Structures and activities of living plants, with a brief survey of the plant kingdom. An introduction to the principles and methods of botany. (3 or 5) Mr. Rickett; Mr. Maneval; Mr. Naylor.

3fw. General Bacteriology. A general course in the fundamental principles of bacteriology. Prerequisites, general botany or general zoology, and general inorganic chemistry. (3) Mr. Maneval.

10w. Advanced General Botany. A continuation of course 1. The morphology of familiar plants, particularly those native near Columbia, with an introduction to ecology, and classification. (3 or 5) Mr. Rickett.

100w. Plant Physiology. Lectures and laboratory work on the physiology of the common cultivated plants. Prerequisite, general bacteriology. A knowledge of organic chemistry is desirable. (5) Mr. Robbins.

102f. Plant Pathology. A study of special groups of fruit, vegetable and cereal diseases, with reference to symptoms, life histories and parasites and methods of control. General bacteriology and advanced general botany should precede this course. (3) Mr. Maneval.

104f. Histological Methods. Methods used in the preparation and preservation of class material and in cutting and staining sections for microscopical study. (3) Mr. Naylor.

106f. Heredity and Genetics. Theories and facts of heredity, with their applications to plant breeding and evolution. This course should be preceded by 10 hours biology (botany or zoology), or by 5 hours with a grade of S or better. (5) Mr. Rickett.

107w. Mycology. A systematic study of the fungi, with special reference to those causing plant disease. Prerequisite, course 102. (3) Mr. Maneval.

111f, 112w. Special Problems. On consultation with the teachers concerned, properly prepared students may take up special problems in the various fields of botany. (Credit to be arranged.) Mr. Robbins; Mr. Maneval; Mr. Rickett; Mr. Naylor; Mr. Tucker.

200f and w. Seminar. Special subjects of botanical work will be discussed, including the results of investigations carried on in the department. A reading knowledge of French and German is essential. (1 or 2) Mr. Robbins; Mr. Rickett; Mr. Maneval; Mr. Tucker.

201w. Advanced Plant Pathology. A general course in phytopathological technique, including preparation of culture media, isolation, cultivation and physiological study of fungi, inoculation of host plants and relation of host to pathogene. (3) Mr. Tucker.

202f and w. Advanced Plant Physiology. Prerequisite, course 100f or equivalent. Lectures and laboratory work on problems in plant physiology related to plant production. The course continues through the year. (2-5) Mr. Robbins.

203f and 204w. Special Topics. Study of subjects in botany not included in the courses regularly offered. Designed especially for graduate students whose major interest or whose research work demands additional directed training. (Credit to be arranged.) Mr. Tucker; Mr. Naylor; Mr. Robbins; Mr. Maneval; Mr. Rickett.

290f, 291w. Research. Students who have had adequate preparation will be assigned some special problem for investigation. A reading knowledge of French and German is essential. (Credit and hours to be arranged.) Mr. Robbins; Mr. Maneval; Mr. Rickett; Mr. Tucker; Mr. Naylor.

CHEMISTRY

Course 13w. Greek for Students of the Sciences is recommended to students in Chemistry.

Students who do not present entrance credit in at least one of these subjects: Chemistry, physics, or mathematics (2 units), are advised to precede or accompany chemistry 1 by a college course in mathematics (Mathematics 1, or 2).

1f and w. GENERAL INORGANIC CHEMISTRY. An introductory course. Students with one year high school chemistry may enter course 2 or the lectures and conferences only for 2 hours' credit. Seniors enrolling in this course will receive only 4 hours' credit. (5) MR. SCHLUNDT; MR. HELMERS AND ASSISTANTS.

2f and w. GENERAL INORGANIC CHEMISTRY. Prerequisite, course 1 or its equivalent and a grade of M or better in course 1. A continuation of course 1. Courses 1 and 2 are prerequisite to all courses in chemistry. (3) With laboratory work. (5) MR. HANNEGAN; MR. SCHLUNDT AND ASSISTANTS.

15f and w. ELEMENTARY ORGANIC CHEMISTRY. Introductory course. Prerequisite, course 1. (3) MR. FRENCH.

25f and w. ANALYTICAL CHEMISTRY. Prerequisite, course 1. Elective for students preparing to take medicine or home economics. A brief survey of the qualitative and quantitative analytical methods. (5) MR. STEARN; MR. LORAH AND ASSISTANTS.

27f and w. QUALITATIVE ANALYSIS. A laboratory course. Must be preceded or accompanied by course 2. (3) MR. BRECKENRIDGE.

110f and w. ORGANIC CHEMISTRY. Prerequisite, should be preceded by ten hours' work in chemistry. Medical students will be admitted to this course with eight hours' chemistry. (5) MR. CALVERT; MISS NIGHTINGALE AND ASSISTANTS.

112f and w. ORGANIC CHEMISTRY. Completion of the subject matter of course 110. (3) MR. CALVERT; MISS NIGHTINGALE AND ASSISTANTS.

113f and w. ORGANIC SYNTHESIS. A laboratory course in synthetic organic chemistry. May be taken with course 112. (3) (4) or (5) MISS NIGHTINGALE; MR. CALVERT.

121f and w. QUANTITATIVE CHEMICAL ANALYSIS. Prerequisite, course 27. The general principles. (5) MR. BRECKENRIDGE.

122f and w. QUANTITATIVE CHEMICAL ANALYSIS. Prerequisite, course 121. The analysis of commercial materials and products. (5) MR. BRECKENRIDGE.

124f and w. QUANTITATIVE ORGANIC ANALYSIS. Must be preceded or accompanied by course 121. (3) (4) or (5) MR. FRENCH; MISS NIGHTINGALE.

130w. PHYSICAL CHEMISTRY. Prerequisites, college course in physics, three hours of quantitative analysis, three hours of organic chemistry. (3) MR. STEARN.

131f. PHYSICAL CHEMISTRY. Prerequisites, 110, 121, college course in physics and preceded or accompanied by mathematics 100. (5) MR. STEARN.

133w. ELECTRO-CHEMISTRY. Prerequisite, course 131 or consent of instructor. Generally offered alternate years; given in 1934-35. (4) MR. STEARN.

141f. INDUSTRIAL CHEMISTRY. Prerequisite, courses 2 and 110 or 15. Lectures on the important processes and recent developments in the chemical industry. (3) MR. LORAH.

For courses in Chemical Engineering, see under Engineering, page 298.

Courses above 200 must be preceded by a major in chemistry or accompanied by courses required to complete the major.

200f and w. SEMINAR. Meetings at which subjects of a chemical interest are discussed by students of sufficient attainment and members of the teaching staff. A reading knowledge of French and German is very desirable. (1-2)

205f. PLANT CHEMISTRY. MR. VINSON. (*See Agricultural Chemistry.*)

207f. COLLOID CHEMISTRY. (*See Agricultural Chemistry.*)

211f. ADVANCED ORGANIC CHEMISTRY. Lectures on selected topics, principally stereochemistry and its applications, carbohydrates, nitrogen compounds, etc. (4) MR. CALVERT.

212w. ADVANCED ORGANIC CHEMISTRY. Lectures on selected topics, supplemented by readings and reports. In the selection of the subjects, the special needs of the students will be considered. (4) MR. CALVERT.

213w. RECENT THEORIES OF ORGANIC CHEMISTRY. Lectures on the electronic explanation of certain organic reactions. (2) MR. FRENCH.

225w. QUALITATIVE ORGANIC CHEMISTRY. Must be preceded by course 112. (4) MR. FRENCH.

227w. ADVANCED ANALYTICAL CHEMISTRY. Chiefly laboratory work. The work of the course is varied to meet the needs of the individual. Credit to be arranged. MR. BRECKENRIDGE.

231f and w. PHYSICO-CHEMICAL CALCULATIONS. Prerequisite, course 131. (2-5) MR. STEARN.

232f and w. ADVANCED PHYSICAL CHEMISTRY. Prerequisite, course 131. From semester to semester various aspects of the field will be considered. Credit up to 9 hours, though work for only 3 hours per semester will be given. MR. STEARN.

235w. RADIOACTIVITY AND STRUCTURE OF MATTER. Study of the radioelements and their radiations, atomic disintegration, atomic structure, application of radioactivity to problems in chemistry, geology, and physics. General'y offered alternate years. Not given in 1934-35. (3) MR. SCHLUNDT.

271f and 272w. RESEARCH. Arrangements for research should be made by consultation with the professor or instructor with whom the research is elected.

The University of Missouri Section of the American Chemical Society meets monthly. Students may attend these meetings.

CITIZENSHIP

1f and 2w. CITIZENSHIP. Problems in American citizenship. (2) MR. HECKEL.

CLASSICAL LANGUAGES AND ARCHAEOLOGY

Classical Archaeology

60f. CLASSICAL MYTHOLOGY. The aim is to familiarize the student with the myths of Greece and Rome, as an aid to the interpretation and appreciation of literature and art. (2) MR. MILLER.

136f. GREEK ART TO THE AGE OF PERICLES. A study of the development of Greek architecture and sculpture. (3) MR. WELLER.

137w. GREEK ART FROM THE AGE OF PERICLES TO ROMAN TIMES. (Continuing course 136f.) (3) MR. WELLER.

138f. MYCENAEAN ART OR ART OF PRIMITIVE GREECE. Not given in 1935-36. (1) MR. MILLER.

140f. ROMAN LIFE. A study of the extant remains, particularly those of Pompeii. Lectures and readings. Illustrated by use of plans, maps, and lantern slides. (2) MISS CAUTHORN.

145w. GREEK LIFE. Study of the manners and customs of the ancient Greeks. Lectures, assigned readings, and reports. Illustrated by maps, charts, photographs, and stereopticon views. (2) MR. GWATKIN.

Museum of Classical Archaeology. The museum is supplied with models of temples, plaster casts of specimens of sculpture, framed and unframed photographs, and lantern slides.

Greek

3f and w. ELEMENTARY COURSE (f, Attic; w, Homeric). Training in the essentials of Greek forms and constructions. Easy reading. Emphasis is laid on the Greek element in English. (5) MR. GWATKIN; MR. HARRELL.

5f and w. INTERMEDIATE COURSE. Reading of simple Greek prose with review of syntax and of Attic forms. (3) MR. HARRELL.

6f. HOMER'S ILIAD OR ODYSSEY. Reading of several books of Homer with especial attention to the dialect and reading metrically. (3) MR. HARRELL.

13w. GREEK FOR STUDENTS OF THE SCIENCES. Study of the derivation and meaning of scientific nomenclature. (1) MR. GWATKIN.

105f. GREEK DRAMA. Reading and interpretation of selected plays of Aeschylus, Sophocles, Euripides, and Aristophanes. (3) MR. MILLER.

107w. GREEK PHILOSOPHY: PLATO'S PHAEDO. (3) MR. GWATKIN.

111f. THE GREEK HISTORIANS. Study of selected books of Herodotus and Thucydides. (3) MR. GWATKIN.

112f. GREEK LITERATURE IN ENGLISH TRANSLATION. General view of Greek literature intended primarily for non-classical students. (2) MISS CAUTHORN.

118w. GREEK TRAGEDY IN ENGLISH TRANSLATION. Study of the origin of Greek tragedy and the Greek theater, and the reading of selected plays of Aeschylus, Sophocles, and Euripides. (1) MISS CAUTHORN.

147f. THE GREEK ORATORS. Selected orations of Lysias and Demosthenes' *On the Crown*. (3) MR. HARRELL.

220f and 221w. HOMER: THE ILIAD AND THE ODYSSEY. (2) or (3) MR. MILLER.

222. SEMINAR. Graduate work conducted in accordance with the needs of the graduate students in classics.

Latin

Students entering with no units in Latin should take course 1; with two units, courses 4 and 10; students entering with three or four units should take course 101.

1f. BEGINNING LATIN. Training in the essentials of Latin forms and constructions. Easy reading. (5) MR. GWATKIN.

2w. CAESAR. Prerequisite, course 1. Intensive study of forms and constructions. Reading of the *Gallic War*, I-IV. (5) MR. GWATKIN.

4f. GRAMMAR. Intensive study and review of forms, syntax, and vocabulary of the Latin language; designed for students with two entrance units in Latin who have not studied the language for several years. This course, together with 10f, will satisfy five hours of the freshman-sophomore requirement in foreign language. (2) MISS CAUTHORN.

10f. CICERO'S ORATIONS. Prerequisite, courses 1 and 2, or two entrance units. Selected orations and letters of Cicero. This course, together with 4f, will satisfy five hours of the freshman-sophomore requirement in foreign language. (3) MISS CAUTHORN.

100w. VERGIL'S AENEID: I-IV. Prerequisite, courses 1, 2, 4, and 10, or three entrance units in Latin. Study of the subject matter, forms, prosody, and syntax. (5) MISS CAUTHORN.

101f. CICERO'S ESSAYS ON FRIENDSHIP AND OLD AGE. Prerequisite, courses 1, 2, 4, and 10, or three entrance units in Latin. Careful review of forms and syntax. (5) MISS CAUTHORN.

102w. PLINY: SELECTED LETTERS. Prerequisite, course 100 or 101, or four entrance units in Latin. (2) MR. HARRELL.

103w. OVID: SELECTED POEMS. Prerequisite, course 100 or 101, or four entrance units in Latin. (3) MR. HARRELL.

104f. LATIN PROSE COMPOSITION. First course. (1) MR. GWATKIN.

106w. LATIN PROSE COMPOSITION. Advanced course. Prerequisite, course 104. (1) MR. GWATKIN.

108w. LIVY: XXI-XXII. The war with Hannibal. Not given in 1935-36. (2)

109w. HORACE: SATIRES AND EPISTLES. Prerequisite, courses 100 and 101, or equivalent. (3) MR. GWATKIN.

110f. HORACE: ODES AND EPODES. Prerequisite, courses 100 and 101, or equivalent. (3) MR. GWATKIN.

113w. LATIN LITERATURE IN ENGLISH TRANSLATION. A general view of Latin literature, intended primarily for non-classical students. (2) MISS CAUTHORN.

114f. CICERO'S LETTERS. Prerequisite, courses 109 and 110. (3) MISS CAUTHORN.

115f and 116w. RAPID READING. Prerequisite, courses 109 and 110, or equivalent. Readings from representative authors. (2) MISS CAUTHORN.

117w. CATULLUS: SELECTED POEMS. Prerequisite, courses 109 and 110. (3) MR. MILLER.

119w. VERGIL'S AENEID: VI-XII. Prerequisite, courses 109 and 110. Not given in 1935-36. (3)

120w. LATIN COMEDY. Prerequisite, courses 109 and 110. Not given in 1935-36. (3)

121w. JUVENAL'S SATIRES. Prerequisite, courses 109 and 110. Not given in 1935-36. (3)

125w. LUCRETIUS. Prerequisite, courses 109 and 110. Not given in 1935-36. (3)

210f and 211w. HISTORY OF LATIN LITERATURE. (a) From the beginning to the Augustan Age; (b) Augustan Age to the period of Decline. Studied through selections from the authors of various periods. (3) MISS CAUTHORN.

217f and 218w. SEMINAR. The graduate work in Latin centers in the seminar. The subject for the year 1935-36 will be a study of Latin Satire, with papers and discussions by the members. (3) MR. HARRELL.

230f and w. RESEARCH AND THESIS. (3 or 4) MISS CAUTHORN; MR. GWATKIN; MR. HARRELL; MR. MILLER.

Teaching of Latin. See Education H125f.

Sanskrit

220f. BEGINNING SANSKRIT. Elements of the language. Translation of Sanskrit into English and English into Sanskrit. Thorough drill in forms. Whitney's *Sanskrit Grammar;* Lanman's *Sanskrit Reader.* (3) MR. ALMSTEDT.

221w. CONTINUATION OF 220f. (3) MR. ALMSTEDT.

DAIRY HUSBANDRY

1f and w. ELEMENTS OF DAIRYING. An introductory course teaching the fundamentals of the dairy industry. The dairy breeds, selection of individuals, starting and developing farm dairy herds and community dairy development are studied. Emphasis is placed upon the constituents, properties and factors affecting the composition of milk, milk secretion, the Babcock and other common dairy tests and processes, the sanitary production of milk, market milk, the manufacture of dairy products, and dairy calculations. (Prerequisites to all other courses in Dairy Husbandry.) (3) MR. RAGSDALE; MR. HERMAN; MR. GARRISON; MR. REINEKE.

2f. DAIRY PRODUCTS. The fundamental principles concerned in the handling and processing of market milk, butter, ice cream, cheeses, condensed and powdered milks and dairy by-products are taught and applied in practice. (3) MR. REID.

3w. DAIRY CATTLE JUDGING AND SELECTION. A study of dairy and breed types, judging, selection and fitting for sale and showing. Fits the needs of dairy cattle breeders, extension agents and vocational teachers. (2) MR. HERMAN.

4w. DAIRY PRODUCTS JUDGING. A study of the physical properties and factors affecting flavor, body and texture of market milk, butter, ice cream, cheeses, condensed and powdered milks and dairy by-products. Fits the needs of students preparing for positions as commercial judges, home demonstration agents, hospital dietitians and hostesses for dairy products establishments. (2) MR. REID.

100w. DAIRY PRODUCTION. A study of the problems of the milk producer and dairy cattle breeder. Special attention is given to feeding and management practices, herd record and testing systems, selection of breeding animals, calf raising, the herdsman's part in dealing with common diseases and ailments, dairy barns and milk houses, equipment for the dairy farm, and the marketing of dairy cattle and their products. Subject matter is presented in such a way as to meet the needs of extension agents, vocational teachers and representatives of commercial organizations. (Prerequisite, Animal Nutrition.) (3) MR. RAGSDALE.

101f. DAIRY BACTERIOLOGY. An applied course teaching the relationship of micro-organisms to milk, factors affecting the sanitary production and processing of milk, important milk micro-organisms and the relation of milk and its products to public health. (Prerequisite, General Bacteriology.) (3) MR. GARRISON.

102w. MARKET MILK. This course deals with the problems of the market milk producer, milk plant operator, milk distributor and milk inspector. A study is made of grading, transportation, processing, sales and delivery of milk, milk plant design, equipment, business methods. Special attention is given to dairy farm and city milk inspection. (Prerequisite, Dairy Products or Dairy Bacteriology.) (3) MR. GARRISON.

103w. DAIRY MANUFACTURES. Advanced problems and factors concerned in the manufacture of butter, ice cream, cheeses, condensed milk, milk powder, dairy by-products and refrigeration methods. (Prerequisite, Dairy Products; also Dairy Bacteriology is recommended.) (3) MR. REID.

104w. BACTERIOLOGY OF DAIRY PRODUCTS. A study is made of the bacteriology of starters and fermented milk drinks, the control of micro-organisms important in the manufacture of butter and cheeses, and the relationship of bacteria to ice cream, condensed milk, powdered milk and dairy by-products. (Prerequisites, Dairy Products and Dairy Bacteriology.) (2) MR. GARRISON.

105w. Dairy Plant Management. The organization, operation and management of market milk plants, creameries, cheese factories, ice cream plants, condensaries, milk powder and dairy by-products plants. (Prerequisite—Market Milk or Dairy Manufactures should precede or accompany this course.) (2) Mr. Reid.

106f. Advanced Dairy Cattle Judging. A continuation of the comparative judging work given in course 3. It includes excursions to the farms of leading breeders and dairy cattle shows. (Prerequisite—Dairy Cattle Judging 3 or its equivalent). (1) Mr. Herman.

107f. Advanced Dairy Products Judging. A continuation of the comparative judging work given in course 4 which may include excursions to dairy products plants, markets, and dairy products shows. (Prerequisite—Dairy Products Judging 4 or its equivalent.) (1) Mr. Reid.

108w. Dairy Cattle Breeding. A study of selection, inbreeding, outbreeding, assortative mating, breed families and experiences of leading breeders, with reference to herd improvement. (Prerequisite—an elementary course in Genetics or Animal Breeding). (2) Mr. Herman.

110f and w. Special Problems. This course is designed to supplement the regularly organized courses and is for advanced and well trained undergraduates who wish to make further studies in some phase of dairy husbandry. (Credit to be arranged.) Members of the Departmental Staff.

200f and w. Seminar. Students and members of the staff present for critical consideration and discussion reviews of correct literature, subjects of special importance and interest and results of their own research. This will include outlining, and defining the problem, technique in management, methods used in collecting and tabulating the data, interpretation and presentation of results. (1) Mr. Ragsdale and Department Staff.

210f. Milk Secretion. The comparative anatomy of the mammary gland with special reference to the dairy cow. (2) Mr. Turner.

220w. Milk Secretion. The physiology and bio-chemistry of milk secretion. (2) Mr. Turner.

230w. Growth and Development. Deals with growth, senescence and related nutritional problems. Selection of specific problems for study may vary with the preparation and interests of students. Prerequisites, one or more courses in Nutrition or Bio-Chemistry. (3) Mr. Brody.

240f and w. Special Studies. Leading scientific journals and experiment station publications in a chosen field of the dairy industry are studied to acquaint the student with research methods, current research problems, and the results of scientific research. A minor research problem may be included. (Credit to be arranged.) Mr. Ragsdale; Mr. Reid; Mr. Brody; Mr. Turner; Mr. Garrison.

250f and w. Research. The various phases of dairy husbandry included under dairy production and dairy manufactures offer many attractive problems for graduate research. Students are usually permitted to assist in special investigations associated with one of the regular research projects of the Agricultural Experiment Station. (Credit to be arranged.) Mr. Ragsdale; Mr. Reid; Mr. Brody; Mr. Turner; Mr. Garrison.

ECONOMICS AND FINANCE

The course in general economics is prerequisite to all courses in this department except 150, and in order to be eligible to courses numbered above 100 (except 150), the student must have made a grade of M or better in Economics 1 or in Accounting 17 or have an index of 250 or better in all work previously taken. No course in this department is open to Freshmen. Courses numbered 200 or above are open to undergraduate students only with the consent of the instructor.

1f and w. General Economics. An introduction to the general field of economics. (5) Mr. Brown and Others.

105f and w. Money, Credit and Banking. A study of modern currency and banking systems with special emphasis upon their place in our present financial organization of economic activities. (5) Mr. Wood.

106f and w. Transportation and Public Utilities. The economic and legal principles that relate to the management, development, and regulation of railways and other public utilities. (3) Mr. Curtis.

110f. The Labor Market. An intensive study of such topics as wages, unemployment, hours, and industrial accidents in their economic and governmental aspects. (3) Mr. Bauder.

111w. Trade Unionism. The organization, aims, and tactics of trade unions and employers' associations studied from the points of view of labor and of public policy. (3) Mr. Bauder.

115w. Public Revenues. A study of the finances and financial methods of governments, with especial reference to taxation and to tariff policy. Prerequisite, two courses in the department or consent of the instructor. (3) Mr. Brown.

118w. Corporation Finance. Method and policy in the financing of business enterprises; organization and financial management of corporations. Prerequisite, Junior standing. (3) Mr. Bopp.

119f and w. Economic Control. Economic and legal aspects of control in the economic system. Recent developments. Public policy. Prerequisite, two courses in the department or consent of the instructor. (3) Mr. Curtis.

122f and w. Investment. Principles of investment; investment markets; services to the investor; types of investments and their evaluation. Prerequisite, junior standing. (3) Mr. Bopp.

124f. Foreign Exchange. A study of the demand for and the supply of the means of international payments with especial reference to the instruments employed. Prerequisite, course 105. (2) Mr. Bopp.

130f. Banking Systems. The organization, operation, and economic character of non-commercial banking in the United States, and the important European banking system. Prerequisite, course 105. (3) Mr. Bopp.

136w. Personnel Management. Personnel relations in industry; the development of labor policy; employment methods, labor turnover, safety programs, health, employee training, and welfare activities. (3) Mr. Bauder.

137f. Principles of Business Management. The principles of administration as applied to business enterprises, with especial reference to industrial management. (3) Mr. Bauder.

140f. History of Commerce and Industry. Evolution of the forms of economic organization in relation to changes in industrial processes and in political and social institutions. (3) Mr. Bauder.

141w. American Industrial Evolution. The development of industrial organization in the United States, chiefly in terms of technological and market change. (3) Mr. Bauder.

150f and w. Business Law. A study of normal business relations in their legal aspects. Cases on contracts, sales, and negotiable instruments. Prerequisite, upperclass standing. (3) Mr. Curtis.

199f and w. Distinction.

211f. Advanced Economic Theory. A critical examination of the writings of leading modern economists, to the end of constructing a correct theory of value and distribution. (5) Mr. Brown.

219w. Economic Reorganization. The literature of economic reform and recent revolutionary changes in Europe and elsewhere. (2) Mr. Bauder.

221w. International Finance. A comprehensive study of the balance of international payments with particular emphasis upon the political aspects of international finance. (2) Mr. Bopp.

223w. Thesis.

227w. Classical Economic Theory. Selections from the writings of Smith, Malthus, Ricardo, Mill, and Senior, and from the writings of contemporary critics of the classical school. (3-5) Mr. Wood.

230f. Advanced Monetary Theory. A study of monetary and credit theories, combined with a statistical study of the current banking and credit situation in the United States. (3-5) Mr. Wood.

242f and w. Special Studies. Graduate students may select topics for study and investigation from the fields suggested by the undergraduate courses listed above such as taxation, monopoly, etc. Credit to be arranged. Mr. Bauder; Mr. Bopp; Mr. Brown; Mr. Curtis; Mr. Wood.

290f and w. Research. Research in connection with the thesis offered for the degree of Master of Arts or Doctor of Philosophy. (Credit to be arranged.) Mr. Bauder; Mr. Bopp; Mr. Brown; Mr. Curtis; Mr. Wood.

EDUCATION

(A) EDUCATIONAL PSYCHOLOGY

A102f and w. Educational Psychology. Prerequisite, either elementary psychology or a biological science. Introduction to the science of education; application of the methods and results of experimental psychology to the problems of training children. Lecture and laboratory. (3) Mr. Saupe; Mr. Carter.

Sec. I. For Elementary School Teachers.

Sec. II. For High School Teachers.

Sec. III. For Special Students.

A140f and w. Diagnostic Testing and Remedial Teaching. Technique of using educational and mental tests in the improvement of instruction. Primarily for elementary school teachers. Prerequisites, A102, E121. (3) Mr. Saupe; Mr. Carter.

A176f. Psychology of Elementary School Subjects. The applications of educational psychology to the teaching of elementary school subjects. For supervisors, superintendents, and advanced students of educational psychology. Prerequisite, A102. (3) Mr. Germane.

A200f and w. Seminar in Educational Psychology. (1-3) Mr. Irion; Mr. Saupe.

A202f and w. Intelligence Testing. Group intelligence testing including a critical study of various tests and practice in their administration. The course will also include a study of individual mental testing and the uses to be made of results in the classification and treatment of pupils. (3) Mr. Saupe.

Sec. I. Individual Intelligence Testing. (1)

Sec. II. Group Intelligence Testing. (2)

A205f. THE PSYCHOLOGY OF EDUCATION. An advanced course covering the whole field of educational psychology. The course will consist of lectures and a study of the systematic and experimental literature in the field of educational psychology. For graduate students only. (2½-3) MR. IRION; MR. SAUPE.

A206w. MENTAL HYGIENE. The psychology of personal adjustment. A review of the studies and researches in the field of the psychology of improved self-management. Prerequisite, A205 or its equivalent. (2½-3) MR. IRION; MR. GERMANE.

A207w. DIFFERENTIAL PSYCHOLOGY. Prerequisite, 20 semester hours of professional work in education, including at least two courses in educational psychology. Presented primarily from the research point of view. Major emphasis will be placed on the causes of, conditions affecting, and the measurement of individual differences. Offered only upon special demand by advanced graduate students. (3) MR. IRION.

A208w. PSYCHOLOGY OF HIGH SCHOOL SUBJECTS. Deals with the specific applications of educational psychology to the mastery of high school subjects. For high school teachers and principals. Prerequisite, A205 or its equivalent. (2½-3) MR. IRION.

A250f and w. SPECIAL INVESTIGATIONS IN EDUCATIONAL PSYCHOLOGY. (Credit to be arranged.) MR. IRION; MR. SAUPE.

A290f and w. RESEARCH IN EDUCATIONAL PSYCHOLOGY. (Credit to be arranged.) MR. IRION; MR. SAUPE.

(B) HISTORY AND PHILOSOPHY OF EDUCATION

B125f and w. HISTORY OF EDUCATION. To give a better understanding and appreciation of the present educational situation through a study of its development. (3) MR. COURSAULT.

B190w. COMPARATIVE EDUCATION. A course designed to introduce the student into the field of comparative education. The educational theories and practices of various European countries in contrast with American theory and practice will be studied. (2)

B200f and w. SEMINAR IN THE HISTORY AND PHILOSOPHY OF EDUCATION. (1-3) MR. COURSAULT.

B250f and w. SPECIAL INVESTIGATIONS IN THE HISTORY AND PHILOSOPHY OF EDUCATION. (Credit to be arranged.) MR. COURSAULT.

B271f. PHILOSOPHY OF EDUCATION. A study of the fundamentals of education in the light of modern science and philosophy. (2½-3) MR. COURSAULT.

B290f and w. RESEARCH IN THE HISTORY AND PHILOSOPHY OF EDUCATION. (Credit to be arranged.) MR. COURSAULT.

B275f. COLLEGE TEACHING METHODS. Primarily for advanced graduate students who expect to teach in junior or senior colleges, or in teachers colleges. Important practical matters in college teaching will be considered. Each student will be expected to prepare a syllabus for the teaching of one college course. (3) MR. COURSAULT.

(C) EDUCATIONAL ADMINISTRATION

C170f and w. EDUCATIONAL STATISTICS. Statistical methods for teachers, supervisors, superintendents and beginning graduate students. (2½-3) MR. CAPPS; MR. VON BORGERSRODE.

C200f and w. Seminar in Educational Administration. (1-3) Mr. Capps; Mr. Carpenter; Mr. von Borgersrode.

C201f. Methods of Educational Research. Prerequisite, course C170 or equivalent. Principles and techniques involved in attacking problems in education. Methods of collecting and systematizing data, preparation of manuscripts for theses, dissertations and printed reports. (2) Mr. Capps.

C209f. State and National School Administration. A fundamental course in the principles and practices of national, state, and county educational administration. (3) Mr. Carpenter.

C210w. City School Administration. The principles and problems growing out of the relationships between the local board of education, the employed personnel, and the community. (3) Mr. Carpenter.

C211f. Administration of Pupil Personnel. Problems of pupil-progress in the public school system. The census, attendance service, record systems, promotions, retardation, failures, eliminations. Prerequisite, E120 or D140 or equivalent. (2) Mr. Carpenter.

C212w. School Building Problems. The responsibility of the school administrator for the construction, operation, and maintenance of school buildings and for their location, lighting, heating, ventilation, and utilization. (3) Mr. Carpenter.

C235w. Advanced Educational Statistics. Prerequisites, courses C170 and E205, or D207 or their equivalent. Advanced problems in partial correlation, reliability, index numbers, and test and scale construction. (2½-3) Mr. Capps.

C240f. School Finance. Fundamental principles and techniques of public school business administration, including budgetary and financial accounting. (3) Mr. von Borgersrode.

C241w. Problems in School Finance. Advanced problems in public school business administration with emphasis on accounting phases. (3) Mr. von Borgersrode.

C246w. School Surveys. An advanced course for students in school administration; considers the technique of the school survey and its use as an instrument of self-appraisal. (3) Mr. Carpenter.

C250f and w. Special Investigations in Educational Administration. (Credit to be arranged.) Mr. Capps; Mr. Carpenter; Mr. von Borgersrode.

C273w. Junior College Administration. The organization and administration of the junior college. (3) Mr. Carpenter.

C290f and w. Research in Educational Administration. (Credit to be arranged.) Mr. Capps; Mr. Carpenter; Mr. von Borgersrode.

(D) SECONDARY EDUCATION

D103w. Teaching of Art. Lectures, observation, and discussion. Deals with content, methods and materials in the teaching of art. (3) Miss Wulfekammer.

D110f and w. Technique of High School Teaching. This course deals with the activities of teachers and pupils in the development of learning in various courses at the high school level. Prerequisite, Education A102. (3) Mr. Watkins.

D111f and D112w. Teaching of English. D111f deals with the teaching of language and composition; D112w with the teaching of reading and literature. Prerequisite, A102. (2) Mr. Moffett.

D113f. TEACHING OF SPEECH. Aims, standards, problems, and methods in the conduct of high school courses in articulate, interpretative, and persuasive oral communication. Designed for teachers of English, public speaking, debating, speech training, oral reading, and dramatics. (2) MR. GILMAN.

D118f and w. TEACHING OF MODERN LANGUAGES. Prerequisite, A102. (2) MR. ALMSTEDT; MISS STEWART; MR. WARSHAW.

D119f and w. TEACHING OF PHYSICAL EDUCATION. A graded course in the teaching of tactics, calisthenics and apparatus for grades, high schools and colleges. Prerequisites, kinesiology and A102. (2) MISS MCKEE; MISS WILSON.

Note: See also under Physical Education, 119w.

D121f. TEACHING OF SOCIAL STUDIES IN HIGH SCHOOL. The required course for all majors in the social studies and elective for all minors. The fundamental problems of teaching the social studies on the high school level are considered. Prerequisite, A102. (2) MR. ELLIS.

D122w. ORGANIZATION OF HIGH SCHOOL SOCIAL STUDIES. An elective course for all majors and minors in social studies. Practice in organizing social studies courses into units, and preparing these units for classroom use. Prerequisite, A102. (2) MR. ELLIS.

D124w. THE TEACHING OF GENERAL SCIENCE. Prerequisite, A102. (2) MR. WATKINS.

