

BULLETIN  
UNIVERSITY OF KENTUCKY



SUMMER SESSION, 1924  
JUNE 16, TO AUGUST 15, 1924

February, 1924

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No. 2

## SUMMER SESSION CALENDAR

Monday	June 16	Registration
Tuesday	June 17	Classes begin in all departments
Friday	July 4	Holiday—all classes suspended
Friday	August 15	Examinations

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### OFFICERS OF ADMINISTRATION

---

FRANK LeROND McVEY, Ph. D., LL. D., President  
McHENRY RHOADS, Ph. M., State Superintendent of Schools  
WILLIAM S TAYLOR, Ph. D., Director of the Summer Session  
WELLINGTON PATRICK, A. B., A M., Assistant Director of the Summer Session  
PAUL PRENTICE BOYD, M. A., Ph. D. ,Dean, College of Arts and Sciences  
THOMAS POE COOPER, B. S. In Agr., Dean, College of Agriculture  
WILLIAM S. TAYLOR, Ph. D., Dean, College of Education  
FREDERICK PAUL ANDERSON, M. E., Dean, College of Engineering  
LYMAN CHALKLEY, B. L., Acting Dean, College of Law  
WELLINGTON PATRICK, A B., A. M., Director of University Extension  
COLUMBUS RUDOLPH MELCHER, A. M., Dean of Men  
EMMA J. WOERNER, B. S., M. A., Acting Dean of Women  
EZRA L. GILLIS, A B., Registrar  
DAVID HOWARD PEAK, A. M., Business Agent  
MARGARET ISADORE KING, A. B., Librarian  
TERESA BUCHIGNANI, A. B., Secretary to the President

## SPECIAL INSTRUCTORS FOR THE SUMMER SESSION

---

- Dr. John J. Tigert, United States Commissioner of Education.
- Dr. Thomas H. Briggs, Professor of Education, Teachers College, Columbia University.
- Dr. Guy M. Whipple, Professor of Experimental Education, University of Michigan.
- Dr. Lee Driver, Supervisor of Rural Education, Pennsylvania State Department of Public Instruction.
- Mr. J. C. Wright, Director of Vocational Education, Federal Board for Vocational Education.
- Mr. Lee Hunt, Professor of Secondary Education, Saint Lawrence University, Canton, N. Y.
- Mr. Byron W. Hartley, Superintendent of City Schools, Louisville, Ky.
- Mr. R. E. Hill, Superintendent of City Schools, Somerset, Kentucky.
- Mr. Charles E. Skinner, Principal of the Senior High School, Lexington, Kentucky.
- Mr. E. F. Birchead, Superintendent of City Schools, Winchester, Kentucky.
- Miss Emma J. Woerner, Principal of the J. M. Atherton High School for Girls, Louisville, Kentucky.
- Mr. George M. Baker, County Superintendent of Fayette County, Kentucky.
- Dr. Floyd H. Allport, Professor of Psychology, University of North Carolina, Instructor in Psychology.
- Dr. Ira A. Barth, Professor of Political Science, University of Pennsylvania.
- Dr. James N. Wright, Professor of Sociology, Georgetown College.

## FACULTY OF THE SUMMER SESSION

---

- Allen, William R., A. M., Ph. D.,  
Assistant Professor of Zoology.
- Allport, Floyd, H., Ph. D.,  
Professor of Psychology, University of North Carolina, Instructor in Psychology.
- Anderson, Charles Claude, M. S.,  
Professor of Agricultural Education.
- Anderson, Walter S., M. A.,  
Professor of Genetics.
- Andrew, Thurman, B. Sc.,  
Instructor in Mathematics.
- Baker, George M., A. M.,  
Superintendent of Fayette County Schools.

- Bedford, Matthew Hume, Ph. D.,  
Assistant Professor of Physical Chemistry.
- Birckhead, E. F.,  
Superintendent of City Schools, Winchester, Kentucky. Instructor  
in Education.
- Boles, Stanley Atwood, M. A.,  
Director of Athletics; Head, Department of Physical Education.
- Briggs, Thomas H., Ph. D.,  
Teachers College, Columbia University. Instructor in Education.
- Cornell, L. Maybelle, B. S.,  
Professor of Home Economics.
- Chalkley, Lyman, B. L.,  
Professor of Law; Acting Dean.
- Dantzler, Lehre Livingston, M. A.,  
Professor of Philology; Head, Department of English.
- Davis, Joseph Morton, M. A.,  
Professor of Mathematics.
- Dicker, John Born,  
Superintendent of Shops.
- Downing, Harold Hardesty, B. C. E., M. S.,  
Associate Professor of Mathematics.
- Driver, Lee, LL. D.,  
Supervisor of Rural Education, Pa. St. Dept. of Public Instruction.  
Instructor in Education.
- Farquhar, Edward Franklin, M. A.,  
Professor of Literature.
- Fergus, Ernest N., B. S., M. S.,  
Assistant Professor of Farm Crops.
- Fitzgerald, Nellie, B. S., M. A.,  
Instructor in Home Economics.
- Fling, Harold Pierce, A.B., A.M.,  
Assistant Professor of Secondary Education.
- Freeman, William Edwin, A. B., E. E.,  
Assistant Dean, College of Engineering and Professor of Electrical  
Engineering.
- Funkhouser, William Delbert, M. A., Ph. D.,  
Professor of Zoology, Head of Department.
- Good, Edwin Stanton, M. S.,  
Professor of Animal Husbandry.
- Hartley, Byron W.,  
Superintendent of City Schools, Louisville, Kentucky. Instructor in  
Education.

- Hawkins, Robert Dawson, M. E.,  
Assistant Professor of Mechanical Engineering.
- Hill, R. E.,  
Superintendent of City Schools, Somerset, Kentucky. Instructor in  
Education.
- Hooper, John Julian, M. S. A.,  
Professor of Dairy Husbandry.
- Horine, John Sherman, M. E.,  
Assistant Professor of Mechanical Drawing.
- Horlacher, Levi Jackson, M. S.,  
Associate Professor of Animal Husbandry.
- Horsfield, Margaret Bennett, A. M.,  
Assistant Professor of Romance Language and Literature.
- Hunt Lee, A. M.,  
Professor of Secondary Education, Saint Lawrence University, Canton,  
N. Y. Instructor in Education.
- Hutson, J. B., B. S. in Agr.,  
Assistant Professor of Farm Management.
- Johnson, James Richard, B. M. E.,  
Professor of Applied Mechanics.
- Jones, Theodore Tolman, A. M.,  
Professor of Ancient Languages and Literatures, Head of Department.
- Karraker, Perry Elmer, M. A.,  
Associate Professor of Soils.
- Kelly, James Byron, B. S. in M. E., B. S. in A. E.,  
Professor of Agricultural Engineering.
- Knight, Grant Cochran, A. M.,  
Assistant Professor in English.
- Lampert, Carl Albert,  
Professor of Music, Head of Department.
- LeStourgeon, Flora Elizabeth, Ph. D.,  
Assistant Professor of Mathematics.
- Lipscomb, William Nunn, M. D.,  
Assistant Professor of Hygiene and Public Health, Acting Head of  
Department; Resident Physician.
- MacGregor, J. Lee, M. A.,  
Assistant Professor of Political Science.
- May, Augustus Noah, B. Ped.,  
Professor of Teacher Training in Industry.
- McFarland, Frank Theodore, Ph. D.,  
Professor of Botany, Head of Department.



- McFarlan, Arthur C., Ph. D.,  
Associate Professor of Geology.
- Melcher, Columbus Rudolph, A. M.,  
Dean of Men, Professor of German Language and Literature, Head of  
Department.
- Meyer, Anita,  
Instructor in Art Education, Louisville Normal School.
- Mitchell, John Richard, A. B.,  
Assistant Professor of Chemistry.
- Noe, James Thomas Cotton, A. M., Litt. D.,  
Professor of History and Philosophy of Education.
- Olney, Albert Jackson, B. S., M. H.,  
Professor of Horticulture.
- Patrick, Wellington, A. M.,  
Assistant Professor of Education and Director of University Ex-  
tension.
- Roberts, George, B. Ped., M. S.,  
Assistant Dean, College of Agriculture; Professor of Agronomy.
- Roberts, William Lewis, J. D.,  
Professor of Law.
- Saunier, Stephen Thaddeus,  
Instructor in Blacksmith Shop.
- Scarborough, Harlan J., S. B., A. B., LL. B.,  
Professor of Law.
- Scherago, Morris, B. S., D. V. M.,  
Associate Professor of Bacteriology, Head of Department.
- Server, Mrs. Alberta Wilson, A. B., M. A.,  
Instructor in Romance Languages.
- Singer, David Norton,  
Instructor in Auto Engineering.
- Skinner, Charles E., M. A.,  
Principal of Senior High School, Lexington, Kentucky. Instructor in  
Education.
- States, Marshall Ney, Ph. D.,  
Associate Professor of Physics.
- Stewart, Olus Jesse, M. S.,  
Instructor in Chemistry.
- Taylor, William S., Ph. D.,  
Dean, College of Education.
- Thurman, Gordon,  
Instructor in Machine Shop.

- Tupper, Sarah Spalding, B. S., M. A.,  
Professor of Home Economics Teacher Training.
- Watkins, Isaac G.,  
Assistant in Engineering.
- Webb, William Snyder, M. S.,  
Professor of Physics, Head of Department.
- Whipple, Guy M., Ph. D.,  
Professor of Experimental Education, University of Michigan. In-  
structor in Education.
- Wiest, Edward, A. M., Ph. D.,  
Professor of Economics and Head of the Department of Economics and  
Sociology.
- Wright, J. C.,  
Director of Vocational Education, Federal Board of Vocational Educa-  
tion. Instructor in Education.
- Wright, James N., Ph. D.,  
Professor of Sociology, Georgetown College. Instructor in Sociology.
- Woerner, Emma J., B. S., M. A.,  
Principal of the J. M. Atherton High School for Girls, Louisville, Ken-  
tucky. Instructor in Education.
- Zimmerman, Alec Julius, B. S.,  
Instructor in Chemistry.
- Yates, Lawrence, A. B.,  
Instructor in English.
- Zembrod, Alfred Charles, M. A.,  
Professor of Romance Languages and Literature, Head of Department.