D125f. TEACHING OF LATIN. Prerequisite, A102. (2) MISS CAUTHORN.

D128w. TEACHING OF HIGH SCHOOL MATHEMATICS. Prerequisite, A102. (2) MR. BUTLER; MISS DOOLITTLE.

D131f. HIGH SCHOOL MUSIC METHODS. Methods for discovering and developing musical talent, general music courses, choral and instrumental organizations. (3) MR. SLEEPER.

D140f and w. HIGH SCHOOL ADMINISTRATION FOR TEACHERS. Problems of effective methods of school management from the standpoint of teachers in secondary schools. Prerequisite, A102. (2) MR. RUFI.

D150f and w. STUDENT TEACHING IN HIGH SCHOOL. Hours and credit must be arranged with instructor before registration. Application should be made in the term preceding that in which the course is wanted. Prerequisite, D110. (Credit to be arranged.) MR. VON BORGERSRODE; MISS IRONS.

D181w. PROBLEMS IN HIGH SCHOOL MUSIC TEACHING. Analysis of material for high school music organizations and studies in the presentation of this material. Prerequisite, completion of the curriculum in Public School Music for freshman and sophomore years in the College of Fine Arts or its equivalent and A102 and D110. (2) MR. SLEEPER.

D200f and w. SEMINAR IN SECONDARY EDUCATION. (1-3) MR. ELLIFF; MR. ELLIS; MR. GERMANE; MR. RUFI; MR. WATKINS.

D206f. HIGH SCHOOL ADMINISTRATION. Deals with the problems of administration from the point of view of the high school principal. Prerequisite, D140 or its equivalent. (3) MR. RUFI.

D207f. TESTS AND MEASUREMENTS FOR SECONDARY SCHOOLS. Study of the uses and the construction of educational tests and measurements for purposes of classification of students and for improvement of instruction in various subject-matter fields in secondary schools. (3) MR. CAPPS.

D210w. ENGLISH METHODS. An investigation of the aims, means and methods in English instruction in the school. (2-3) MR. MOFFETT.

D212w. PROBLEMS IN THE TEACHING OF GENERAL SCIENCE. For teachers and supervisors of science. Problems of organization, content, and teaching.

Includes a summary of the investigations on teaching of science. (2) MR. WATKINS.

D215w. HIGH SCHOOL SUPERVISION. Methods of improving instruction in junior and senior high schools. (3) MR. RUFI.

D219f and w. SPECIAL INVESTIGATIONS IN HIGH SCHOOL MUSIC TEACHING. Research in material and methods having to do with music projects in the junior and senior high school. A written report is required. Prerequisite, completion of Public School Music major in the School of Education or its equivalent. (2-5) MR. SLEEPER.

D220f. PROBLEMS IN THE TEACHING OF SOCIAL STUDIES. A graduate course dealing with special problems of method and curriculum in the teaching of social studies in junior and senior high schools. Open to graduate students with a major or minor in the social studies. (3) MR. ELLIS.

D221f. EDUCATIONAL GUIDANCE. A survey of the recent literature pertinent to such problems of guidance as objectives, and the materials and techniques for the realization of these objectives. (2½-3) MR. GERMANE.

D230w. THE JUNIOR HIGH SCHOOL. A survey of the progress of the junior high school, including a study of the more important problems of organization and administration. (2) MR. RUFI.

D240f. THE IMPROVEMENT OF HIGH SCHOOL TEACHING. For high school teachers and supervisors who have had considerable training in education and experience in teaching. Deals with recent developments in high school teaching, descriptions and evaluations of improved procedures. (2) MR. WATKINS.

D245w. THE HIGH SCHOOL CURRICULUM. For high school principals and teachers, and for superintendents interested in the improved adaptation of secondary school curricula. Deals with present trends in curricular change, reasons for the existence of present curricula, methods of curricular investigation, and the adaptation of curricula to community needs. (2½-3) MR. WATKINS.

D246w. CURRICULUM CONSTRUCTION FOR SECONDARY SCHOOLS. For high school teachers, principals, and superintendents of schools with considerable graduate training in education. The course is intended to meet the needs of those school people who have definite problems calling for the construction of curricula to meet definite situations, or the needs of those attempting to construct high school courses. Deals primarily with techniques of construction. Practice in actual construction of courses and curricula is provided. Application to definite local situations is encouraged Prerequisite, Education D245, High School Curriculum. In cases of individuals furnishing evidence of other adequate previous training, the prerequisite may be waived by the instructor. (3) MR. WATKINS.

D250f and w. SPECIAL INVESTIGATIONS IN SECONDARY EDUCATION. (Credit to be arranged.) MR. ELLIFF; MR. ELLIS; MR. GERMANE; MR. RUFI; MR. WATKINS.

D290f and w. RESEARCH IN SECONDARY EDUCATION. (Credit to be arranged.) MR. ELLIFF; MR. GERMANE; MR. RUFI; MR. WATKINS.

(E) ELEMENTARY EDUCATION

E106w. TEACHING OF ARITHMETIC IN THE ELEMENTARY SCHOOL. Methods of teaching arithmetic in grades four to eight. (2) MR. GORMAN.

E120f. ELEMENTARY SCHOOL ORGANIZATION AND MANAGEMENT. A study of the major problems of organization and management from the point of view of the teacher in the elementary school. (2) MR. PHILLIPS.

E121w. TECHNIQUE OF TEACHING IN ELEMENTARY SCHOOLS. A study of the current principles and practices relating to the instructional activities of the elementary classroom teacher. Prerequisite, A102. (3) MR. PHILLIPS.

E122f. CHILD STUDY. The purpose of this course is to provide a critical study of the physical, mental, social and aesthetic characteristics of children during the pre-school, kindergarten, and lower primary periods. An attempt will be made to evaluate children's activities in such a way as to furnish information for guidance to students who propose to direct children of these periods in their natural growth and development. Prerequisite, A102. (3) MISS TAYLOR

E123w. KINDERGARTEN METHODS AND MANAGEMENT. A course in kindergarten theory and practice. (3) MISS TAYLOR.

E129f. MUSIC IN PRIMARY GRADES. Public school music methods in the kindergarten and lower grades. Rote-singing, monotones, rhythmic work, listening lessons. Prerequisite, the ability to sing simple songs and the equivalent of courses 5 and 6, Dictation and Ear-training in the College of Fine Arts. (2) MR. SLEEPER.

E130w. MUSIC IN INTERMEDIATE GRADES. Rote-singing, listening lessons, music reading, part-singing. Prerequisite as in E129f. (2) MR. SLEEPER.

E151f and w. ASSISTANT IN THE ELEMENTARY SCHOOL. Hours and credit must be arranged with the instructor before registration. Application should be made in term preceding that in which the course is desired. Prerequisites, A102, E121. (Credit to be arranged.) MR. PHILLIPS.

E165w. PROBLEMS IN THE TEACHING OF READING. Fundamental problems in the teaching of silent reading. For teachers, supervisors, and superintendents. Selection of material and methods for grades I to IX. (3) MR. GERMANE.

E170f. ELEMENTARY SCHOOL CURRICULUM. A study of the modern elementary school curriculum from the point of view of objectives, methods and materials with suggestions regarding its practical reorganization. Prerequisites, A102 and E121. (2) MR. PHILLIPS.

E175f. RURAL SCHOOL SUPERVISION. A course intended primarily for county school superintendents. A critical examination of some of the important problems of rural school supervision will be included. (2) MR. PHILLIPS; MR. VON BORGERSRODE.

E180w. MUSIC SUPERVISION. A comparative study of modern methods of teaching music in grades I to VI, teaching of sight-singing and appreciation. Prerequisite, completion of the curriculum in Public School Music for freshman and sophomore years in the College of Fine Arts or its equivalent and E129 and A102. (2) MR. SLEEPER.

E184w. PROJECTS IN MORAL EDUCATION. In this course two of the vital points in character education will be stressed, namely: (1) What are the psychological and environmental factors in the home, school, and community that affect human conduct? (2) What are the social situations in the home, school, and community that offer greatest opportunity for a united training in the making of desirable and wholesome social adjustments? (3) MR. GERMANE.

E195w. PROBLEMS IN COUNTY SCHOOL SUPERVISION. (Maximum credit, 8 hours. Credit to be arranged.) MR. VON BORGERSRODE; MR. PHILLIPS.

E200f and w. SEMINAR IN ELEMENTARY EDUCATION. (1-3) MR. PHILLIPS.

E204f. ELEMENTARY SCHOOL SUPERVISION. A study of the modern technique of improving the work of the classroom teacher in the elementary schools. (3) MR. PHILLIPS.

E205w. Tests and Measurements for Elementary Schools. Study of the uses and the construction of educational tests and measurements for the elementary schools from the points of view of the teacher, the supervisor, and the administrator. (3) Mr. Capps.

E206w. Curriculum Construction in Elementary School. Study of the principles and techniques of curriculum construction. (2-3) Mr. Phillips.

E218f and w. Special Problems in Elementary School Music Teaching. Research in material and methods having to do with music projects in the elementary school. A written report is required. Prerequisite, completion of Public School Music major in the School of Education or its equivalent. (2-5) Mr. Sleeper.

E225w. Practice in School Supervision. For supervisors, principals, and superintendents. (3) Mr. Phillips.

E250f and w. Special Investigations in Elementary Education. (Credit to be arranged.) Mr. Phillips.

E290f and w. Research in Elementary Education. (Credit to be arranged.) Mr. Phillips.

VOCATIONAL EDUCATION

Agricultural Education

F100w. Foundations of Vocational Agriculture. This course includes a brief study of the development of vocational education in agriculture, establishment and organization of departments in secondary schools, administrative problems of management surveys and program building, room arrangement and equipment. (Prerequisite to all courses in Agricultural Education.) (3) Mr. Dickinson; Mr. Dippold.

F105w. Special Methods in Teaching Vocational Agriculture. This course deals with the methods of teaching vocational agriculture in secondary schools. (3) Mr. Dickinson.

F107w. Supervised Farm Practice in Vocational Agriculture. This course includes a study of the principles and practices involved in the use of the project as they should be applied in the teaching of vocational agriculture. Project study, outlining, planning, and supervision are discussed in a manner applicable to actual conditions. (2) Mr. Dickinson.

F120w. Community Educational Activities in Vocational Agriculture. A study of the work of the teacher of agriculture in his extension activities. Particular attention is given to the problems of Evening and Part-Time Schools. (2) Mr. Dippold.

F156f and w. Student Teaching in Vocational Agriculture. Supervised observation of vocational agriculture teaching and actual participation in teaching activities together with conferences as provided. Credit arranged. Mr. Dickinson.

F195f and w. Special Problems in Agricultural Education. Individual study of special phases of Agricultural Education. (Credit to be arranged.) Mr. Dickinson; Mr. Dippold.

F240f and w. Problems in Agricultural Education. Group study in current and advanced problems in the teaching and administration of agricultural education. (2-4) Mr. Dickinson; Mr. Dippold.

Home Economics Education

F110f and w. METHODS OF TEACHING VOCATIONAL HOME ECONOMICS. This course parallels student teaching. It deals with the problems arising in student teaching and those anticipated on the job. (2) MISS IRONS.

F116w. TEACHING OF RELATED SUBJECTS. This course deals with the selection of content and methods of teaching art and science as related to home economics. (2) MISS IRONS.

STUDENT TEACHING OF VOCATIONAL HOME ECONOMICS. Described under D150f and w.

F175f and w. ORGANIZATION OF VOCATIONAL HOME ECONOMICS. This course is given as a preparation for teaching home economics. It is a prerequisite for student teaching. A study is made of home economics programs, the vocational course, the organization of units, the preparation and presentation of lesson and of books and equipment to be used in teaching. (3) MISS IRONS.

F230f and w. SUPERVISION OF STUDENT TEACHING OF VOCATIONAL HOME ECONOMICS. A course for those who are preparing to become supervisors of student teaching in Home Economics in institutions of college rank which train teachers for Vocational Home Economics in secondary schools. The course includes readings, discussion and supervised practice work in supervision. Prerequisites, D150, F175, F110. (Credit to be arranged.) MISS IRONS.

F273w. PROBLEMS IN HOME ECONOMICS EDUCATION. This course furnishes opportunities for experienced teachers to study problems of teaching, supervision, critic teaching, or administration of home economics and related subjects. (3) MISS IRONS.

Industrial Arts and Trades and Industries

F1w. SHOPWORK FOR JUNIOR HIGH SCHOOLS. This is a teacher's course based upon what a boy who has completed the ninth grade or the junior high school should know and be able to do with respect to manipulative processes. Many of the projects are worked out in class, others are listed and effective methods of instruction and classroom management are developed. (3) MR. MILLER.

F2f. METAL WORK. Forging. Nature of cast iron, wrought iron, and steel. Forming, bending, welding and tempering. Oxyacetylene welding and cutting. Bench work in cold metals. Chipping, filing, fitting and polishing. (2) MR. PHILLIPS.

F4w. MACHINE WORK. A study of the principles of modern machine shop practice with practical work on machine tools. (2) MR. PHILLIPS.

F5f. TOOLS AND MATERIALS. Sharpening and care of tools, sources and supply of materials, woods and wood finishes. Lectures and laboratory work. (2) MR. MILLER.

F10f. WOODWORK. This course deals with the tool processes and the fundamental problems of construction. The student may choose between the application of these principles to the construction of furniture or to carpentry projects. (2) MR. MILLER.

F106w. FURNITURE CONSTRUCTION. Deals with the problems of design, construction and finish of furniture. Use of wood-working machinery. (4) MR. MILLER.

MECHANICAL DRAWING. For mechanical drawing, pattern making and other shop courses, see Mechanical Engineering.

F119f. HANDWORK FOR PRIMARY GRADES. Related to the kindergarten and first four grades from the standpoint of the classroom teacher and the special teacher of art and handwork. Develops a practical method of relating the common activities of home and industrial life, and mastery of tool subjects to the dominant interests of children. Outlines an order of procedure in the introduction of fundamental processes of construction in various materials and related art. Stresses creative and dramatic expression. (3) MISS DOBBS.

F121w. HANDWORK FOR INTERMEDIATE GRADES. Stresses the use of art and handwork as an illustrative factor in teaching the regular school subjects. Introduces technique and organization of such forms and handwork as may be successfully used in the regular classroom. Emphasis upon poster-making, bookmaking, applied art, illustrative construction in the study of industrial processes and the organization of units of study based on handwork activities. (3) MISS DOBBS.

F140w. SUPERVISION AND CRITICISM OF ELEMENTARY HANDWORK. Lectures, observation, and discussion. Special emphasis on the theory and purposes of classroom projects in illustrative and technical handwork. Topics considered in their relation to the work of the trained supervisor and also from the standpoint of the principal and superintendent who lack practical training. (2) MISS DOBBS.

F165f and w. TRADE ANALYSIS. This is a course for those preparing to teach a trade. It consists of an analysis of a trade into its unit operations and the formulation of definite plans for teaching them. (4) MR. SELVIDGE.

F190w. ORGANIZATION OF SUBJECT MATTER. A study and comparison of the types of individual instruction units and teaching plans. The determination of content and the development of written instruction material with a view of providing for individual progress. (2) MR. SELVIDGE.

F194f. PRINCIPLES OF TRADE AND INDUSTRIAL TEACHING. This course will deal with the principles involved in the selection of instructional material, the analysis and organization of material, classroom practice, lesson planning, and the preparation of instructions. (3) MR. SELVIDGE.

F196f. ADMINISTRATION OF INDUSTRIAL EDUCATION. Designed especially for superintendents and principals. The course deals with the purpose and character of industrial work in the junior high school, senior high school and the continuation school. It gives plans for the organization of subject-matter, methods by which administrative officers may check results, the kind of teachers required, the schedule, equipment and costs. (2) MR. SELVIDGE.

F197f and w. SPECIAL PROBLEMS IN INDUSTRIAL EDUCATION. MR. SELVIDGE.

F201w. JOB ANALYSIS APPLIED TO CURRICULUM MAKING. The course will deal with the organization of the subject-matter of the individual units of the curriculum. The problem will be to state definitely what we expect the pupil to know with respect to the unit when he has finished his period of training. Each of these elements must be justified before it is accepted and then a plan developed for teaching it. The development of instruction sheets will be considered in this connection. (2) MR. SELVIDGE.

F221f. VOCATIONAL GUIDANCE. The purpose and limitations of guidance, elements to be considered, personal, social and industrial factors, the accidental elements, the source of material and the adviser's job. (2) MR. SELVIDGE.

General

F200f and w. SEMINAR IN VOCATIONAL EDUCATION. (1-3) MR. DICKINSON; MR. DIPPOLD; MISS IRONS; MR. SELVIDGE.

F250f and w. SPECIAL INVESTIGATIONS IN VOCATIONAL EDUCATION. (Credit to be arranged.) MR. DICKINSON; MR. DIPPOLD; MISS IRONS; MR. SELVIDGE.

F200f and w. RESEARCH IN VOCATIONAL EDUCATION. (Credit to be arranged.) MR. DICKINSON; MR. DIPPOLD; MISS IRONS; MR. SELVIDGE.

ENGINEERING

For curricula in *Engineering*, see pages 187 to 191.

For courses in *Agricultural Engineering*, see page 268.

For the Chemistry courses in *Chemical Engineerng*, see under *Chemistry*, page 282.

1f. INTRODUCTION TO ENGINEERING. Required of all freshmen and optional for all other engineering students during first year of residence. Lectures, conference, and readings designed to aid the student in developing habits of study, informing him with respect to the profession of engineering, the type of work done by engineers, and the factor which will contribute to his success. (1) MR. SELVIDGE.

CHEMICAL ENGINEERING

100f. INTRODUCTION TO CHEMICAL ENGINEERING. Prerequisite, senior standing. Lectures and laboratory work on the principles and methods of handling chemicals and their solutions, grinding, mixing, classification, filtration, drying, and the design of special types of equipment. (5) MR. LORAH.

150f and w. SPECIAL PROBLEMS. Prerequisite, senior standing. Directed study of problems in the field of chemical engineering. (2-4) MR. LORAH.

151w. PRINCIPLES OF CHEMICAL ENGINEERING. Prerequisite, course 100 or its equivalent. Lectures and laboratory work on the principles of evaporation, crystallization, distillation, absorption, and extraction. (5) MR. LORAH.

200f and w. SEMINAR. Prerequisite, graduate standing. Reviews of recent investigations and projects of major importance in the field of chemical engineering. (1)

252f. ADVANCED CHEMICAL ENGNEERING. Prerequisite, course 151 or graduate standing in Chemical Engineering. A study of the more advanced theories as applied to the unit processes, and the design of equipment for such operations. These studies will include the latest available material. (3) MR. LORAH.

261w. CO-ORDINATION OF UNIT OPERATIONS. Prerequisite, course 100 or its equivalent. The co-ordination of unit operations in a plant, including specifications and estimates. (3) MR. LORAH.

285f and w. SPECIAL STUDIES. Prerequisite, graduate standing. Experimental investigaton of problems in the field of chemical engineering or applied chemistry. (2-5) MR. LORAH.

299f and w. RESEARCH. Prerequisite, graduate standing. Independent investigation of some problem or design in the field of chemical engineering or applied chemistry to be presented in the form of a thesis. (Minimum 4 hours.) MR. LORAH.

CIVIL ENGINEERING

Topographic Engineering

2f and w. ELEMENTARY SURVEYING. Prerequisite, mathematics, course 2. Use and adjustment of ordinary surveying instruments. (3) MR. WILLIAMS.

104f. HIGHER SURVEYING. Prerequisite, course 2 and engineering drawing 1. Mining, hydrographic and topographic surveying; determination of azimuth, and plane triangulation. Control of surveys. (4) MR. WILLIAMS.

106w. CITY PLANNING. Prerequisite, course 104. Planning city layouts and additions from topographic maps. (2) MR. WILLIAMS.

201w. GEODETIC SURVEYING. Prerequsite, course 104. Elements of geodesy, with practice in the use of precise instruments. (2) MR. WILLIAMS.

Railway and Administrative Engineering

111f. ROUTE SURVEYS. Prerequisite, course 2 and junior standing. Curves and earthwork. The field and office design of location of engineering projects, including cost estimate. (4) MR. RUBEY.

112f or w. BUSINESS RELATIONS. Prerequisite, senior standing. The engineer's business relations as developed in connection with the promotion, design, construction, operation and management of projects. (3) MR. RUBEY.

113w. ECONOMY OF RAILWAY OPERATION. Prerequisite, course 111. The engineering attack on administrative problems, using railway cases. (2 or 3) MR. RUBEY.

214w. RAILWAY ENGINEERING AND MANAGEMENT. Prerequisite, preceded or accompanied by course 113. Treated from the viewpoint of the engineer trained executive. (2 or 3) MR. RUBEY.

215w. CONSTRUCTION AND CONTRACTING. Prerequisite, course 112 or permission of instructor. Consideration of the larger and more complex projects. (2 or 3) MR. RUBEY.

Structural Engineering

120f and w. GRAPHIC STATICS. Prerequisite or accompanied by mechanics course 101. Graphic analysis of stresses in simple trusses. (2) MR. HYDE, MR. WILLIAMS.

121f. STRESSES. Prerequisite, course 120. Algebraic solution of stresses in simple trusses. Complete stresses in a railroad truss bridge. (3) MR. HYDE.

122w. STRUCTURAL DESIGN. Prerequisite, course 120. Design and working drawings of beams, girders, columns and trusses with estimates. (3) MR. HYDE.

125f. MASONRY STRUCTURES. Prerequisite, course 120. Materials and methods employed in masonry construction; theory of reinforced concrete structures. (3) MR. HYDE.

222f or w. BRIDGE DESIGN. Prerequisite, course 121. Design of stringer bridges, plate girders and steel railroad truss bridge, with working drawings and estimates. (3) MR. HYDE.

223w. HIGHER STRUCTURES. Prerequisite, course 222. Swing bridges; arches; suspension and cantilever bridges; deflection of trusses. (3) MR. HYDE.

226w. CONCRETE STRUCTURES. Prerequisite, course 125. Theory of reinforced concrete structures, with problems in design. (3) MR. HYDE.

227f. THEORY OF STRUCTURES. Prerequisite, 223. Statically indeterminate structures; secondary stresses. (Credit to be arranged.) MR. HYDE.

Materials of Construction

32f and w. MATERIALS OF CONSTRUCTION. Prerequisite, chemistry, course 1. Properties of the more common materials used in engineering construction; tests for strength and elasticity of wood, iron, and steel; standard test for cement. (3) MR. LARUE.

134w. ROAD MATERIALS. Prerequisite, course 32. Properties of materials used in highway construction; laboratory tests of road materials. (3) MR. LARUE.

150f or w. SPECIAL PROBLEMS. Directed investigation of problems in the field of civil engineering. (2-4) STAFF.

Hydraulic Engineering

140f and w. HYDRAULICS. Preceded by integral calculus. Fundamental principles of the mechanics of fluids, including hydrostatics and hydrodynamics. Elementary principles of hydraulic motors. (3) MR. RODHOUSE.

141f. WATER POWER. Prerequisite, 140. Hydrology; stream measurement, weirs, current meters; storage reservoirs and dams; water-wheels; the problem of a water-power development. (3) MR. RODHOUSE.

142w. WATER SUPPLY. Prerequisite, 140. Surface waters and storage; underground waters, deep wells; water works, pipe lines, meters, water towers; pumping station, service and deep-well pumps. (2) MR. RODHOUSE.

143w. HYDRAULIC ENGINEERING. Prerequisite, 140. A general course in hydraulic engineering, including the application of the principles of hydraulics to typical problems in the general field of hydraulic design and construction; problems common to water supply, water-power development, sanitary, drainage and irrigation works. (3) MR. RODHOUSE.

241f. ADVANCED HYDRAULIC ENGINEERING. Prerequisite, course 141 or 143. Problems in design and construction relating to reservoirs, dams, conduits. waterways and general hydraulic engineering. (3) MR. RODHOUSE.

Municipal Engineering

151w. ROADS AND PAVEMENTS. Materials and methods employed in the construction of roads and pavements. (2) MR. LARUE.

152w. SANITARY PROBLEMS. Prerequisites, mechanics of engineering, course 100 and hydraulics 140 Public water supplies, with special reference to quality. Methods of water purification. Problems in collection and treatment of sewage. (2) MR. MCCAUSTLAND.

155f. HIGHWAY ENGINEERING. Prerequisite, course 151. Management, improvement and maintenance of earth roads; plans and estimates for road improvement; construction and maintenance of street pavements. (2) MR. LARUE.

256f or w. HIGHWAY DESIGN. Prerequisites, courses 125 and 151. Design of highway structures, culverts, walls, small bridges; plans and estimates for highway improvements. (2) MR. LARUE.

General

200f and w. SEMINAR. Reviews of recent investigations and projects of major importance in the field of civil engineering. (1) STAFF.

285f and w. SPECIAL STUDIES. Independent study of some problem in the field of civil engineering. (2-5) STAFF.

299f and w. RESEARCH. An independent investigation of some problem or design in the field of civil engineering, to be presented in the form of a thesis. (Minimum of 4 hrs.) STAFF.

ELECTRICAL ENGINEERING

101f and w. ELECTRICAL MACHINERY A. Prerequisites, mathematics, course 100; physics, course 4. Fundamentals of electromagnetism, voltage, current and power relations in electric circuits. Structure and characteristics of continuous and alternating current generators and motors, alternating current transformers, converters, instruments, etc. (5) MR. WEINBACH; MR. LANIER; MR. WALLIS.

110w. ALTERNATING CURRENTS. Prerequisite, course 101; may be waived in exceptional cases. Voltage, current and power relations under steady and transient conditions; power measurement. Irregular voltage and current waves. Polyphase systems with balanced and unbalanced loading. (4) MR. WEINBACH; MR. WALLIS.

111f. ELECTRICAL MACHINERY B. Prerequisite, course 110; may be waived in exceptional cases. Theory and applications of single phase transformers; banks of single phase transformers in polyphase circuits; polyphase transformers. The polyphase induction motor and generator; the single phase induction motor. (4) MR. LANIER; MR. WALLIS.

112w. ELECTRICAL MACHINERY B. Prerequisite, course 111. Characteristics of single and polyphase synchronous generators and motors. The continuous current dynamo and synchronous converter. Alternating current commutator motors. (4) MR. LANIER; MR. WALLIS.

130w. ELECTRIC POWER DISTRIBUTION. Prerequisite, course 111. Detailed study of the generation, transmission, and distribution of electrical energy for lighting, power, and electric railways. (3) MR. WEINBACH.

133f or w. ILLUMINATION. Prerequisite, course 101. Characteristics of commercial types of electric lamps and their application to interior and exterior lighting. (2) MR. WALLIS.

134f. COMMUNICATION. Prerequisite, course 110. Sound waves; conversion of sound waves into electric waves and vice versa; propagation of electric waves along the transmission line; distortion and attenuation; artificial loading, inductive interference. (4) MR. WEINBACH; MR. WALLIS.

135w. RADIO COMMUNICATION. Prerequisite, 134f. Fundamental principles underlying the generation of electromagnetic waves of radio frequencies and their propagation through space. Analytical study of broadcasting and receiving circuits in their relation to modulation, demodulation and amplification. (3) MR. WALLIS.

150w. SPECIAL PROBLEMS IN ELECTRICAL ENGINEERING. Prerequisites, courses 110 and 111. Analytical or experimental problems pertaining to electrical circuits or machines. (2-4) MR. LANIER OR MR. WEINBACH; MR. WALLIS.

200f and w. SEMINAR. Prerequisite, graduate standing. Reviews of recent investigations and projects of major importance in the field of electrical engineering. (1) DEPARTMENT STAFF.

210f. ELECTRICAL MACHINERY C. Prerequisite, course 112. Multicircuit transformers. Synchronous machines under balanced steady state conditions; performance charts. Polyphase banks of transformers, polyphase induction and synchronous machines under unbalanced conditions. The single

phase induction motor. Phase converters. Higher harmonics in transformers and rotating machines. (3) MR. LANIER.

220w. ANALYSIS OF ELECTRICAL DESIGN. Prerequisite, course 112. Electric and magnetic fields: Methods of field plotting circuit parameters of symmetrical and unsymmetrical conducting systems. Skin effect in conductors. Magnetic fields in media containing iron. Current distortion in the conductors of alternating current machines; effects upon performance. Transient conditions in synchronous machines. (3) MR. LANIER.

242w. HIGH VOLTAGE TRANSMISSION. Prerequisite, courses 130 and 134. Transmission of electrical energy; practical limitations due to static stability; line regulation; transient instability due to faults and switching; operative precautions. (3) MR. WEINBACH.

280w. ADVANCED ELECTRIC CIRCUIT ANALYSIS. Prerequisite, course 110. Specialized study of higher mathematical analysis as applied to the solution of circuit networks with fixed and variable parameters under steady and transient conditions. (3) MR. WEINBACH.

285f and w. SPECIAL STUDIES IN ELECTRICAL ENGINEERING. Prerequisites, courses 112 and 134. Analytical or experimental investigation of problems pertaining to electric circuits, machinery or systems. (2-5) MR. LANIER; MR. WEINBACH; MR. WALLIS.

299f and w. RESEARCH. Prerequisites, courses 112 and 134. Independent investigation of some problem or design in the field of electrical engineering, to be presented in the form of a thesis. (Min. 4 hrs.) MR. LANIER; MR. WEINBACH; MR. WALLIS.

MANAGEMENT ENGINEERING

142w. FACTORY PRODUCTION. Prerequisites, pattern making and machine shop. Analysis of production, planning, scheduling, routing, inspection and assembly of a product. Application of quantity production methods to construction of small bench grinder in shop. (3) MR. PHILLIPS.

145w. LABOR SUPPLY. Deals with personnel problems, organized labor, labor turnover, foreman training, training and compensation of labor and conditions of employment. (2) MR. SELVIDGE.

150f. INDUSTRIAL MANAGEMENT. The fundamental principles of industrial organization and management, production planning, sales organization and problems of seasonal activities. (3) MR. SELVIDGE.

160w. PRODUCTION AND DISTRIBUTION PROBLEMS. An analysis of the factors involved in a series of production and distribution problems together with methods of control. (3) MR. SELVIDGE.

211w. SHOPWORK ENGINEERING. Advanced analyses in production engineering. Industrial betterment. New mechanisms in scientific management. Tests in laboratory and in commercial plant, (2).

150f or w. SPECIAL PROBLEMS IN MANAGEMENT ENGINEERING. Prerequisite, senior standing in management engineering. Testing and experimental problems in the field of management engineering. (2-4) DEPARTMENT STAFF.

200f or w. SEMINAR. Prerequisite, graduate standing. Reviews of recent investigations and projects of major importance in the field of management engineering. (1) DEPARTMENT STAFF.

285f and w. SPECIAL STUDIES IN MANAGEMENT ENGINEERING. Prerequisite, graduate standing. Experimental investigation of problems in the field of management engineering. (2-5) DEPARTMENT STAFF.

299f and w. RESEARCH. Prerequisite, graduate standing. Independent investigation of some problem in the field of management engineering to be presented in the form of a thesis. (Min. 4 hours) DEPARTMENT STAFF.

MECHANICAL ENGINEERING

Engineering Drawing, Shopwork and Machine Design

1f. ENGINEERING DRAWING I. Use of instruments, drawing to scale, the common geometrical curves, free-hand lettering, sketching; orthographic projection, fundamental principles and applications. (3) MR. MILLER.

2w. ENGINEERING DRAWING II. Prerequisite, course 1. Descriptive geometry. (3) MR. MILLER.

25f and w. PATTERN MAKING. Includes use of lathe, analysis and planning of patterns and laboratory work illustrating the principles and practices in molding and pattern making. (2) MR. PHILLIPS.

30f and w. MACHINE WORK. The work consists of forging and tempering steel, heat treatment of metals and study and practice in the operation of the principal machines in the machine shop. (2) MR. PHILLIPS.

100f and w. PRINCIPLES OF MECHANISMS. Prerequisite, drawing I and II, and preceded or accompanied by physics 3. Kinematics of machines. Cams, toothed gearing, gear trains, link mechanisms, instant centers, velocity and acceleration diagrams. Recitations and drawing. (3) MR. WHARTON.

101f and w. MACHINE DESIGN A. Prerequisites, engineering drawing I and II, materials of construction, principles of mechanisms and integral calculus. The practical application of theory to the design of machine parts, with problems on specific machines. (3)

103f. MACHINE DESIGN B. Prerequisites, machine design A and all required work in mechanics of engineering. A continuation of course 101, particular attention being paid to machines subject to dynamic forces. Mathematical and graphical analyses. Complete working drawings. (3)

104f. PRIME MOVER DESIGN. Prerequisites, machine design A, and preceded or accompanied by principles of thermodynamics. Problems in the design of reciprocating steam engines and turbines, steam boilers, hydraulic motors and pumps. (3)

105w. INTERNAL COMBUSTION ENGINES. Prerequisites, courses 136 and 103. The theory of internal combustion engines with problems in their design. (3)

Testing and Experimental Engineering

121f. MECHANICAL LABORATORY A. Prerequisite, heat machinery and accompanied or preceded by course 136. Designed for a fundamental knowledge of thermodynamic and economic characteristics of heat and power machinery in operation. Includes tests for heating values of fuels and coal and fuel gas analysis. (2) MR. GRAY.

122w. MECHANICAL LABORATORY A. Prerequisite, course 121. A continuation of course 121 involving the testing of more complicated units where more engineering thermodynamics are necessary. Includes tests on duplex steam pump characteristics, centrifugal pump characteristics, two-ton refrigeration machine for performance and heat transfer, two-stage air compressor, and boiler test of University Power Plant. (2) MR. GRAY.