## GENERAL INFORMATION

### LENGTH OF SESSION

The summer session at the University of Kentucky for 1924 shall consist of one term nine weeks in length and shall begin June 16 and close August 15.

### CLASSES OF COURSES

Courses will be offered for graduates and for undergraduates in the College of Agriculture, the College of Arts and Sciences, the College of Education, the College of Engineering and the College of Law.

### FOR WHOM PLANNED

The summer session program of the University of Kentucky has been planned to meet the needs of the following groups:

1. Teachers in the public schools who wish additional training in their special lines of work and who desire to work toward college degrees.
2. Teachers in private and parochial schools who wish additional training in their special lines of work and who desire to work toward college degrees.
3. Supervisors of grade school work and special subjects.
4. City superintendents who desire to acquaint themselves with recent progress in education and who have special problems for solution.
5. County superintendents who desire to study the problems of the organization and administration of rural education and problems relating to the social life of the community.
6. Teachers in junior colleges who desire additional training in the particular field in which they work and who are working toward higher degrees.
7. Normal school and college teachers who desire additional training in their chosen fields and who are working toward advanced degrees.
8. Undergraduates in agriculture, arts and sciences, education, engineering and law who find it desirable to shorten the period of their college courses.
9. Persons desiring training for Y. M. C. A., Y. W. C. A. and social welfare service, including play ground directors.

## A LARGER PROGRAM FOR 1924

The attendance for 1923 was the largest in the history of the University. The interest and enthusiasm manifested have led the University to plan a larger program for 1924. A greater variety and a greater number of both graduate and undergraduate courses are being offered in the 1924 summer session.

### ENTRANCE REQUIREMENTS

Teachers in service who do not present the necessary admission credit may be admitted to the summer session if qualified to carry the work desired.

Other persons may be admitted as special students under the following conditions:

- a. They must be prepared to do the work desired and give good reason for not taking a regular course.
- b. They must be at least twenty-one years of age.

All others shall be admitted in accordance with the requirements prescribed for the regular session which are as follows:

- (1). By passing the examinations for entrance to the University as described in the general catalog; (2) by certificate of graduation from a standard accredited high school; (3) by certified standing from a state normal school, or (4) by presentation of evidence of satisfactory scholarship and character from an approved college or university at which the student has been in attendance. Admission to the graduate school is discussed later.

Students who have not previously entered the University will do well to present to the Registrar of the University at or before the beginning of the summer session, their scholastic record. When presenting transcripts of records from other institutions, the student's high school record should accompany them, since the student's classification often depends on the particular subjects taken in high school. The record will be formally passed upon by the Registrar, who will, on application, issue to the student a statement of standing.

Applicants for admission to the College of Law as candidates for a degree must satisfy the general entrance requirements of the University, as stated above, and in addition, must have thirty credits of college work, other than law.

Students who do not desire to become candidates for a degree need not comply with the entrance requirements. They may register in any course or courses which they are able to carry to advantage. If such students complete the work of a course satisfactorily, the Registrar will, upon application, issue a credit statement noting the hours of work carried and the grades earned. Credit toward graduation at the University of Kentucky, however, will be given only after regular matriculation by one of the methods described above.

Students who have been dismissed from the University will not be admitted to the summer session without the approval of the Committee on Attendance and Scholarship.

Students who desire to become candidates for degrees should, if possible, submit their credentials before entering, as it occasionally takes considerable time to settle the various questions which arise. Students should ask the Registrar for a form on which to submit credits.

## RESIDENCE REQUIREMENTS AND DEGREES

Before a student can receive the baccalaureate degree he must have been in residence at the University of Kentucky for at least two semesters. Four summer sessions of six weeks each or three summer sessions of nine weeks each will satisfy the residence requirements.

Courses taken through the Department of University Extension may be counted toward graduation to the extent of two years (60 credits), but credit earned in this way cannot be used to satisfy residence requirements. Extension courses cannot be used to satisfy any requirements on the master's degree.

## REQUIREMENTS FOR GRADUATION

### COLLEGE OF ARTS AND SCIENCES

#### DEGREES

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

#### THE DEGREE OF BACHELOR OF ARTS

For the degree of Bachelor of Arts the student is required to gain a total of 127 credits and 127 points,\* that is, a standing of 1, subject to the following conditions:

#### FRESHMEN AND SOPHOMORE YEARS

##### GENERAL REQUIREMENTS

Matriculation Lectures, first semester, freshman year, .3 credit.

English, 6 to 12 credits (12 credits if only 3 units of entrance are presented).

General Hygiene, 2.6 credits, freshman year.

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\*Unless otherwise specified a credit represents one hour of recitation or two hours of laboratory a week for one semester. Drawing, shopwork, physical education, and other courses requiring no outside preparation are reckoned at three hours for one credit.

Physical Education, freshman and sophomore, 2.7 credits.

Military Science (men), freshman and sophomore years, 5.6 credits.

#### GROUP REQUIREMENTS

English, 6 to 12 credits.

Foreign Languages, 6 to 18 credits.

6 credits in one language, if 3 or more units of entrance are presented; 12 credits, if only 2 units of entrance; 18 credits if only 1 or no units of entrance.

History, Social Sciences, 6 to 12 credits.

12 credits, including 6 credits in history, if no entrance unit in history is presented.

Philosophy, Education, Psychology, 6 credits in one department.

Mathematics, Physical Sciences, 6 to 10 credits in one department.

(Mathematics, physics, chemistry, geology, astronomy.)

Biological Sciences, 6 to 8 credits in one department.

(Bacteriology, botany, physiology, zoology).

#### JUNIOR AND SENIOR YEARS

##### MAJOR

20 credits in any department or related group, exclusive of elementary courses.

##### MINORS

20 credits in one or two minors, to be approved by head of major department.

##### ELECTIVES

Subject to approval of dean and head of major department.

#### COLLEGE OF AGRICULTURE

To receive the degree of Bachelor of Science in Agriculture a student must complete 139.3 credits of work with a standing of 1. These credits are classified as follows:

Prescribed subjects, non-agriculture	52.3 credits
Prescribed subjects, agriculture	21.0 credits
Electives required in agriculture	41.0 credits
Free electives	25.0 credits
Total	139.3 credits

Students who have not had physics in high school will be required to take a five-credit course in college which will reduce the number of free elective credits to 20. The free electives may be in agriculture. It will thus be seen that there is opportunity to take work in agriculture amounting to 87 credits.

No student will be allowed to carry fewer than 12 credit hours of work exclusive of Military Science and Physical Education.

The maximum and minimum hours for special students are the same as for regular students.

Prior to the senior year all candidates for the degree in agriculture must satisfy the Dean that they have had at least one year's work on the farm or work for two summer vacations of three months each.

A student desiring to do major work in any department of instruction should select his courses of study upon the advice of the head of the department.

To receive the degree of Bachelor of Science in Home Economics, a student must complete 133.1 credits of work with a standing of 1.

## COLLEGE OF ENGINEERING

### COURSES OF STUDY AND DEGREES

The College of Engineering offers instruction leading to the following baccalaureate degrees:

- Bachelor of Science in Civil Engineering.
- Bachelor of Science in Mechanical Engineering.
- Bachelor of Science in Mining Engineering.
- Bachelor of Science in Metallurgical Engineering.

The courses of study leading to these degrees are identical during the freshman and sophomore years. Familiarity with such fundamental subjects as Chemistry, Drawing, English, Mathematics, Physics and Practical Mechanics is essential to the successful study and practice of any branch of the engineering profession. Furthermore after two years of college work a student is better able to make a definite choice of the branch of engineering which he is best fitted to follow. During the junior and senior years the courses are planned to give the special training that is best suited to each branch of the profession.

For a detailed description of the curriculum, write for a catalog of the regular session.

## COLLEGE OF EDUCATION

The College of Education grants two degrees: A Bachelor of Arts in Education and a Bachelor of Science in Education.

Students who major in education and select their group work in English, mathematics, social science, natural science or the languages will be entitled to consideration for the degree of Bachelor of Arts in Education.

Students who major in education and select their group work in Art, Education, Agriculture, Engineering or Home Economics will be entitled to consideration for the degree of Bachelor of Science in Education.

For a degree in education the student is required to present a total of 127 credits with a standing of 1.

## THE DEGREE OF BACHELOR OF ARTS IN EDUCATION

The following is the work required in all curricula leading to the degree Bachelor of Arts in Education.

### ARTS AND SCIENCES

English .....	6	credits
Biological Science .....	6	credits
Social Science, History and Government .....	6	credits
Psychology .....	3	credits
Physical Education.....	1.4	credits
General Hygiene .....	2.6	credits
Military Science (Men) .....	5.6	credits

Total Academic Subjects ..... 25.0 credits

### PROFESSIONAL SUBJECTS

Survey of Education .....	3	credits
Educational Psychology .....	3	credits
Principles of Education .....	3	credits
Secondary Education .....	3	credits
The Technique of Teaching .....	3	credits
Special Methods including Observation, Participation and Practice Teaching .....	3	credits
Public Education in the United States .....	3	credits
Electives in Education .....	3	credits

Total Education Subjects ..... 24 credits

### GROUP ELECTIVES

Group Electives in Field of Major Interest ...	24 to 30	credits
Group Electives in Field of Minor Interest ...	15 to 18	credits
Free Electives .....	25 to 34	credits

## COLLEGE OF LAW

The student must have pursued successfully the courses of study prescribed for the first and second years. In addition, the student must have pursued successfully such of the subjects offered for the third year as will entitle him to twenty-six credits, among which Private Corporations, Common and Statute Law of Kentucky, Property I, Property IV, and Constitutional Law are required.

First Year: Contracts; Agency; Torts; Crimes; Property II; Pleading; Common and Statute Law of Kentucky.

Second Year: Equity; Civil Procedure; Property III; Negotiable Instruments; Property V; Quasi Contracts; Evidence.

Third Year: Sales; Property IV; Municipal Corporations; Trusts; Mortgages; Private Corporations; Constitutional Law; Suretyship; Conflict of Laws; Persons; Public Utilities; Partnership; Insurance; Damages; International Law; Corporate Organization and Operations; Federal Court Procedure; Legal Ethics; Mine Construction, Operation and Incidents.



## THE GRADUATE SCHOOL

### GROWTH OF GRADUATE PROGRAM

The demand for graduate work at the University of Kentucky has grown rapidly during the last few years. High school teachers, supervisors, principals and superintendents of schools, and teachers in normal schools and junior and senior colleges are seeking the education and training represented by higher degrees. To meet this demand, the several colleges of the University are providing larger programs of work for graduate students.

### ADMISSION TO THE GRADUATE SCHOOL

Graduates of the University of Kentucky are admitted to the Graduate School without examination. Graduates of other approved universities and colleges are admitted to the Graduate School upon filing with the Registrar of the University of Kentucky an official transcript of their undergraduate record. This record is considered by the Graduate Committee and in some cases it is necessary to prescribe undergraduate courses as a further preparation for candidacy for the degree sought. It is desirable that the student send the transcript to the Registrar of the University some weeks in advance of the opening of the summer session. Where the student has a baccalaureate degree from a standard institution, he will be admitted to the Graduate School as a candidate for the particular advanced degree for which his undergraduate preparation fits him.

Graduate students who do not care to become candidates for higher degrees need not comply with the requirements indicated above.

College graduates who desire to confine their work to undergraduate courses and who do not expect to become candidates for higher degrees should not register in the Graduate School, but with the Dean of the College in which their courses are listed.

No person is considered a candidate for a higher degree until he has first satisfied the entrance requirements to the Graduate School. Work of a graduate character done prior to such registration may be counted towards an advanced degree only after formal application is made to the Registrar, which application must be approved by the Graduate Committee. Such credit can not be used to diminish the time requirement for residence.

### RESIDENCE REQUIREMENTS

To obtain the master's degree the student must have pursued graduate studies at the University of Kentucky for a period of at least one year, or for four summer sessions. Three summer sessions of nine weeks each will satisfy the residence requirements for the master's degree. The rules of the Graduate Committee at present provide that the student is not held to any particular number of hours or courses, but must satisfy such work as

may be required in the field in which he selects his major or minor. In some cases it is necessary, as a means of further preparation for graduate work, to assign to the student undergraduate courses to be completed before the major or minor work can be taken up.

As stated above, the student is not held to any particular number of hours or courses, but the following indicates roughly the amount of work generally required for the master's degree:

Major -----	12 credits
Minor -----	6 credits
Thesis -----	6 credits

In addition, the student must pass a satisfactory oral examination and be prepared to defend his thesis before a committee consisting of his major and minor professors. All courses must be selected with the advice and consent of the major professor.

## TEACHERS' CERTIFICATES

The University, through the College of Education, issues four certificates. The following is a minimum of the credits required for each:\*

**Elementary Certificate.** Thirty credits, including six in education. This certificate is valid for two years and is not renewable.

**Intermediate Certificate.** Sixty credits, including twelve in education. This certificate is valid for four years and is not renewable.

**Advanced Certificate.** Ninety credits, including eighteen in education, three of which must have been in observation, participation and practice teaching.\*\* This certificate is valid for three years of teaching and may be converted into a life certificate upon presentation of evidence of three years of successful teaching.

**Life Certificate.** Issued only to persons majoring in education who have completed the work for a degree and who have twenty-four credits in education, three of which must have been in special methods, including observation, participation and practice teaching.

\*A credit is equivalent to one semester hour.

\*\*Persons presenting a year of successful teaching experience of secondary grade may, upon recommendation of the faculty of the College of Education, substitute this for the observation and practice teaching but will not be given credit toward graduation for this experience.

## DESIGNATION OF COURSES

The courses in each department are numbered as in the University catalog, those primarily for undergraduates, from 1 to 99; those for both graduates and undergraduates, from 100 to 199; and those primarily for graduates from 200 on. All courses are fully described in the subsequent pages.

## STUDENT LOAD

The normal load for the average student is nine semester hours. Students presenting a standing of 2, (average of "B" or better), will be allowed to take twelve semester hours, which will be the maximum load for summer session pupils.

**Exception:** Teachers in service will be permitted to carry the maximum load the first summer in attendance. After their first summer at the University, they will be subject to the same regulations as all other students.

Persons entering five days late will be limited to nine credits regardless of standing.

## REDUCED RAILROAD RATES

The railroads of Kentucky granted rates of one and one-third fare for round trip ticket for the summer of 1923. Application has been made for a similar rate for 1924. Write to the Director of the Summer Session for proper blanks before you come.

## REGISTER BY MAIL

The University desires that as many persons as possible shall register by mail and be classified before the summer session opens. It will save time for you, for the instructor and for the office of the Registrar if you register by mail.

Write to the Registrar for blanks and for instructions.

All registration by mail for the summer session must be completed before June 9, 1924.

## FEES

The summer session fees shall be as follows:

In the College of Law .....	\$40
In the College of Agriculture .....	25
In the College of Arts and Sciences .....	25
In the College of Education .....	25
In the College of Engineering .....	25
In the Graduate School .....	25

## REFUNDS

During the first fifteen days after the opening of the Summer Session students withdrawing for sufficient reasons, may, on written recommendation of the Director of the Summer Session, receive a refund on the amount paid in fees, not to exceed 80% of all fees paid. In no case shall the amount refunded exceed 80%, and in no case will refunds be made after the first fifteen days.

## LATE REGISTRATION

Students entering the University after the regular registration period will be charged an additional fee of \$1 a day, the total not to exceed \$5.

No student will be permitted to matriculate later than one week after the opening of the term without special permission of the heads of departments concerned and the Dean of the College. After June 30, no student will be allowed to register for credit.

## CHANGES IN REGISTRATION

After three days following the regular registration period, a fee of \$2 will be charged for transfer from one college or school to another.

## LATE CLASSIFICATION FEE

Students who fail to arrange classification within the scheduled time will be charged a fee of \$1. No change in registration will be permitted after Monday of the second week of the term.

## FEE FOR CHANGE IN CLASSIFICATION

After three days following the regular registration period a fee of \$1 will be charged for any change in schedule.

## MARKING SYSTEM

Results of work will be recorded in the Registrar's office as follows:

- A. Exceptionally high quality, valued at 3 points for each credit.
- B. Good, valued at 2 points for each credit.
- C. Fair, valued at 1 point for each credit.
- D. Unsatisfactory, indicates a deficiency and gives no points, but gives credit for graduation if with such credits the students' standing is 1 or more.
- E. Failure, valued at 0 points for each credit .
- I. Incomplete.
- X. Absent from examinations.

The standing of a student is defined as the ratio of his total number of points to his total number of credits. For example, a student who makes an average mark of C thruout his course of 120 semester hours, would have 120 points and 120 credits, and a standing of **one**. An average mark of B would give the student 240 points and 120 credits and a standing of **two**. When a semester's work is to be considered, "standing" is understood to be the ratio of the number of points gained to the number of credits scheduled.

## ROOM AND BOARD

The University dormitories, Patterson Hall, Smith Hall, Boyd Hall, and the Men's Dormitory will be open during the summer session. The rates will be as follows:

In women's dormitories, \$1.50 to \$3.00 a week, according to the room occupied. Reservations may be made by writing to the Director of the Summer Session.

In the Men's Dormitory, all rooms available may be had for only \$2.00 per week for each person in a room.

Dormitories for both men and women are furnished, with the exception of linen and blankets. Students having rooms in dormitories will be expected to bring with them the following articles: Sheets, pillow slips, blankets and towels. All other necessary articles will be furnished.

**Meals Served at Cafeteria.** Meals will be served at the University Cafeteria at \$4.75 a week. Cafeteria service will also be given. During the summer session meals will be served seven days a week.

**Reservation of Rooms.** Students desiring to obtain accommodations in the dormitories will be required to make application in advance of the opening of the session. A deposit of \$2.00 should be sent to the Director of the Summer Session. When such deposits are received rooms will be reserved and held until Monday evening, June 16. Rooms will not be held beyond that time unless special arrangements are made.

**Rooms and Board in Lexington.** Accommodations for rooms and board in the University neighborhood may be had by inquiring at the office of the Dean of Men. Rooms may be had at rates varying from \$10.00 to \$25.00 a month. Board may be had at from \$5.00 to \$7.00 a week. All rooms listed have been inspected and certain standards maintained. Men who have not had reservations made at the dormitories should, on their arrival at the University, apply at the office of the Dean of Men for information as to available rooms. The Dean of Men will also maintain an approved list of rooms for women.

## PLACEMENT SERVICE

There is a constantly growing demand for the services of the graduates of the University of Kentucky. The institution receives more requests for teachers than it has applicants for positions. The Placement Service is operated through the office of the Registrar, and every attempt is made to procure for the students and for the graduates of the University the type of employment which will enable each one to achieve the best results.

The University desires to be of greatest service to the public schools of Kentucky by training an efficient group of teachers and by placing each one of these in the type of position where he can do his best work. Each student in attendance at the University who desires a position should register with the Placement Service in the office of the Registrar in the Main Building. Superintendents and principals of schools desiring teachers should write to the Registrar for the credentials of persons available.

## EXTENSION PROGRAM

The Department of University Extension, through its Bureau of Correspondence and through its group-study centers, is reaching approximately one thousand teachers this year. It is providing for these teachers courses of instruction that contribute definitely to their professional growth and that count toward a degree. The University allows any student to earn, through extension, a maximum of sixty credits of the 127 required for graduation. Every teacher in Kentucky who is not a college or university graduate should register for courses through extension and should equip himself more adequately for the work to be done. Write to the Department of University Extension for information concerning the work available.

## EX-SERVICE MEN

Ex-service men, under the provisions of Kentucky statutes, receive free tuition and room rent. This applies to the summer session as well as to regular sessions. It applies only to persons who entered the service in Kentucky. In order to receive the benefits of the law, such persons must file written application with the Registrar of the University at least thirty days prior to the opening of the summer session. Such applications must be accompanied by the certificate of discharge.