221f and w. SPECIAL MECHANICAL LABORATORY. Advanced work in experimental engineering research. (Credit to be arranged.) Offered by members of the staff in their respective lines.

Power Engineering

131f and w. HEAT MACHINERY. Prerequisite, physics 3f. A general course treating of the operation, functions and relations of power plant equipment, accompanied by laboratory exercises and elementary thermodynamics. (3) MR. GRAY.

132f. POWER PLANT ECONOMY. Prerequisite, course 131. The principles of finance, economics and cost of power. Cost incident to grade of equipment and operating characteristics. The economics of fuels, combustion chambers and steam generators. (3) MR. WHARTON.

133w. POWER PLANT MACHINERY. Prerequisite, course 132. The mechanics and economics of steam engines, steam turbines, internal-combustion motors and power plant accessories. (3) MR. WHARTON.

135f. STEAM TURBINES. Prerequisite, course 136. Design of turbines, problems in balancing, nozzles, vanes, shafts. Economy. (2)

136f. PRINCIPLES OF THERMODYNAMICS. Prerequisites, physics, course 4; mathematics, course 100; heat machinery, 131. Deals with the two fundamental laws of thermodynamics and development of theory applicable to solutions of problems. Use of vapor tables, pressure-volume and temperature-entropy planes. The flow of fluids. (3) MR. GRAY.

137w. APPLIED THERMODYNAMICS. Prerequisite, principles of thermodynamics, 136. Theory of flow of fluids. Application of laws to steam and refrigeration cycles, air compressors, humidification and heat flow problems. (3) MR. GRAY.

151f. HEATING AND VENTILATION. Preceded or accompanied by course 136. Principles of heating and ventilation. Methods of warming by hot air, water and steam. Design of heating and ventilation plants. (3)

154w. REFRIGERATION A. Preceded or accompanied by courses 132 and 136. Artificial production of cold; cycles, efficiency, capacity, economic considerations. Compression and absorption machinery. Insulation. Tests. (3) MR. WHARTON.

231w. PROBLEMS IN THERMODYNAMICS. Prerequisites, courses 133 and 137. The advanced theory and practice of heat transformations and appliances related to commercial economy in heat machinery. (3) MR. WHARTON.

234f and 235w. GAS ENGINEERING. Prerequisites, machine design B; courses 132 and 133. Production, preparation, transmission, and use of industrial gases, together with the theory and practice of internal-combustion motors. (2)

General

150f or w. SPECIAL PROBLEMS IN MECHANICAL ENGINEERING. Prerequisite, senior standing in mechanical engineering. Testing and experimental problems in the field of mechanical engineering. (2 to 4) DEPARTMENT STAFF.

200f or w. SEMINAR. Prerequisite, graduate standing. Reviews of recent investigations and projects of major importance in the field of mechanical engineering. (1) DEPARTMENT STAFF.

285f and w. SPECIAL STUDIES IN MECHANICAL ENGINEERING. Prerequisite, graduate standing. Experimental investigation of problems in the field of mechanical engineering. (2 to 5) DEPARTMENT STAFF.

299f and w. RESEARCH. Prerequisite, graduate standing. Independent investigation of some problem or design in the field of mechanical engineering to be presented in the form of a thesis. (Min. 4 hours) DEPARTMENT STAFF.

MECHANICS

100f. MECHANICS OF ENGINEERING. An introductory course in statics and dynamics. Prerequisite, integral calculus, general physics. (4) MR. WOOD.

101w. MECHANICS OF MATERIALS. Fundamentals of stresses and strains in elastic materials. Prerequisite, course 100. (4) MR. WOOD.

112f and w. ADVANCED MECHANICS. Problems in dynamics. Prerequisite, course 100. (2 or 3) MR. WOOD.

113f and w. ADVANCED MECHANICS OF MATERIALS. Continuation of course 101 involving anaylsis of more complicated problems in stresses and strains. (2 or 3) MR. WOOD.

ENGLISH

1f and w. COMPOSITION AND RHETORIC. Detailed study and practice in construction and the kinds of composition. (3) MR. MOFFETT; MISS BRASHEAR; MR. BATDORF; MR. S. JOHNSON; MR. W. JOHNSON; MR. KLECKNER; MR. ALY; MISS LEWIS; MR. PEPPER; MR. WARE.

2f and w. COMPOSITION AND RHETORIC. A continuation of course 1. (3)

Courses 1 and 2 are required work for freshmen, except for those entering with three units of Latin or with two units of Latin and two units of Greek, who may substitute further work in Latin or Greek.

5f and 6w. MASTERPIECES. Critical study of selected masterpieces of English literature. Recommended for freshmen, but open to others. (2; 1½ for upperclassmen.) MR. FAIRCHILD; MR. AINSWORTH.

15f. DEBATE. Analysis; investigation; briefing; speech construction. (1) MR. SHIVELY.

16w. DEBATE. Types of argument; evidence; refutation; debating practice. Prerequisite, course 15. (1) MR. SHIVELY.

30f and w and 40f and w. ENGLISH LIFE AND LITERATURE. A general survey course in English literature studied in its relation to successive phases of English national life. Not open to freshmen. Required (both parts) for admission to upperclass courses in English literature. (3; 2 for upperclassmen, except those who have had no upperclass courses in English.) MR. MOFFETT; MR. AINSWORTH; MR. BELDEN; MISS BRASHEAR; MR. S. JOHNSON; MR. W. JOHNSON; MISS LEWIS; MR. RAMSAY.

50f and w. NARRATION. Study and practice in writing the short story and other forms of narrative composition. Prerequisite, course 5, 6, 30, or 40. (3) MR. RAMSAY; MISS BRASHEAR; MR. W. JOHNSON; MR. PEPPER; Mr. WARE.

60f and w. EXPOSITION. The critical study of current exposition, with practice in writing. Recommended for those who intend to enter the professional schools. (3) MR. RANKIN; MISS LEWIS; MR. S. JOHNSON.

73f and w. SPEECH TRAINING. Improvement of speech habits and standards through analysis of speech processes, ear training, and corrective exercises. (2) MR. GILMAN; MR. SHIVELY.

74f and w. ORAL INTERPRETATION. Intensive study of literary forms; principles of oral reading; individual drill before classroom presentation of selections. (2) MR. GILMAN.

75f and w. PUBLIC SPEAKING. Parliamentary practice; impromptu, extemporaneous, written, and memorized speeches; narrative, expository, and argumentative forms; drill on delivery. Prerequisites, courses 1 and 2. (3) MR. GILMAN; MR. RHYNSBURGER; MR. ALY; MR. SHIVELY.

100f and w. THE SHORT STORY. An advanced course in the art of story writing, with criticism, discussion, and conferences. Prerequisite, course 50 or its equivalent. (3) MR. RAMSAY.

101f. ADVANCED WRITING. Advanced course open to a limited number. Prerequisite, consent of the instructor. (3) MR. RANKIN.

103f and w. TECHNICAL WRITING. Training in the organization and presentation of the results of research; preparation of professional reports and of papers for the non-technical public. For students in the College of Engineering; no credit towards the A. B. degree. (2) MR. PEPPER.

104w. THE APPRECIATION OF LITERATURE. Discussion of the appreciation of literature and theories of criticism. Practice in writing reviews and critical essays. (3) MR. RANKIN.

105f. ARGUMENTATION. Technique of persuasion through logical reasoning, with practice both written and oral. Recommended for those who intend to enter the professional schools. (3) MR. GILMAN.

106w. DEBATING. Analysis of problems in public discussion; theories of persuasion; study of historic debates; practice in argumentative speaking and debating. Recommended for professional students and for teachers of debating. (3) MR. GILMAN.

107f and 108w. DRAMATIC INTERPRETATION. Practical application of principles of stage technique and dramatic interpretation; rehearsal and performance; participation in class and public performances; standards of evaluation and appreciation for the best things in the theater. (3) MR. RHYNSBURGER.

109w. STAGECRAFT AND ACTING. Functions of stage settings; procedure in mounting a play; evolution of the design through sketches, diagrams, colored plates, and models; research in period decoration and costume applied to the theater. Theory and technique of acting; principles of dramatic interpretation and characterization; participation in private class-exercise performances. Prerequisite, course 107. (3) MR. RHYNSBURGER.

110f. ADVANCED DRAMATIC PRODUCTION. Producing director's study and research in the original design of a complete theatrical production. Designed especially for teachers who direct high school plays and arranged to meet their special problems. Prerequisite, course 107. (3) MR. RHYNSBURGER.

114w. PUBLIC ADDRESS. Persuasive speaking adapted to audience and occasion; study and delivery of deliberative, professional, social, and ceremonial speeches. Prerequisite, course 75. (3) MR. GILMAN.

115w. PRINCIPLES OF RHETORIC. Development of rhetoric from the time of Aristotle; derivation and application of standards for judging effectiveness in writing and speaking. (3) MR. GILMAN.

119f. THE ENGLISH LANGUAGE, Part One. Modern English, looking backward; a survey of the present facts of English, especially its vocabulary, dialects and kindred languages, grammar, and pronunciation, studied in the light of its past history and development. (3) MR. RAMSAY.

120w. THE ENGLISH LANGUAGE, Part Two. Old English, looking forward; an elementary reading knowledge of Old English, with special attention to our modern inheritances from it, both in language and in life. Either Part One (119) of Part Two (120) may be taken first. (3) MR. RAMSAY.

Some acquaintance with at least two foreign languages (preferably Greek, Latin, German, French) is practically indispensable to students of the English language, and especially to prospective teachers of English.

125f. CHAUCER AND HIS TIME. A careful reading of some of the *Canterbury Tales* and rapid reading of other parts of his work, together with a consideration

of the social background of Chaucer's England; introduction to Middle English. (3) MR. RANKIN.

135f and 136w. SHAKESPEARE. *Hamlet; Macbeth, Henry V, The Tempest.* (3) MR. FAIRCHILD.

145f. MILTON. Life, works, times. (3) MR. FAIRCHILD.

155f. THE AGE OF REASON. Dryden and his time; Pope, Swift, and the essayists. (3) MR. BELDEN.

156w. JOHNSON AND HIS TIME. Philosophy, criticism, and social ideas as reflected in English literature from 1730 to 1780. (3) MR. BELDEN.

162w. THE NOVEL. The English novel from Fielding to Conrad. (3) MR. AINSWORTH.

165f. THE ROMANTIC PERIOD. A study of literary tendencies and representative authors. (3) MR. TISDEL; MR. AINSWORTH.

166w. THE VICTORIAN PERIOD. A study of literary tendencies and representative authors. (3) MR. RANKIN.

171f. MODERN PROSE WRITERS. Study of selected prose writers of the nineteenth and twentieth centuries who deal with important present-day problems of American life. (3) MR. RANKIN.

175f and 176w. AMERICAN LITERATURE. (a) Sectional development; (b) the growth of nationality. (3) MR. BELDEN.

190w. MODERN POETRY. A study of representative poets and poetical movements in England and America in the last fifty years. (3) MR. RAMSAY.

193f. RECENT AND CURRENT LITERATURE. A study of representative recent fiction and poetry in Great Britian and America, with special attention to the movement known as Regionalism. (3) MR. RAMSAY.

198f and 199w. DISTINCTION. Special work for candidates for graduation with Distinction in English. (3) MR. AINSWORTH; MR. BELDEN; MR. FAIRCHILD; MR. RAMSAY; MR. RANKIN; MR. TISDEL.

210w. ENGLISH METHODS. Problems in the investigation of the aims, materials, and methods of English instruction in the schools. (3) MR. MOFFETT.

216w. THE POPULAR BALLAD. A study of popular poetry on the bases of Child's *English and Scottish Popular Ballads*, with analysis of the theories of Gummere, Ker, Pound, Gerould, and others, and illustrations from ballardy in Missouri. (3) MR. BELDEN.

219f and 220w. LITERARY CRITICISM. History of critical theory from Plato to the present; current theories and problems. The two courses constitute a unit; if at all possible, students should plan on taking both of them. (3) MR. FAIRCHILD.

250f. DRYDEN. Dryden's life and works considered in relation to the social and literary interests of his time. (3) MR. BELDEN.

260f. ENGLISH BIBLIOGRAPHY AND METHOD. A course in methods of research and the discovery, limitation, and mode of attack on graduate problems, illustrated by recent articles and studies. (3) MR. RAMSAY.

265f. PROBLEMS IN ROMANTICISM. A study of the elements of romanticism as found in the chief English poets and prose writers of the period 1780-1825. (3) MR. AINSWORTH.

267w. TENNYSON AND BROWNING. The investigation of special topics, historical and critical. (3) MR. AINSWORTH.

280w. THE FOREIGN DEBT OF ENGLISH LITERATURE (LYRIC POETRY). A study of the English lyric from the beginnings to the present time, with emphasis upon the foreign influences which have demonstrably affected the content, mood, or form of lyric verse. (3) MR. RANKIN.

299f and w. RESEARCH. Candidates for advanced degrees will meet with instructors for consultation upon their individual problems. (1-8) MR. BELDEN; MR. FAIRCHILD; MR. RAMSAY; MR. RANKIN; MR. MOFFETT; MR. GILMAN; MR. AINSWORTH.

With the consent of the adviser, graduate students who have begun their research work in residence may enroll for from one to three hours' credit in the Extension Division. Work in research done in this way will be under the personal direction of a professor in the Graduate School.

For courses in the teaching of English, see under Education, courses H110, H112.

For courses in English offered in the Summer Session, see the Summer Session Bulletin.

ENTOMOLOGY

1f and w. APPLIED ENTOMOLOGY. A study of the fundamental principles of insect life with special reference to its economic importance, including a careful study of a limited number of insect pests and remedies for their control. (3) MR. HASEMAN; MR. BIRKETT.

104f. INSECT TAXONOMY. A laboratory course dealing with the classification of insects. (2) MR. HASEMAN; MR. BIRKETT.

109f and w. BEEKEEPING. A technical study of the honeybee and the science of beekeeping, supplemented with practical work in the apiary. (2) MR. HASEMAN; MR. BIRKETT.

115w. VETERINARY AND MEDICAL ENTOMOLOGY. A detailed study of those insects which are parasitic on poultry, livestock and man. Special attention is paid to those which transmit disease. (3) MR. HASEMAN; MR. BIRKETT.

116f. MORPHOLOGY AND DEVELOPMENT OF INSECTS. A technical study of the embryology, growth, development and transformation of insects. (3) MR. HASEMAN; MR. BIRKETT.

117w. ANATOMY AND PHYSIOLOGY OF INSECTS. A technical study of external and internal anatomy and of insect physiology. (3) MR. HASEMAN; MR. BIRKETT.

118w. ADVANCED ECONOMIC ENTOMOLOGY. This course includes an intensive study of the behavior, development and control of the major insect pests. (3) MR. HASEMAN; MR. BIRKETT.

120f and 121w. SPECIAL PROBLEMS. Properly prepared students may take up Special Problems in the different fields of entomology as preparation for research. (Credit to be arranged.) MR. HASEMAN; MR. BIRKETT.

205f and 206w. RESEARCH. Students who have adequate training may undertake original research in economic entomology, systematic entomology. or insect morphology. A reading knowledge of French and German is essential (Credit to be arranged.) MR. HASEMAN.

200f and 201w. SEMINAR. Reviews of current literature and reports on original investigations are presented and discussed by the students and members of the faculty. (1) MR. HASEMAN; MR. BIRKETT.

130f. INSECT ECOLOGY. The course covers the field of animal ecology but deals more especially with insects. A reading knowledge of French and German is essential. Open to students who have had adequate training. (3) MR. HASEMAN.

FIELD CROPS

1f and w. FIELD CROPS. Required of all freshmen. An introductory course dealing with fundamental factors in the production and management of crops. (3) MR. ETHERIDGE; MR. KING.

100f and w. FIELD CROPS MANAGEMENT. Required of all juniors. Prerequisite, course 1. Crop rotations for Missouri conditions and the management of crops in various systems of farming will be studied both theoretically and through practical problems from Missouri fields. (2) MR. HELM.

101f. FIELD CROPS IMPROVEMENT. Prerequisite, course 1. A summary of the principles underlying the economic breeding of crop plants; studies in practical methods of plant improvement, in the testing and standardization of varieties, and the quality of seed. (3) MR. STADLER.

102w. FIELD CROPS GRADING AND MARKETING. Prerequisite, course 1. Laboratory studies of the methods of grading grain and hay by the Federal standards; lectures on the methods of grain inspection and grain marketing; visit to important grain markets. (2) MR. KING.

103f. FIBER CROPS PRODUCTION. Prerequisite, course 1. Studies of the production of the principal fiber crops, with special attention to the production and management of cotton in Missouri. (2) MR. ETHERIDGE.

104f. FORAGE CROPS PRODUCTION. Prerequisite, course 1. An advanced study of the production and preservation as hay or silage of the principal forage crops; special attention is given to the production and maintenance of pastures; the results of investigations in forage production are critically reviewed. (2) MR. BROWN.

105w. GRAIN CROPS PRODUCTION. Prerequisite, course 1. An advanced study of the production of corn and other important grains; to reach a summary of the important results of investigations of factors related to the yield of each crop will be the essential aim of the course; some laboratory studies in grain grading and the taxonomy of the varieties of grains. (2) MR. ETHERIDGE.

200w. CROP EXPERIMENTATION. A study of the methods of experimentation and research with crops in the laboratory, greenhouse, and field; defining the problem; planning the investigation or research; technique and management; collecting and tabulating data; analysis and presentation of data; interpretation of evidence; considerations of the principal sources of error; methods of reviewing literature. For graduate students or specially prepared seniors who intend to enter the professional field of agronomy. Offered in alternate years. (Given in 1934-35.) (3-5) MR. STADLER.

201f and 202w. SPECIAL PROBLEMS. A course scheduled by appointment for graduates or specially prepared juniors and seniors who wish to investigate along special lines the production of field crops. Problems will be assigned or will be chosen subject to approval. Credit to be arranged. The teacher may be elected.

203w. ADVANCED FIELD CROP IMPROVEMENT. Prerequisite, course 101. An advanced study of the inheritance and improvement of the principal field crops; consideration of fundamental problems in the technique of crop improvement; critical reviews of recent research and investigations. For graduate students and seniors. Offered in alternate years (given in 1933-34). (2) MR. STADLER.

204f and 205w. RESEARCH. Original research in problems in the production, management and improvement of field crops. MR. ETHERIDGE; MR. STADLER; MR. HELM.

206f and 207w. SEMINAR. Discussions of research problems in the production, management and improvement of field crops. Students will present before the class their abstracts of the literature on special topics. Required without credit of graduate students majoring in field crops, but specially prepared seniors may receive a credit of one hour. (1) MR. STADLER.

215w. ADVANCED GENETICS. Lectures and discussions of papers prerequisite, Botany 106f, Zoology 111f, or the equivalent. (3) MR. STADLER; MISS GUTHRIE; MR. RICKETT.

FRENCH AND ITALIAN

French

1f and w. ELEMENTARY COURSE. (5) MR. FESS; MR. JESSE; MISS STEWART; MR. DORRANCE.

2f and w. INTERMEDIATE COURSE. (5) MR. JESSE; MR. DORRANCE.

3f and w. ADVANCED COURSE. Three hours of the credit for this course may be counted as upperclass work toward a major or minor in French. (5) MR. FESS; MR. DORRANCE; MISS STEWART.

101w. PHONETICS. The organs of speech, sound formation, oral and aural drill. (1) MR. JESSE.

102f. FRENCH CIVILIZATION. (2) MR. FESS.

103f and w. COMPOSITION. Course conducted entirely in French. (5) MRS. HUDSON.

104f and w. ADVANCED COMPOSITION. Prerequisite, course 103. Course conducted entirely in French. (3) MRS. HUDSON.

108f. MASTERPIECES OF FRENCH LITERATURE TO 1700. It is advisable that students take this course before taking others in French literature. (3) MR. JESSE.

108w. MASTERPIECES OF FRENCH LITERATURE FROM 1700 UNTIL TODAY. (3) MR. DORRANCE.

112f. FRENCH NOVEL. (3) MR. DORRANCE.

114f. LYRIC POETRY FROM CHENIER TO VERLAINE. A course conducted entirely in French. Alternates with course 115. (3) MR. TROMBLY.

115f. LYRIC POETRY OF TODAY. Course conducted entirely in French. Alternates with course 114. (3) MR. TROMBLY.

116w. HISTORY OF THE FRENCH LANGUAGE. (3) MR. FESS.

117w. FRENCH RENAISSANCE. (3) MR. FESS.

130f and w. SPECIAL READINGS. (1-3) MR. TROMBLY.

199w. DISTINCTION. (3)

201f. OLD FRENCH. (2) MR. FESS.

202w. SURVEY OF OLD FRENCH LITERATURE. (3) MR. FESS.

205w. LITERARY CRITICISM IN FRANCE. (3) MR. TROMBLY.

206w. MOLIERE. (3) MR. TROMBLY.

207f and w. SPECIAL INVESTIGATIONS. (1-8) MR. TROMBLY; MR. FESS.

210w. STUDIES IN MODERN LITERATURE. (2) MR. FESS.

290f and w. RESEARCH. (1-8) MR. TROMBLY; MR. FESS.

(H133w. TEACHING OF FRENCH. (2) MISS STEWART.

Italian

20f. ELEMENTARY COURSE. (5) MR. TROMBLY.

21w. INTERMEDIATE COURSE. (5) MR. TROMBLY.

120f. READINGS IN ITALIAN LITERATURE. (3) MR. TROMBLY.
121w. DANTE. (3) MR. TROMBLY.
127w. INDIVIDUAL WORK. (2) MR. TROMBLY.

GEOLOGY AND GEOGRAPHY

Geology

1f and w. PRINCIPLES OF GEOLOGY. Earth history and materials. (5) MR. BRANSON; MR. TARR; MR. MEHL; MR. KELLER; MR. SWARTZLOW; MR. PECK.

2f and w. PHYSICAL GEOLOGY. Like 1, but omits the historical part. (3) MR. PECK.

14w. COMMON ROCKS AND MINERALS. Prerequisite, course 1 or 2. (3) MR. SWARTZLOW.

15f. ADVANCED GENERAL GEOLOGY. Prerequisite, course 1 or 2. (4) MR. PECK.

50f and w. LIFE OF THE GEOLOGIC PAST. Prerequisite, course 1. (2) MR. MEHL.

90f. METALLIC EARTH PRODUCTS. Prerequisite, course 1 or 2. (2) MR. TARR.

91w. NON-METALLIC EARTH PRODUCTS. Prerequisite, course 1 or 2. (2) MR. TARR.

107f. MINERALOGY. Prerequisite, courses 1 and 14. (5) MR. TARR; MR. SWARTZLOW.

118w. FIELD METHODS. Prerequisite, course 15. (2) MR. MEHL.

120f. HISTORICAL GEOLOGY. Prerequisite, courses 15 and 50. (3) MR. MEHL.

121w. INTRODUCTION TO PALEONTOLOGY. Prerequisite, course 1. (3) MR. PECK.

134f. OPTICAL MINERALOGY. Prerequisite, course 107. (4) MR. KELLER.

135w. PETROGRAPHY. Prerequisite, course 134. (3-5) MR. KELLER.

200f and w. SEMINAR.

201w. PRINCIPLES OF SEDIMENTATION. Prerequisite, course 107. Offered in 1934-35 and alternate years. (3) MR. TARR.

202w. PETROGRAPHY OF SEDIMENTARY ROCKS. Prerequisites, courses 107, 134 and 135. Offered in 1934-35 and alternate years. A laboratory course for the study of sedimentary rocks by mechanical methods, heavy mineral suites, elutriation, insoluble residues, and other methods. (2) MR. KELLER; MR. SWARTZLOW.

204w. GEOLOGY OF OIL AND GAS. Prerequisite, courses 91 and 120. (5) MR. MEHL.

205f. HISTORY OF GEOLOGY. Prerequisite, an undergraduate major. (2) MR. BRANSON.

206w. WEATHERING. Prerequisite, course 107. (2) MR. TARR.

207w. VULCANISM AND METAMORPHISM. Prerequisites, courses 107, 134, and 135. Offered in 1934-35 and alternate years. (2) MR. SWARTZLOW.

208f. PRINCIPLES OF ORE DEPOSITS. Prerequisite, course 107. Offered in 1934-35 and alternate years. (3-5) MR. TARR.

210f and w. FIELD PROBLEMS. Prerequisites, course 105 and other courses, depending on the problem selected. (1-8)

216f. Structural Geology. Prerequisites, courses 105, 107 and 120. (3-5) Mr. Swartzlow.

224w. Paleozoic Stratigraphy. Prerequisites, courses 120 and 121. Offered in 1935-36 and alternate years. (3-5) Mr. Branson.

225w. Mesozoic and Cenozoic Stratigraphy. Prerequisites, courses 120 and 121. Offered in 1934-35 and alternate years. (3-5) Mr. Branson.

233w. The Geologic History of the Vertebrates. Prerequisite, courses 120 and 121. Offered in 1933-34 and alternate years. (2-5) Mr. Mehl.

234f. Paleontology of Porifera, Coelenterata, Bryozoa, and Echinodermata. Prerequisites, courses 120 and 121. Offered in 1934-35 and alternate years. (3-5) Mr. Branson.

235w. Micropaleontology of Conodonts, Foraminifera and Ostracoda. Prerequisite, course 120. (3-5) Mr. Branson; Mr. Mehl, Mr. Peck.

236f. Paleontology of Mollusca, Brachiopoda, and Arthropoda. Prerequisites, courses 120 and 121. Offered in 1935-36 and alternate years. (3-5) Mr. Branson; Mr. Peck.

290f and w. Research.

Geography

6f and w. Introductory Geography. Principles involved in the study of man's relations to geographical environment. (3) Mr. Bratton; Mr. Adams.

80f and w. Advanced General Geography. Prerequisite, course 6, or fifty hours of college credit. A study of (1) the character and inter-relations of the several environmental conditions with which geography is concerned, and (2) the relations between these conditions and human activities. (4) Mr. Bratton.

110f. Geography of North America. Prerequisite, course 6, or course 80. This course is intended to give the student an understanding of the physical and cultural relations in each of the several geographic regions of the continent, north of Mexico. (3) Mr. Adams.

112w. Geography of Europe. Prerequisite, course 6, or course 80. A study of the physical and cultural conditions, with their relationships, in each of the several countries of the continent. Offered in 1935-36 and alternate years. (3) Mr. Bratton.

114w. Geography of Asia. Prerequisite, course 6, or course 80. A study of the physical and cultural conditions in the continent with emphasis upon the densely populated areas. Offered in 1936-37 and alternate years. (3) Mr. Adams.

116w. Relations of Geography and History in the United States. Prerequisite, course 110 and American History. Offered in 1935-36 and alternate years. (3) Mr. Bratton.

118w. Conservation of Natural Resources. Prerequisite, fifty hours of college credit. A study of the use of the land, the waters, the forests, the minerals, and wild life, with problems involving their uses and conservation. Offered in 1936-37 and alternate years. (3) Mr. Bratton.

125f and w. Economic Geography. Prerequisite, course 6, or course 80, or 50 hours of college credit. A study of world distribution of producing and consuming areas, and the trade routes which connect them, together with reasons for their distribution. (3) Mr. Adams.

160w. GEOGRAPHY OF SOUTH AMERICA. Prerequisite, course 80, or 110, or 112, or 114. A study of the geographic regions of South America (excepting regions bordering upon the Caribbean Sea). (3) MR. ADAMS.

170f. GEOGRAPHY OF CARIBBEAN AMERICA. Prerequisite, course 80, or 110, or 112, or 114. A study of the countries bordering upon the Caribbean Sea. (3) MR. BRATTON.

190f and w. GEOGRAPHIC PROBLEMS. For students able to do semi-independent work. Problems bearing upon the student's major geographic interest will be assigned. (1-3) MR. BRATTON; MR. ADAMS.

200f and w. SEMINAR. (1-2)

250f and w. FIELD PROBLEMS. In this course the student makes an independent study of the geographic characteristics of a unit area. (2-4) MR. BRATTON; MR. ADAMS.

260f. CLIMATOLOGY. Offered in 1935-36 and alternate years. (3) MR. BRATTON.

270f. POLITICAL GEOGRAPHY. Offered in 1936-37 and alternate years. (3) MR. BRATTON.

290f and w. RESEARCH. (1-8)

GERMANIC LANGUAGES

1f and w. BEGINNING COURSE IN GERMAN. (5) MR. ALMSTEDT; MISS NAGEL; MR. REHDER.

2f and w. GERMAN READING, SYNTAX AND COMPOSITION. Prerequisite, course 1. (5) MR. ALMSTEDT; MISS NAGEL; MR. REHDER.

3f and w. ADVANCED READING COURSE. Prerequisite, courses 1 and 2 (5) MR. ALMSTEDT; MISS NAGEL; MR. REHDER.

104f and w. MASTERPIECES IN GERMAN DRAMA, LYRICS, AND NOVEL. Intensive study from the literary and cultural side of a number of carefully chosen modern German dramas, lyric poems, and novels. Parallel reading and reports. (3) MR. ALMSTEDT.

106f and w. ADVANCED GERMAN COMPOSITION AND CONVERSATION. Advanced course in German theme-writing; discussion of grammatical, syntactical, and stylistic points. This course is intended for teachers of German or for students whose purpose is to become teachers of German; conducted in German. (2) MISS NAGEL.

107w. LESSING. Lectures on Lessing's life and works; intensive study of Lessing, the dramatist and the critic. (3) MR. REHDER.

108f and 109w. SCHILLER. Lectures on Schiller's life and works; intensive study of Schiller's dramas and poetry. (3) MISS NAGEL.

110f and 111w. GOETHE. Lectures on Goethe's life and works; intensive study of Goethe's poetry and dramas. (3) MR. ALMSTEDT.

112f. GERMAN DRAMATISTS OF THE NINETEENTH CENTURY. (3) MR. ALMSTEDT.

113w. THE MODERN GERMAN NOVEL. The course deals with the German novel of the past decades in intimate connection with philosophical, psychological, and social problems of modern life. (3) MR. REHDER.

114f. OUTLINE COURSE IN GERMAN LITERATURE. The aim of the course is to acquaint the student with the most important works and movements in the evolution of German literary life. (3) REHDER.

115w. OUTLINE COURSE IN GERMAN LANGUAGE. This course, together with course 114, is arranged to meet the needs of the prospective teacher of

German. Though the knowledge of the older periods is desirable, it is not required. (3) MR. ALMSTEDT.

199f and w. SPECIAL READINGS. In this course advanced seniors will be given the opportunity to do special readings in language and literature. Admission upon conference with the chairman. (1-3) MR. ALMSTEDT.

200f and w. SEMINAR. (1-3)

213f. ROMANTICISM. This course is intended to comprise a study of German romanticists and their works and to show the relation of this movement to similar ones in other literatures. (3) MR. REHDER.

214f. MIDDLE HIGH GERMAN. Introductory course. (3) MR. ALMSTEDT.

215w. WALTHER VON DER VOGELWEIDE. A continuation of the introductory Middle High German course; an intensive study of W. v. d. V. on the background of the historical and cultural conditions of the Hohenstaufen period. (3) MR. ALMSTEDT.

216f. RECENT MOVEMENTS IN GERMAN LITERATURE (SINCE 1880). The course discusses naturalism, neo-romanticism, expressionism, and the post-expressionistic period. Stress is laid throughout on the intimate connection between German literature and German thought at large. (3) MR. REHDER.

217w. OLD HIGH GERMAN. (3) MR. ALMSTEDT.

218f and 219w. GOTHIC. Phonology, morphology, and syntax; reading from Ulfilas; the relationship of Gothic to Indo-European and to later Germanic dialects; general introduction to the study of Germanic Philology. (3) MR. ALMSTEDT.

290f and w. SPECIAL STUDIES. In this course graduate students will be given an opportunity to do special investigation work (other than their thesis assignment). Admission only upon conference with the chairman. (1-3) MR. ALMSTEDT.

299f and w. RESEARCH. The integral part of this course is work on a thesis. Admission only upon conference with the chairman. (1-8) MR. ALMSTEDT and MR. REHDER.

Other courses in Germanic languages and German literature will be arranged if the needs of the student so require.

HISTORY

1f and w. THE ANCIENT WORLD. An introductory course in general history from primitive man to 500 A. D. Two hours credit only for juniors and seniors. (3) MR. BRADY.

2f and w. THE MEDIEVAL WORLD. An introductory course in general history from 500 to 1500 A. D. Two hours credit only for juniors and seniors. (3) MR. WRENCH.

3w. THE MODERN WORLD. An introductory course in general history from 1500 to 1870. Two hours credit for juniors and seniors. (3) MR. MULLETT.

8f and w. AMERICAN HISTORY. A survey of the colonial and national periods. Four hours credit only to seniors. (5) MR. VILES; MR. ————.

106f and w. CONTEMPORARY EUROPE. A survey of European history in the nineteenth and twentieth centuries, dealing with political and economic development and the insistent problems of world politics. (3) MR. WOLF.

110f and w. RECENT UNITED STATES HISTORY. A study of the United States since 1898 as an historical background to present day problems. (3) MR. ELLIS.

124f. GREEK HISTORY. A study of the political and social institutions and the intellectual life of the Greek city-states to the time of Alexander. (3) MR. BRADY.

125w. ROMAN HISTORY. The origin and development of Roman institutions and of Rome's expansion and culture, through the reign of Constantine. (3) MR. BRADY.

128w. THE HELLENISTIC AGE. The history of the Greek World from Alexander to the death of Cleopatra. (2) MR. BRADY.

132f. THE EASTERN ROMAN EMPIRE. A study of the institutions, culture, and foreign contracts of the Byzantine Empire. (2) Alternate years. Given in 1935-36. MR. WRENCH.

139f. HISTORY OF ISLAM. The institutions and culture of the Moslem world to the Mongol conquest. (2) Alternate years. Given in 1936-37. MR. WRENCH.

146w. THE BRITISH EMPIRE. A survey of its growth and organization and of the relations of the colonies and dependencies to the mother country. (3) MR. MULLETT.

150f. INTELLECTUAL HISTORY. A survey of the predominant ideas of the intellectual classes in the realms of religion, science, and social philosophy in ancient and medieval times as determining factors in historical development. (3) MR. MULLETT.

151w. INTELLECTUAL HISTORY. Continuation of 150f in modern times. (3) MR. MULLETT.

152f. MEDIEVAL SOCIAL AND ECONOMIC HISTORY. A study of the development of social and economic institutions from the fifth to the fourteenth centuries. (3) MR. WRENCH.

154w. EUROPEAN CULTURE: MEDIEVAL PERIOD. A survey of European culture from 500 to 1300 A. D. (3) MR. WRENCH.

157w. MEDIEVAL FRANCE. A study of French history, institutions and influence from 987 to 1450. (2) MR. WRENCH.

165w. MODERN FRANCE. A study of the French internal and external problems and policies since 1815. (3) MR. WOLF.

166f. MODERN GERMANY. The origins and development of the institutions and ideas of the German Empire and the Republic. (3) MR. WOLF.

167f. ECONOMIC HISTORY OF EUROPE SINCE 1760. The changes in agriculture and manufacturing and their effect on capital, labor, and governmental policies, external and internal. (3) MR. WOLF.

168w. DIPLOMATIC HISTORY OF EUROPE, 1871-1930. The policies of the Great Powers and the Alliances in the imperialistic period in relation to social, economic, political, and military conditions of the time. (3) MR. WOLF.

170f. ENGLISH CONSTITUTIONAL AND LEGAL HISTORY. A study of the development of English constitutional and legal institutions, the chief emphasis being placed on their relation to the general social and economic background. (3) MR. MULLETT.

171f. TUDOR AND STUART ENGLAND. A comprehensive treatment of the period, 1485-1688, which saw the rise of the middle class, the evolution of parliamentary sovereignty, the separation from the Roman Church, and the beginning of overseas expansion. (3) MR. MULLETT.

172w. MODERN ENGLAND. A survey of English evolution in the eighteenth and nineteenth centuries, emphasizing political and economic developments. (3) MR. MULLETT.

180f. Social Forces in American History. The origin and development of the principal American social forces and institutions. (2) Mr. Ellis.

182f. History of the West. A study of the frontier in American history; its development and its influence on American ideals and politics. (3) Mr. Viles.

184w. History of the South. The Old South and the New. (3) Mr. Viles.

188w. Foundations of Twentieth Century America. The economic social, cultural and political development of the United States from the end of the Civil War to the opening of the Twentieth Century. (3) Mr. Ellis.

189w. American Constitutional History, 1763-1876. The development of constitutional theories and interpretations with special reference to sectional interests and party politics. (3) Mr. Viles.

190f. American Diplomatic History. A survey of the foreign relations of the United States. (3) Mr. Stephens.

198f and 199w. Distinction. Special work for candidates for graduation with distinction in history. (3) The Department.

200f. Historical Bibliography and Methods. A general introduction to the advanced study of history and other social sciences, including a survey of bibliographical aids and an examination of the methods of historical research. Lectures and practical exercises. Required of all graduate students in history and recommended to graduate students in the other social sciences. (2) Mr. Wrench.

201w. Historical Interpretation. The nature and content of History and its relations to the other social studies. (2) Mr. Viles.

210f and w. Special Studies. Designed especially for graduate students whose major interest or whose research work demands additional directed training. (Credit to be arranged.) The Department.

220f and w. Studies in Greek and Roman History. (2-3) Mr. Brady.

250f and w. Studies in Medieval History. (2) Mr. Wrench.

260f and w. Studies in Contemporary Europe. Selected topics in the recent history of Europe and world politics. (2) Mr. Wolf.

270f. Readings in English History. (2) Mr. Mullett.

208f and w. Studies in Western History. (2) Mr. Viles.

281w. Studies in Recent American Diplomatic Problems. (2) Mr. Stephens.

283f. Readings in Recent U. S. History. (2-4) Mr. Ellis.

299f and w. Research. (Credit to be arranged.) The Department.

HOME ECONOMICS

1f and w. Selection and Preparation of Food. An elementary food course planned to give the student a knowledge of the principles underlying the selection and preparation of food. (5) Miss Cline.

10f and w. Home Problems. A course planned to give the student a general insight into the field of home economics through study of the problems of the modern home. (2) Miss Campbell.

15f and 16w. Design. The study of the elements and principles of design in relation to home problems. (2-2) Miss Schell.

20f and w. Home Nursing and Health. A study of the home care of the sick and of family health. (2) Miss Potter.

30w. FOOD IN RELATION TO HEALTH. A general course in nutrition planned for students who are not specializing in home economics. No prerequisites. Open to both men and women. (3) MISS BISBEY; MISS WHIPPLE.

50f and w. TEXTILES AND CLOTHING. A study of textiles and the selection and care of clothing. (3) MISS BERESFORD.

51w. TEXTILES AND CLOTHING. Prerequisite, home economics 50. Clothing construction. (3) MISS BERESFORD.

110f and w. HOME PLANNING AND FURNISHING. Prerequisites, home economics 16 or introduction to art. A study of American house types and other harmonious interior treatments. (3) MISS SCHELL.

111w. ADVANCED HOUSE PLANNING AND FURNISHING. Prerequisite, home economics 110. A study of contemporary and historic decorative periods. (2) MISS SCHELL.

115f and w. HOME MANAGEMENT. A course dealing with the problems arising in the management of a home. Opportunity is provided through residence in a self-sustaining home for developing judgment in the solution of typical problems. (4) MRS. GRACE.

116f and w. THE CONSUMER-BUYER AND THE MARKET. Prerequisite, general economics. A study of the present-day market from the standpoint of the consumer-buyer. (3) MISS COLES.

117f and w. ECONOMIC PROBLEMS OF THE HOUSEHOLD. Prerequisite, general economics. A study of the economic problems of the modern family including the size, source, control, adequacy, and security of the money income; the spending of the money income; and the utilization of time, energy and ability of members of the household in direct production. (3) MISS COLES.

120f and w. FOOD BUYING. A study of the grades, brands, varieties and qualities of food products; modern methods of manufacture and merchandising as they affect quality, availability, and price; and local, state, and Federal legislation as they affect quality and sanitation of food products. (3) MISS CAMPBELL.

121f and w. NUTRITION. Prerequisites, organic chemistry, physiology, home economics 1. A study of food constitutents, their occurrence in the different foods and their digestibility. (4) MISS WHIPPLE.

122f and w. DIETETICS. Prerequisite, home economics 121. A study of the normal food requirements considering the individual and his environment; the planning of dietaries, including infant feeding. (3) MISS BISBEY.

123w. ADVANCED DIETETICS. Prerequisite, home economics 122. Advanced problems in normal dietetics and the application of the principles of normal dietetics to diet in disease. (3) MISS BISBEY.

124w. FIELD WORK IN DIETETICS. Prerequisite, home economics 122. Individual work, such as problems in child nutrition, institutional or clinical dietetics. (Credit to be arranged). MISS WHIPPLE.

145f and w. COSTUME DESIGN. Prerequisite, home economics 16. Principles of design and color theory applied to dress line, texture, and color requirements for the individual. (2) MISS BERESFORD.

146f. HISTORIC COSTUME. Prerequisite, home economics 145. A study of historic costume as a basis for modern costume design. (2) MISS BERESFORD.

150f and w. BUYING OF CLOTHING AND TEXTILES. Prerequisites, courses 50 and 145. A study of the problems of buying clothing and textiles including household textiles. Desirable characteristics, methods of identification, uses,

availability in various markets, and prices are studied. MRS. GINTER; MISS COLES.

152w. CLOTHING DESIGN AND CONSTRUCTION. Prerequisite, home economics 145 and 150. (3) MISS BERESFORD.

155f. ADVANCED TEXTILES. Prerequisites, course 150 and organic chemistry. Analysis of the physical and chemical characteristics of the textile fibers; methods of testing textile materials; history of rextile industry and economic studies of the present problems in the textile and clothing industry. (3) MRS. GINTER.

160f and w. HOME CARE AND TRAINING OF CHILDREN. A study of problems arising in the normal, physical, mental and social development of children. (3) MRS. GRACE.

162f and w. PROBLEMS IN HOME ECONOMICS. This course deals with problems that arise in special phases of home economics work. (Credit to be arranged.)

170f. EXPERIMENTAL COOKERY. Prerequisite, home economics 121. This course involves elementary research in the science of food preparation under controlled conditions. (2) MISS CLINE.

180f and w. SPECIAL PROBLEMS IN HOME ECONOMICS. With approval of instructor, opportunity is provided to work independently on special problems in home economics. (Credit to be arranged.)

200f and w. SEMINAR. The most recent work in various lines of home economics will be reviewed and discussed. (Credit to be arranged.) MISS BISBEY; MISS CLINE; MISS COLES, and MRS. GINTER.

202f. METABOLISM. Prerequisites, home economics 122 and chemistry 25, preceding or parallel. A study of various phases of metabolism through calorimetry, and human feeding experiments. (5) MISS WHIPPLE.

280f and w. SPECIAL STUDIES IN HOME ECONOMICS. Prerequisites. With approval of instructor, investigation of special problems in various home economics fields are made.

290f and w. RESEARCH IN HOME ECONOMICS. Credit to be arranged.

HORTICULTURE

1f and w. GENERAL HORTICULTURE. An introductory course dealing primarily with the location and management of the farm orchard and garden. It embraces production, harvesting, and storing of fruits and vegetables; also the planning, planting, and management of the home grounds. Lectures, laboratory work, and assigned reading. (3) MR. TALBERT; MR. SWARTWOUT.

6f and w. ELEMENTARY LANDSCAPE GARDENING. Lectures, text, drafting of plans. Theory and principles of designing of the home grounds and a study of plan-making with reference to the arrangement of home grounds of the farm and town. (3) MR. MAJOR.

100f. GENERAL POMOLOGY. Prerequisite, course 1. A course dealing with the establishment and maintenance of orchards. Lectures, assigned readings, and laboratory work. (3) MR. TALBERT.

101w. ADVANCED POMOLOGY. Prerequisite, course 100f. A continuation of course 100, dealing especially with the subjects of pruning, fertilizing, and spraying orchards. (3) MR. TALBERT.

102f. ELEMENTARY LANDSCAPE DESIGN. (2 terms.) Theory and principles of landscape design as applied to the development of public and private estates,

including parks, churches, schools, railroad stations, cemeteries and country estates. Prerequisites, courses 6, 103, 104, and surveying. Lectures and laboratory. (5) MR. MAJOR.

102w. A CONTINUATION OF COURSE 102f. (5) MR. MAJOR.

103f. ORNAMENTAL HORTICULTURE (Trees). A study of the shade trees and ornamental trees used in landscape gardening; their identification, character, habits, adaptation and care. Lectures, laboratory, and text. (3) MR. MAJOR.

104w. ORNAMENTAL HORTICULTURE (Shrubs and vines). A study of the ornamental, native and cultivated shrubs and vines used in landscape gardening; identification, character, habits, adaptation and care. Lecture and laboratory. (3) MR. MAJOR.

105f and w. SYSTEMATIC HORTICULTURE. Open to juniors and seniors only. A systematic study of the classification and nomenclature, with laboratory work in description, identification, and judging of fruits, vegetables, and flowers. (3) MR. SWARTWOUT.

106w. COMMERCIAL VEGETABLE GROWING. The use of irrigation, fertilizers, spraying equipment and forcing structures in their relation to vegetable-growing with discussion on seed-growing, truck farm management, and methods of marketing vegetables. Three lectures and assigned readings. (3) MR. SWARTWOUT; MR. SCHROEDER.

109f. GENERAL FLORICULTURE. The production of flowers with special reference to home culture and use; seeds and seeding, plants, propagation, varieties, planting, soils and fertilizers, pests, their control, and other cultural practices. Two lectures and one laboratory period. (3) MR. SWARTWOUT; MR. TALBERT.

112w. ADVANCED LANDSCAPE DESIGN. Prerequisite, undergraduate work in landscape gardening. Principles of landscape design, with tracings and original designs for home, school, church, cemetery, and railroad grounds. (3) MR. MAJOR.

113w. SPRAYING. Prerequisites, Horticulture 1 and General Inorganic Chemistry. A study of spray materials, spray machinery and results. Lectures, laboratory work and assigned readings. (5) MR. SWARTWOUT.

114f. COMMERCIAL POMOLOGY. The harvesting, grading, packing, storage, and marketing of fruits. Lectures, assigned reading, and laboratory exercises. (3) MR. MURNEEK.

115w. EVOLUTION OF HORTICULTURAL PLANTS. A study of the fundamental laws of genetics, as applied to evolution and breeding of horticultural plants. Lectures, assigned reading and problems. (3) MR. MURNEEK.

116f and w. SPECIAL PROBLEMS. Topics in landscape gardening, pomology, olericulture, and floriculture. Hours by appointment. MR. TALBERT; MR. MAJOR; MR. MURNEEK; MR. SWARTWOUT; MR. VINSON.

119w. VEGETABLE FORCING. Types and equipment of forcing structures with discussions on crops. Two lectures and one laboratory period. (3) MR. SWARTWOUT; MR. SCHROEDER.

125f. FARM FORESTRY. Identification of trees and woods; windbreaks, shelter belts, woodlots; creosoting fenceposts; collecting and storing tree seeds; nursery practice, including seed-bed, methods; transplanting and field planting as applied to Missouri conditions. (3) MR. TALBERT; MR. VINSON.

133w. SMALL-FRUIT CULTURE. A course dealing with the planting, culture, and harvesting of small fruits and grapes. Two lectures and one laboratory period. (3) MR. SWARTWOUT.

203w. Chemistry and Physics of Spraying. Prerequisite, course 113w. A study of the composition, toxicity, compatibility, deterioration, spreading, and adhesion of spray materials. (To be arranged). Mr. Swartwout.

204w. Breeding of Horticulture Plants. Prerequisite, course 115w or equivalent. Study of literature and original investigations on breeding and selection of horticultural plants. Hours by appointment. Mr. Murneek.

206w. Forcing Problems with Truck Crops. A study of such problems as soil sterilization, temperature and humidity, training, pruning, pollination, and the use of fertilizers. (3) Mr. Swartwout; Mr. Talbert; Mr. Schroeder.

208w. Nutrition of Horticultural Plants. A detailed study of the important nutrient elements, their absorption and utilization; of the manufacture and utilization of carbohydrates; and of fertilizer treatments with reference to horticultural plants. (3) Mr. Vinson; Mr. Murneek.

210f. Methods of Horticultural Research. A study of methods of procedure in work of investigation—outlining problems, assembling and analyzing data and presenting results. Lectures, assigned readings and problems. (3) Mr. Vinson; Mr. Murneek.

212w. Pruning Problems. Prerequisite, course 100 or equivalent. The fundamental principles of pruning and its physiological effects upon deciduous fruit trees. Laboratory, assigned readings, and problems. (3) Mr. Talbert.

215f and w. Seminar. A critical study of recent investigations in horticulture and of investigations in other fields as they relate to horticulture. (1) Mr. Talbert; Mr. Murneek; Mr. Swartwout; Mr. Vinson.

220f. Root Stocks for Deciduous Fruit Trees and Vines. Suitable stocks for apples, pears, and grapes. Propagation of apples and pears upon their own roots, by means of whole roots and crown grafts. Native grapes as stocks for the best commercial varieties. (Credit to be arranged.) Mr. Talbert.

221f. Morphology of Horticultural Plants. Prerequisite, Botany 1 and 104f. A detailed study of morphology and histological structure of horticultural plants of economic importance. (Credit to be arranged.) Mr. Murneek.

290f and w. Research. Hours by appointment. (Credit to be arranged.) Mr. Talbert; Mr. Major; Mr. Murneek; Mr. Swartwout; Mr. Vinson.

JOURNALISM

Basic Courses

100f and s. History and Principles of Journalism—to 1850. No journalistic prerequisite. May be taken for credit in the College of Arts and Science. (3) Mr. Ellard; Mr. Morelock; Mr. Gerald.

101w and s. History and Principles of Journalism—Since 1850. No journalistic prerequisite. May be taken before course 100. May be taken for credit in the College of Arts and Science. (3) Mr. Ellard; Mr. Morelock; Mr. Gerald.

102f, w, and s. The News. Introductory course, prerequisite to all other courses in Journalism, except when noted, and except in courses in Advertising. Methods of gathering news, the work of press associations, the writing of news, and news values. (3) Mr. Martin; Mr. Sharp; Miss Grinstead.

103f, w, s, and ss. Reporting I. Prerequisite, course 102. Assignments on a daily newspaper. (3) Mr. Sharp; Mr. Gerald.

104f, w, s, and ss. REPORTING II. Continuation of course 103. (3) MR. SHARP; MR. GERALD.

105f, w, s, and ss. REPORTING III. Advanced reporting and writing for a daily newspaper. Enrollment by permission. (3-5) MR. SHARP; MR. GERALD.

110f, w, and s. COPY READING I. Theory of editing newspaper copy and writing headlines. Course 103 must be taken either before or with this course. (2) MR. MORELOCK; MISS ANDERSON.

111f, w, s, and ss. COPY READING II. Practice in editing copy and writing headlines for a daily newspaper. (2-4) MR. MORELOCK; MISS ANDERSON.

112f, w, s, and ss. COPY READING III. Continuation of course 111. Enrollment by permission. (3) MR. MORELOCK; MISS ANDERSON.

Advertising

120f, w, and s. ADVERTISING PRINCIPLES AND PRACTICE. Advertising fundamentals in relation to modern business activities. No journalistic prerequisites. May be combined with other courses in Advertising. (3) MR. JOHNSTON; MR. BELL.

121f and w. ADVERTISEMENT WRITING. Application of modern merchandising methods to the preparation of advertising copy. Must be combined with course 122, and may be combined with other courses in Advertising. (2) MR. JOHNSTON.

122f and w. ADVERTISING LAYOUT. Designing advertisements with special consideration to layout, type, illustrations, color, and lettering. Must be combined with course 121. (1) MR. JOHNSTON.

123f and w. PRINCIPLES OF TYPOGRAPHY. Consideration of type styles and sizes and the mechanical equipment of the newspaper plant. (2) MR. BELL.

124f, w, s, and ss. ADVERTISING COPY. Practice writing of advertisements for publication in newspapers and magazines. Prerequisites, courses 121 and 122. (2) MR. BELL.

125f, w, s, and ss. ADVANCED ADVERTISING COPY. Continuation of course 124, with special assignments. (2) MR. BELL.

126f and w. PRINCIPLES OF SALESMANSHIP. The elements of salesmanship as applied to the selling of newspaper space. May be taken with or before course 127. (1) MR. BELL.

127f, w, s, and ss. ADVERTISING SALESMANSHIP. Applying the principles of space selling to specific lines of business by work with newspaper clients of a daily newspaper. Prerequisites, courses 121, 122, and 126. (4) MR. BELL.

128f, w, s, and ss. ADVANCED ADVERTISING SALESMANSHIP. Continuation of course 127, with special assignments. (4) MR. BELL.

129f, w, s, and ss. ADVERTISING-SERVICE PLANS. Business problems of all kinds of publications and advertising organizations, with emphasis on promotional selling. Enrollment by permission. (2) MR. BELL.

132f. ADVERTISING AND DISTRIBUTION. The mechanism and operation of markets, in relation to effect on the distribution of advertised commodities and services. (2) MR. JOHNSTON.

133w. ADVERTISING CAMPAIGN-PROCEDURE. Planning and presenting of national and local advertising campaigns, with special reference to a particular investigation of a product or service. (2) MR. JOHNSTON.

134f. RETAIL STORE ADVERTISING. Analysis, from the advertising viewpoint, of the selling and store-management problems encountered in the local field. (2) MR. JOHNSTON.

135w. DIRECT-MAIL ADVERTISING. Practice writing to a selected audience through all forms of direct media, and a consideration of the physical make-up of each. (2) MR. JOHNSTON.

136f. ADVERTISING PROBLEMS. Analysis and solution, by the case method, of a wide variety of advertising, merchandising, and distribution problems, from the approach of the business executive. (2) MR. JOHNSTON.

137w. PROMOTIONAL ADVERTISING. The scope and possibilities of modern methods of promoting advertising for civic, co-operative public, institutional and business organizations. (2) MR. JOHNSTON.

138f. TRADE AND TECHNICAL PUBLICATIONS. Study of publication types and writing for house organs, business, and trade and technical publications. (2) MR. JOHNSTON; MR. BELL.

139w. THE PSYCHOLOGY OF ADVERTISING. Application of psychological knowledge and technique to practical advertising, salesmanship, and publicists' problems. (2) MR. MCGEOCH; MR. MCKINNEY.

140f and w. SENIOR SEMINAR IN ADVERTISING. Special work on current problems. For seniors majoring in Advertising. (1) MR. JOHNSTON; MR. BELL; MR. LATHROP.

Illustration

141f. ILLUSTRATING FOR ADVERTISEMENTS. Fundamentals of art as they affect advertising illustration. (2) MR. HUDSON.

142w. PRINCIPLES OF PHOTO-ENGRAVING. A study of engraving and printing processes, including rotogravure, photogravure, and process color printing. (2) MR. LATHROP.

143f. USE OF ILLUSTRATIONS. Pictures in relation to text in both news and advertising. (1) MR. LATHROP.

144f and w. PRESS PHOTOGRAPHY. News and advertising assignments involving the use of the camera. (1) MR. LATHROP.

145f and w. ADVANCED PRESS PHOTOGRAPHY. Continuation of course 144, with special assignments. (1) MR. LATHROP.

Editorial Direction

150f. NEWSPAPER ADMINISTRATION. Conduct of newspapers from the editorial point of view. (3) MR. MARTIN.

151w. COMPARATIVE JOURNALISM. Study of foreign and American publications. (3) MR. MARTIN.

152f, w, s, and ss. THE EDITORIAL. Practice work in editorial writing for the daily newspaper, and discussion of editorial background and editorial problems. (3) MR. ELLARD; MR. MORELOCK.

153f, w, s, and ss. NEWSPAPER MAKING. Special laboratory instruction for advanced students in both news and advertising. Enrollment by permission. (1-3) MR. MARTIN; MR. ELLARD; MR. JOHNSTON; MR. MORELOCK; MR. SHARP; MISS ANDERSON; MR. GERALD; MISS GRINSTEAD; MR. BELL; MR. LATHROP.

154s. SPECIAL CORRESPONDENCE. Field trip, including the daily writing of articles for newspapers. Details of each year's trip available about May 1. (8) MR. MARTIN; MR. ELLARD.

155f. INTERNATIONAL NEWS COMMUNICATIONS. The use of cables and radio in carrying news between nations. (1) MR. SHARP.

156w. LAW OF THE PRESS. Study of libel, privacy, copyright, and constitutional guarantees of freedom of the press. (2) MR. MORELOCK.

Special Writing

160f and w. FEATURE WRITING. The writing of feature stories, with related problems. Prerequisite, course 103. (3) MISS GRINSTEAD.

161f and w. THE SPECIAL ARTICLE. Writing of articles for syndicates, newspapers and magazines. Prerequisite, course 160 or its equivalent in writing experience. (3) MISS GRINSTEAD.

162f and w. LITERARY REVIEWING. Critical study of modern books; study of newspapers and magazines devoted entirely or in part to this type of journalism; preparation of book pages. Prerequisites, courses 103 and 110. (3) MISS GRINSTEAD.

163f and w. NEWSPAPER AND MAGAZINE DEPARTMENTS. Writing for and editing of special pages or departments. Prerequisites, courses 103 and 110. (4) MISS GRINSTEAD.

Rural Journalism

170f. THE AGRICULTURAL PRESS. Writing for and editing of agricultural publications. For students who expect to become farm journal contributors, county agents, teachers, extension workers, or farm managers. (3) MR. GERALD.

171f and w. THE RURAL NEWSPAPER. News and editorial policies of the rural newspaper examined in the light of proved factors of newspaper appeal in the country town. No journalstic preresquisites. (3) MR. GERALD.

171f and w. THE RURAL NEWSPAPER. The editorial and business departments of the rural newspaper, covering news and editorial policy, circulation, advertising, cost finding and accounting. (3) MR. GERALD.

172f and w. NEWSPAPER MANAGEMENT. Organization and operation of the small newspaper publishing business, including circulation methods and policies, advertising procedure, cost-finding and accounting. (3) MR. GERALD.

173f, w, s, and ss. COUNTRY NEWSPAPER PRODUCTION. A laboratory course in which the students prepare all the news and editorial matter for a typical rural weekly newspaper. Prerequisites, except by permission, courses 111 and 171. (5) MR. GERALD.

174f, w, s and ss. PROBLEMS OF NEWSPAPER PUBLISHING. Management, operation, and advertising salesmanship problems of the country weekly. A laboratory course giving practice in the activities of the newspaper office apart from the collection and writing of news. Prerequisites, except by permission, courses 171, 172, and 173. (4) MR. GERALD, MR. BELL.

High School Publications

180s. THE SCHOOL NEWSPAPER AND ANNUAL. Primarily for high school teachers in charge of student publications. Available material, headlines, construction of the news story, illustrations, make-up, and editorial problems. (2) MR. MORELOCK.

181s. ADVERTISING-PROMOTION IN SCHOOL PUBLICATIONS. For high school and college teachers in charge of school publications. The writing and selling of advertising, with special attention to problems of the student solicitor, and methods of publication sale. (1) MR. JOHNSTON.

Religious Journalism

190f and w. RELIGIOUS JOURNALISM. This course aims to acquaint the student with sources of religious information; with the historical setting of principal religious concepts; with eccelesiastical terminology, forms, and usages; with

current religious interests and movements; with outstanding religious leaders; with the organization and administration of the leading denominations, giving special attention to their nomenclature; with the religious journals representing the various denominations and points of view. (2)

Graduate Courses

200f, w, s, and ss. NEWS-DESK METHODS. The handling of assignments and futures; the direction of reporters. (3) MR. SHARP; MR. GERALD.

201f, w, s, and ss. COPY-DESK METHODS. The handling of copy; direction of copy-readers; advanced headline writing; principles of headline display. (3) MR. MORELOCK; MISS ANDERSON.

202f, w, s, and ss. ADVANCED EDITORIAL WRITING. Prerequisite, course 152 or by permission. A study of effective style, of public opinion campaigns, page policy and make-up, current events from standpoint of editorial interpretation, and of current practice on leading editorial pages of the United States. (3) MR. ELLARD; MR. MORELOCK.

203f, w, and s. JOURNALISM SEMINAR. A discussion of graduate problems, including a survey of bibliographical methods and aids in research. Must be taken with course 203. (1) MR. MARTIN; MR. ELLARD; MR. MORELOCK; MR. SHARP; MISS ANDERSON; MR. GERALD; MISS GRINSTEAD.

204f, w, and s. RESEARCH IN JOURNALISM. Thesis. (1-10) MR. MARTIN; MR. ELLARD; MR. MORELOCK; MR. SHARP; MISS ANDERSON; MR. GERALD;. MISS GRINSTEAD.

220f, w, s, and ss. ADVERTISING-DESK METHODS. Advertising-office equipment and methods; direction of solicitors, selling procedure, and publication contracts. (2) MR. BELL.

221f, w, and s. ADVERTISING SEMINAR. Special problems, methods, organization, and objectives for research in advertising and related subjects. Must be taken with course 222. (1) MR. JOHNSTON; MR. BELL; MR. LATHROP.

222f, w, and s. RESEARCH IN ADVERTISING. Thesis. (1-10) MR. JOHNSTON; MR. BELL; MR. LATHROP.

LATIN

See under *Classical Languages.*

LAW

(It is possible that there may be some changes in the curriculum without notice.)

Required Courses for the First Year

100f and 101w. CONTRACTS. Mutual assent; consideration; beneficiaries of contracts; assignment of contract; express conditions, conditions implied in law; illegality. (3) and (3) 100f is a prerequisite to 101w. MR. MASTERSON.

Williston's Cases on Contracts, 3rd Ed.

102f and 103w. TORTS. Assault, battery, false imprisonment, trespass to property, negligence, liability without fault, fraud and deceit, defamation, malicious prosecution, misuse of legal process, invasion of interests of political and economic advantage. (3) and (3) 102f is a prerequisite to 103w. MR. MCCLEARY.

Bohlen's Cases on Torts, 3rd Ed.

104f. PROPERTY I. *Personal Property.* Distinction between real and personal property; acquisition of rights; bailments; liens; pledges; gifts. (3). ———.

Bigelow's Cases on Personal Property.

105w. PROPERTY I. *Introduction to the Law of Real Property and Conveyancing.* Tenure; estates, seisin; future and incorporal interests; disseisin; joint ownership; uses and trusts; modes of conveyance; air, water and fixtures. (3) —.

Warren's Cases on Property.

106f. COMMON LAW PLEADING. The forms of action and the essentials of declarations in trespass, case, trover, special and general assumpsit, debt, covenant and replevin. (3) MR. MEYER.

Sunderland's Cases on Common Law Pleading.

107f. LEGAL ETHICS. History of the legal profession; the lawyer's qualifications; admission and discipline of lawyers; ethical duties of the lawyer to the courts, the public, clients, etc. (2) MR. BARNETT.

Costigan's Cases on Legal Ethics.

108w. EQUITY I. Nature of equitable jurisdiction; specific performance of contracts. (3) MR. OVERSTREET.

Durfee's Cases on Equity.

109w. CRIMINAL LAW. Sources of criminal law; jurisdiction; nature of the criminal act, complete and incomplete; criminal intent, general and specific; insanity; intoxication; duress and mistake of fact or law; justification or excuse; parties in crime; crimes against the person; crimes against property. (3) MR MEYER.

Waite's Cases on Criminal Law and Procedure.

110f. LEGAL BIBLIOGRAPHY. The history of law reporting in the United States; Federal and State Statutory material; the reported case; the state reports, official and unofficial; the annotated case system; encyclopedias and general reference books; state and national digest systems and their use; the citator; legal periodicals and their use. (1) MR. HOGAN.

Required Courses for the Junior Year

120f. EQUITY II. The powers of courts of equity; principles governing the exercise of equitable powers; injunctions against torts. (3) 108w is a prerequisite to 120f. MR. OVERSTREET.

Durfee's Cases on Equity.

121f. CODE PLEADING. Forms of civil actions. Parties to actions; the "real party in interest;" joinder of parties. The complaint; facts distinguished from conclusions of law and evidence; the statement of facts; the prayer for relief; the union of several causes of action. Demurrer; answers and replies. (3) MR. MEYER.

Hinton's Cases on Code Pleading.

122f and 123w. EVIDENCE. Judicial notice; presumptions and burden of proof; topics relating to witnesses. Leading rules of exclusion and selection; hearsay rule and its exceptions; rules and principles relating to writings. Real evidence; opinion; remote and prejudicial evidence; character of parties. Miscellaneous topics. (3) and (2) 124f is a prerequisite to 125w. MR. BOUR.

Thayer's Cases on Evidence, Maguire's Ed.

Required Courses for the Senior Year

140f and 141w. PRACTICE. Commencement of actions; issuance and service of process; demurrers to the pleading; demurrers to the evidence; trial of issues of fact; declarations of law and instructions; verdict and judgment; motion

for new trial and in arrest of judgment; exceptions; writs of error and appeal. (2) and (3) 140f is a prerequisite to 141w. MR. BOUR.

McBaine's Cases on Trial Practice.

Course 140f alone is required if the student in all other respects completes the work necessary for the degree at the end of the fall term.

Elective Courses of the Junior Year

124f and 125w. PROPERTY II. *Conveyances.* Accretion; adverse possession; prescription; description of property granted; landlord and tenant; joint ownership; creation of easements and profits; covenants for title; execution of deeds; registration; estopped by deed; dedication. (2) and (3) 124f is a prerequisite to 125w. MR. MCCLEARY.

Warren's Cases on Conveyances.

126f. BILLS AND NOTES. Formal requisites of negotiable instruments; rights and liabilities of primary and secondary parties; legal effect of negotiability; liabilities of transferors; rights of holders in due course. (3) MR. HOWARD.

Britton's Cases on Bills and Notes, 2d Ed.

127w. AGENCY. Creation, nature and duration of agency relationship; authority and power of agent to subject principal to contract and tort liability; liability of agent in contract and tort; liability of principal and agent as affected by the non-disclosure of the agency. (3) MR. ————————.

Mechem's Cases on Agency, 2nd Ed.

130w. SALES. Subject-matter executory and executed sales; effect of fraud; rights and remedies of the seller; and of the buyer; commercial statutes. (3) MR. OVERSTREET.

Woodward's Cases on Sales.

131w. WILLS AND ADMINISTRATION. Testamentary capacity and intent; execution and attestation of wills; formal requisites of valid wills; revocation; republication and revival of wills; descent and distribution; probate of wills and administration of estates. (3) MR. HOWARD.

Costigan's Cases on Wills.

133w. CRIMINAL PROCEDURE. Powers of police officers in investigating crimes and making arrests; powers and duties of examining magistrates as to warrants, preliminary examination, bail and summary jurisdiction; grand juries and indictments; functions of prosecuting officers; jurisdiction and venue in criminal cases; interstate rendition; trial procedure. (2) MR. MEYER.