## REGISTRARS' CONFERENCE

A conference for registrars of junior colleges, normal schools, senior colleges and universities will be held at the University of Kentucky July 2 to July 12. A program will be planned to help persons responsible for the work of registrar to analyze more clearly the work in the office of the registrar and to aid them in solving their problems.

## SCHOOL OF CITIZENSHIP

The Kentucky League of Women Voters in cooperation with the University of Kentucky will hold a School of Citizenship at the University June 18-19-20. Among the special instructors for the School of Citizenship will be Dr. John J. Tigert, United States Commissioner of Education, and Dr. Guy M. Whipple, Professor of Experimental Education, University of Michigan.

## RECREATION FOR SUMMER SESSION STUDENTS

The teachers of Kentucky should be acquainted with Lexington and with the historical Blue Grass country surrounding it. The public school children should know more about Henry Clay and his work, should know the story of the battle at Bryant Station and how the women saved the

day by marching out in a band to carry water back into the Fort when they were besieged by Indians.

The teachers of Kentucky should see the picturesque capitol at Frankfort, only thirty miles from Lexington; should see the High Bridge across Kentucky River, for many years the highest and today the second highest bridge in the world. They should see and know more about the beautiful stock farms of the Blue Grass, the home of the thoroughbred horses.

Lexington is connected with all the other cities of the Blue Grass region by interurban and motor bus lines, thus making it possible to get out into the country quickly, easily and at small cost. The University is planning a series of trips for its summer school students in order to offer them the opportunity to become acquainted with the Blue Grass section and to learn to know its wealth of beauty and attractions.

The following excursions have been planned for the students of the summer session at the University:

June 28—Henry Clay Home—Visit to Ashland, the home of Henry Clay.

July 3—The Coffey-Miller Players will present "The Rivals."

July 4—The Coffey-Miller Players will present "The Imaginary Invalid."\*

July 14—High Bridge—Interurban and boat ride to High Bridge. Supper.

July 21—Natural Bridge—Excursion to Natural Bridge and vicinity.

July 28—Stock Farms—Inspection of noted thoroughbred stock farms near Lexington.

August 4—Frankfort—Trip to Frankfort; visit to State Capitol; Old State House, Historical Museum, O'Hara's grave, Boone's grave, etc.

August 11—Berea—Visit to Berea College and vicinity.

\*The student body will be the guests of the Summer session for these two performances.

## COLLEGE OF ARTS AND SCIENCES

Paul P. Boyd, Ph. D., Dean

### ORGANIZATION

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

Courses for the Summer Session are offered in nearly all of these departments. The courses offered are listed under the various departments following:

#### ANCIENT LANGUAGES AND LITERATURES

1. **Beginning Latin.** (Given as a Teachers' Course). A thorough drill in declensions, conjugations, simple rules of syntax. A special effort will be made to show the close connection between Latin and English. Open to those who have had no Latin and also to others desiring to review in first year Latin and to those desiring a course in the teaching of Latin. Three credits. Professor Jones.

3. **Cicero and Sallust.** The four speeches of Cicero against Catiline will be read, and also Sallust's Cataline. A comparative study of the orator and the historian. Three credits. Professor Jones.

4. **Vergil.** An effort will be made to show that the Aeneid was a great national poem to the Romans, containing their traditions and aspirations. Selections from Vergil's other writings will be read. Three credits. Professor Jones.

5. **Livy.** Talks on foundation and development of the Roman State, the methods and aims of ancient writers of history as compared with those of today. Three credits. Professor Jones. (If the students prefer, Horace may be elected instead of Livy).

201. **Pastoral Poetry.** An advanced course in the study of pastoral poetry. (If students prefer, a course of Elegiac Poetry will be given instead). Primarily for graduates. Open also to qualified under-graduates. Three credits. Professor Jones.

51. **Elementary Greek.** Declensions, conjugations, rules of syntax. English derivatives from Greek words will be noted. Three credits. Professor Jones.

Note: If students desire a course in Caesar, provisions will be made.



## ART

1a. **Drawing and Painting.** Expression by line, light and shade color. Drawing from objects, cast, still life. Perspective figure drawing, outdoor sketching. Mediums—charcoal, crayons, water color, oil. Four credits. Miss Anita Meyer.

2a. **Art Structure.** A study of the underlying principles of art through their applications, line, tone, color. Arrangements involving the use of good proportion, harmony, balance, rhythm, repetition, subordination, etc. Original design for textiles, mosaic, interior decorations, costume, etc. Two credits. Miss Anita Meyer.

10. **The Teaching of Art in Public Schools.** A course designed for public school teachers who offer instructions in art education. Three credits. Miss Anita Meyer.

## BACTERIOLOGY

102. **General Bacteriology.** Morphology, classification, physiology, observation and cultivation of bacteria and related microorganisms; their influence on the plant food in the soil; their relation to certain fermentations. Bacteria in milk, water, air and soil. Relation of microorganisms to disease; sources and modes of infection; use of germicidal agents; theories of immunity. Prerequisite, Chemistry 8 or 11. Lectures and laboratory. Four credits. Associate Professor Scherago.

103. **Pathogenic Bacteriology.** Prerequisite, course 102 or 2b. Lectures and Laboratory. Four credits. Associate Professor Scherago.

104. **Applied Bacteriology.** Four credits. Associate Professor Scherago.

## BOTANY

1a. **General Botany.** The course comprises a general survey of the morphology and physiology of plants, and is designed to give the student a comprehensive view of the entire vegetable kingdom, and to afford a substantial basis for advanced and special studies. While accompanied with lectures and recitations, the laboratory method is the form of instruction principally used. This course is well adapted to the needs of teachers of botany in the high schools of the State. Four credits. Professor McFarland.

A. **High School Botany.** A course for high school students designed especially for those who are qualifying to teach in the elementary schools. No college credit. One-half high school entrance credit given to those desiring high school credit. Professor McFarland.

5. **Dendrology.** This course is designed to give the student a thorough knowledge of the native and many of the exotic trees of the State. Students will spend their time studying the trees on the campus and places near the University. About 75 species of trees will be studied and much time will be

used in collecting information to be used in making a key for the different species after they have been studied. This course will be a desirable one for teachers of biology in the schools of the State. No prerequisites. One credit. Professor McFarland.

## CHEMISTRY

1a. **General Inorganic Chemistry.** Lectures, class room and laboratory work. Five credits. Assistant Professor Mitchell and Mr. Zimmerman.

1b. **General Inorganic Chemistry.** Continuation of Chemistry 1a. Chemistry of the metals. Lectures, class room exercises and laboratory work. Prerequisite, Chemistry 1a. Five credits. Assistant Professor Mitchell and Mr. Zimmerman.

3. **Inorganic Preparations.** A practical laboratory course devoted to the preparation of inorganic compounds from the crude material. Prerequisite, one-half year's work in General Chemistry. Two credits. Mr. Stewart.

4. **Qualitative Analysis.** Laboratory work accompanied by recitation periods. Prerequisite, Chemistry 1b. Four credits. Mr. Mitchell and Mr. Stewart.

7. **Organic Chemistry.** An elementary course for non-professional students. Prerequisite, Chemistry 1b. Four credits. Mr. Stewart.

8. **Quantitative Analysis.** A laboratory course accompanied by lectures and class room exercises. Gravimetric and volumetric methods of analysis are studied in detail. Prerequisite, Chemistry 4. Five credits. Assistant Professor Bedford.

9. **Quantitative Analysis.** A lecture and laboratory course devoted to the analysis of ores, alloys, etc. Prerequisite, Chemistry 8. Five credits. Assistant Professor Bedford.

12. **Advanced Agricultural Analysis.** A laboratory course having for its object the complete analysis of fertilizers, feeds, soils, agricultural products. Prerequisite, Chemistry 8 or 11. Four credits. Assistant Professor Bedford.

14. **Advanced Quantitative Analysis.** The analysis of iron and steel, slags and rocks. Prerequisite, Chemistry 9. Five credits. Assistant Professor Bedford.

## ECONOMICS AND SOCIOLOGY

### Economics

1a. **Principles of Economics** An examination of the fundamental principles of economics and the application of these principles to practical problems. Not open to freshmen. Three credits. Professor Wiest.

2. **Economic History of Europe.** A study of the development of agriculture, commerce, industry, and finance; the effects of these several lines of development upon national life. Three credits. Professor Wiest.

111. **Production and Marketing.** An analysis of the principles underlying such problems as the distribution of production areas, the location of industries, and the relative advantages of large and small-scale production; a survey of the history of marketing, its various forms, its underlying principles, and its social consequences. Not open to freshmen. Three credits. Professor Wiest.

### Sociology

51a. **Principles of Sociology.** An examination of some practical, concrete social problems, such as characteristics of population, social groupings, the family, child welfare, housing conditions, recreational values, community organization, etc. Not open to freshmen. Three credits. Professor Wright.

153. **Criminology.** A study of crime, and of measures of punishment, reform and prevention. Not open to freshmen. Three credits. Professor Wright.

154. **Rural Sociology.** A study of the problems of the country and the smaller towns and villages. Included in the course is a study of the social survey, both in its principles and in practice. Not open to freshmen. Three credits. Professor Wright.

## ENGLISH LANGUAGE AND LITERATURE

1a. **English Composition.** Practice in writing correct and clear English. This is the freshman course in English Composition. Three credits. Mr. Yates.

1b. **English Composition.** This course is a continuation of English 1a. Three credits. Mr. Yates.

3b. **History of English Literature.** This course is designed to give the student a survey of English literature from Wordsworth to the present. Three credits. Mr. Yates.

106. **English Romanticism.** This course traces the history of the English romantic movement from its beginning to its culmination in the poets of the early nineteenth century. Three credits. Professor Dantzler.

110. **Shakespeare.** A number of Shakespeare's plays are studied in an effort to appreciate drama and art. Three credits. Professor Farquhar.

111. **The English Novel.** Introduction to the study of English fiction. Readings with a view to illustrate the evolution of the novel and to develop an appreciation of it as a form of literature. Three credits. Assistant Professor Knight.

114. **American Literature.** A review course in the history of American literature. The leading authors will be studied in class; the minor writers will constitute parallel reading. Two credits. Assistant Professor Knight.

116. **The Contemporary Drama.** Development and tendencies in continental, British and American dramatic literature, 1850-1924. Representative reading. Three credits. Assistant Professor Knight.

16b. **Literature of the Bible.** A literary study of the Bible by books. It develops an appreciation of literature generally because of the demand that literature identify itself with the highest thought and feeling. Two credits. Assistant Professor Knight.

18. **Teachers' Course.** A course for teachers, discussing methods of teaching high school English composition and literature. Two credits. Professor Dantzer.

201a. **Literary Criticism.** Special problems in the development of English criticism. Three credits. Professor Farquhar.

103. **Old English.** Three credits. Professor Dantzer.

#### GEOLOGY

1a. **Physiography.** Three credits. Associate Professor McFarlan.

2a. **Elementary Geology.** Three credits. Associate Professor McFarlan.

4a. **Mineralogy.** Two credits. Associate Professor McFarlan.

14. **Elementary Field Geology.** One credit. Associate Professor McFarlan.

#### GERMAN LANGUAGE AND LITERATURE

1a. **Elementary German.** Drill upon pronunciation and rudiments of grammar, memorizing and repetition of easy colloquial sentences; reading, writing and speaking simple German. Three credits. Professor Melcher.

1b. **Elementary German.** Continuation of German 1a. Three credits. Professor Melcher.

2a. **Intermediate German.** Reading of 150 to 200 pages of prose with practice in conversation and reproduction, oral and written, based upon the matter read, memorizing of short German poems. Three credits. Professor Melcher.

4a. **Advanced Reading and Composition.** Reading numerous short themes on assigned subjects, free reproduction. Collateral reading. Prerequisites, German 3a and 3b or 5. Three credits. Professor Melcher.

6. **Scientific and Journalistic German.** Reading of a graded scientific reader and selection from popular writers on science; current German periodicals. Prerequisite, German 3a. Three credits. Professor Melcher.

## HISTORY AND POLITICAL SCIENCE

2. **History of the English People Since 1600.** The progress of the English people at home and abroad in the modern period. Three credits. Assistant Professor MacGregor.

30. **Constitutional History of England.** A study of the leading principles of the constitution and government of England based on Adams' outline. Two credits. Assistant Professor MacGregor.

51b. **American Government.** A study of the rights, duties and responsibilities of citizens; mutual relations of the government and the citizen as a voter. The actual work of governmental bureaus and commissions rather than theory. Three credits. Dr. Barth.

52. **Municipal Government.** Two objects are sought in this course: 1. An examination of recent tendencies in city government. 2. An introduction to each of the larger problems of control. Two credits. Assistant Professor MacGregor.

57. **Public Utilities.** A comparison of public and private ownership of railways and municipal utilities; physical valuation and reasonable rates; administrative control; powers and functions of commissions. Two credits. Dr. Barth.

70. **Political Parties.** This course traces the rise and development of the major political parties of America; a study of the party systems which have become an "unofficial controlling factor" in our national and state governments. Attention will also be given to minor parties, the "spoils system" and the growth of civil service. A prerequisite of American History 5a or American Government 51a and 51b or their equivalent is required for this course. Three credits. Dr. Barth.

111. **Reconstruction.** This course will follow in some detail the readjustment in both the North and the South during the decade 1865-1876. Political as well as economical movements will be considered. Prerequisite, History 5a and 5b or the equivalent. Three credits. Assistant Professor MacGregor.

## HYGIENE AND PUBLIC HEALTH

105a. **Advanced Hygiene.** This course includes discussion of the causes of disease; prolongation of life; heredity in relation to disease; superstitions in relation to disease and health; the fundamental principles of bacteriology; the animal and insect carriers of disease; immunity in relation to disease; emotions in relation to health; physical exercise and its effect upon health; fatigue in relation to health; patent medicines, drugs and stimulants in relation to disease and health; food, water, clothing and air in relation to health, etc. Lecture and text book work. Two credits. Dr. Lipscomb.

105b. **Advanced Hygiene.** Continuation of Hygiene 105a. Two credits. Dr. Lipscomb.

103. **School Hygiene.** This course includes a discussion of health problems as they are particularly related to the school and the school child, such as the physical basis of education; general factors pertaining to growth; malnutrition in school children, tuberculosis in school children; the hygiene of ventilation; the hygiene of teeth, nose, throat and eyes of the school child; and some of the evil effects of school life. Lectures and text book work. Two credits. Dr. Lipscomb.

2. **First Aid in Emergencies.** A practical, non-technical discussion of what to do in case of acute illness or accident before the arrival of the doctor. Lecture and demonstration. Two credits. Dr. Lipscomb.

#### MATHEMATICS

A. **Plane Geometry.** A course in Plane Geometry for high school students. No college credit. Students desiring credit may receive one-half entrance unit. Mr. Andrew.

1. **Elementary Algebra.** This course is designed for those who enter the University with only one unit of high school mathematics, and is prerequisite for Mathematics 4 and 5. Open only to college students. Quadratics and beyond. Three credits. Professor Davis.

2. **Solid Geometry.** This is given primarily for engineering students who enter conditioned in solid geometry. It is a prerequisite for analytics. Three credits. Mr. Andrew.

4. **Plane Trigonometry.** A thoro course in plane trigonometry supplemented by enough algebra to fill out a semester's work. For Arts and Sciences and Engineering students. Prerequisite, one and one-half units of entrance algebra. Five credits. Mr. Andrew.

5. **College Algebra.** Elementary algebra is first reviewed in a way to give greater clearness as to assumptions, the number concept, and to introduce graphs and determinants. Following this, topics are taken up that will, together with those included in Mathematics 4, furnish the student with a fairly complete view of the subject. Prerequisite, one and one-half units of entrance algebra. Five credits. Associate Professor Downing.

6. **Analytic Geometry.** A course in which particular emphasis is laid on the graphical representation of the various types of functions. The derivative is introduced as a tool for study. Prerequisites, Mathematics 2, 4 and 5. Five credits. Professor Davis.

7a. **Differential Calculus.** A course covering most of the subject as presented in the larger texts and including much drill work in the solution of problems. Some work in integration is done. Engineering students take this in the second semester of the sophomore year. Prerequisites, Mathematics 4, 5 and 6. Five credits. Assistant Professor LeSturgeon.

7b. **Integral Calculus.** A continuation of 7a. Three credits. Assistant Professor LeSturgeon.

\*105. **Differential Equations.** A study of the theory of ordinary and partial differential equations, with applications to physics and mechanics.

Text book work supplemented by lectures and reports. Three credits. Associate Professor Downing.

\*106 **Advanced Calculus.** A second course in calculus, affording a more critical view of the fundamental notions and theorems and including a study of elliptic integrals and functions defined by definite integrals. Three credits. Associate Professor Downing.

\*103a. **Theory of Equations.** Three credits. Associate Professor Downing.

\*Only one of the starred courses will be given.

## MUSIC

This department seeks not only to supply means of self-expression but also practical and technical assistance toward the development of men and women who wish to serve as supervisors of music, leaders of bands and orchestras, and as choir directors.

13a. **Sight Reading.** An elementary course in music designed for those who have had no previous musical instruction. Helpful to those who wish to express themselves either vocally or instrumentally. Includes teaching of notes, time, etc. Two credits. Professor Lampert.

8a. **Chorus.** Selections for mixed voices will be studied for public presentation. One-half credit. Professor Lampert.

2a. **Musical Appreciation.** The object of this course is to provide material and methods for teaching history and appreciation of music in schools, and to enable all, even the unable to play an instrument, to become acquainted with the art and really enjoy good music when they hear it. One credit. Professor Lampert.

3a. **Harmony.** The aim of this course is to give practice in chord combination and writing of melodies. This work forms the basis for the study of musical theory in the public schools. Two credits. Professor Lampert.

4a. **Public School Music.** This course is for those who wish to fit themselves for the supervision of music in the public schools. Two credits. Professor Lampert.

5a. **General History of Music.** This course is designed to cover the historical evolution of music and to develop an appreciation of its wide significance as an educative factor. Two credits. Professor Lampert.

## PHYSICAL EDUCATION AND ATHLETICS

8. **Principles of Coaching Basket Ball.** Instruction will be given in basket ball with the idea of fitting men to coach. The course will cover passing, goal throwing, dribbling, team play, how to condition a team, and the different styles of play used by the leading coaches. Open to men and women. Lectures and practical work. Two credits. Professor Boles.

9. **Principles of Coaching Football.** The theoretical work will take up the rules from the standpoint of coach, players and officials; the several

styles of offense and defense with consideration of their special strength and weaknesses; generalship and strategy. The practical work will include training, conditioning and players' equipment; punting, drop kicking, place kicking, kick off, and forward passing; tackling dummy and charging sled; special drills for linesmen, ends and backs, following the ball, interference and team work; fundamental plays, freak plays, and signal systems. Lectures and practical work. Two credits. Professor Boles.

10. **Plays and Games for Graded and Rural Schools.** The possibilities of exercise for graded and rural schools will be shown. Both theoretical and practical work will be given. One credit. Professor Boles.

## PHYSICS

1a. **General Elementary Physics.** For students who have had no previous training in Physics. The course covers elementary theory of mechanics and heat. Five credits. Professor Webb and Assistant.

1b. **General Elementary Physics.** Continuation of Physics 1a. Prerequisites, credit in Physics 1a or equivalent. The course covers elementary theory of electricity, sound and light. Five credits. Associate Professor States and Assistant.

3a. **General College Physics.** This course covers the general theory of mechanics and heat and is particularly designed for students in engineering. Prerequisites, one year of high school physics, and Mathematics 2 and 3. Four credits. Professor Webb and Assistant.

3b. **General College Physics.** This course covers the general theory of electricity, magnetism and light and is particularly designed for students in engineering. Prerequisites, one year of high school physics, Mathematics 2 and 3, and Physics 3a. Four credits. Associate Professor States and Assistant.