Keedy's Cases on the Administration of Criminal Law.

134w. STATUTORY INTERPRETATION. Judicial power and function with respect to the application of common law and legislative rules; theories and principles of statutory construction; interpretation as affected by the nature of the subject matter of the act, the circumstances attending its passage, the purpose of the statute, the intention of the legislature; interpretation in the light of the context, other statutes, common law rules. (3) MR. ————————.

DeSloovere's Cases on the Interpretation of Statutes.

135f. INSURANCE. Formation, nature, subject-matter, construction and legal effect of insurance contracts; concealment; representations; warranties; forfeiture; waiver; estoppel; subrogation. (2) MR. ————————.

Casebook to be announced.

138f. QUASI CONTRACTS. Nature and scope of quasi-contractual liability; recovery of benefits conferred by mistake, under contracts partially performed

under compulsion, and of benefits voluntarily conferred without contract. (3) MR. ————————.

Cook's Cases on Equity, Vol. III, 2nd Ed.

139w. PERSONS. Rights and duties of infants, parents and spouses. (2) MR. MEYER.

Casebook to be announced.

198f and 199w. LEGAL RESEARCH. Editorial work in connection with the Law Series of the University of Missouri Bulletin. Open to honor students elected by the Faculty on the basis of scholarship. (1) and (1).

Elective Courses of the Senior Year

142f. TRUSTS. Nature and requisites of express trusts; nature of *cestui que trust's* interest; resulting and constructive trusts; transfer of trust property; duties of trustees. Courses 108w and 120f are prerequisite for admission to this course. (3) MR. OVERSTREET.

Scott's Cases on Trusts, 2nd Ed.

143f and 144w. PRIVATE CORPORATIONS. Nature, promotion and powers of private corporations; rights and liabilities growing out of authorized, unauthorized and *ultra vires* acts of corporate officials; rights and obligations of stockholders; rights of creditors; refinancing and reorganization of corporations. (2) and (2) MR. MASTERSON.

Warren's Cases on Corporations, 2nd Ed.

145f and 146w. CONSTITUTIONAL LAW. Power of courts to pass on constitutionality of statutes; relation of the three departments of government to each other; relation of states to the federal government and limitations on the power of each; protection to persons accused of crime, *ex post facto* laws; laws impairing the obligations of contracts; due process of law; equal protection of the laws; police power; eminent domain; regulation of commerce. (3) and (2). 144f is a prerequisite to 145w. MR. HOWARD.

Casebook to be announced.

147f. CONFLICT OF LAWS. Jurisdiction of courts and of sovereigns over person and things; domicile; taxation; divorce; remedies; rights of action; procedure; creation of rights, personal and real, by inheritance, by contract and by tort; recognition and enforcement of rights and personal relations; administration of estates; recognition and enforcement of foreign judgments. (3) MR. BOUR.

Lorenzen's Cases on Conflict of Laws, 2nd Ed.

148w. CREDITORS' RIGHTS. A survey of the various proceedings which are available to creditors to enforce their claims; enforcement of judgments, execution, attachment and garnishment, creditors' bills and supplementary proceedings; fraudulent conveyances; general assignments; creditors' agreements; receivership; bankruptcy. (3) MR. MCCLEARY.

Hanna's Cases on Creditors' Rights.

149w. TAXATION. The nature of the taxing power; jurisdiction to tax persons and property; direct and indirect taxes; special assessments; income, inheritance and corporation taxes under state and federal government; exemptions; remedies for illegal taxation. (3) MR. HOWARD.

Casebook to be announced.

151f. ADMINISTRATIVE LAW. A general survey of the field of administrative law; nature, procedure, and powers of administrative bodies; validity of

administrative regulations; conclusiveness of administrative determinations and judicial review. (3) MR. HOWARD.

Casebook to be announced.

152w. EQUITY III. Consideration of various equitable remedies, including interpleader, bills of peace, protection of copyrights, etc. (3) MR. OVERSTREET.

Chafee, Equitable Relief Against Torts; Ames' Cases in Equity Jurisdiction, Vol. III, Parts I-III.

153w. PARTNERSHIP. Formation and nature of a partnership; duties and powers of partners; rights and remedies of creditors; dissolution of partnership; accounting and distribution. (2) MR. ————————.

Crane & Magruder's Cases on Partnership, Shorter Selection.

154w. FUTURE INTERESTS. Classification of future interests; construction of limitations; powers; rule against perpetuities; illegal conditions and restraints on alienation. (3) MR. OVERSTREET.

Kales' Cases on Future Interests, shorter Ed.

155f. MORTGAGES. Form of legal mortgages; title and lien theory; mortgagee and mortgagor; transfer; competiton for the mortgage; priorities and marshaling. (3) MR. ————————.

Casebook to be announced.

156w. CORPORATION FINANCE. Consideration of rights of holders of various kinds of corporate stock; dividends; stock-watering; authorization of increase of stock; statutory amendments allowing change from one form of stock to another, etc. (2) MR. MASTERSON.

Casebook to be announced.

157f. MUNICIPAL CORPORATIONS. Nature of municipal corporations; creation, alteration, and dissolution; legislative control; administration of functions and powers acquiring, holding and dealing with property; tort liability; contract liability; taxation and indebtedness; remedies of creditors. (2) MR. ————.

Casebook to be announced.

158f. PUBLIC UTILITIES. The public utility concept. Obligations of public utilities; obligation to serve; indiscriminating service; reasonable rates; adequate facilities. Governmental regulations. (3) MR. HOWARD.

Casebook to be announced.

198f and 199w. LEGAL RESEARCH. Editorial work in connection with the Law Series of the *University of Missouri Bulletin*. Open to honor students elected by the Faculty on the basis of scholarship. (1) and (1).

MATHEMATICS

Students entering with three entrance credits who take course 1 may not take course 2 or course 6 for full credit except by special permission of the Dean of their division. Students with less than two units must elect course 1 for five hours credit.

A grade of M must be made in courses 1, 2, 6 and 8 to satisfy the prerequisites for courses for which these courses are prerequisite.

1f and w. INTRODUCTORY COURSE. Prerequisite, one entrance unit in algebra. (3) or (5)

2f and w. TRIGONOMETRY AND ALGEBRA. Prerequisite, three entrance units in mathematics or course 1. (5)

3w. ELEMENTARY ANALYSIS. Prerequisite, course 1 or course 8. (5)

4f and w. ANALYTIC GEOMETRY. Prerequisite, course 2 or a grade of S in course 1 and M in course 7. Plane and solid analytic geometry and introduction to the calculus. (5)

5f and w. DIFFERENTIAL CALCULUS. Prerequisite, course 4. (5)

6f and w. ALGEBRA. Prerequisite, course 1 or three entrance units in mathematics. (3)

7f and w. TRIGONOMETRY. Prerequisite, course 1 or three entrance units in mathematics. Courses 6 and 7 cover the work in course 2. (2)

8f and w. GENERAL MATHEMATICS. Prerequisite, one entrance unit. No credit in Arts and Science. (5)

55f and w. THE MATHEMATICS OF FINANCE. Prerequisite, course 1. (3)

100f and w. INTEGRAL CALCULUS. Prerequisite, course 5. (5)

104f and 105w. ADVANCED ALGEBRA. Prerequisite, course 100. (3) MR. WAHLIN.

110f and 111w. ADVANCED CALCULUS. Prerequisite, course 100. (3) MR. WESTFALL.

180f and w. SPECIAL READINGS. Prerequisite, course 100. (1 to 3)

198f and 199w. DISTINCTION.

Courses above 200 must be preceded by a major in mathematics.

200f and w. SEMINAR.

210f and 215w. TOPICS FROM GEOMETRY. (3) MR. CARTER.

220f and 225w. TOPICS FROM MATHEMATICAL PHYSICS. (3) MR. ———.

230f and 231w. TOPICS FROM ANALYSIS. (3) MR. WESTFALL.

260f and 261w. TOPICS FROM ALGEBRA. (3) MR. WAHLIN.

280f and w. SPECIAL STUDIES. (1 to 3)

290f and w. RESEARCH. (1 to 6)

MEDICINE

101w. PHYSICAL DIAGNOSIS. Lectures, demonstrations and practical exercises covering the field of the physical examination of the thorax. Practice in the use of instruments ordinarily used in auscultation and percussion especially with reference to the recognition of the physical signs of normal and disease processes in the respiratory and circulatory organs. (3) MR. STINE; MR. COOPER.

MILITARY SCIENCE AND TACTICS

Infantry, Basic Course

1fI. INFANTRY. *First Semester.* Military History and Policy; rifle marksmanship; drill and command; Military discipline and courtesy.

2wI. INFANTRY. *Second Semester.* First aid and hygiene; drill and command; map reading; military organization.

3fI. INFANTRY. *Third Semester.* Drill and command; scouting and patroling; automatic rifle, military history.

4wI. INFANTRY. *Fourth Semester.* Musketry; characteristics of infantry weapons; combat principles; drill and command.

Infantry, Advanced Course

105fI. INFANTRY. *Fifth Semester.* Aerial photography and map reading; machine gun; drill and command; Howitzer weapons.

106wI. INFANTRY. *Sixth Semester.* Combat principles; Howitzer weapons, drill and command; Rifle and Pistol Marksmanship.

107fI. INFANTRY. *Seventh Semester.* Regulations governing Officers' Reserve Corps; drill and command; Military Law, Military History.

108wI. INFANTRY. *Eighth Semester.* Administration; drill and command; Combat training; Tanks; mechanization.

Field Artillery, Basic Course

1fA. FIELD ARTILLERY. *First Semester.* National defense and ROTC Regulations; Military Discipline, courtesy and customs of the service; Field Artillery Ammunition and Material; dismounted drill and ceremonies; elementary gunnery; military history and policy; duties of cannoneers and firing battery.

2wA. FIELD ARTILLERY. *Second Semester.* Military Organization and Organization of Field Artillery; dismounted drill and ceremonies; military sanitation and first aid; current international situation.

3fA. FIELD ARTILLERY. *Third Semester.* Map and Aerial Photograph Reading; equitation; dismounted drill and ceremonies.

4wA. FIELD ARTILLERY. *Fourth Semester.* Care of Animals; battery communications; fire control instruments; Driving in Draft; Duties of Members of Battery Commanders Detail; Leadership and ceremonies.

Field Artillery, Advanced Course

105fA. FIELD ARTILLERY. *Fifth Semester.* Pistol Marksmanship; gunnery; equitation; reconnaissance, selection and occupation of position.

106wA. FIELD ARTILLERY. *Sixth Semester.* Driving in Draft; Leadership; administration; gunnery.

107fA. FIELD ARTILLERY. *Seventh Semester.* Military law, history and policy, Leadership; Transport.

108wA. FIELD ARTILLERY. *Eighth Semester.* Tactics, O. R. C. regulations; Transport; Leadership.

MUSIC

Theoretical Courses

A general test will be given to all students enrolling for work in theoretical music. Those unable to pass will be required to enroll in the course in Rudiments of Music, without credit, for such period of time as may be necessary to enable them to pursue successfully the work in elementary courses.

0f. RUDIMENTS OF MUSIC. A sub-freshman course for students not prepared to enter course 1, Elementary Harmony. Four class periods per week. (0)

1w. HARMONY I. Harmonization of basses and melodies, figured and unfigured, on paper and at the keyboard, utilizing triads in root position and first inversion, and the cadential six-four; interconnection of triads with emphasis on rhythm; cadences at the keyboard; ornamental tones, including passing tones, auxiliary tones, the appoggiatura (Piston), echappée (Koechlin), simple suspensions; analysis and ear training. This work covers the first eleven chapters in Kitson's *Elementary Harmony.* Some ability in piano-forte playing is essential. Course 5 is prerequisite. Students taking this course are required to take Course 6. Three lecture and one laboratory period per week. (3) MR. SLEEPER.

2f. HARMONY II. A continuation of Course I. Harmonization of basses and melodies, figured and unfigured, on paper and at the keyboard, utilizing all diatonic seventh chords in all positions, chords of the ninth and thirteenth and the six-four chord. More advanced study of ornamental tones; a few chromatic

dominant and diminished sevenths as embellishments. Additional cadences at the keyboard; analysis and ear training. Harmonization of rhythmic melodies and chorales. This course covers from chapter twelve to the end of Part II, Kitson's *Elementary Harmony*. Three lecture and one laboratory period per week. (3) Courses 1 and 6 are prerequisite. Students taking this course are required to take Course 7 and are permitted to register in Course 9, *Counterpoint*. MR. SLEEPER.

3w. HARMONY III. A continuation of Course 2. Harmonization of basses and melodies, figured and unfigured, on paper and at the keyboard, employing all the resources of chromatic harmony; modulations, embellishments, suspensions ornamental tones and exceptional cadences. Writing in various styles, including the modal, to acquire fluency; analysis and ear training. This work covers Part III of Kitson's *Elementary Harmony*. Courses 2 and 7 are prerequisite. Students taking this course are permitted to register in Course 10. Four lectures and one laboratory period per week. (4) MR. SLEEPER.

5f. DICTATION AND EAR TRAINING I. A rudimentary course in ear-training, dictation and sight-singing. It affords fundamental training in acquiring the ability to think accurately in terms of pitch and rhythm, and is prerequisite to all theoretical courses in music. The course in Rudiments of Music is prerequisite and all students registering for the course will be required to take an examination in that subject. Given on a laboratory basis, with six recitations per week for two hours credit. (2) MRS. TELLO.

6w. DICTATION AND EAR TRAINING II. A continuation of course 5, which is prerequisite. Three recitations per week. Required of students taking course 1. (1) MRS. TELLO.

7f. DICTATION AND EAR TRAINING III. A continuation of course 6, which is prerequisite. Three recitations per week. Required of students taking courses 2 or 9. (1) MR. SLEEPER.

9f and 10w. COUNTERPOINT. A course in the principles of melodic construction and combination, including the consideration of strict counterpoint in two, three, four and five parts, in all five orders; double, triple and quadruple counterpoint; imitation and imitative counterpoint founded upon choral melodies; the two and three-part invention. Students taking course 9 are required to take courses 2 and 7. Students taking course 10 are required to take course 3. The prerequisites for course 9 are courses 1 and 6; for 10 are 2, 7 and 9. (3) MR. GOLDTHWAITE.

103f and 104w. POLYPHONIC FORMS. A continuation of the polyphonic treatment of choral and instrumental melodies. The work of the first semester includes the two and three-part canon; the three and four-part fugue, both choral and instrumental; the second semester deals with the freer forms such as the chaconne, passacaglia and chorale prelude. Prerequisite, courses 3 and 10. (2) MR. GOLDTHWAITE.

111f and 112w. MUSICAL FORM. The construction of the phrase, the period, two-part and three-part primary forms, extension, elision, coda, the chain-phrase, the transition, and other elementary factors of musical structure. Prerequisite, course 3. (2) MR. QUARLES.

113f and 114w. MUSICAL ANALYSIS. The analysis of the construction of works in the various musical forms, affording an intelligent basis for musical interpretation. Prerequisites, courses 2 and 6. (2) MR. GOLDTHWAITE.

115f and 116w. COMPOSITION. A practical application of the principles of musical form in works of large mold including the rondo and the sonata form,

as well as modern derivatives therefrom. Prerequisites, courses 10 and 112. (2) MR. GOLDTHWAITE.

215f and 216w. ADVANCED COMPOSITION. Writing in the larger forms for string quartet, chamber music ensemble or symphony orchestra. Prerequisites, courses 104, 116, and 118. (2 to 5 hours) MR. GOLDTHWAITE.

117f. ORCHESTRATION I. A course dealing with the capacities of the instruments of the orchestra singly and in the separate divisions of strings, woodwind, brass and percussion. Prerequisites, courses, 10 and 144. (2) MR. GOLDTHWAITE.

118w. ORCHESTRATION II. A course in writing and arranging for the full orchestra, using the various combinations of instruments in pairs and groups of three. Prerequisites, courses 10, 117, and 144. (2) MR. GOLDTHWAITE.

217f. ADVANCED ORCHESTRATION. A continuation of course 118, arranging for the full modern orchestra, using all combinations of instruments in groups of four, including instruments designed for special effects. Prerequisites, courses 104, 112 and 118. (2 to 5 hours) MR. GOLDTHWAITE.

Historical Courses

21f and 22w. APPRECIATION OF MUSIC. An illustrated lecture course, emphasizing the various phases of musical beauty; designed to furnish a rational basis for intelligent listening to music. An ability to differentiate pitch is essential. One lecture and two laboratory periods per week. (2) MR. QUARLES.

23f and 24w. Introduction to Musical Literature. A non-technical course, given especially for non-music students for the purpose of gaining familiarity with all fields of musical literature. The course will cover folk songs and folk dances; piano music of various styles and periods; the art song; opera and dramatic music; violin literature and style in musical art. The second semester will continue with a survey of orchestral music, chamber music, oratorio more advanced dramatic and operatic forms. Not open to music majors. (2) MR. QUARLES, MR. BRYANT, MR. GOLDTHWAITE, MR. MACLEOD, MR. WHITMORE.

123f and 124w. HISTORY OF MUSIC. A lecture course with collateral reading on the historical development of music. Emphasis is placed upon the relation that exists between the progress of civilization and the development of music. Prerequisite, course 22 or 24. (3) MR. GOLDTHWAITE.

125f. CONTEMPORARY MUSIC. An historical course dealing with the development of music in Europe and America since 1875. The inauguration of new music systems, the growth of nationalism, and other modern trends will be discussed. Lectures with collateral reading. Students will be required to study certain scores in connection with the course. Prerequisite, course 124. (2) MR. GOLDTHWAITE.

223f. BACH AND HIS TIME. An historical and critical investigation of the work of this master and its influence on subsequent music. Special topics assigned for original investigation. Prerequisites, courses 10 and 124. (2 to 5 hours) MR. QUARLES.

224w. HAYDN, MOZART AND BEETHOVEN. The classic period. An intensive study of the works of these masters, including historical and biographical details as revealed in their works, and a critical and analytical review of their works; research and collateral reading. Prerequisite, either course 112 or 114, and course 124. (2 to 5 hours) MR. QUARLES.

225f and w. SPECIAL PROBLEMS IN MUSICAL CRITICISM. Hours and credit to be arranged. This course may be repeated for credit. MR. QUARLES; MR. GOLDTHWAITE.

290f and w. MUSICAL RESEARCH. Thesis course. Hours and credit to be arranged. This course may be repeated for credit. MR. QUARLES; MR. GOLDTHWAITE.

Applied Music

Applied Music consists of private instruction in Piano, Voice, Violin, Violoncello and Organ. The amount of credit for which a student may be permitted to register in any semester will range from 1-6 hours with the approval of the chairman of the department concerned, except that in the freshman year the maximum shall be three hours. At the end of the semester differential credit (no readjustment of fees for differential credit)—in hours, not exceeding 20% of the amount for which the student is registered in that particular course in applied music, may be added or deducted in accordance with the actual work done by examination by a jury composed of the department of applied music concerned. Sub-freshman courses in applied music or special courses in applied music carrying no credit will be charged at the rate of a nominal three hour course. All students working for credit in applied music are required to take two lessons per week unless granted special permission by the Dean. The maximum credit for one lesson per week is one hour.

Students majoring in applied music may in upperclass years take orchestral instruments not offered for a degree (flute, clarinet, etc.), for a maximum of four hours credit, to be counted among the electives. One year of training on the instrument elected is prerequisite before credit can be given. Courses in such, orchestral instruments will receive one hour credit per semester.

50f and w. SPECIAL PIANO. No credit and no prerequisites. Open only to special students, unable for any reason to take a regular course. MR. MACLEOD; MR. JOLLIFF; MRS. TELLO.

51f and w. UNDERCLASS PIANO. Prerequisite, freshman standing in Piano, the requirements for which are: The ability to play acceptably at least three of the two-part Inventions of J. S. Bach, one of the easier Sonatas of Haydn or Mozart, all major and minor scales, coupled with adequate work in Elementary Theory, Rudiments of Music and Ear Training. Credit (1-6) This course will be continued until a minimum of sixteen hours is accumulated. MR. MACLEOD; MR. JOLLIFF; MRS. TELLO.

151f and w. UPPERCLASS PIANO. Prerequisite, fourteen semester hours of Piano. Credit (1-6). This course will be continued until a minimum of forty hours, constituting a major in this subject, is accumulated. MR. MACLEOD; MR. JOLLIFF; MRS. TELLO.

55f and w, and 56f and w. ELEMENTARY SUPERVISOR'S PIANO I AND II. One hour per semester.

These piano courses are open only to juniors and seniors in the School of Education majoring in Public School Music. They consist of private instruction in the art of piano playing. They are designed for beginners, and the materials and methods employed are such as to qualify teachers to make some use of the piano in their work of school music supervision. Prerequisite, 6 hours in applied music other than piano. MRS. TELLO.

57f and 58w. PIANO PROBLEMS FOR PUBLIC SCHOOL MUSIC TEACHERS. This course is open to sophomores in the College of Fine Arts intending to major

in Public School Music in the School of Education. Class instruction, in sections of not less than four nor more than ten pupils each, is offered in ensemble playing, memorization of marches and patriotic songs, the art of accompaniment, keyboard harmony, reading vocal score, transposition, and piano class teaching methods. Two hours of daily practice are required. Prerequisite, 4 hours of piano. (2) MRS. TELLO.

60f and w. SPECIAL VOICE. No credit and no prerequisite. Open only to special students, unable for any reason to take a regular course. MR. BRYANT; MISS YOUNGS.

61f and w. UNDERCLASS VOICE. Credit (1-6). This course will be continued until a minimum of ten hours is accumulated. MR. BRYANT; MISS YOUNGS.

161f and w. UPPERCLASS VOICE. Prerequisite, ten semester hours of Voice. Credit (1-6). The course will be continued until a minimum of twenty-six semester hours of Voice is accumulated; this, accompanied by six hours of Piano and four hours of diction, constitutes a major in Voice. MR. BRYANT; MISS YOUNG.

162f and 163w. Diction for Singers. The practical application of the use of the various languages in singing, with special emphasis upon word dynamics and emotional values for the development of beautiful diction. Prerequisite, a minimum of ten hours of German, French or Italian. (2) MR. BRYANT.

70f and w. SPECIAL VIOLIN. No credit and no prerequisite. Open only to special students, unable for any reason to take a regular course. MR. WHITMORE.

71f and w. UNDERCLASS VIOLIN. Prerequisite, the ability to play the first ten of the Kayser Etudes or the equivalent, and major and minor scales in one, octave through nine keys, coupled with adequate work in Elementary Theory, Rudiments of Music, and Ear Training. Credit (1-6). This course will be continued until a minimum of fourteen hours is accumulated. MR. WHITMORE.

171f and w. UPPERCLASS VIOLIN. Prerequisite, fourteen semester hours of Violin. Credit (1-6). This course will be continued until a minimum of thirty-eight hours, constituting a major in this subject, is accumulated. MR. WHITMORE.

90f and w. SPECIAL ORGAN. No credit. Open only to special students, unable for any reason to take a regular course. Freshman standing in Piano is required before the student may take up the study of Organ. MR. QUARLES; MR. JOLLIFF.

91f and w. UNDERCLASS ORGAN. Prerequisite, freshman standing in Piano. Credit (1-6). This course will be continued until a minimum of twelve hours is accumulated. MR. QUARLES; MR. JOLLIFF.

191f and w. UPPERCLASS ORGAN. Prerequisite, twelve semester hours of Organ. Credit (1-6). This course will be continued until a minimum of twenty-eight hours is accumulated. This, accompanied by ten hours of Piano, constitutes a major in this subject. MR. QUARLES; MR. JOLLIFF.

197f and 198w. IMPROVISATION AND SERVICE PLAYING. A course dealing with the problems of the church organist, including playing of hymn tunes, the adaptation of piano accompaniments to the organ, the use of various tone colors for solo and anthem accompaniments. Open only to seniors in Organ. (1) MR. QUARLES.

Ensemble Courses

Students may take work in the University Chorus and in the University Orchestra, and receive credit of one hour a term. The total credit, however, for such work may not exceed four hours.

41f and 42w. UNIVERSITY CHORUS. The total credit in university chorus and university orchestra may not exceed four hours. Preparation and public performance of great choral masterpieces. A voice of pleasing quality and an ability to read a very simple hymn tune are prerequisite for membership in the university chorus. Required of all students of voice and public school music. Credit, two hours at the end of the second term. MR. QUARLES.

43f and 44w. UNIVERSITY ORCHESTRA. The total credit in university chorus and university orchestra may not exceed four hours. Students playing orchestral instruments may become members of the university orchestra. Subject to an examination. Required of all students of stringed or other orchestral instruments. Credit, two hours at the end of the second term. MR. WHITMORE.

45f and 46w. PIANO ENSEMBLE. A course in concerted piano playing; duos, duets and quartets for one and two pianos. Three hours a week for which one hour of credit is given. It affords valuable training in sight reading and for the development of the rhythmic sense. Open only to juniors in the College of Fine Arts. (1) MRS. TELLO.

47f and 48w. STRING ENSEMBLE. A similar course to the previous one for players of stringed instruments and accomplishing the same purpose. Three hours of class work for which one hour of credit is given. (1) MR. WHITMORE.

141f. STRINGS I
142w. STRINGS II
143w. WOODWINDS
144f. BRASS

Practical work in Orchestral Instruments. These courses are designed to give class instruction in playing the various instruments of the orchestra. Given on a laboratory basis, with three recitations per week. (1) MR. WHITMORE.

145f. CONDUCTING. Principles of beating time, the technic of the baton, interpretation, rehearsal methods, and program building. Three class periods per week, for which one hour of credit is given. (1) MR. SLEEPER.

Courses in Teaching

119f and 120w. THE TEACHING OF THEORY. A required course in supervised teaching, dealing with the materials at the teacher's disposal for the accomplishment of various purposes. (1) MR. GOLDTHWAITE.

157f and 158w. PIANO TEACHING. A similar course for piano students. (1) MR. MACLEOD.

167f and 168w. VOICE TEACHING. A similar course for voice students. (1) MR. BRYANT.

177f and 178w. VIOLIN TEACHING. A similar course for violin students. (1) MR. WHITMORE.

Courses 119, 120, 157, 158, 167, 168, 177 and 178 are open only to music seniors in the College of Fine Arts.

Music in Primary Grades. See Education E129f.

Music in Intermediate Grades. See Education E130w.

High School Music Methods. See Education D131f.

Music Supervision. See Education E180.

Music Teaching in Secondary Schools. See Education D181.

NURSING

1f. ELEMENTARY NURSING. This is a basic course for all subsequent nursing classes. It emphasizes the underlying principles and therapeutic value of the elementary and less advanced nursing procedures. The course includes lectures, recitations, demonstrations, and practice. Periods of supervised practice in the class room to be arranged. Satisfactory technique in the class room is followed by supervised practice in the hospital wards. (2) MRS. ELKINS.

2f. NURSING ETHICS. Introduction to the ethical life of the nurse. The training in conduct and the higher ideals of character and service. Value of the nurse's training as a means of ethical development. (1) MISS FLOWERS.

5f. HISTORY OF NURSING. A survey of the growth and development of nursing from the early ages to the time of professional training. (1) MRS. ELKINS.

6w. MATERIA MEDICA FOR NURSES. A study of the source, therapeutic value, dosage and administration of the drugs commonly used in the treatment and prevention of disease. Theory and practice is given in making solutions commonly used. Supplementing this course each student is given at least 50 hours of instruction and practice in the pharmacy under supervision. (2) MRS. ELKINS.

7f. SURGICAL NURSING. This course is designed to give the student a practical understanding of the causes, symptoms and treatment of surgical diseases with special emphasis on the nursing care. Surgical lectures are followed by demonstrations of surgical technique. (2) MR. CONLEY; MRS. ELKINS.

8w. NURSING IN MEDICAL DISEASES. A study of the causes, symptoms, therapeutic and prophylactic treatment of the various medical diseases as diabetes, nephritis, etc. Lectures are followed by nursing classes in which advanced nursing procedures are demonstrated and practiced. (2) MR. COOPER; MRS. ELKINS.

10f. NURSING IN COMMUNICABLE DISEASES. Factors of immunity and transmission of disease precede the study of the various communicable diseases. Case studies and bedside clinics supplement recitations and lectures. Practical demonstration and practice of medical asepsis precede ward practice. (1) MRS. ELKINS.

11w. GYNECOLOGICAL NURSING. This course is conducted in the same manner as course 7f, Surgical Nursing. (1) MR. CONLEY; MRS. ELKINS.

12w. OBSTETRICAL NURSING. This course includes theoretical and practical instruction in normal and operative obstetrical cases. It pertains to care of the mother and of the new-born. This instruction accompanies three months of practical ward experience in a fully accredited maternity hospital. (1) OBSTETRICIANS; NURSE INSTRUCTORS.

13w. NURSING IN DISEASES OF CHILDREN. Lectures, recitations and practical demonstrations accompanied by three months of ward practice in an accredited children's hospital. (1) PEDIATRICIANS; NURSE INSTRUCTORS.

16f. ORTHOPEDICS AND PHYSIOTHERAPHY. Course includes lectures on principles of orthopedic surgery and physiotheraphy. Particular emphasis is given to nursing care. Practical demonstrations are given in both orthopedic nursing and physiotheraphy. (1) MR. STEWART; MISS ANDERSON.

18w. NURSING IN OCCUPATIONAL, VENEREAL AND SKIN DISEASES. Course includes lectures by attending staff physicians followed by classes stressing the nursing care and procedures in each field. (1) MRS. ELKINS.

19f. NURSING IN MENTAL AND NERVOUS DISEASES. Lectures and recitations in which the various types of mental diseases and the principles of mental hygiene are discussed. The physical, functional and social causes of mental disease is stressed, with special emphasis on preventive measures. This course includes at least one clinic in a state hospital for the mentally sick. (1) MR. COOPER; MRS. ELKINS.

21w. HOSPITAL LABORATORY. Practical application, under supervision of the techniques and principles learned in the various nursing classes. (3) MISS FLOWERS; MRS. ELKINS; DEPARTMENT SUPERVISORS.

22f and w. HOSPITAL LABORATORY. Continuation of 21w. (2) MISS FLOWERS; MRS. ELKINS; DEPARTMENT SUPERVISORS.

23f and w. HOSPITAL LABORATORY. Continuation of 22f and w. (4) MISS FLOWERS; MRS. ELKINS; DEPARTMENT SUPERVISORS.

PATHOLOGY

The courses below listed are constructed and offered primarily for students in the School of Medicine, but are open to others meeting the requirements and offering acceptable prerequisites.

101f. GENERAL PATHOLOGY. The course consists of 48 lecture or recitation hours and 96 laboratory hours for sophomore students. (6) MR. NEAL; MR. PFLAUM; MR. ROBNETT.

102w. SPECIAL PATHOLOGY. A course of 48 lecture or recitation hours and 96 laboratory hours for sophomore students. Prerequisite 101f, General Pathology. (6) MR. NEAL; MR. PFLAUM; MR. ROBNETT.

In the courses 101f and 102w, General and Special Pathology, a varied collection of lantern slides, the projectoscope for, and with, histological slides are regularly used for class instruction and group drill. A loan collection of 380 slides is furnished to students for use in histopathology; therefore none of the laboratory hours are used for staining or mounting sections. Systematic exercises in anatomic diagnosis, by means of Kaiserling specimens and available fresh material of the various lesions of each organ, are a part of the regular work. General Pathology, the first part to be considered, deals with the basic factors of disease; while Special Pathology, considered later, applies the principles of General Pathology to the various organs and tissues of the body. Throughout the courses emphasis is placed upon the relation between tissue changes, gross and microscopic, in a given disease, and the symptoms or manifestations accompanying such changes. Stress is placed upon attendance at autopsies. Students are instructed in the methods of post-mortem examinations and are required to prepare complete and orderly records of all autopsies seen.

104w. CLINICAL PATHOLOGY (Clinical Microscopy, Clinical Diagnosis), An elective course of 48 lecture, recitation or demonstration hours, and 64 laboratory hours, for sophomore students. A laboratory course covering a careful study in the chemical, bacteriological and microscopical methods used in examining blood, urine, sputum, gastric contents, spinal fluids, feces, exudates, etc., for diagnostic purposes. Prerequisites, Bacteriology, Histology and Physiological Chemistry. (5) MR. NEAL; MR. PFLAUM; MISS BROWN.

103f, 106w. CLINIC-PATHOLOGIC CONFERENCES. An elective open to Sophomore and graduate students, and graduates of medicine. A weekly period is spent in reviewing autopsy or/and surgical specimens in correlation with clinical

history, signs and symptoms. Sixteen hours a semester, that may but need not run consecutively. (1) MR. NEAL; MR. ROBNETT; MR. PFLAUM.

201f and 202w. ADVANCED PATHOLOGY. Elective. The amount and character of the work will depend upon the needs and qualifications of the student. MR. NEAL; MR. PFLAUM.

203f and 204w. RESEARCH. Elective. Open to properly qualified students. A reading knowledge of German is required and one of French is recommended. MR. NEAL; MR. PFLAUM.

PHILOSOPHY

Only course 1 may be counted toward the requirements of the first two years in the College of Arts and Science.

1f and w. ELEMENTARY LOGIC. The formal principles of deduction and induction, with special attention to the criticism of arguments the detection of fallacies and certain philosophical problems arising out of logic. (3) MR. HUDSON; MR. KERBY-MILLER.

101w. INTRODUCTION TO PHILOSOPHY. Special consideration is given to modern science. MR. KERBY-MILLER. (Not given 1935-36.)

103f. ETHICAL THEORY. An introductory study of the main problems of ethics and of the chief methods of their solution, with constant reference to the principal historic schools for illustration and interpretation. (3) MR. HUDSON.

104f. ANCIENT PHILOSOPHY. The major part of Plato's Republic will be read. (3) MR. KERBY-MILLER.

105w. MODERN PHILOSOPHY. Properly follows course 104, although this is not required. The development of modern systems and their relation to science and to political and social movements. (3) MR. KERBY-MILLER.

107f and 108w. SPECIAL READINGS. For qualified students who desire to do reading in philosophy independent of formal courses. (1-3) MR. HUDSON; MR. KERBY-MILLER.

112w. AMERICAN IDEALS. A study of the philosophic interpretations of life implied in American social and political institutions of the present, including their international reference. Prerequisite, junior standing. (3) MR. HUDSON.

117w. AESTHETICS. The philosophy of beauty from an historical and critical standpoint. (3) MR. HUDSON.

121f. CURRENT PHILOSOPHICAL PROBLEMS. Prerequisite, course 105 or an equivalent. Representative systems and issues of the present, including Absolute and Pluralistic Idealism, Pragmatism, Neo-Realism, and Bergson's Philosophy. (3) MR. KERBY-MILLER.

125f. THE PHILOSOPHY OF THE STATE. A study of the basic philosophical concepts involved in the state as a social institution. Admission to the course only after conference with instructor. (3) MR. HUDSON.

198f and 199w. DISTINCTION. Special work for candidates for graduation with distinction. (3) MR. HUDSON; MR. KERBY-MILLER.

200f. SEMINAR. The Philosophy of Science. For graduate students in the special sciences. A critical study of the nature and validity of scientific method together with a study of the inter-relations of the special sciences and

their relation to philosophy. The physical sciences and the social sciences in alternate years. (1-3) THE DEPARTMENT STAFF, with members of various departments of the special sciences co-operating.

200w. SEMINAR. Fundamental Problems in Ethical Theory. (2 or 3) MR. HUDSON.

290f and w. RESEARCH. (3-5)

PHYSICAL EDUCATION

Required Work. All first year men and first and second year women will be assigned to required work in physical education at the time of registration. A physical examination is required preliminary to participation in competitive sports. The regulation gymnasium costume for all women students may be purchased at the Women's Gymnasium.

3f and 4w. REQUIRED COURSE. Freshmen Women. Two periods each week in one of the following activities: *Fall season*—hockey, soccer, tennis, golf, riding, archery, swimming, dancing. *Winter season*—basket ball, indoor baseball, volley ball, correctives, dancing, swimming, rifle, games. *Spring season*—tennis, track, archery, swimming, dancing, correctives, baseball, golf, riding. (½) MEMBERS OF STAFF.

7f and 8w. REQUIRED COURSE. Sophomore Women. Two periods each week in some activity not elected in the freshman year. (½) MEMBERS OF STAFF.

9f and 10w. RECREATIONAL ATHLETICS FOR MEN. Two periods a week of some one athletic activity. (½) MEMBERS OF STAFF.

11f and 12w. RECREATIONAL ATHLETICS FOR JUNIOR WOMEN. Prerequisites 3f, 4w, 7f, 8w or equivalents. (½) MEMBERS OF STAFF.

13f. and 14w. RECREATIONAL ATHLETICS FOR SENIOR WOMEN. A continuation of 12w. (½) MEMBERS OF STAFF.

Professional Courses in Physical Education

See Education for suggested curriculum.

A degree of Bachelor of Science in Education and a life certificate to teach are granted to students upon a satisfactory completion of the curriculum which satisfies the requirements in the first two years on Arts and Science and the last two years in the School of Education.

27f. ELEMENTARY INTERPRETATIVE DANCING. A rhythmical analysis of movement; study of the fundamental body movements; interpretation and appreciation of music through bodily expression. (1) MISS TAYLOR.

28w. ADVANCED INTERPRETATIVE DANCING. A continuation of course 27f, including dance composition and experience in teaching dancing. (1) MISS TAYLOR.

41f. FRESHMAN MAJOR ATHLETICS. Open only to first year students in professional physical education. Practical work as follows: *Fall season*—hockey or soccer and choice of tennis, swimming, archery, golf or interpretative dancing. *Winter season*—basket ball or indoor baseball and choice of swimming, volley ball or dancing. *Spring season*—track or tennis and choice of baseball, swimming, archery or golf. (1) MEMBERS OF STAFF.

42w. FRESHMAN MAJOR ATHLETICS. A continuation of course 41f. (1) MEMBERS OF STAFF.

43f. SOPHOMORE MAJOR ATHLETICS. Organization of material, methods of leading squads and sections. Practical work in sports not elected during freshman year. (1) MEMBERS OF STAFF.

44w. SOPHOMORE MAJOR ATHLETICS. A continuation of course 43f. (1) MEMBERS OF STAFF.

51f. PLAYGROUNDS. History of the play movement; nature and function of play; organization and administration of play activities; construction and equipment; the practical conduct of activities on the school ground and the playground. (2) MISS MCKEE.

52f. HISTORY OF PHYSICAL EDUCATION. A historical survey of nations, the relation of physical activities to racial vigor, conditions that influence physical development, including the development of newer "system" or "schools" of physical education. (2) MISS WILSON.

54w. PLAYS AND GAMES. Games suitable for the playground, elementary and secondary schools. (2) MISS MCKEE.

55f. ATHLETICS AND RECREATION FOR MEN. Group competition, mass athletics, leadership and organization of general recreation and athletics for high schools and colleges. (2) MR. STANKOWSKI AND MEMBERS OF STAFF.

56w. MINOR SPORTS, MEN. This course involves a study of the technique and rules of boxing, wrestling, swimming, tennis, and cross-country running and the administration of general recreation. Lectures, demonstrations and practice. (2) MR. STANKOWSKI AND MEMBERS OF STAFF.

102f. METHODS AND PRACTICE OF MAJOR SPORTS. Theory and practice of coaching basket ball. (2) MR. EDWARDS.

103w. METHODS AND PRACTICE OF MAJOR SPORTS. Theory and practice of coaching track and field athletics. (2) MR. HUFF.

104f. METHODS AND PRACTICE OF MAJOR SPORTS. Theory and practice of coaching football. (2) MR. FAUROT.

105w. ATHLETIC TRAINING AND CONDITIONING. Principles governing conditioning of men for various sports. Overtraining, its cause, diagnosis, prevention and cure. Prevention and treatment of common athletic injuries. Prerequisite, anatomy or physiology. (2) MR. JOHNSON.

111w. KINESIOLOGY. A study of the joint and muscular mechanisms of the body and the relationship of muscular activity to bodily development and efficiency. Prerequisite, anatomy. (3) MISS CLINE.

115f. JUNIOR MAJOR GYMNASTICS AND ATHLETICS. Instruction in Danish gymnastics, nomenclature and organization of material for schools and recreation centers. Practice in sports not elected during freshman or sophomore year and practice teaching in minor sports. (1) MEMBERS OF STAFF.

116w. JUNIOR MAJOR GYMNASTICS AND ATHLETICS. A continuation of course 115f. (1) MEMBERS OF STAFF.

117f. SENIOR MAJOR GYMNASTICS AND ATHLETICS. Advanced work in sports and gymnastics with special emphasis on management, direction and promotion of activities in high school and college. Practice teaching in major sports, and practice in sports not elected in freshman, sophomore or junior year. (2) MISS WILSON AND STAFF.

118w. SENIOR MAJOR GYMNASTICS AND ATHLETICS. A continuation of course 117f. (2) MISS WILSON AND STAFF.

H119f and w. TEACHING OF PHYSICAL EDUCATION. A course in natural gymnastics for grades, junior high and senior high school. Prerequisite, practical work in sports. (2) MISS WILSON.

125f. ELEMENTARY FOLK DANCING. Selected and graded singing games and elementary folk dances suitable for use in the classroom, gymnasium and on the playground. (2) MISS TAYLOR.

126w. ADVANCED FOLK DANCING. History of dances of different nations, a study of characteristic steps and dances and methods of presenting material to high school and college classes. (2) MISS TAYLOR.

128f. THEORY OF INTERPRETATIVE DANCING. Brief history of the dance; the aims and justifications of the dance in the school curriculum; application of dance material to different age groups. Prerequisites 27f and 28w. (2) MISS TAYLOR.

129f. TECHNIQUE OF FIELD HOCKEY AND BASKET BALL FOR WOMEN. Instruction and practice in coaching; team play; study of rules and duties of officials. Prerequisite, one season practical experience in the sports. (2) MRS. HOLSINGER; MR. EDWARDS.

130f. MINOR SPORTS TECHNIQUE. The technique of volley ball, tennis and soccer. Rules and methods of teaching, instruction and practice in coaching and duties of officials. Prerequisite, one season practical experience in the sports. (2) MISS WILSON AND MRS. HOLSINGER.

134w. TECHNIQUE OF SWIMMING LEADERSHIP. Principles and methods in teaching swimming, diving, and life saving. The problems of construction and management of swimming pool are considered. Open to men and women of advanced swimming ability. (2) MISS CLINE.

136f. RECREATIONAL LEADERSHIP. Community and industrial r creation. Emphasis on club programs for industrial plants. Prerequisite: Plays and Games. (54w) (2) MISS WILSON.

140w. CAMP COUNSELLORSHIP AND CRAFT. A course designed to meet the requirements for Counsellors as set up by National Camp Directors Association. Program building for the organized camps of Girl Scouts, Camp Fire and Girls' Clubs. (2) MISS WILSON.

149w. TECHNIQUE OF BASEBALL, FIELD AND TRACK FOR WOMEN. Instruction and practice in coaching; team play; study of rules and duties of officials. Prerequisite, one season practical experience in the sports. (2) MISS WILSON.

D150f and w. SEE EDUACTION—PRACTICE TEACHING. Practice teaching in elementary schools, junior and senior high schools. Prerequisite, teaching of Physical Education and Technique of High School Teaching. (6) Three hours each semester. MR. VON BORGERSRODE; MISS MCKEE AND MEMBERS OF STAFF.

152w. PRINCIPLES OF PHYSICAL EDUCATION. Analysis of basic problems with application of principles, selection and adaptation of activities to different conditions and ages. (2) MR. EDWARDS.

160f. FUNDAMENTALS IN HEALTH EDUCATION. Fundamental background for hygienic practices and their adaptation to the school health program. Prerequisites, anatomy and physiology. (3) MISS CLINE.

181f. PHYSICAL EXAMINATIONS AND REMEDIAL GYMNASTICS. Methods of examination for the detection of physical defects; application of corrective exercises and massage. Prerequisites, anatomy and kinesiology. (3) MISS KELLY.

190w. ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION. The problems of the administrator and supervisor, finances, construction, equipment and care of physical education plant, selection of staff. Prerequisites, Teaching of Physical Education and Sports Technique courses. (3) MISS MCKEE.

200w. SEMINAR PHYSICAL EDUCATION. Prerequisites, courses 119, 120, or with the consent of the instructor. (2) MR. BREWER.

210f. KINESIOLOGICAL ANALYSIS. The analysis of joint and muscular mechanism of various movements involved in gymnastics and athletics in relation to the problems of the development of sport techniques and skills. Prerequisite, Kinesiology. (2) MISS CLINE.

220w. ADMINISTRATION OF INTERCOLLEGIATE AND INTERSCHOLASTIC ATHLETICS. The administrative problems involved in competitive athletics. (3) MR. BREWER AND MR. EDWARDS.

230w. PHYSIOTHERAPY. A study of hydrotherapy, phototherapy, thermotherapy, electrotherapy, massage and advanced corrective gymnastics and their application to the correction of diseases. Prerequisites are Anatomy, Kinesiology and Physical Examinations and Remedial Gymnastics. (2) MISS KELLY.

235f. PHILOSOPHY OF THE DANCE. A historical analysis of the dance as an art form; the dance as correlated with philosophy, art, science, and theory; relation of music to the dance; elements of dance composition and program planning. Prerequisites, 27f, 28w and 128w. (2) MISS TAYLOR.

250f and w. SPECIAL PROBLEMS IN PHYSICAL EDUCATION. Individual assignments arranged for graduate students. (2 to 5) MR. BREWER; MISS MCKEE.

PHYSICS

Two beginning courses are offered. Those who wish only a course for general information should take 1 and 2, while those who desire a more thorough course, and have had trigonometry, should take 3 and 4. Students who plan to major in any physical science should select 3 and 4 in preference to 1 and 2. Course 1 is required of students in agriculture, and it together with course 2, will fulfill the requirements of the Association of American Medical Colleges. No one may receive a total of more than 10 hours credit in courses 1, 2, 3, and 4 or their equivalent.

1f and w. ELEMENTARY COLLEGE PHYSICS. Prerequisite, plane geometry. (5)

2w. ELEMENTARY COLLEGE PHYSICS. A continuation of 1. Courses 1 and 2 together cover in an elementary way most of the field of physics. (3)

3f. GENERAL PHYSICS. Prerequisite, trigonometry. (5)

4w. GENERAL PHYSICS. A continuation of 3. Prerequisite, course 1 or 3, and trigonometry. Courses 3 and 4 together cover the same field as courses 1 and 2, but more thoroughly. Full credit is not allowed in course 3 to those who have had course 1, nor is full credit given in 4 to those who have had course 2. (5)

104f. ELECTRICAL MEASUREMENTS. Prerequisite, courses 1 and 2, or 3 and 4, and calculus. (3 or 4)

Courses 110, 112, 113, and 114 constitute together a general course in advanced physics. No one of them includes laboratory work, but students who desire advanced laboratory work in physics would do well to elect, along with these courses, courses in the group 106, 107, 108.

110f. ELECTRICITY AND MAGNETISM. Prerequisite, course 1 and 2, or 3 and 4, and calculus. A fairly advanced course, partly mathematical. (3)

112f. HEAT. Largely descriptive. Prerequisite, courses 1 and 2, or 3 and 4. (3)

113w. LIGHT. Largely descriptive. Prerequisite, courses 1 and 2, or 3 and 4. (3)

114w. MECHANICS. Prerequisite courses 1 and 2, or 3 and 4, and calculus. (3)

The following three courses consist entirely of laboratory work. Courses 1 and 2, or 3 and 4, or their equivalent, are prerequisite for any one of them, in addition to the special prerequisites as noted.

106w. Ionization of Gases. A course involving experiments in the conduction of electricity through gases, electronic emission, and radio-activity. Calculus is prerequisite. (2)

107f. Electricity. Much the same as the laboratory part of 104. Calculus is prerequisite. (1-3)

108w. Light. Wave length and refractive index measurements, experiments in polarization, spectroscopy, etc. (1-2)

130s. Modern Physics. Prerequisite, one year of college physics. (3)

Integral calculus and two years of physics are prerequisite for all courses numbered 200 or over.

200f, w, and s. Seminar. A colloquium in which all members of the departmental staff and students of sufficient attainments participate. (1)

202s, 203f, 204w. Special Investigations. Largely laboratory work, involving also study of the literature of special experiments. Intended as an introduction to research methods. (1 to 4)

213f and s. Introduction to Theoretical Physics. Some familiarity with differential equations is desirable. (3)

214w and s. Conduction of Electricity Through Gases. (4) In winter, (3) in summer.

217f. Sound. Mathematical theory of sound, with applications to some recent developments. (3)

218w and s. X-Rays. The modern theory of X-radiation and its bearing on various physical phenomena. (3)

Students who elect one or more of the following group of four courses in mathematical physics should take the course in Advanced Calculus, either before or concurrently.

215w. Advanced Electricity and Magnetism. (4)

221f and s. Dynamics. (4) in fall, (3) in summer.

222w. Electromagnetic Theory and Light. Prerequisite 221. (4)

241f and s. Wave Mechanics. Prerequisite 221. It is also desirable that the student shall have taken Advanced Algebra. (4) in fall, (3) in summer.

232w and s. Theory of Spectra. (3)

230f and w. Reading Course. Selected topics in advanced reading, varied from year to year. (3)

290f, w, and s. Research. Work for the preparation of a thesis for the Master's or Doctor's degree. Students who do all their graduate work in summer sessions may not register for research.

PHYSIOLOGY AND PHARMACOLOGY

100w. Elementary Physiology. Intended for students who desire a general knowledge of physiology. Three lectures and two laboratory periods a week. (5) Mr. Ellis; Mr. McDonald.

102w. Physiology of Muscle and Nerve. This course presents the principles of the physiology of tissues as such, using the subject-matter of muscle and nerve, with emphasis on the physical and chemical conditions influencing their reactions. (3) Mr. Ellis; Mr. McDonald.

103f. Alimentary Mechanisms. The physiology of the alimentary canal, of the secretory processes, digestive mechanics, absorption, excretion, metabolism,

internal secretions, heat regulation and reproduction. (3) MR. GREENE; MR. SIDDLE; MR. TERRY.

104w. PHYSIOLOGY OF THE CIRCULATION AND RESPIRATION. (2) MR. SIDDLE; MR. TERRY; MR. GREENE.

105f. THE CENTRAL NERVOUS SYSTEM AND SENSE ORGANS. (2) MR. ELLIS; MR. MCDONALD.

107f. METROLOGY AND PRESCRIPTION WRITING. Metrology, materia medica, pharmaceutics, prescription writing and physiological assay of drugs and drug preparations. (2) MR. SIDDLE; MR. TERRY.

108w. PHARMACOLOGY. The physiological action of drugs on man and lower animals. (5) MR. GREENE; MR. SIDDLE.

200f and w. SEMINAR. Review of current literature. (1) MR. GREENE.

216w. INTERNAL SECRETIONS. An advanced study of hormone producing organs, experimental and clinical. Given in alternate years with course 224w, Metabolism. (2-3) MR. GREENE.

218w. CLINICAL AND SURGICAL PHYSIOLOGY. The modifications of function by clinical and surgical processes. (2) MR. GREENE; MR. SIDDLE.

222f. ADVANCED RESPIRATION. An advanced consideration of the normal and modified respiratory activities of man and animals. (3) MR. SIDDLE.

224w. METABOLISM. A critical study of the heat-regulating mechanism; of temperature; food; and the dynamic activity of the thyroid and other internal secreting glands. (2-3) MR. GREENE.

225f. ADVANCED CIRCULATION. A detailed study of the blood vascular apparatus and its modification by drugs and by disease. (2-4) MR. GREENE.

231f and w. SPECIAL STUDIES. Elemental problems in physiology or pharmacology are assigned in preparation for research. MR. GREENE; MR. ELLIS; MR. SIDDLE.

291f and w. RESEARCH. Opportunity is offered for research in fields of current physiological interest. MR. GREENE; MR. ELLIS; MR. SIDDLE.

POLITICAL SCIENCE AND PUBLIC LAW

No course in this department is open to freshmen. Course 1 or its equivalent is a prerequisite to all other courses except 5. Students in Arts and Science should elect the following courses for a major: Political Science 1, 5, and 100. Eleven hours of additional work in Political Science are required. These are to be selected in consultation with the adviser.

1f and w. AMERICAN GOVERNMENT. A basic course dealing with the fundamental principles of political science and the organization, principles, and functions of American government in all its divisions—national, state, and local. (5) MR. BRADSHAW; MR. FAUST; MR. HEINBERG; MR. SHORT.

5w. INTERNATIONAL RELATIONS. Lectures and readings on contemporary international relations. (3) MR. MIDDLEBUSH.

100w. EUROPEAN GOVERNMENTS. A comparative study of the constitutional development, present functions and practical workings of the governments of England, France, Germany, Italy, and Russia. (5) MR. HEINBERG.

101f. LOCAL RURAL GOVERNMENT. The development, present organization and functions of county and township government in the United States, with special reference to Missouri. (3) MR. BRADSHAW.

104w. COLONIAL GOVERNMENT. Imperialism, government of the British dominions, and the administration of mandates and modern dependencies, with special reference to American colonial problems. (3) MR. BRADSHAW.

105f. POLITICAL PARTIES. The theory, organization, methods of action and functions of political parties, especially in the United States. (3) MR. BRADSHAW.

106f. MUNICIPAL GOVERNMENT AND ADMINISTRATION. A comprehensive study of municipal government and administration in the United States, dealing with the law of municipal corporations, municipal politics and elections, forms of city government, and administrative functions and activities. (5) MR. FAUST.

108w. STATE ADMINISTRATION. A study of the development, organization and functions of the administrative branch of the American state governments. (3) MR. SHORT.

109f. INTERNATIONAL LAW. A general treatment of the laws governing international relations in peace and war. (3) MR. MIDDLEBUSH.

112f. NATIONAL ADMINISTRATION. The development, present organization and activities of the administrative departments, boards and commissions of the national government. (3) MR. SHORT.

115w. ADMINISTRATION OF AMERICAN FOREIGN RELATIONS. An examination of governmental organization in the United States for the control and conduct of foreign relations, with special reference to the diplomatic and consular services. (2) MR. SHORT.

120w. THE AMERICAN CONSTITUTION. A study of constitutional law in the United States as interpreted by the Supreme Court. Special attention is given to the American federal system, the amending clause, the powers of the President, Congress and the National Judiciary, and civil and political rights under the Fifth and Fourteenth Amendments. (3) MR. HEINBERG.

175w. LEGISLATION IN THE UNITED STATES. The nature of the legislative power; constitutional limitations; organization, rules of procedure and practice of American legislative bodies; and bill drafting. (Not given in 1935-36.) (2) MR. SHORT.

185f. INTERNATIONAL ORGANIZATION. Prerequisite, course 5 or 109. A study of the form and functions of the various co-operative international organizations, with special reference to the League of Nations and Permanent Court of International Justice. (3) MR. MIDDLEBUSH.

198f and 199w. DISTINCTION. Special readings and reports in the several fields of Political Science. Limited to candidates for graduation with distinction in Political Science. (1-3) MR. BRADSHAW; MR. FAUST; MR. HEINBERG; MR. MIDDLEBUSH; MR. SHORT.

200f and 201w. SEMINAR. Reviews of current literature and reports on original investigations are presented and discussed by students and members of the faculty. Required of all graduate students majoring in Political Science and Public Law, without credit.

203w. PRINCIPLES AND PROBLEMS OF PUBLIC ADMINISTRATION. Prerequisite, course 101, 106, 108 or 112. A study of administrative organization, practice, and procedure, and the methods of controlling administrative action. (3) MR. SHORT.

204f. MUNICIPAL PROBLEMS. A detailed study of selected problems of municipal government, including such problems as city charters; zoning and planning; finance; metropolitan areas. (3) MR. FAUST.

205f. PROBLEMS IN POLITICAL PARTIES. Prerequisite, course 105, or consent of instructor. A detailed study of certain specific problems in the field of party organization, public opinion and elections. (2) MR. BRADSHAW.

208w. Problems in International Law. Prerequisite, course 109. A detailed study of certain specific problems in international law. (3) Mr. Middlebush.

210f. History of Political Thought. A review of the history of political thought from Plato to Rousseau. (3) Mr. Heinberg.

211w. Modern Political Theory. A review of modern political theories, with some attention to their historical settings. Recent tendencies in political theory will be considered. (3) Mr. Faust.

212f and 213w. Special Studies. Opportunity is offered to graduate students who have completed the necessary prerequisite courses to choose topics in one or more of the several fields of Political Science for individual study and investigation. Credit to be arranged. Mr. Bradshaw; Mr. Faust; Mr. Heinberg; Mr. Middlebush; Mr. Short.

290f and 291w. Research. A thesis is required of all candidates for advanced degrees majoring in Political Science and Public Law. Students should confer with the instructor in whose field he wishes to do his research work relative to the selection of a thesis subject. Credit to be arranged. Mr. Bradshaw; Mr. Faust; Mr. Heinberg; Mr. Middlebush; Mr. Short.

The following courses in Public Law, given in the School of Law, may be taken for graduate credit with the approval of the student's major adviser and with the permission of the instructor in the course.

249w. Taxation. (3) Mr. Howard.

251f. Administrative Law. (3) Mr. Howard.

257f. Municipal Corporations. (2) Mr. Howard.

258f. Public Utilities. (3) Mr. Howard.

POULTRY HUSBANDRY

1f and w. Poultry Production. A general course in poultry husbandry including breeds, breeding, culling, incubation, brooding, housing, feeding, management, marketing, and the control of disease. (3) Mr. Kempster, Mr. Funk.

3w. Types and Breeds of Poultry. History, development, and characteristics of the most common breeds of poultry. This course is designed for students interested in poultry judging, methods employed in training poultry judging teams, and the organization of poultry exhibits. (2) Mr. Funk.

103f. Marketing Poultry Products. Prerequisite, 1. A course dealing largely with the practices employed in commercial poultry and egg-handling establishments, both in reference to fattening and killing poultry and to the handling of eggs. (3) Mr. Kempster.

104f. Poultry Judging and Breeding. Prerequisite, 1. Special attention is given to exhibition and production judging and breeding. The college poultry judging team is selected from the students enrolled in this course. (3) Mr. Funk.

105w. Poultry Farm Management. Must be preceded or accompanied by course 1. A study of poultry farm methods and practices. (3) Mr. Kempster; Mr. Funk.

106w. Incubation and Brooding. Principles and practices of incubation and brooding. Organization and management of commercial hatcheries. (3) Mr. Funk.

107f and w. Special Problems. Primarily for advanced undergraduates. Topics will be assigned. Mr. Kempster; Mr. Funk.

200f and 201w. SEMINAR. Special investigations in poultry husbandry. Literature is reviewed and discussed by the class. (1) MR. KEMPSTER.

202f and 203w. RESEARCH IN POULTRY HUSBANDRY. Advanced studies of special phases of poultry production. Opportunity is offered students for original investigation. In some cases they will assist in experimental work being conducted by the department of poultry husbandry. MR. KEMPSTER; MR. FUNK.

PSYCHOLOGY

1f and w. GENERAL PSYCHOLOGY. The basic facts and principles of the mental activity of human beings. Lectures and classroom demonstrations. This course is a prerequisite for all other courses in the department. (3) MR. MCKINNEY; MR. PETERS.

2f and w. APPLIED PSYCHOLOGY. A discussion of the psychological principles and methods which are of most importance in the practical control of human behavior. The major fields in which psychology is being applied will be reviewed and the principles of application studied. (3) MR. MCKINNEY

10f. STUDENT MENTAL PROBLEMS. A course primarily for underclassmen in effective study techniques, vocational selection, and personality problems. (2) Cannot be taken for credit by juniors and seniors. MR. MCKINNEY.

122f and w. ABNORMAL PSYCHOLOGY. A study of the more frequent abnormalities of personality, with special reference to their significance for mental normality. (3) MR. MCGEOCH.

125f. SOCIAL PSYCHOLOGY. The psychological factors involved in social behavior. The course will include a critical survey of the major principles and points of view in social psychology. (3) MR. MCKINNEY.

126w. MENTAL DEVELOPMENT. The origin of mental traits and their growth from birth to maturity. (3) MR. MCKINNEY.

180w. COMPARATIVE PSYCHOLOGY. A survey of the experimental work upon the mental activities of animals, with special reference to the implications of this work for general psychology. There will be some discussion of the experimental work upon the comparative mental traits of different races. (3) MR. PETERS.

195f. EXPERIMENTAL PSYCHOLOGY. A general introduction to the experimental psychology of sensation, perception, motor learning and emotion. (3) MR. PETERS.

196w. EXPERIMENTAL PSYCHOLOGY. A general introduction to the experimental psychology of association, memory, imagination and thought. (3) MR. PETERS.

197f. THE PSYCHOLOGY OF LEARNING. A study of the experimental work on the acquisition and retention of skilled acts, verbal and ideational materials. Theories of learning and of memory; and the implications of both facts and theories for general psychology. (3) MR. MCGEOCH.

198w. SYSTEMATIC PSYCHOLOGY. A survey of the contemporary schools of psychology and of their methods of treating the major problems of psychology. The course aims to give the student a critical grasp of the outstanding theoretical issues in modern psychology. (3) MR. MCGEOCH.

209f and w. PSYCHOLOGICAL TEXTBOOKS. A comparative study of the psychological systems as found in the chief textbooks and laboratory manuals on psychology published during the last thirty years. (4) MR. MCGEOCH.

210f and w. RESEARCH. Theoretical and experimental. (3-6) MR. MCGEOCH.

RURAL SOCIOLOGY

115f. RURAL SOCIOLOGY. A study of rural social life and organization with special attention to those factors of interest to rural specialists, social welfare workers, county agents, home demonstration agents, public health nurses, rural teachers and ministers, etc. (3) MR. BROWN.

117f. COMMUNITY ORGANIZATION. Principles and methods of organization and development of various types of communities. Designed for teachers, county extension agents, social workers, and others. (3) MR. MORGAN.

120f. HISTORY OF SOCIAL WORK. An historical study of the philosophy, motives, and methods of philanthropic and social work. Development is traced through Grecian and Roman times, the early Christian era, the Medieval Ages, the growth of the English system, and of humanitarianism to the present day social philosophy and methods. (2) MR. BROWN.

131f and w. SOCIAL CASE WORK I. Deals with the problems of social reconstruction of individuals and families. Students are familiarized with principles and processes of social treatment and with recognized methods of modern social work as developed in rural communities, small towns, and cities. Prerequisite, eight hours of Sociology. (3) MR. BROWN.

Those pursuing courses 135 to 194, inclusive, should have a rank of at least 200 (average of M) in all academic work above the freshman year.

135f and w. FAMILY CASE PRACTICE. Prerequisite, course 131. Open to students in training for social work. Credit arranged. MR. MORGAN; MR. BROWN.

140w. SOCIAL CASE WORK II. Continuation of Course 131. Open to students in training for social work. Prerequisite, course 135. (2) MR. BROWN.

145w. GROUP AND CLUB WORK. Treats of principles and methods of organization and conduct of groups and clubs, such as Boy Scouts, Girl Scouts, Camp Fire, Y. M. C. A., Y. W. C. A., Boys' and Girls' 4-H Clubs, neighborhood social organizations, and social centers. Prerequisite, courses 117 and 131. (2) MR. MORGAN.

190f. LEADERSHIP. A study of the biological, psychological, and sociological aspects of leadership, and of the training of leadership in community affairs. Leaders in such fields as agriculture, business, education, religion, politics, and social organization are analyzed. Prerequisite, Psychology and eight hours of Sociology. Senior standing. (3) MR. MORGAN.

191w. PSYCHIATRIC SOCIAL WORK. A study of the nature of social and mental variants and the processes by which they become maladjusted individuals. Emphasis is placed on the social worker's approach to these problems in case situations and to their relationship to the specialists in the field of psychiatry. Prerequisite, course 140 and Psychology 122. Senior standing. (2) MR. BROWN.

193w. ADMINISTRATION OF PUBLIC WELFARE. A consideration of principles and methods of organization and administration of public welfare work. Prerequisite, courses 135 and 140. Senior standing. (3) MR. MORGAN.

194w. Social Legislation. A study of public welfare in relation to the legal regulations with which the social worker should be familiar in dealing with individuals and families. Prerequisite, courses 135 and 140. Senior standing. (2) Mr. Morgan.

195f. Medical Aspects of Social Work. A study of the relation of medical and health problems and facilities to social work agencies with emphasis on those health resources with which those directing rural public welfare may come in contact. Prerequisite, courses 135 and 140. Senior standing. (2) Mr. Stine; Mr. Morgan and Mr. Nebel.

200f and w. Seminar. Special lectures and review of literature. Credit arranged. Mr. Morgan; Mr. Brown.

209f and w. Advanced Social Case Work. An advanced course in which special types of individuals and family problems are studied. Administrative problems incident to the organization and conduct of various forms of social and public welfare work are critically analyzed. Prerequisite, course 131. Admission is dependent upon academic record, previous experience, and personal qualifications. (2) Mr. Brown.

215w. Probation and Parole. A study of the history, theory, and technique of probation and parole. Particular attention is given to problems of administration arising in cases of both juveniles and adults. Practice opportunity is provided in connection with courts and penal institutions. Enrollment is by arrangement with the instructor. Prerequisites, course 140 and Psychology 122. Offered alternate years. To be given in 1934-35. (3) Mr. Brown.

216f. Public Welfare Work. The purpose of this course is twofold; first, to trace the development of public welfare work in its varied aspects; second, to give definite, practical, and technical training in public welfare work. Prerequisite, courses 140 and 193. Offered alternate years. Not to be given in 1934-35. (2) Mr. Morgan.

217f and w. Social Case Practice. Practice work open to students who have completed course 209 or its equivalent. Credit arranged. Mr. Morgan; Mr. Brown.

234w. Farmer Movements. A critical study of the principal farmer movements in Europe and in America with a view to an evaluation of present day movements in the light of current trends in agriculture and country life. Offered alternate years. To be given in 1934-35. (2) Mr. Morgan.

235f. Historical and Comparative Country Life. An historical study of rural life in England, Denmark, Germany, and other countries. Comparisons are made between European conditions producing particular types and present day rural problems in the United States, with a view to their possible solution. Offered alternate years. Not to be given in 1934-35. (2) Mr. Morgan.

240f and w. Special Investigations. Credit arranged. Mr. Morgan; Mr. Brown.

290f and w. Research. Thesis required. Credit arranged. Mr. Morgan; Mr. Brown.

SOCIOLOGY

Courses in Sociology are not open to Freshmen. Prerequisites are listed with each course.

1f and w. General Sociology. A study of the factors influencing group life and of the processes found in society, followed by a treatment of the outstanding institutions and problems in social life in terms of the concepts developed. (5) Mr. Emig; Mr. Berry.

110f and w. Social Pathology. A study of social disorganization and personal demoralizations. Emphasis is placed on the processes by which social variants become maladjusted, and on the processes by which institutions and communities tend to disintegrate. Prerequisite course 1. (3) Mr. Brown.