4. **Elementary Physical Measurements.** Two credits. Assistant.

5. **Measurements in Mechanics.** Prerequisites, Physics 4 and credit in or simultaneous study of Physics 3a. Three credits. Professor Webb and Assistant.

6. **Measurements in Electricity and Magnetism.** Prerequisites, Physics 3a and 5, and credit in or simultaneous study of Physics 3b. Three credits. Associate Professor States and Assistant.

## PSYCHOLOGY

1. **Introductory Psychology.** For those who have never had Psychology in college. The course covers in an elementary way the main facts and laws of normal human consciousness. Recitations and demonstrations. Three credits. Dr. Allport.

111. **Tests of Intelligence.** Open to those who have had Psychology 1 or its equivalent, or who are carrying it concurrently. The study of individual and group tests of general intelligence. The uses of such tests



with children and adults. Especially useful for teachers in understanding the intelligence of school children. Three credits. Dr. Allport.

104. **Social Psychology.** The adjustments and maladjustments to social situations studied from the psychological point of view; the impulses underlying social behaviour; the development of group activities. Not open to freshmen. Prerequisite, Psychology 1 or its equivalent. Three credits. Dr. Allport.

#### ROMANCE LANGUAGES

1a. **Elementary French.** Open to Freshmen. Three credits. Mrs. Server.

1b. **Elementary French.** Continuation of French 1a. Prerequisite, one year of high school French or French 1a. Three credits. Professor Zembrod.

2a. **Intermediate French.** Prerequisites, two years of high school French or two semesters of college French. Three credits. Professor Zembrod.

101a. **French Novel and Drama.** Three credits. Professor Zembrod.

5a. **Elementary Spanish.** A course in Spanish for beginners. Three credits. Mrs. Server.

5b. **Elementary Spanish.** A continuation of Spanish 5a. Three credits. Mrs. Server.

103a. **Intermediate Spanish.** Three credits. Mrs. Server.

Either Spanish 5a or 5b will be given according to the demand.

#### ZOOLOGY

1a. **General Zoology.** The first semester of the regular course in General Zoology. The course consists of lectures, recitations and laboratory work. This course is devoted primarily to the study of invertebrates. Four credits. Assistant Professor Allen.

1b. **General Zoology.** The second semester of the regular course in General Zoology. The course consists of lectures, recitations and laboratory work. This course is devoted primarily to the study of vertebrates. Four credits. Professor Funkhouser.

3a. **Principles of Zoology.** A lecture course on the modern theories of organic evolution, heredity, genetics and animal psychology. Three credits. Professor Funkhouser.

9. **Animal Ecology.** A study of the relation of animals to their environment with special reference to the life histories, habits, associations, economic importance and control. Lectures, laboratory and field work. Three credits. Assistant Professor Allen.

102. **Bird Study.** (Ornithology). A study of the life histories, anatomy, and physiology of birds with particular reference to the habits, songs, nests, migrations and economic importance of our native birds. Three credits. Professor Funkhouser.

## COLLEGE OF AGRICULTURE

Thomas P. Cooper, B. S. in Agr., Dean

### AGRONOMY

1. **Soils.** An introductory course in soils dealing with their origin, formation, classification and physical properties in relation to soil water, soil air, soil temperature and tillage operations; crop requirements for plant food; sources of plant food; plant food in the soil and losses of plant food; farm manures, fertilizers, lime materials and their use; crop rotations and farming systems in relation to the productiveness of soils. Prerequisites, Chemistry 1a and 1b and Geology 3. Five credits. Associate Professor Karraker.

8. **Cereals.** The detailed study of the classification, botanical relations, distribution, composition, culture and improvement of the principal grain crops of the country. Laboratory work is designed to supplement lectures and recitations. Prerequisites, Agronomy 1, Botany 1a and 1b. Four credits. Assistant Professor Fergus.

101. **Methods and Results of Field Experimentation.** The essentials of successful field experimentation, the planning and laying out of model experiments and a study of the results obtained by experiment station workers and other investigators. Special attention is given to the interpretation of field results. Designed for students who expect to teach or engage in experimental work. Recommended for county agents and for teachers of vocational agriculture in high schools. Prerequisite, Agronomy 1. Open to graduates as a minor. Two credits. Professor Roberts.

### FARM ENGINEERING

(The work in agricultural engineering is placed in the Department of Agronomy for administrative purposes).

4. **Farm Motors.** The horse as a farm motor; his cost, upkeep and efficiency. Internal combustion engines, both stationary and tractors. Laboratory work consists of the actual operation of engines and tractors. Four credits. Professor Kelley.

6. **Farm Shop.** In this course lectures and laboratory exercises will be given on the following: Use, care and sharpening of shop tools; joining, framing and rafter cutting, repairing of valves, water pipes, bearings, belts, etc. This course should be helpful in the repairing of all kinds of farm equipment. Two credits. Professor Kelley.

### ANIMAL INDUSTRY

5. **Farm Dairying.** Instruction is given in the production of clean milk, the management of the dairy herd, the construction of dairy barns, and the marketing of milk. Students are taught to test milk for butter fat, acidity, and the use of the lactometer; the separation and care of cream;

the ripening of cream, and the churning of butter. Practice is also given in the manufacture of soft cheese. Three credits. Professor Hooper.

7a. **Live Stock Feeding.** A study is made of the classes of nutrients of feed stuffs and the uses of each to the animal. A study is made of the processes of digestion, absorption, and assimilation. Feed stuffs and nutritive ratios are discussed. During the last two weeks of the course a study is made of hog feeding, including the use of forage crops. Occasional visits are made to the University farm to inspect the hog feeding experiments. Two credits. Professor Good.

7b. **Live Stock Feeding.** A continuation of 7a. It deals with the feeding of beef cattle, dairy cattle, horses and sheep. A part of the work consists of an inspection and study of the feeding of breeding and experimental animals on the University farm. Prerequisite, course 7a. Two credits. Professor Good.

12a. **Types and Classes of Beef Cattle, Sheep and Hogs.** A thorough study is made of the types and classes of beef cattle, sheep and hogs. Training is given in the scoring of individuals and in the comparative judging of rings of three or more animals. Special emphasis is laid on nomenclature and the principles governing the selection of animals for the feed lot, for marketing and for breeding purposes. Required of freshmen in Agriculture. Three credits. Associate Professor Horlacher.

12b. **Types and Classes of Dairy Cattle, Horses and Mules.** A thorough study is made of the types and classes of dairy cattle, horses and mules. Training is given in the scoring of individuals and in the comparative judging of groups of animals. Special emphasis is laid upon the nomenclature of the principles governing the selection of these animals for milk, work and breeding purposes. Required of freshmen in agriculture. Three credits. Associate Professor Horlacher.

17a. **Breeds of Horses, Jacks and Dairy Cattle.** Prerequisites, Animal Industry 12a and 12b. Three credits. Associate Professor Horlacher.

104. **Animal Breeding.** A course in the principles of breeding as applied to live stock. The practical aspects of animal breeding are presented: Inbreeding, line breeding, cross breeding and breeding by selection. An analysis of some of the breeds will be made and the methods of successful breeders will be studied. Prerequisites, Animal Industry 12 and 9. Open to graduates for minor. Four credits. Professor Anderson.

203. **Research in Genetics.** A study of genetic experiments is made and an original problem in heredity and variation is assigned. Prerequisite, Animal Industry 9 (Genetics). Open to graduates for major or minor. Four credits. Professor Anderson.

#### FARM ECONOMICS

1. **Farm Management.** The course consists of lectures, recitations and collateral readings dealing with the principles involved in the choice of a proper type of farming; the comparative merits of intensive and extensive

farming; the relation of live stock to farm management; the best size of farm; the relation of capital to farm profits; farm rental systems; the management of men and horse labor and machinery for greatest profits; the layout of fields and farm buildings; farm accounts, including the annual inventory; the choice of a region for farming and important consideration in buying a farm; and other fundamental principles of farm organization. Prerequisite, Farm Economics 4. Three credits. Assistant Professor Hutson.

**3. Farm Accounting.** A study of the principles of farm bookkeeping, farm records and farm cost accounting with special reference to their application to the organization and operation of the farm. Prerequisites, Farm Management 1 and Farm Economics 4, or by special permission. Two credits. Assistant Professor Hutson.

**4. Agricultural Economics.** The course covers the following subjects: The factors of agricultural production; management as a productive agent; prices of farm products in their relation to farm organization; factors influencing the proper degree of intensity of culture; size of farms; rent of farm lands; farm wages and profits; farm land and land values as related to agricultural production; land ownership; and farm credits. Collateral work consists in a set of exercises employing the elements of statistical method and illustrating the subject matter covered in the lectures. Prerequisite, General Economics 1a. Three credits. Assistant Professor Hutson.

#### HORTICULTURE

**7a. Vegetable Gardening.** The lectures will include a discussion of such fundamental subjects as location and arrangement of gardens, soil management, seed selection and improvement, seed testing, preparation of hot beds and cold frames, and manures and fertilizers. The more important classes of vegetables and particularly those requiring special or unusual treatment will be studied in detail.

The subject of spraying as related to vegetable gardening will be given attention in lectures, and practice in making and application of sprays will occupy a portion of the laboratory periods.

This summer session will provide an opportunity to study many phases of vegetable gardening that cannot be observed so favorably during the regular semesters, and particular emphasis will therefore be placed upon laboratory and field exercises. Two credits. Professor Olney.

**7b. Fruit Growing.** The summer course in this subject is arranged to cover the more important fruits grown in Kentucky, somewhat special attention being given to apple, grape and strawberry growing.

If desired by a majority of the class, two or more periods at the close of the term will be given to a discussion of landscape horticulture, with special reference to the improvement of home and school grounds. Two credits. Professor Olney.

## HOME ECONOMICS

9. **Foods.** A course dealing with the selection and preparation of food, the changes brought about by cooking, storage and modern manufacture, proper food combinations, planning and serving of meals, discussion and demonstrations on desirable dishes for school lunches. This course may be offered as a home economics elective toward a degree, not as a substitute for Home Economics 1a. Lectures and recitations three hours a week, laboratory four hours a week. Three credits. Professor Cornell.