111f and w. Criminology. A study of the biological and social factors in the development of the criminal; penal treatment, reform, and prevention. Prerequisite, Course 1. (3) Mr. Pihlblad.

112f. Child Welfare. A study of the socializing process and its conditioning by heredity and physical and social factors; a description of social policies and agencies for the promotion of child welfare. Prerequisite, Course 1. (3) Mr. Pihlblad.

113w. Constructive Social Policies. A critical analysis of policies and agencies for dealing with the social and economic aspects of sickness, invalidity, old age, accident, and unemployment. Prerequisites, Courses 1 and 110. (2) Mr. Pihlblad.

114w. The Family. A study of the family as a natural and institutional group, the influences which tend to modify its form and functions, the process of disintegration, current theories of reconstruction. Prerequisites, Courses 1 and 110 or 112. (3) Mr. Emig.

115f. Rural Sociology. See Rural Sociology 115.

116f. Urban Sociology. An analytical and critical study of the structure and function of city life, a development of concepts with which to understand urban problems. Prerequisite, Course 1. (3) Mr. Berry.

117f. Community Organization. See Rural Sociology 117.

120f. History of Social Work. See Rural Sociology 120.

125f. General Anthropology. A general introduction to the study of man and his culture; the origin and evolution of man as an animal; fossil man; problems of race; prehistory of Europe and the western hemisphere. Prerequisites, Course 1. (3) Mr. Berry.

126w. Cultural Anthropology. A comparative study of primitive folkways and institutions such as forms of marriage, property, religion, etc. The factors affecting culture and the principles of its development and the significance of the study of primitive culture for an understanding of contemporary civilization. Prerequisites, Courses 1 and 125. (3) Mr. Berry.

127f. Emigration and Immigration. A study of the cultural background of the principle immigrant groups and their problems of social adjustment in America. Prerequisite, Course 1. (2) Mr. Pihlblad.

130w. Ethnography. A descriptive survey of representative primitive tribes of Africa, Australia, Oceania, and the Americas, with special reference to their racial characteristics, customs, and institutions. The American Indian will be studied thoroughly. Prerequisites, Courses 1 and 125 or 126. (2) Mr. Berry.

131f and w. Social Case Work I. See Rural Sociology 131.

190f. Leadership. See Rural Sociology 190.

200f and w. Seminar. Reports of research by students and faculty members. The recent outstanding contributions are reviewed. Required of all graduate majors in sociology with or without credit. (1-2) The Staff.

220f. Principles of Sociology. A critical study of contemporary theories and schools of social thought. Prerequisite, 12 hours in Sociology. (3) Mr. Emig.

221w. POPULATION PROBLEMS. A review of population theory from Malthus to the present with special reference to contemporary population problems. Prerequisite 12 hours Sociology. (2) MR. PIHLBLAD.

222f. METHODS OF SOCIAL RESEARCH. A critical study of methods applicable to the study of social problems. Problems of investigation by the class. Required of all graduate majors. Prerequisite, 12 hours of Sociology. (3) MR. EMIG.

227f. THE AMERICAN NEGRO. A study of the historical background and present status of the American Negro. Prerequisite, 12 hours of Sociology. (2) MR. PIHLBLAD.

230w. HISTORY OF SOCIAL PHILOSOPHY. The development of social thought from the Hebrews to the present. Some of the outstanding sources are assigned. Prerequisite, 12 hours in Sociology. (3) MR. EMIG.

240f and w. SPECIAL INVESTIGATION. Directed reading and investigation not leading to a thesis. (1-3) THE STAFF.

290f and w. RESEARCH. A thesis is required for all advanced degrees in Sociology. Credit is arranged. THE STAFF.

SOILS

1f and w. SOILS. Required prerequisite, chemistry 1 and geology 2. An introductory course dealing with the subject of soils and the principles underlying rational soil management. Three class periods and two laboratory or field periods. (5) MR. MILLER; MR. ALBRECHT.

100f. SOIL FERTILITY. Prerequisite, course 1. Eight hours of chemistry should precede this course. A course having to do with the essential principles in maintaining soil fertility. One lecture and two laboratory periods. (3) MR. ALBRECHT.

101w. SOIL MANAGEMENT. Prerequisite, course 1. A course dealing with the principles of soil management as applied to the physical improvement and the fertility maintenance of soils. (3) MR. MILLER.

102f. SOIL SURVEYING AND LAND APPRAISAL. Prerequisite, course 1. A course designed to familiarize students with the principles and practices of soil surveying, land judging and land appraisal. One lecture and two laboratory periods. (3) MR. KRUSEKOPF.

104f. SOILS OF THE UNITED STATES. Prerequisite, course 1. The soils of the United States, their origin and development, field characteristics and the systems of farming to which they are adapted. Particular attention given to the soils of Missouri. Offered in alternate years. Offered in 1935-36. (2) MR. MILLER.

105w. SOIL BACTERIOLOGY. Prerequisite, course 1 and general bacteriology. Microorganic life of the soil in relation to soil fertility, including studies of nitrogen transformations, decay of farm manures, soil inoculation and other biological processes. One lecture, two laboratory periods. (3) MR. ALBRECHT.

106w. SOIL DEVELOPMENT AND MORPHOLOGY. Prerequisite, course 1. A course having to do with the principles of soil origin and development as determined by environmental factors. Special attention given to the modern ideas of pedologists regarding soil morphology. Offered in alternate years. Not offered in 1935-36. (2) MR. KRUSEKOPF; MR. JENNY.

107w. PHYSICAL PROPERTIES OF SOILS. Prerequisites, course 1 and college physics; a course in physical chemistry is recommended. A fundamental study of the physical constitution and colloidal properties of soils in their relation to

soil structure and consistency, water absorption and movement, aeration and temperature. Practical applications to cultivation, drainage and erosion problems. Offered in alternate years. Offered in 1935-36. (3-5) MR. BAVER.

120f and w. SPECIAL PROBLEMS. Prerequisite, at least eight hours credit in the subject of soils. Assigned problems in soil physics, fertility, or biology in connection with certain experiment station projects or problems chosen by the student with approval. (2-5) MR. MILLER; MR. ALBRECHT; MR. KRUSEKOPF; MR. JENNY; MR. BAVER.

200f and w. SEMINAR. Discussions of recent developments in soil science. Papers on assigned topics are presented for discussion. (1) MR. MILLER.

202f and w. SPECIAL INVESTIGATIONS. Prerequisite, one year of graduate study for non-majors in soils. Independent investigation of soil problems not terminating in a thesis. (2-5) MR. MILLER; MR. ALBRECHT; MR. KRUSEKOPF; MR. JENNY; MR. BAVER.

203w. THEORIES AND APPLICATIONS IN SOIL RESEARCH. Prerequisite, graduate standing in soils. A course designed to familiarize students with the development of theories underlying the major phases of soil research and with the methods of conducting soil investigations. Offered in alternate years. Offered in 1935-36. (2) MR. MILLER; MR. ALBRECHT; MR. JENNY.

204w. PHYSICAL CHEMISTRY OF SOILS. Prerequisites, physical or colloid chemistry. The application of the methods of physical and colloid chemistry to soil problems with special emphasis upon the physico-chemical nature of the inorganic and organic colloids as affecting soil acidity, base exchange, absorption, and the nature of the soil solution. Offered in alternate years. Not offered in 1935-36. (3-5) MR. BAVER.

205f and w. SOIL RESEARCH. Special investigations in soils. MR. MILLER; MR. ALBRECHT; MR. KRUSEKOPF; MR. JENNY; MR. BAVER.

SPANISH

(Prerequisites: For 105, 107, 110, 114, 120, 126, 130, course 3 or equivalent; for 111 and 122, course 105 or equivalent; for 112, instructor's consent; for 117, 16 hours of Spanish.)

1f and w. ELEMENTARY COURSE. (5) MISS BOHANNON; MISS BUFFUM; MISS JOHNSON; MR. SCHERR; MISS WALKER; MR. WARSHAW.

2f and w. INTERMEDIATE COURSE. (5) MISS BOHANNON; MISS BUFFUM; MISS JOHNSON; MR. SCHERR; MISS WALKER; MR. WARSHAW.

3f and w. ADVANCED COURSE. Rapid reading of modern works. Three hours of the credit of this course may be counted as upperclassman work toward a major in Spanish. (5), (3) or (2) MISS BOHANNON; MISS WALKER; MISS JOHNSON.

105f and w. COMPOSITION AND CONVERSATION. (3) MISS WALKER; MR. SCHERR.

107f. MODERN SPANISH DRAMA. (3) MR. WARSHAW.

110w. SPANISH-AMERICAN LITERATURE. (3) MR. WARSHAW.

111f. ADVANCED COMPOSITION AND CONVERSATION. (2) MR. WARSHAW.

112f and w. SPECIAL READINGS. Directed study of work suited to the needs of the individual student. (1-3) MR. WARSHAW.

114f. CONTEMPORARY SPANISH NOVEL. Alternates with course 113f, Nineteenth Century Novel, which will not be offered in 1935-36. (3) MISS BOHANNON.

117f. CERVANTES. Alternates with course 119f, Spanish Drama of the 16th and 17th Centuries, which will not be offered in 1935-36. (3) MR. SCHERR.

120w. MASTERPIECES OF SPANISH LITERATURE. Alternates with course 125w, Mexican Literature, which will not be offered in 1935-36. (3) MISS WALKER.

122w. COMMERCIAL SPANISH. (2) MISS WALKER.

126w. SPANISH LITERATURE OF THE 18TH CENTURY. Alternates with course 128w, Spanish Romantic Period, which will not be offered in 1935-36. (3) MR. SCHERR.

130w. SPANISH LYRIC POETRY. Alternates with course 132w, Spanish Short Story, which will not be offered in 1935-36. (2) MR. SCHERR.

197f and 198w. DISTINCTION. Special work for candidates for graduation with distinction. (3) MEMBERS OF THE STAFF.

201f and w. SPECIAL INVESTIGATIONS. Research in a field or period of Spanish literature. (1-4) MR. WARSHAW.

203f and w. SPECIAL STUDIES. Special problems in literature, grammar, or philology. (1-4) MR. WARSHAW.

204w. HISTORICAL SPANISH GRAMMAR. Alternates with course 202w, Old Spanish, which will not be offered in 1935-36. (3) MISS JOHNSON.

290f and w. RESEARCH. Required of students who elect to present a thesis. (Credit to be arranged.) MR. WARSHAW.

PHILOLOGY. Courses 203 and 204 will provide for the needs of students primarily interested in Spanish philology. Attention is called to courses in Vulgar Latin, Romance Philology, etc., offered in the Department of French and Italian.

(Teaching of Spanish. See Education D118w.)

SURGERY

102w. MINOR SURGERY. The lectures on the general principles of surgery included the consideration of asepsis and antisepsis, inflammation, healing of wounds, hemorrhage and sepsis. Material for demonstration of the minor surgical lesions is obtained from the dispensary. The laboratory periods are devoted to a study of bandaging and the preparation and use of surgical material and dressings. Each student will have twelve lessons on the practical application of bandages, including the general principles in the use of plaster bandages, adhesive dressings, splints, etc. The preparation of dressings and instruments is studied in the hospital. (2) MR. CONLEY; MR. DIETRICH.

103w. MEDICAL ETHICS AND ECONOMICS. Four one-hour lectures during the second semester. Optional for second-year medical students. MR. CONLEY.

VETERINARY SCIENCE

1f and w. GENERAL VETERINARY SCIENCE. (a) An elementary study will be made of the anatomy of the skeleton, muscles, joints, and internal organs. (b) Physiology of the internal organs, with special attention to the organs of reproduction. (c) Prevention of the common non-infectious diseases of farm animals. (5) MR. UREN.

2f and w. VETERINARY MEDICINE AND SURGERY. (Minor course.) Prerequisite, course 1. Diagnosis and treatment of the common ailments of farm animals, simple surgical operations. (3) MR. CRISLER.

100f. VETERINARY MEDICINE. (Advanced course.) Continuation of course 2 in the more advanced study of the non-infectious diseases. (3) MR. UREN.

101w. Stock Farm Sanitation and Disease Prevention. Prerequisites, course 1 and general bacteriology. (a) Infectious diseases of farm animals. A study of the causes, symptoms, pathology, special diagnostic methods, preventive measures, quarantine methods, disinfectants and their uses. Lectures, laboratory, and demonstrations. (3) Mr. Elder.

102f. Stock Farm Sanitation and Disease Prevention. (Continuation of 101w.) (a) Infectious diseases. (b) Animal parasites. A study of internal and external parasites of farm animals and their economic importance. (3) Mr. Elder.

103f and 104w. Diseases of Poultry. Diagnosis and treatment of the common ailments of poultry, parasitic and infectious diseases, prevention and treatment. (2) Mr. Durant.

105f and 106w. Special Problems. Assignment of special problems for training in research in animal diseases. Prerequisite, course 101w, 102f, or 104w, according to problem assigned. These prerequisites waived in case of graduate veterinarians who desire instruction on some special problems. Hours by arrangement. Mr. Durant; Mr. Elder; Mr. Uren.

200f and 201w. Seminar. Study of researches in animal and poultry diseases. Open to advanced students specializing in animal, dairy and poultry husbandry. (1-2) Mr. Durant; Mr. Elder; Mr. Uren.

202f and 203w. Research. Experimental investigation of animal and poultry diseases and of measures of prevention and treatment. Open to graduate students who have the requisite preparation. The student may assist in Experiment Station projects now in progress or may be assigned a special problem. Proper credit is given toward an advanced degree. Hours by arrangement. Mr. Connaway; Mr. Durant; Mr. Elder; Mr. Uren.

ZOOLOGY

Seniors taking the course in General Zoology will receive only four hours credit. Course Greek 13 is recommended to students of Zoology.

1f and w. General Zoology. A course in the principles of zoological science. The three-hour section is open only to students enrolled in the College of Agriculture who have completed a course in General Botony of at least 3 hours. (3 or 5) Mr. Curtis; Mr. Bennitt; Miss Guthrie; Mr. Woods; Mr. Cameron.

2w. Theory of Evolution. Prerequisite, course 1. A study of organic evolution and the applications of evolutionary doctrines. (2) Mr. Curtis.

3f. Advanced General Zoology. Prerequisite, course 1. A continuation of the introductory course. (3) Mr. Bennitt.

4w. Comparative Anatomy of Vertebrates. Prerequisite, course 1. A comparative study of the structure of a series of vertebrates. (5) Mr. Woods.

5w. Ornithology. Prerequisite, except in special cases, 5 hours of biological science. The structure, identification, habits, and importance of the birds of this region. Field work, supplemented by lectures and laboratory study. (2-3) Mr. Bennitt; Mr. Woods.

105f. Comparative Histology. Prerequisite, at least 8 hours of work in zoology. A comparative study of the microscopic structure of animal cells, tissues, and organs. (3-5) Mr. Woods.

110w. Parasitology. Prerequisite, at least 8 hours of work in zoology. A study of animal parasites. (3) Mr. Curtis; Mr. Cameron.

115w. EXPERIMENTAL ZOOLOGY. Prerequisite, at least 8 hours of work in zoology and 5 hours of chemistry. A course dealing with some of the fundamental principles of general physiology, with special reference to the relations between animals and their environment. (3-5) MR. BENNITT.

120f. EMBRYOLOGY OF VERTEBRATES. Prerequisite, at least 8 hours of work in zoology. The development of the vertebrates is discussed from a comparative point of view as a co-ordinated series of events, conditioned by both the genetic constitution and the environment. Successive stages in the development of the chick furnish the major portion of the laboratory material. (3) MISS GUTHRIE.

125f. GENETICS. Prerequisite, at least 8 hours of work in zoology or its equivalent in other biological lines. A course dealing with the experimental study of heredity and variation. (5) MISS GUTHRIE.

130f. PROTOZOOLOGY. Prerequisite, at least 13 hours work in zoology or its equivalent in other biological lines. A general study of the protoza. (3-5) MR. CURTIS.

135w. CYTOLOGY. Prerequisite, at least 13 hours of work in zoology or an equivalent in other fields of biological science. The morphology of cells with reference to the nature of protoplasm and the functions of cells in development and heredity. Cytological technique. (5) MISS GUTHRIE.

150f and w. SPECIAL PROBLEMS. Individual work under supervision, designed to supplement regularly organized courses in zoology, including experimental embryology (continuation of 120f) and beginning research in zoology. (1-5) MR. CURTIS; MR. BENNITT; MISS GUTHRIE; MR. WOODS.

200f and w. SEMINAR. Presentation and discussion of zoological problems and investigation by instructors and students. (1-2) MR. CURTIS; MR. BENNITT; MISS GUTHRIE; MR. WOODS.

215w. ADVANCED GENETICS. Prerequisite, Zoology 125f, or the equivalent. Lectures and readings from the original literature. To alternate with Zoology 220w; given in 1935-36. (3) MISS GUTHRIE; MR. STADLER; MR. RICKETT.

220w. ADVANCED CYTOLOGY. Prerequisites, Zoology 125f and 135w or their equivalents. Study of the chromosomes as related to genetics. Lectures and readings from the original literature. To alternate with Zoology 215w; not given in 1935-36. (3) MISS GUTHRIE; MR. STADLER; MR. RICKETT.

250f and w. SPECIAL STUDIES. Research not expected to terminate in a thesis; or advanced study in special fields of zoology, especially regeneration and protozoology. (1-5) MR. CURTIS; MR. BENNITT; MISS GUTHRIE; MR. WOODS.

290f and w. RESEARCH. Investigation of unsolved problems in zoology, undertaken with the expectation that the work will terminate in a thesis. MR. CURTIS; MR. BENNITT; MISS GUTHRIE; MR. WOODS.

SECTION IV

DEGREES AND CERTIFICATES—COMMENCEMENTS 1934

AT COLUMBIA

June 6, 1934

DEGREES

COLLEGE OF ARTS AND SCIENCE

Degree of Bachelor of Arts (A. B.) with Distinction

In Chemistry
Robert Vincent Smith
In Economics
Guy Emerson Noyes
In English
Dorothy Hoskins
In French
Mary Elizabeth Walton
Laura Virginia Whitlark
In Geography
William Alexander Hill
In History
Samuel Davis
Chester Glore Starr, Jr.
Elizabeth Crowley Wilkes
In Political Science
Caroline Cullers Hyde
Howard Burton Lang, Jr.
Edwin Sydney Stephens, Jr.
In Psychology
Virginia Elisabeth Elliott
In Sociology
Edith Angel Zelle
In Spanish
Mary Reynolds Montgomery Duffy

Degree of Bachelor of Arts (A. B.)

William Sylvanus Allee
Ann Arpe
Sentiny Richards Barnett
Alice Bisbey Bartell
Louis Waldo Benecke
Helen Marr Biggs
Roger Hammond Boots
William Perry Bradley, Jr.
Cleone Elsa Brown
Mary Louise Chenault
George Harry Clay II
John Miller Cooper
Bradford James Cotey
Raymond Miller Curtis
Edgar Archer Dimond
Marion Dunlap
Alice Evans
Margaret Lee Evans
Dorothy Finke
Uarda Rosamond Garrett
Ursula Marion Genung
James Goodfriend, Jr.
Morris Joseph Gottlieb
Helen Julia Gowdy
Wallace Elmer Haines
Harriet Matilda Hamner

Lloyd Graham Hanley
Eugene Clearence Hart
Melvin Richard Haupt
Sarah Ruth Hendon
Robert Montague Hoover
Bryan Ridgway Horner
James Allen Hughes
Helen Hunker
Hanson Kelly Ireland, Jr.
George Washington Ittner, Jr.
Mary Sue James
Oliver Henry Johnson
Robert Warren Kessler
Marjory Mae Kirk
William Meyer Kitchen
Bingham Trigg Kleine
Ralph Steele Latshaw, Jr.
Maurice Leech
Julius Levy
Robert Edward Long
Martha Elizabeth Clark Lorah
James Otto Lottes
Enna Mary Manning
Harry Earl Mantz
Frank Elbert Martin
William Nelson Maughs
Eugene Victor Mehl
Ella Bass Miller
Clyde Rogers Milster
Richard Curry Montague
Wilbur Jay Moulder
Mary McDonald
Frank Fletcher McKinney
Lucy Willeford McMahan
William Buckner Neate
John Frederick Nieburg
George Benjamin Norberg, Jr.
Don Harmon Notzon
John Watkins Oliver
Robert Frederick Palmer
Marjorie Haseltine Philips
Paul Preston Pierce
Joseph Harold Printz
Horace Dasher Quigg, Jr.
William Edward Quigley
George Henry Riedel
Robert Roy Robinson, Jr.
Arch Somerville Russell, Jr.
Horace Eugene Ryan
Leo Julian Rynders
Samuel Melvin Sarno
Beeason John Schneider
Robert Haywood Scott
Elizabeth Katherine Shannon
Aaron Glasser Shiffman
Richard Meriwether Smith
Sarah Owens Smith
Robert Louis Smithers
Alden Augustus Stockard
Jean Frances Stuart
Jack William Swatek
Charles William Tadlock, Jr.
Clifton Webster Thomas
Estill Stanley Thurston
Marion Foster Thurston, Jr.
Guy Louis Tourney
Barnard Cole Trowbridge
Fay Lillian Trowbridge
Bohumir Stanley Vavra
Tom Harriman Wallace
Harold Newton Warsawer
William Cash Wenkle
Merle Lee Williams
Carl Edward Williamson
Waldo Wayne Wilmore
Victor Charles Woerheide
Newton Edgar Young, Jr.

School of Medicine

Degree of Bachelor of Science in Medicine (B. S. in Med.) with Distinction

Margaret Jane Thomas

Degree of Bachelor of Science in Medicine (B. S. in Med.)

Charles Alonzo Brasher, A. B.
Charles Ferris Callihan, A. B.
George Randolph Conner
John Morgan Cooper, A. B.
William Joseph Cremer, A. B.
James Patrick Curran, A. B.
Merrill Clark Davenport
George Francois de Villiers, A. B.
Josè Francisco Domenech, A. B.
Robert Hart Donnell, Jr., A. B.
Philip Vernon Dreyer, B. S. in Ed.
Eugene Henry Hamilton, A. B.

Reginald Raymond Herren, A. B., B. S. in Ed.
Edgar Ross Kyger, Jr., A. B.
Charles Albert Leech, Jr.
Irl Richard Long, A. B.
Francis Marion Lyle, A. B.
Charles William Meinershagen, A. B. (*As of the class of 1932*)
William Thomas McNew, A. B.
Eugene Dixon Neville, A. B.
John Archibald Norton, A. B.
Reese Harris Potter, A. B. (*As of the class of 1933*)
George Thomas Riggs, A. B.
Eugene Victor Simison
Emerson Landen Simpson, A. B. (*As of the class of 1933*)
Chilton Eaton Spurgeon, A. B.
Eamil Adolph Stricker, A. B.
Efton Jewel Thomas
Albe Marion Watkins, A. B.
Willian Cash Wenkle
Noland Winford White, A. B.
Paul Witten, A. B.

Degree of Graduate Nurse (G. N.)

Gertrude Levera Aufranc
Bobbie Brumfield
Barbara Gregory Freeman
Para Lee June Saltz

COLLEGE OF AGRICULTURE

Degree of Bachelor of Science in Agriculture (B. S. in Agr.)

Henry Allen
Marion Oscar Barbee
Arnold Vencil Barber
Ralph Bogart
Rudolph Boyd Calvird
Donald Fisher Campbell
Andrew Miller Carpenter
Malcolm Clough
Frederick Carl Durtschi
John Newton Falloon
William Lowell Gee
Clyde McClellan Graham
J. D. Harris
Glenn Merle Henderson
Vance Anderson Henry
Virgil Vance Herring
John Robert Houghton
Carl Merritt Humphrey
Richard Irwin
Lisle Jeffrey
Arthur Knight
Herbert Louis Koch
Miles Morehouse Miller
John Edwin Mills
Ralph Bernet McGill
Donald Lee Nichols
Conry Robertson Pitney
Jerald Eugene Rowland
Kenneth Lee Russell
Charles Raymond Scoville
George Edward Smith
Leonard August Voss
Lewis Paul Wade
Ernest Martin Wagner
Frederick William Winter
Ira William Whitson
Clarence Milton Zimmerman

Degree of Bachelor of Science in Home Economics (B. S. in Home Ec.)

Elizabeth Pearl Ballheim
Aurevia Maurine Palmer Graham
Elsie Elizabeth Howell
Letha Knight
Louise Evelyn Moore
Catharine Louise Wilson
Mary Francis Wilson

Degree of Bachelor of Science in Rural Public Welfare (B. S. in Rur. Pub. Welf.)

Jacob Douglas Ensminger
Everall Fisher
Mary Elizabeth Huntsman
Margaret Porter Jelley
Rosemary Louise Lilie
Alice Evelyn Mansfield
Gladys Belle Mitchell
Catheleen Elizabeth Painter
Ruthe Hazel Solomon
Genevieve Olivia Tornsjo
Lucille Nelle Woodson

SCHOOL OF LAW

Degree of Bachelor of Laws (LL. B.)

John William Alexander, B. S. in Bus. Admin.
Charles Langston Bacon, A. B.
Charles Edgar Bledsoe, A. B. (*As of the class of 1932*)
George Harry Clay II, A. B.
Cullen Collins, A. B.
Joseph Clay Combs, B. S. in Bus. Admin.
Thomas Batsell Coppage, Jr., A. B.
Robert Ainslie Dempster
Jack Harrison Denny
Thomas Shackelford Denny
Louis Linton Dent
Marcus Max Felsen
Thomas William Francis, A. B.
Milton Stanley Ginn
Victor Clark Gladney, A. B.
Harold Miller Gutekunst
Frank Gaines Harris, Jr.
Rudolph Heitz, A. B.
Walter Compton Hotaling
Albert Cecil Howard, A. B.
Robert Lapsley Hoy, A. B.
Elliott McKay Hughes
Viva Norma Hunt, B. S. in Ed., A. B.
Robert Lawrence Jackson
Glen Orin Jones
Lewis Danforth Joslyn
C. Hardin Kelly, Jr.
Temple Holdsworth Morgett
Orlando Alphonse Mundwiller
John Charles McCloskey
William Apperson Nelson
Joseph Louis Pelofsky
Alonzo Schofield Penniston, B. S. in Bus. Admin.
Arthur William Rogers
James Franklin Selby
Robert Morris Schwartz
Carl Adolph Ulffers, Jr., A. B.
Carl Edward Williamson, A. B.
David Elisha Witt

COLLEGE OF ENGINEERING

Degree of Bachelor of Science in Engineering (B. S. in Eng.)

Harrison Ralph Ambruster
Jackson Kennish Austin
Leslie Edward Bates, Jr. (*As of the class of 1933*)
Frank Newton Beighley
Harry Jacob Bernat
Arthur Julius Bonnot
Leo Maurice Brownstein
Granville Lester Burgard
David Clinton Calhoun
Alfred Lee Coffman
Duward Francis Cook
Paul Milton Cox
Howard Easter
David Darryl England
Arthur Emil Felt
Raymond August Gaebler
Alfred Goldberg
Charles Howard Griswold
Richard Vaughan Harper
Dean Anson Harvey
Kenneth Bridges Huff
Paul Vincent Kaesser
R. Lloyd Ketcham
Glenn Odis Ladd
Harry Logan Lawrence
Middleton Degge Mitchell
Louis Frick Muench

Russell Bierer Neal
Carl Estes Neill
Manley Schoppe Nolen
Roy Osadchey
Custis Lee Overstreet, Jr.
(*As of the class of 1933*)
Paul Langley Patton
William Russell Rothmeyer
Raymond Stanley Scott
Kenneth Albert Smith
Nicholas George Stadtherr
Wayne Virgil Suter
Norris Hall Tuttle
Samuel Terrance Whitebread
(*As of the class of 1933*)
George Washington Wopat
Charles Joseph Yaeger

Degree of Chemical Engineer (Chem. E.)

Malcolm Everett Wells, A. B., B. S. in Eng.

Degree of Civil Engineer (C. E.)

David Kemp Marshall, B. S. in Eng. (*As of the class of 1933*)

SCHOOL OF EDUCATION

Degree of Bachelor of Science in Education (B. S. in Ed.) and Life Certificate to Teach

Margaret Alexander
Rebecca Allen
Eleanor McCoy Ball
Elizabeth Pearl Ballheim
Marjorie Banks
Gladys Marie Barr
Rowena Bass
Irma LaVern Blackmore
Lois Esther Bolinger
Estelle Bondurant
Harriett Botts
Clara Nell Brown
Lucy Bugg
Ella Bundren
Louise Burns
Ann Margaret Burrus
Dorothy Lois Clark
Velma Elizabeth Ward Clark
Aileen Avanelle Cobb
Charles Paul Collins
Elmer Thomas Coons, A. B.
Helen Marie Cottle
Mary Rosalie Cousins
Janet Lee Cross
May Hayden Curtright
Frances Elinor Dilts
Jennie Vea Downing
Beulah Agatha Early
Marian Genevive Edgar
Helene Richards Elam
Emily Elizabeth Evans
Forrest Louise Ferguson
Stella Frances Gaebler
Oneta Fern Gardhouse
Caroline Louise Grinstead
Paul Hartel Hackman
William Clarence Harris
Mary Sharp Harrison
James Orvis Hase, A. B.
Woodrow Thomas Hatfield
Lowell Hawkins
Ruth Hennon Hawkins
Elpha Irene Helton
Margaret Arnold Henderson
Mildred Belle Hulen
Mary Louise Johnson
Zenobia Lena Jones
Rose Elizabeth Kentner
Margaret Ruth Keys
Dorothy Kingsbury
Letha Knight
Vera Sophie Kroencke
Adele Edna Kroenlein
Helen Marie LaBarriere
Irene Bertha Langworthy
Frances Marie Lehmberg
Kate Hudson Lewis
Helen McKamey Manley
Viola Caroline Mann
Hildred Idena Martin
Clifton Magdalene Merryman
Denver Price Miller

Frances Cecile Milsten
Madge Elizabeth Moore
Mary Lou Morgan
Rugh Anna Messmer Mueller
Mildred Katherine Nelson
Velma May Olson
Mildred Margaret Palmer
Robert Frederick Palmer
Mabel Louise Smith Parker
Mary Ruth Patterson
Leta Mildred Patton
Christine Baker Poush
Helen Alma Rieth
Elizabeth Kelly Robertson
Edna Frances Russell
Catherine Rosine Saxe
Dulcie Elizabeth Schmidt
Mabel Schwabe
Pearl Schwabe
Kenneth Brockman Self, B. S. in Pub. Admin.
Eula Mae Sence
Sarah Owens Smith
Allen Eugene Stackhouse
Tillie Dale Strother
George Melvin Stuber
Mark Twain Swearengen
Dorothy Field Sylvester
Evelyn Ann Underwood
Frances Katherine Urban
Joy Frances Vencill
Lolah Ellen Wayland
Ennola Lee Wickersham
Anna Marie Wilson
Lucille Wilson

School of Journalism

Degree of Bachelor of Journalism (B. J.)

Charles Elmer Adams, Jr.
Robert Nauman Aldrich
Herman Rittenhouse Allen
John Franklyn Ardinger
Charles William Balthrope
William Howard Barney
Ruth Kathryn Bayne
John Joseph Bernard
Ida Jeanette Bernat
William Beauford Bickley
Earl Rogers Billings, Jr.
Francis Elliott Boren
Vernon Dean Boyd
Jewel Morrow Brandenberger
James Edward Burkey, Jr.
Paul Rudolph Busch
Hilda Giltner Butts
Thelma Inez Carden
Inez Purl Carr
Logan Stanford Chambers, A. B.
Helen Louise Clanton
William Henry Clark
Samuel Dresden Coleman
Winfield Scott Corbett
Rita Nelle Dean
Margaret Coe Edgerton
Arthur Lewis Edson
Edward Robb Ellis
Genevieve Evans
James David Fleming
Martha Glenn Flesher
Mary Marjorie Hale
James Dorian Harding
James Gerald Harper
Margaret Harrison, A. B.
Mike Heinbaugh
Harry Charles Herbig
Milton Herman
Francis William Herron
Linn Bond Hickman, A. B.
Eleanor Virginia Huff
Howard Matsuji Imazeki
Walter Welton John, B. S. in Agr. (in Agricultural Journalism)
Helen Louise Jordan
Gerald Arp Jurgens
Harry Louis Kaufman
George Edwin Kendall
Kathleen Lenore King
Marion Florence Kiser
Sam Clark Kidd
Ralph Carlton Klusmeier
Joseph Krumholtz
Felice Rose Levy
Ralph Scott Lilly
Burtis McGie Little, Jr.
Louis Lobensky
Clifford Jesse Long

Clinton Warner Loomis
Wei Ma
Marie Matassarin
Mary Esmeralda Mayes
Richard Curry Montague
Leonard Joseph McEnnis, Jr.
Warren Oscar McIntyre
James Asbury McKay
Gladise Mae Neisler
Ealton Louis Nelson
Nell Edwina Nelson
Catherine Louise Oliver
Clyde Chester Parker
Mary Frances Perkins
LeMoyne Wille Peters
Leon Foster Peterson
Marjorie Haseltine Philips
Hugh Points
William Henry Pyle, Jr.
Horace Dasher Quigg, Jr.
Lorraine Elizabeth Quigley
Tremain Fisher Robinson
Rebecca McIntire Rood
Aletrice Rutherford
Leo Julian Rynders
John Frederick Willard Schroeder
Aaron Glasser Shiffman
George Cartwright Shull
Allen Franklin Simmons
Ethel Maxine Smith
Sam Jackson Smith
(As of the class of 1933)
John Edward Solomon
Mary Colberne Spence
Elsie Grace Standeven
Howard Seymour Steele
John Anthony Steinmeyer
Frances Elizabeth Surridge
Mary Jeanette Symon
Edwin Taylor Toole
Eleanor Louise Trachsel
Chapman Turner
Besse Tyree
Edith Weinbach
Merle McDougald Werner
Margaret Ann Wheeler
Wilma Alice Wilkerson
Edwina Louise Wilser
Frances Louise Wilson
Willard Lloyd Woodhouse
Van Doren Woodward
William Jay Wright
Tosuke Yamasaki
George Clinton Yates
Joseph William Ziegler

SCHOOL OF BUSINESS AND PUBLIC ADMINISTRATION

Degree of Bachelor of Science in Business Administration (B. S. in Bus. Admin.)