10. **Clothing.** A study of underlying principles of clothing construction, selection of material and relation of health to clothing. This course may be offered as a home economics elective toward a degree, not as a substitute for Home Economics 20, 21 and 23. Three credits. Professor Cornell.

11. **General Nutrition.** Principles of nutrition as applied to daily living, proper balancing of diet, special emphasis on relative values of different foods, economy in buying and acquiring of good food habits. This course may be offered as a home economics elective toward a degree, but not as a substitute for Home Economics 4. Three credits.

12. **Teaching of Health and Nutrition in Public Schools.** For teachers. A course dealing with the presentation of the fundamental facts with regard to teaching nutrition to the children of the grades. Demonstrations, lectures and discussion. Three credits. Miss Fitzgerald.

13. **Methods of Field Work in Nutrition.** For home economics teachers. A course dealing with the problems arising in nutrition instruction, how to present the subject matter, illustrative material, methods used with success. Relation of school lunch to the nutrition program of the school. Three credits. Miss Fitzgerald.

14. **Advanced Course in Nutrition and the Community.** For nutrition workers. Seminar on community problems and relations of the worker to the other field agents, methods of conducting nutrition classes, milk feeding demonstration. Three credits. Miss Fitzgerald.

25. **Millinery.** Fall, winter and summer millinery problems. Making of wire, buckram, crinoline and willow frames and demonstrations of types of hats suited to individual needs. Renovation problems. Two credits. Professor Cornell.

## COLLEGE OF EDUCATION

William S. Taylor, Ph. D., Dean

### AGRICULTURAL EDUCATION

180. **Methods of Teaching Vocational Agriculture.** A course for teachers and prospective teachers of Vocational Agriculture. The course deals with the nature and purpose of Vocational Education in Agriculture, the selection and organization of teaching content, the application of suitable methods of teaching to the various courses and subjects in Vocational Agriculture. Part-time courses for adults, and for young men who have dropped out of school prematurely also treated. Three credits. Professor Anderson.

183. **Rural School Problems.** Designed particularly to meet the needs of those preparing for the combination position of principal and agriculture teacher. Problems of organization, management, curriculum adjustments, teaching personnel, buildings and grounds, equipment, and school finance will be studied in specific applications. Considerable emphasis will be placed on the proper relation of the school, and agriculture teacher to extension workers and their programs, farmers' organizations and their programs, and how to conduct school and community fairs. Three credits. Professor Anderson.

184. **Community Studies and Their Application.** The aim is to encourage extramural contacts for the teacher in the rural community. A careful study will be made of the social, economic and other factors affecting rural life and welfare. Emphasis will be placed on cooperation with existing agencies, the determination of potential agencies, and basic principles for encouraging the organization of desirable ones. Three credits. Professor Anderson.

### EDUCATIONAL ADMINISTRATION AND SUPERVISION

108. **Public Education in the United States.** An intensive study of educational problems in Kentucky and a comparative study of Kentucky's school laws, regulations and decisions with those of other states. Three credits. Assistant Professor Patrick.

113. **State and County School Administration.** The tendencies toward centralization in state and county administration will be analyzed and evaluated. A study of the county will be made with particular reference to its operation in Kentucky. Three credits. Mr. Baker, Mr. Driver, Mr. Wright, Dean Taylor.

115. **Administration and Supervision.** A general course in school administration in smaller cities. Principles of constructive supervision will be developed. Three credits. Mr. Birkhead.

125. **The Supervision of Elementary Instruction.** This course has been designed especially for teachers who are preparing for work in supervision or who desire a better understanding of the relationship between teacher and supervisor, and for supervisors and principals who are interested in a more thorough understanding of the fundamental principles that underly the supervision of instruction in the elementary schools. Three credits. Miss Woerner.

126. **The Junior High School.** This is a course designed to give to school administrators in general the plans underlying junior high school organization, the development of junior high schools in the United States and their place in the public school program of the State. Three credits. Mr. Hunt.

17. **High School Administration.** A course in the organization and management of high schools, with particular reference to Kentucky high schools. An attempt will be made to make the course practical and the development of the high school curriculum will be emphasized. Three credits. Mr. Skinner.

#### EDUCATIONAL PSYCHOLOGY

16. **Educational Psychology.** A discussion of the learning process from the experimental and scientific points of view. Three credits. Mr. Hunt.

122. **Educational Tests and Measurements.** A course in the theory and practice of measuring educational products and processes. Three credits. Assistant Professor Fling.

123. **Statistical Methods in Education.** Three credits. Mr. Birkhead.

#### HISTORY AND PHILOSOPHY OF EDUCATION

117a. **History of Education.** This course is a survey of the history of education from Greece to the beginning of education in America. Three credits. Professor Noe.

117b. **History of Education.** A continuation of Education 117a. The reformation period will be concluded and the emphasis placed on the 18th and 19th century theorists, particularly Rousseau, Dewey and Montessori. Three credits. Mr. Hill.

110. **Moral and Aesthetic Education.** An attempt is made in this course to familiarize the teachers through lectures and stereopticon slides, with the various types of architecture and schools of sculpture and painting. It is a course in appreciation of art for teachers. Three credits. Professor Noe.

120. **Great Educators and Their Work.** A study of the lives and writings of the world's educators to enable the student to appreciate more fully the ideals, attitudes and contributions to society of the men and women in education who have served best. Three credits. Professor Noe.

121. **History of Education in the United States.** This is a course in the history of development of the public school system in the United States. It is designed to give a background for the appreciation of the aims and purposes of modern public education. Three credits. Assistant Professor Patrick.

220. **Comparative Education.** Open only to graduates. Two credits. Professor Noe.

#### HOME ECONOMICS EDUCATION

163. **Current Problems in Home Making Education.** A study of aims based on the needs and interests of girls in different types of schools; recent developments in home economics education; the relation of the home economics teacher and department to the rest of the school; coordination with the home; community activities contributing to home making instruction; publicity and promotional work. Two credits. Professor Tupper.

165. **Problems in Vocational Home Economics Education.** A professional course dealing with aims, methods and contemporary secondary educational theories and practices. Designed for those already engaged in teaching home economics. Lectures, class discussions, individual assignments and reports. Three credits. Professor Tupper.

#### INDUSTRIAL EDUCATION

170. **The Part-Time General Continuation School.** This is a course designed to meet the needs of teachers and administrators of part-time legislation; and the supplying of proper content, a discussion of methods and instructional management, and the finding of the auxiliary agencies essential to the teaching of part-time classes in urban school systems. Three credits. Professor May.

171. **Vocational Education.** (Information course.) Designed to inform students, teachers, administrators, welfare workers and laymen in general of the vocational education movement in our country and abroad. Three credits. Professor May.

74. **Vocational Guidance.** A course designed to give teachers, principals, superintendents and welfare workers a comprehensive view of the factors in Vocational Guidance, the agencies contributing to or influencing life choices and an analysis of the human and economic resources of a given civic unit. Three credits. Mr. Birckhead and Professor May.

#### PRINCIPLES AND PRACTICE OF EDUCATION

2. **Methods and Aims of Teaching.** A discussion of the teaching process, aims and method of study, and the preparation of classroom work. Three credits. Assistant Professor Fling.

3a. **Elementary Education.** An introductory course in education dealing with the organization and problems of the elementary school. Three credits. Assistant Professor Fling.



4. **Principles of Education.** A study of the principles of educational theory and practice. Required of students majoring in education. Three credits. Mr. Hill.

109. **Principles of Secondary Education.** This course aims to develop the fundamental principles of secondary education. It will include a discussion of the development of the secondary curriculum and its relationship to college. Three credits. Mr. Hill.

105. **The Technique of Teaching.** This course deals with methods of teaching in the high school. Motivation and the project method will be given special attention. Three credits. Mr. Skinner.

114. **Educational Sociology.** A study of the development of the social mind with special reference to education. Three credits. Mr. Skinner.

18. **Modern Educational Problems.** A lecture course on modern educational problems. An opportunity is given to all teachers to take this course. No text is required. Students are graded on notebooks kept. One credit. Dean Taylor, Dr. Whipple, Dr. Briggs, Dr. Driver, Mr. Wright, Mr. Hartley and others.

127. **Problems in Curriculum Building.** A critical study of the content of the curriculum and of the principles which should guide us in curriculum building. Three credits. Mr. Hunt.

## COLLEGE OF ENGINEERING

F. Paul Anderson, M. E., Dean

### CIVIL ENGINEERING

21. **Hydraulics.** Required of all juniors in Engineering. This course consists of text book exercises together with the solution of numerous problems covering the principles of hydrostatics and hydrodynamic pressure; the flow of water through orifices, nozzles, over weirs and through pipes and open channels; also the loss from friction and other sources. Prerequisite, Physics 3a. Mathematics 7b must be completed or taken co-ordinately. Two credits. Assistant Professor Hawkins.

### DRAWING

1a. **Mechanical Drawing.** Required of all freshmen in Engineering. Comprising: (a) Freehand lettering; (b) Exercises in the use of instruments; (c) Projections from Pictorial Views and descriptions; (d) Exercises in tinting and shading; (e) Tracing; (f) Blue printing. 2.0 credits. Assistant Professor Horine.

1b. **Mechanical Drawing.** Continuation of Drawing 1a. 2.0 credits. Assistant Professor Horine.

3. **Descriptive Geometry.** Required of all freshmen in Engineering. This work includes, first, the discussion of descriptive geometry as a branch of pure mathematics; later comes a consideration of the application of descriptive geometry principles as an aid to engineering drawing. The lectures and recitations are supplemented by work in the drawing room under course 1b. Prerequisite, Mathematics 2. Five credits. Assistant Professor Horine.

4a. **Advanced Drawing.** Required of all sophomores in Engineering. Comprising: (a) Working drawings of parts of machines and complete machines, both detail and assembly; (b) Technical sketching; (c) Plotting of surveys. Prerequisites, Drawing 1a and 1b. Two credits. Assistant Professor Horine.