Douglas Fisher Attaway
Glenn Woods Bayer
Alan Kent Bird
Charles Benson Callaham
Pao-Chuan Chao
Theodore Gregvor Coursault
Armstrong Bethel Crider
Paul Holland Darby
Ruth Helen Dorbin
John Miller Elliott
Ernest Cecil Farabee, Jr.
James Louis Fowler
Norman Romaine Gallatin
Eugene Victor Gamble
Lowell Dean Gaulding
Janes Miller Geiger
Sanford Goldstein
Nathan Chinn Haines
Nelson Ranford Henson
Carter Lavelle Hilsabeck
George Coe Hine
Glenn Earl Hopkins
Marshall Vincent Jones
Donald Franklin Koontz
James Wesley Lehr
Frank Irwin Manker
John Wesley May
Edward Charles Nies, Jr.
George Richard Parks
Roy Avery Prewitt
Charles Johnson Proctor
Eldred Bond Proctor
Lyle Clark Ridgley
Russell Lowell Riley
William A. Rothstein
Ben Ruben
Paul Charles Schaefer
Elbert Estell Smith, Jr.

Phyllis Smith
Melvin White Sneed
Richard Thompson Trenholme
Harry Hall Trice
Samuel English Wilson
Charles Bernhardt Winkelmeyer
Willard Ray Wood

Degree of Bachelor of Science in Public Administration (B. S. in Pub. Admin.)

Thomas Cartwright Brown
Edgar Myron Goodman
Kelley Elza Jackson
William Elmer Rownd
Rosa Emma Sander
James Clark White

COLLEGE OF FINE ARTS

Degree of Bachelor of Fine Arts (B. F. A.)

Florence Mary Campbell

Degree of Bachelor of Fine Arts (B. F. A.)

In Art

Kenneth Hope Cunningham
William Horton Hillis
Edna Fredrica Tornsjo

In Music

Kathleen Fowler
Roberta Mae Samuels

GRADUATE SCHOOL

Degree of Master of Arts (A. M.)

Mary Dinah Allen, B. J.
Mary Amelia Bartley, B. S. in Ed.
Norman Ritner Beers, B. S. in Eng.
Robert Luther Brock, A. B.
Alva Marion Burch, B. S. in Ed.
Northwest Missouri State Teachers College
Sidney Hubert Calvert, A. B.
Staunton Kirkbride Calvert, A. B.
Alfredo Perla Catedral, B. S. in Ed.
Northeast Missouri State Trachers College
Otis Loyd Chandler, B. S. in Ed.
Central Missouri State Teachers College
Norman Franklin Childers, B. S. in Agr.
Robert Scarth Clark, A. B.
Wilford LaVern Cline, A. B.
Giles Yeazell Conley, B. S. in Ed.
James Arthur Cottle, B. S. in Ed.
Northeast Missouri State Teachers College
Daphne Crawford, A. B.
Lloyd Elza Fine, B. S. in Ed.
Northwest Missouri State Teachers College
James Vester Fugate, B. S. in Ed.
Robert John Geist, B. S.
Cornell University
Mary Catharine Hanna, B. S. in Ed.
Ruth Patton Harris
A. B., Central College
B. M., DePauw University
Arthur Martin Hitch, A. B., B. S. in Ed.
Philip John Isaak, B. S. in Agr.
Kansas State Agricultural College
Edith Jennings, B. S. in Ed.
Southwest Missouri State Teachers College
Beulah Brown Jones, B. S. in Ed.
Northeast Missouri State Teachers College
George Walton Kelly, A. B.
Baylor University
Richard Laughlin Kilpatrick, B. S. in Ed.

Lillian Emma Kirk, B. S. in Ed.
Otis Ewing Lancaster, B. S. in Ed.
Central Missouri State Teachers College
Eugene Jackson Larmer, B. S. in Ed.
Northwest Missouri State Teachers College
Leslie Leonard Larson, A. B.
University of Illinois
Kou Ik Liu, B. S. in Bus. Admin.
Dorothy Marian Martin, B. A.
State University of Iowa
Carolyn Lucile Meyer, A. B.
Grinnell College
Oscar Cornelius Nussmann, A. B.
Baylor University
Duane Chilton Randall, A. B.
John Frederick Roberts, A. B.
Ella A. Rothe, B. S. in Ed.
Central Missouri State Teachers College
Perry Orn Sanders, A. B.
William Jewell College
Mildred Winn Saupe, B. S. in Ed.
Southeast Missouri State Teachers College
Marian Alice Shaver, A. B.
William Jewell College
Guy Donald Smith, B. S. in Agr.
University of Illinois
Johnnie Fleet Smith, B. S. in Ed.
Frank Otto Spohrer, B. S. in Ed.
Howard Lincoln Terry, A. B.
Wendell Bernard Thomas, B. J.
Ralph Edgar Traber, A. B.
Mary Elizabeth Webster, A. B.
Missouri Valley College
Bertis Alfred Westfall, A. B.

Degree of Master of Science (M. S.)

In Chemical Engineering

Charles Richard Clark, B. S. in Eng.
Julius Lawrence Englesberg, B. S. in Eng.
The College of the City of New York

In Electrical Engineering

Joseph Stuart Johnson, B. S. in Eng.

In Civil Engineering

Robert John Wier, B. S. in Eng.

Degree of Doctor of Philosophy (Ph. D.)

Willard Francis Bailey
A. B., A. M., *University of Missouri*
Dissertation: *A Study of Micropaleontology and Stratigraphy of the Lower Pennsylvanian of Central Missouri*

Rex Pascal Barrett
A. B., *University of Missouri*
Dissertation: *Organization of the Motion Picture Industry*

Walter Albert Chipman, Jr.
B. S., M. S., *University of New Hampshire*
Dissertation: *The Role of pH in Determining the Toxicity of Ammonium Compounds*

Frank Buckley Conselman
B. S., Sc. M., *New York University*
Dissertation: *The Geology and Stratigraphic Petrography of the Auxvasse Creek Quadrangle, Callaway County, Missouri*

Mary Elizabeth Folse
A. B., A. M., *University of Missouri*
Dissertation: *Greek Art in the Latin Epics*

Robert Lloyd Housman
B. J., A. M., *University of Missouri*
Dissertation: *Early Montana Territorial Journalism as a Reflection of the American Frontier in the New Northwest*

Randall Rich Kincaid
B. S. in Ed., *Southeast Missouri State Teachers College*
A. M., *University of Missouri*
Dissertation: *The Effect of Certain Environmental Factors on the Germination of Florida Cigar-Wrapper Tobacco Seeds*

James Fulton Lutz
B. S. in Agr., *North Carolina State College of Agriculture and Engineering*
A. M., *University of Missouri*
Dissertation: *The Physico-Chemical Properties of Soils Affecting Soil Erosion*

Hurley Lee Motley
A. B., B. S. in Med., A. M., *University of Missouri*
Dissertation: *The Proerythrocytic Function of the Spleen*

The Honorary Degree of Doctor of Laws (LL. D.)

Ernest Sneed Gantt
Henry Joseph Gerling
David William May
Frederick Hanley Seares
Casper Salathiel Yost

SCHOOL OF EDUCATION

Certificate to Teach for Two Years

Glen Fleming Minnis
Nelle Frances Phillips

August 3, 1934

DEGREES

COLLEGE OF ARTS AND SCIENCE

Degree of Bachelor of Arts (A. B.)

Laura Elizabeth Allee
Ruby Mae Blackwell
Esther Nadine Borenstine
Howard Rolland Breck
Wilburn Clifton Butcher
Joseph Patrick Crowe
Earl Harold Farnham
William Alexander Graham
Hicks George Griffiths
Paul Dillard Higday
Kermit Russell Irwin
Edward Lydick Jenkins
John Abraham Johnson
Lewis Danforth Joslyn
Abraham Joseph Kainen
John Lapsley McKee
Donald McCreery Oliver
Madge Proctor
Robert Mebane Ramsay
Henry Albert Ritgerod
William Wallace Scott
Richard Lorenz Sloop
Frances Hancock Stedman
Billy Jack von Lackum
Martha Edna Wright

SCHOOL OF MEDICINE

Degree of Bachelor of Science in Medicine (B. S. in Med.)

Joseph Dale Simmons
(As of the class of 1933)

COLLEGE OF AGRICULTURE

Degree of Bachelor of Science in Agriculture (B. S. in Agr.)

James Lowell Evans
Claude Cecil Grieb
Carl Francis Lewis
Foster Raymond Lewis
Kenneth Ewing Logan
Glen Earl Mutti
Lelan Scammahorn Ryan
Harold Marion Smith
Thomas Raymond Smith
Fred Alvin Stephens

Degree of Bachelor of Science in Home Economics (B. S. in Home Ec.)

El Vera Cernich
Mary Kathryn Sears
Vesta Spurgeon
Marie Irene Steinberg

Degree of Bachelor of Science in Rural Public Welfare (B. S. in Rur. Pub. Welf.)

Ruth Ann Tillotson

SCHOOL OF EDUCATION

Degree of Bachelor of Science in Education (B. S. in Ed.) and Life Certificate to Teach

Anita Melissa Baird
Pauline Baird
Ralph Emerson Barr
Samuel Christopher Bayless
Mildred Hawkins Bohon
Esther Nadine Borenstine
Mildred Olive Bowen
Eva Ann Bradford
Elsa Anna Bruening
Mary Louise Burch
Helen Maurine Clemson
Sadie Claire Crow
Ina Culver
Louis James Donati
Eloise Eleanor Elsea
Helen Hutton Elsea
William Warren Evans
Flora Jane Frederick
Gerard Alphonsus Gorman
Mary Frances Gowen
Dorothy Lucille Green
Loma Irene Gurwell
Walter Everette Hand
Hazel Calhoun Heathman
Virginia Irene Hinshaw
Gladys Hortenstine
Margaret Evelyn Houchin
Mildred Claire Houchin
Mary Lee Johnson
Beulah Winnefred Jones
Lucy Elizabeth Kinzer
Nell Irene Kinyon
George Emmitt Kohrman
Florence Alice Laudenberger
Enola Hetty Ledbetter
Pauline Loyd
Frances Louise Luckey
Nadyne Hazel Madole
Dorris Opal Muntzel
Helen Cathryn McGahan
Marie Gratiot McIntosh
Thelma Effia Neil
Anna Callah Pearson
Nelle Frances Phillips
Margaret Southgate Rucker
Miriam Sander
Margaret Muriel Sands
Mary Kathryn Sears

Marianna Jennings Shaner
Annie Obedience Smith
Beatrice Clarissa Stamm
Mary Gaines Stephens
Genevieve Stevens
Mary Madeline Thompson
Adele Ella Thym
Emma Wilhelimina Toben
Henry Richard Trautwein
Eloree Turner
Margaret Elizabeth Turner
Raymond Samuel Waldron
Alberta Edwards Waller
Gladys Minnie Wilkenloh
Maurine Estelle Wilkerson
Martha Jean Wilson
Naomi Woods
Ruby May Yowell

School of Journalism

Degree of Bachelor of Journalism (B. J.)

Jim Henderson Berry
Loureece Corinne Carpenter, B. S.
Max Sterlin Carrithers
James Russell Cosgrove, A. B.
Clark Seymour Evans
Robert Merrill Gray, A. B.
James Everett Helbert
Malcolm Stewart Hensley
Sylvan Lebow, A. B.
(As of the class of 1933)
Barbara Alma Mertz
Lois Margaret McKanna
John Lapsley McKee
John Edward Paxton
James Edward Peters
Akibo Carl Rigrod
Murray Gardner Robinson
Robert Magnus Singer
Lloyd Copithorne Smith
Susan Edna Whitehead
Morgan Winsborough

School of Business and Public Administration

Degree of Bachelor of Science in Business Administration (B. S. in Bus. Admin.)

Gay Doubet Barton
Theodore Louis Guthrie
Carl Grogg May
Herbert Jester Molony
William Harold McMillen

Degree of Bachelor of Science in Public Administration (B. S. in Pub. Admin.)

Grace Edith Hart

Graduate School

Degree of Master of Arts (A. M.)

Wilbur Loring Adams, B. S. in Bus. Admin.
June Algeo, B. S. in Ed.
Southwest Missouri State Teachers College
Claudia Colleen Armantrout, B. S. in Ed.
Blanche Elizabeth Baker, B. S. in Ed.
Richard Ayres Ball, B. S. in Ed.
Central Missouri State Teachers College
Katheryne Baugh, B. S. in Ed.
Southwest Missouri State Teachers College
Marvin Franklin Beach, B. S. in Ed.
Northeast Missouri State Trachers College
Virginia Beatty, B. S. in Ed.
Central Missouri State Teachers College
Ray Van Blomfield, B. S. in Ed.
Northwest Missouri State Teachers College

Curtis Empson Brewer, B. S. in Ed.
Southeast Missouri State Teachers College

Raymond Roscoe Brock, B. S. in Ed.
Southwest Missouri State Teachers College

Ruth Gladys Browitt, B. S. in Ed.
Northeast Missouri State Teachers College

Cordell Claude Brown, B. S. in Ed.

William Avery Buckner, A. B.
Central College

Elizabeth Nadeen Burkeholder, B. S. in Ed.

Charles Miller Burton, A. B.
William Jewell College

Ruth Elizabeth Bynum, B. S. in Ed.
Southeast Missouri State Teachers College

Everett Earl Camp, B. S. in Ed.
Northeast Missouri State Teachers College

George Carson Carmichael
A. B., Central College
B. S. in Ed., University of Missouri

James Emmett Clark, B. S. in Ed.

Homer McKinley Clements, A. B.
University of Kansas

Letha Geoghegan Cochran, B. S. in Ed.
Northeast Missouri State Teachers College

Thomas Conrad, Ph. B.
Missouri Valley College

Ernest Warder Crates, B. S. in Ed.
Central Missouri State Teachers College

Claude Lucious Dailey, B. S.
Southwest Texas Teachers College

Ferdinand Del Pizzo, A. B.

Charles Marcus Dial, B. S. in Ed.
University of Arkansas.

Windsor Smith Esther, A. B.
Southwest Missouri State Teachers College

Wendell Lee Evans, A. B.
Central Wesleyan College

Willie Faith, B. S. in Ed.

Howard Merle Farnsworth, B. S. in Ed.
Kansas State Teachers College (Pittsburg)

Mary Jewell Franklin, B. S. in Ed.
Central Missouri State Teachers College

Roy Edgar Freund, B. S. in Ed.
Central Missouri State Teachers College

Royce Harold Garnett, A. B.
Central College

Donald Ulysses Gibson, B. S. in Ed.
Northwest Missouri State Teachers College

Ruth Anne Glazebrook, B. S. in Ed.
Central Missouri State Teachers College

Deborah Mills Gordon, B. S. in Ed.

Willard Jacob Graff, B. S. in Ed.
Southwest Missouri State Teachers College

Fred Richard Graham, A. B., B. S. in Ed.

Charles Sumner Greenwood, A. B.
Missouri Wesleyan College

John Gregory, B. S.
Southwest Texas Teachers College

Leslie Grimes, A. B.

John Milton Gunn, A. B.
Hendrix College

Adam Russell Gwynn, A. B.
Westminster College

Jennie Jo Hackward, A. B.
Central College

Garland Granville Hammer, B. S.
North Texas State Teachers College

La Vona Florence Havird, A. B. in Ed.
Harris Teachers College

Hollis Richardson Hays, B. S. in Ed.
Northwest Missouri State Teachers College

Fred Byron House, B. S. in Ed.
Central Missouri State Teachers College

Grady William Humphrey, B. S. in Ed.
Northeast Missouri State Teachers College

Fred Jones, B. S. in Ed.
Southwest Missouri State Teachers College

Howard Jones, B. S. in Ed.
Des Moines University

James Edgar Judd, B. S. in Ed.
Northeast Missouri State Teachers College

George K'e Yi Kao, A. B.
Yenching University
Clarence Warner Leezy, B. S. in Ed.
Omar Lester, B. S. in Ed.
Northeast Missouri State Teachers College
George Robert Loughead, B. S. in Ed.
Northeast Missouri State Teachers College
Floyd Luttrell, Sr., B. S. in Ed.
Ware Marsden, B. S. in Ed.
Central Missouri State Teachers College
James Lee Martin, B. S. in Ed.
William Ernest Matthews, B. S. in Ed.
Central Missouri State Teachers College
Arthur Henry Moehlenbrock, A. B.
George Wade Morris, B. S. in Ed.
Central Missouri State Teachers College
Clark Braden McClure, B. S. in Ed.
Kansas State Teachers College (Pittsburg)
Theattus Ellis McIntosh, B. S. in Bus. Admin.
John Edmond McMahan, B. S.
Mississippi State College
Thomas Leon Noel, A. B.
William Jewell College
Blaine Blair Nolan, B. S. in Ed.
Kansas State Teachers College (Pittsburg)
Olive Lee Parrish, B. S. in Ed.
Southeast Missouri State Teachers College
Eugene Pearle Patterson, B. S. in Ed.
Central Missouri State Teachers College
Carl Emmert Pepmiller, B. S. in Ed.
Southeast Missouri State Teachers College
Lavenia Gertrude Poe, A. B., B. S. in Ed.
Lyda Belle Pollard, B. S. in Ed.
Northeast Missouri State Teachers College
Clement Alwin Powers, B. S. in Ed.
Southeast Missouri State Teachers College
Harold Gartin Puckett, B. S. in Ed.
Central Missouri State Teachers College
Robert Francis Reitemeier, B. S.
Purdue University
George Dewey Richardson, B. S. in Ed.
Central Missouri State Teachers College
Adela Louise Reik, A. B. in Ed.
Harris Teachers College
Archibald Frank Ross, B. S. in Agr.
Chilton Kimmins Ross, B. S. in Ed.
Northwest Missouri State Teachers College
Edgar Dee Russell, A. B.
Westminster College
Mary Alice Sands, A. B., B. S. in Ed.
Boyd Wylie Shepard, B. S. in Ed.
Central Missouri State Teachers College
Cora Ellen Shoop, B. S. in Ed.
Southwest Missouri State Teachers College
Emma Jean Brown Short, A. B., B. S. in Pub. Admin.
William Guy Sipe, B. S. in Ed.
Southeast Missouri State Teachers College
Lester Skaggs, A. B.
Lawrence Raymond Smart, B. S. in Ed., A. B.
Southwest Missouri State Teachers College
Grace Spellman, B. S. in Ed.
Northwest Missouri State Teachers College
Hildred Irene Spencer, B. S. in Ed.
Northeast Missouri State Teachers College
Floyd Edward Stayton, A. B., B. S. in Ed.
Winnie Stevens, B. S. in Ed.
Southwest Missouri State Teachers College
Harry Sutter, B. S. in Ed.
Southwest Missouri State Teachers College
Owen Jackson Taul, B. S. in Ed.
Southeast Missouri State Teachers College

Claude King Thompson, B. S. in Ed.
Northwest Missouri State Teachers College

Donald Clair Thompson, A. B.
Illinois Wesleyan University

John Samuel Urban, B. S. in Ed.
Northwest Missouri State Teachers College

Lauren Van Dyke, A. B.
Morningside College

Merle Edwin Vaughan, B. S.
South Dakota State College of Agriculture and Mechanical Arts

Kate Walker, B. S. in Ed.
Central Missouri State Teachers College

Ray Westfall, B. S. in Ed.
Northeast Missouri State Teachers College

John Rodgers Whitman, B. S.
Iowa State College

Samuel Joseph Williams, B. S. in Ed.
Kansas State Teachers College (Pittsburg)

Dora Allen Willis, B. S. in Ed.
Northwest Missouri State Teachers College

Ferda Ray Wood, B. S. in Ed.
Southwest Missouri State Teachers College

Maude Leslie Wood, B. S. in Ed.
Southeast Missouri State Teachers College

Roi Scarborough Wood, A. B.
Central Wesleyan College

Waldo Jennings Wood, A. B.
Oakland City College

Maurice Duffield Woolf, B. S. in Ed.
Northeast Missouri State Teachers College

Degree of Master of Science (M. S.)

In Civil Engineering

Frank Newton Beighley, B. S. in Eng.

Degree of Doctor of Philosophy (Ph. D.)

Henry Macmillan Alexander
A. B., *Davidson College*
A. M., *Princeton University*
Dissertation: *Council-Manager Government in Kansas City*

John Andrew Cameron
A. B., A. M., *University of Nebraska*
Dissertation: *The Origin of New Epidermal Cells in the Skin of Normal and X-Rayed Frogs*

George Cramer
A. B., A. M., *University of Missouri*
Dissertation: *Rings and Ring Ideals in a Relative Quadratic Number Field*

Carl Joyce Helmers
A. B., *Central Wesleyan College*
A. M., *University of Missouri*
Dissertation: *The Electrolytic Preparation of Tetratriacontadiene and a Study of its Chemical and Physical Properties, with Special Reference to "Oiliness"*

William Allen Hensley
A. B., *University of Missouri*
Dissertation: *The Preparation and Investigation of the "Oiliness" of Several Synthetic Hydrocarbons, and a Comparison of these with Petroleum Fractions of Corresponding Boiling Points*

Ralph Wesley Phillips
B. S., *Berea College*
A. M., *University of Missouri*
Dissertation: *The Thermo-Regulatory Function and Mechanism of the Scrotum*

Stephen Smith
B. S. in Ed., *Central Missouri State Teachers College*
S. B. in Ed., *University of Chicago*
M. A., *George Peabody College*
Dissertation: *A Description of Public School Conditions in Missouri During the Depression*

Zay Rusk Sullens

A. B., A. M., *University of Missouri*
Dissertation: *A Concordance to the Poems of John Donne*

Nelson Eric Viles
A. M., *University of Missouri*
Dissertation: *Improving the Insurance Program in the Local School Districts*

School of Education

Certificate to Teach for Two Years

Joe Berenice Dorsey
Glenn C. Smith
Thelma Veronee Woodhouse, A. B., A. M.
Caroline Dorothea Wolf

School of Mines and Metallurgy

(At Rolla)

May 26, 1934

DEGREES

Degree of Bachelor of Science in Mine Engineering

Richard Holton Beck
Samuel A. Bermi
Richard James Dobson
Ellsworth William Fort
Clarence Marks Hinton
(As of the class of 1933)
Lawrence Graseth Marshall
Jim Clarence Meacham
Charles Wagner Potter
William Henry Russler
Richard Dwight Sandoe
Roy Erwin Swift

Degree of Bachelor of Science in Metallurgy

Wendell Francis Gaddis
Jack Everett Gaston
Gordon Hewitt Gillis
Thomas Robert Graham
David Porter Hale, Jr.
Herbert August Hoffman
Elmer Loren McReynolds
Millard Harris Murray
William Rutherford Springer

Degree of Bachelor of Science in Civil Engineering

Harold Roy Absher
Ray Irwin Brasaemle
Charles Lincoln Bury
Fulton Campbell
James William Darling
Durward Edward Fagan
William Ellis Hedges
Hardin Orland Henrickson
Fred William Hurd
LeRoy Hayine Jackson
Gilbert Lewis Krattler
Cornelius Wolfram Kruse
John Herbert McKinley
Guy Roberts Miles, Jr.
Charles Joseph Murphy
John James O'Hearn
Albert W. Ray Oswald
David J. Peery
Thomas Henry Reese, Jr.
Robert August Sackewitz
Paul Edward Smelser
Leo Joseph Sullentrup
Lauren Preston Tuttle
John Hurster Zell

Degree of Bachelor of Science

Richard G. Hudson
Clemens Raebel Maise
Lloyd Smith Rolufs

Degree of Bachelor of Science in Mechanical Engineering

Walther Herman Bruening
Ralph Charles Cole
Harry William Decker
William Barger Fletcher
James Henry Galloway, Jr.
LeCompte Joslin
Michael John Klingler
Frederick Arthur MacConnell
Otto Louis Nuernberger
Walter S. Schamel, Jr.
Norwin Albert Schmidt
Charles C. Segall
Ernst Byron Stolle
Richard Elton Taylor
Ralph Andrew Tiemann

Degree of Bachelor of Science in Electrical Engineering

John Bernard Czyzewski
Homer Taylor Ford
Walter James Irwin
Charles Eugene Kew
Edward Charles Kozeny
James Edward O'Bryant
Kenneth Herman Sievers
Raese W. Simpson

Degree of Bachelor of Science in Chemical Engineering

Harold Edgar Boyd
Jed George Burnham
William Waller Coghill
Henry Bradbury Coons
(*As of the class of 1933*)
Robert Louis Cunningham
Thomas Shirley Donahue
Oscar Merrell Duncan
George Augustus Hale
Mason Burt Larwood
Philip Coleman McDonald
Richard Addison Parker
(*As of the class of 1933*)
Lester Ernst Poese
William Rogan Power
Thomas James Stewart, Jr.
James Hugh Tobin
Arthur Harris Walther
Wilfred Wiedey Westerfeld

Degree of Bachelor of Science in Ceramic Engineering

William Newton Coffman
George Armour Sellers
Robert LeGrande Stone
Robert Clark Weigel

Degree of Master of Science in Chemical Engineering

Oden Cass Garst, B. S., *Missouri School of Mines*
Thesis: *The Photobromination of Azobenzene*
Charles Leo William Hunze, A. B., *Southeast Missouri State Teachers College*
B. S., *Missouri School of Mines*
Thesis: *A Study of the Effects of Paraffin Wax upon the Viscosities of Lubricating Oils*

Degree of Engineer of Mines

Willard Farrar, B. S., 1930, *Missouri School of Mines*
Henry Emmett Gross, B. S., 1928, *Missouri School of Mines*
Felipe Buenaventura Ore, B. S., 1921, *Missouri School of Mines*
Merton Ira Signer, B. S., 1923, *Missouri School of Mines*

Degree of Civil Engineer

Jean Paul Bryan, B. S., 1924, *Missouri School of Mines*
Warren Roy Gettler, B. S., 1922, *Missouri School of Mines*
William Alonzo McCanless, B. S., 1927, 1928, *Missouri School of Mines*
Walter John Shaffer, B. S., 1926, *Missouri School of Mines*

Degree of Chemical Engineer

Frederick William Hoertel, B. S., 1929, *Missouri School of Mines*

FELLOWSHIPS, SCHOLARSHIPS, HONORS AND PRIZES

Peabody Scholar in Education, 1934-35

Byron Lee Westfall
B. S. in Ed., *University of Missouri*
A. M., *University of Missouri*

Gregory Scholars, 1934-35

Victor De Witt Brannon (Political Science)
A. B., *University of Arizona*
M. A., *University of Arizona*
Charles Richard Clark (Chemistry)
B. S. in Engineering, *University of Missouri*
M. S. in Chemical Engineering, *University of Missouri*
Mary R. Montgomery Duffey (Spanish)
A. B., *University of Missouri*
Richard Maury Emberson (Physics)
A. B., *University of Missouri*
A. M., *University of Missouri*
Robert John Geist (English)
B. S., *Cornell University*
A. M., *University of Missouri*
Willis Stuart Haynes (Chemistry)
A. B., *University of Missouri*
Everett Ernest Keith (Education)
B. S. in Ed., *Southwest Missouri State Teachers College*
A. M., *University of Missouri*
Richard Koopman (Electrical Engineering)
B. S. in Engineering, *University of Missouri*
M. S. in E. E., *Yale University*
Robert Vincent Smith (Chemistry)
A. B., *University of Missouri*
Darnell Moses Whitt (Soils)
B. S., *North Carolina State College of Agriculture and Engineering*

Volker Scholars, 1934-35

Florida Moore
B. S. in Ed., *Northwest Missouri State Teachers College*
Richard R. Myers
A. B., *University of Missouri*

Scholar in American Citizenship

Walter Ivan Pope, Jr.

Frank P. Blair Scholar

Chester G. Starr, Jr.

Rhodes Clay Scholar

Charles Vernon Robinson

FRANCIS SCHOLAR IN CREATIVE LITERATURE (for women)

Cecile Horne

EUGENE FIELD SCHOLAR (Journalism)

Lester Silbernagel

JAY L. TORREY SCHOLAR (Journalism)

Alice Jessica Pye

JOHN W. JEWELL SCHOLARS (Journalism)

May Day Lo
Donald Brown Thurman
Ruth Dunham
Robert B. Howie
Marvin McQueen

JOURNALISM ALUMNI SCHOLAR

Willard Irving Corlett

JOURNALISM STUDENTS ASSOCIATION SCHOLARS

Nell Edwina Nelson
George Ke Yi Kao
Arthur Paul Schulze

SIGMA DELTA CHI SCHOLAR (Journalism)

Arthur Lewis Edson

THETA SIGMA PHI SCHOLAR (Journalism)

Ethel Maxine Smith

ISAAC HINTON BROWN SCHOLAR

Elizabeth E. Hickman

S. H. FORD SCHOLAR (Education)

Edna Frances Russell

JAMES S. ROLLINS SCHOLARS

Agriculture.....Ellsworth Springer
Arts and Science.....Dorothy Dolores Peterson
Lester Silbernagel
Engineering.....Carl Rudolph Wilder
Law.....William Robert Collinson
Medicine.....Jeanne Hibbard

HARRY TIDD SCHOLAR

James Levert Lawhon

MISSOURI ENGINEERS OF CHICAGO SCHOLAR

Philip Robert Watson

PHI MU ALPHA SCHOLAR (Music)

Harold Kenneth Glenn

MISSOURI STATE LEAGUE OF BUILDING AND LOAN ASSOCIATION SCHOLARS

James Louis Fowler (1933)
Ben Ruben (1933)
James Wesley Lehr (1933)
Leonard Eugene Thompson
James Lester Fidler
John Pearse Miller

FRANK R. MCDERMAND SCHOLAR

George Washington Ittner, Jr.

KATE GOLDMAN SCHOLAR

Stanley Saul Jacobs

PRIZES AND MEDALS

DELTA SIGMA PI PRIZE (Business and Public Administration)

Ben Ruben

PHI CHI THETA PRIZE (Business and Public Administration)

Phyllis Smith

ALPHA KAPPA PSI MEDAL (Business and Public Administration)

Leonard Eugene Thompson

CHI OMEGA SOCIAL BETTERMENT PRIZE (Sociology)

Edith Angel Zelle

MILITARY PRIZES

Board of Curators Cups

Company "E", Cadet Captain Robert Roderick Clark II
Battery "A", Cadet Captain Walter Everette Hand

Board of Curators Medals

Rifle Marksmanship Medals:
Cadet Colonel Albert Luther Muller
Cadet Conway Logan Holmes
Pistol Markmanship Medal:
Cadet Marvin Duncan McQueen
Camp Efficiency Medals—Infantry:
Cadet Colonel Albert Luther Muller
Cadet Lieutenant Colonel Tom Harriman Wallace
Camp Efficiency Medals—Field Artillery:
Cadet Colonel George Richard Parks
Cadet Lieutenant Colonel James Lewis Craig

SPECIAL DISTINCTION AWARD (Journalism)

Margaret Ann Wheeler

Mahan Prizes

Poetry	(First)	Vernon Louis Meyer
	(Second)	Mary Frances Owsley
University Essay	(First)	Mary Frances Owsley
	(Second)	Bernice Allean Lemmon
Freshman Essay	(First)	Harold Weber Thieman
	(Second)	Ruth Isaacs
Short Story	(First)	Charles Calvin Hayward
	(Second)	Arthur Lewis Edson

Forensic Prizes

Robert Vollberg Niedner

David Skeer

Stephens Medal (Oratory)

Lafe Allen, Jr.

McAnally Medal (English)

Tudor Lanius

Dramatic Prize

William Bown Adams

Missouri Valley Intercollegiate Conference Medal

John Anthony Steinmeyer

Pi Mu Epsilon Prizes (Mathematics)

In Analytic Geometry ..... Charles Vernon Robinson
In the Calculus ..... Joe Benson Holmes
Vincent Oscar Johnson

Phi Beta Kappa Trophy

Grover Cleveland High School, St. Louis

Paulina Kuntze Award (Music)

Kathleen Fowler

William B. Ittner Prize (Fine Arts)

William Horton Hillis

Pi Lambda Theta Prizes (Education)

Ida Charlene Baker

Auria Bernice Crowson

William Mack Prize (Law)

Alonzo Schofield Penniston

JUDGE SHEPARD BARCLAY PRIZE (Law)
Charles Langston Bacon

JOHN D. LAWSON PRIZE (Law)
William L. Nelson, Jr.

ALEXANDER MARTIN PRIZE (Law)
William Robert Collinson

UNIVERSITY OF MISSOURI LAW SCHOOL FOUNDATION PRIZE (Law)
Albert Cecil Howard

COLUMBIA BRANCH A. A. U. W. AWARD
Louise Elizabeth McLean

ALUMNAE ASSOCIATION OF THE SCHOOL OF NURSING PRIZE
Para Lee June Saltz

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