4b. **Advanced Drawing.** Continuation of Drawing 4a. 2 credits. Assistant Professor Horine.

### ELECTRICAL ENGINEERING

2. **Direct Current Dynamos.** Required of juniors in Mechanical and Electrical Engineering. This course involves a more intensive study of direct current generators and motors than is covered in course 1. Prerequisite, Electrical Engineering 1. Two credits. Professor Freeman.

3. **Alternating Currents.** Required of all juniors in Engineering. Elective for juniors or seniors in Industrial Chemistry. This work involves a study of the fundamental laws of alternating current measuring instru-

ments, generators, motors, transformers and converters. Prerequisite, Electrical Engineering 1. Three credits. Professor Freeman.

7. **Dynamo Design.** Required of juniors in Mechanical and Electrical Engineering. This work involves all the calculations necessary in the design of a direct current generator or motor, together with a complete set of detailed drawings. Each student is assigned an individual problem. Prerequisite, Electrical Engineering 1. Electrical Engineering 2 must have been completed or taken co-ordinately. Two credits. Professor Freeman.

9b. **Electrical Laboratory.** Required of all juniors in Engineering. Elective for juniors or seniors in Industrial Chemistry. This is a continuation of Course 9a and is intended to parallel Course 3. Prerequisite, Electrical Engineering 9a. Electrical Engineering 3 must have been completed or be taken co-ordinately. One credit. Mr. Watkins.

#### MECHANICAL ENGINEERING

8. **Steam Laboratory.** Required of juniors in Mechanical, Electrical, Mining and Metallurgical Engineering. This laboratory course involves a study of the apparatus used by the steam engineer. The experiments are intended to familiarize the student with simple methods of measuring heat units and determining mechanical power. Prerequisites, Physics 5, Chemistry 1b and Mathematics 7a. Two credits. Mr. Watkins.

12. **Automotive Engineering.** Required of juniors in Mechanical and Electrical Engineering. Several different makes of cars are studied with the idea of familiarizing the student with the construction, operation and maintenance of automobiles in general. Two credits. Mr. Singer.

#### MECHANICS OF ENGINEERING

1. **Mechanics of Materials.** Required of all juniors in Engineering. This course presents to the student the laws governing the behavior of the different materials used in construction under the action of forces. Beams, columns and shafts of different shapes and materials are analyzed with reference to their resistance and deformation when subjected to compressional, tensional and torsional strains. Problems including the design of truss members, floors, girders and reinforced concrete construction are given. Prerequisite, Physics 3a, Mathematics 7a. Professor Johnson.

2. **Testing of Materials.** Required of all juniors in Engineering. The experiments in the testing of materials laboratory are conducted for the purpose of verifying the laws of mechanics of materials. Experimenting investigation of woods, iron, cements and bricks in their various forms are made with a view of impressing the student with the factors entering into the use of such materials in engineering construction. Mechanics of Engineering must have been completed or must be taken at the same time. Five credits. Professor Johnson.

3. **Kinematics.** Required of juniors in Mechanical and Electrical Engineering. This course is intended to familiarize the student with the mutual dependence of the movements of the parts of a machine. Special attention is given to the analysis of mechanisms involving link motion, gear, teeth, cams, communication of motion by rolling and sliding contact and quick return motions. Prerequisites, Mathematics 2, 4, 5, and Drawing 3. Three credits. Assistant Professor Hawkins.

4. **Kinematic Design.** Required of all juniors in Mechanical and Electrical Engineering. This course is given in connection with Mechanics of Engineering 3. It consists of independent designs of mechanisms, particular attention being paid to the training of the students in the drawing room practice existing in our most comprehensive machine building establishments. Prerequisites, Mathematics 2, 4, 5. Drawing 3, 4. Mechanics of Engineering must have been completed or taken at the same time. Four credits. Assistant Professor Hawkins.

6. **Analytical Mechanics.** Required of all juniors in Engineering. This subject is given with a view of encouraging original analysis, logical proofs and rational conclusions with respect to the treatment of the equilibrium and motion of bodies under the action of forces. The application of the fundamental principles of mechanics to engineering problems is treated in a way calculated to interest the student in the application of analytical mechanics in his engineering work. Prerequisites, Physics 3a, Mathematics 7b (Calculus, second part), must be completed or taken co-ordinately. Five credits. Professor Johnson.

7. **Machine Design.** Required of juniors in Mechanical and Electrical Engineering. This course in design is especially arranged to equip juniors in the art of high class machine designing. A large part of the training consists in teaching students how to make first class working drawings. The problems given to the student are in all cases original designs. Much stress is laid upon the making of pattern drawing. In connection with this course the student spends part of his time in the shop making at least one pattern from his own drawings so that his attention will be called especially to the essential elements in foundry practice. A comprehensive library on machine tools, gas engines and apparatus is provided in the drawing room for reference. The main objects of the course are: First, to teach the student to investigate, analyze and record in the form of a standard drawing, some engineering idea; second, to produce a comprehensive logical and elegant machine design. Prerequisites, Mechanics of Engineering, 1, 2, 3, 4. 1.3 credits. Assistant Professor Hawkins.

10. **Graphics of Machines.** Required of juniors in Mechanical Electrical Engineering. This course covers a study of friction and forces in machines. The graphical method of finding the forces and stresses is used and the effect of friction on the line of action of the forces is determined. Prerequisites, Mechanics of Engineering 1 and 3. One credit. Assistant Professor Hawkins.

## PRACTICAL MECHANICS

7a. **Wood Shop and Foundry.** Required of all freshmen in Engineering. This course covers bench work, wood turning, pattern making and foundry practice. 2.7 credits. Assistant Professor Dicker.

7a. **Wood Shop and Foundry.** Required of all freshmen in Engineering. A continuation of course 7a. 2.7 credits. Assistant Professor Dicker.

8a. **Forge, Machine and Automobile Shops.** Required of all sophomores in Engineering. Prerequisites, Practical Mechanics 7b. Two credits. Mr. Thurman.

8b. **Forge, Machine and Automobile Shops.** Required of all sophomores in engineering. This is a continuation of course 8a. Two credits. Mr. Thurman, Mr. Saunier and Mr. Singer.

## COLLEGE OF LAW

Lyman Chalkley, B. L., Acting Dean

1. **Civil Procedure.** Three credits. Mr. Chalkley.
2. **Pleading.** Two credits. Mr. Chalkley.
3. **Practice Court.** Two credits. Mr. Chalkley.
4. **Property Five (Wills).** Three credits. Mr. Roberts.
5. **Mortgages.** Two credits. Mr. Roberts.
6. **The Law of Mining.** Two credits. Mr. Roberts.
7. **The Law of Oil and Gas.** Two credits. Mr. Scarborough.
8. **The Law of Employers' Liability and Workmen's Compensation Acts.** Two credits. Mr. Scarborough.
9. **Municipal Corporations.** Three credits. Mr. Scarborough.

## SCHEDULE OF LECTURES AND RECITATIONS SUMMER SESSION, 1924

### EXPLANATIONS AND ABBREVIATIONS

Colleges are arranged according to order in the catalog and the departments of each college are arranged alphabetically.

Days of recitations are indicated by the initial letters of the days. The buildings are indicated as follows: A, Administration; Agr., Agriculture; C & P, Civil and Physics; E, Education; ES, Experiment Station; KH, Kastle Hall; MG, Men's Gymnasium; WG, Women's Gymnasium; M, Mining; ML, Mining Laboratory; M & E, Mechanical and Electrical; NS, New Shop; OC, Old Chemistry; PH, Patterson Hall; S, Science; SF, Stoll Field; SP, Stock Judging Pavilion; SL, Serum Laboratory; WH, White Hall; NH, Neville Hall; FEL, Farm Engineering Laboratory; LT, Little Theater.

### RECITATION HOURS

First hour:	8:00— 8:50
Second hour:	8:57— 9:47
Third hour:	9:54—10:44
Fourth hour:	10:51—11:41
Fifth hour:	11:48—12:38

#### Noon Hour

Sixth hour:	1:40— 2:30
Seventh hour:	2:37— 3:27
Eighth hour:	3:34— 4:24
Ninth hour:	4:31— 5:21

As will be noted from the schedule following, a few classes have been scheduled at 7:10 a. m., in order to avoid conflicts.

### CHANGES IN THE PRINTED SCHEDULE

Any variation from the printed schedule must be authorized by the Registrar, who requires the approval of the dean and the head of the department concerned.

This schedule is published for the convenience of students in making up their courses before arriving at the University. It is subject to such slight changes as it may be necessary to make before the opening of the session. The University reserves the right to cancel any course if as many as five students fail to apply.

COLLEGE OF ARTS AND SCIENCES  
PAUL P. BOYD, PH. D., Dean.

Course No.	SUBJECT	Hour	Days	Bldg.	Room No.	Instructor
ANCIENT LANGUAGES						
1	Beginning Latin -----	1	Daily	A	303	Jones
3	Cicero and Sallust -----	2	Daily	A	303	Jones
4	Vergil -----	4	Daily	A	303	Jones
5	Livy or Horace -----	5	Daily	A	303	Jones
51	Elementary Greek -----	3	Daily	A	303	Jones
201	Pastoral Poetry -----	By Apt.	Daily	A	303	Jones
Students who cannot be accommodated in this schedule will have special arrangements made for them.						
ART						
1a	Drawing and Painting -----	1, 2	Daily	WH	306	Meyer
2a	Art Structure -----	4	Daily	WH	306	Meyer
2a	Art Structure, Lab. -----	By	App't	WH	306	Meyer
10a	The Teaching of Art in Public Schools -----	3	Daily	WH	306	Meyer
BACTERIOLOGY						
102	General Bacteriology, Lab. -----	1, 2	MWF	NH	106	Scherago
102	General Bacteriology, Lec. -----	4	MTWTh	NH	205	Scherago
103	Pathogenic Bacteriology, Lec. -----	2	MTWTh	NH	205	Scherago
103	Pathogenic Bacteriology, Lab. -----	3-4	Daily	NH	104	Scherago
104	Applied Bacteriology -----	{ 1, 2 } 1, 2, 3 4, 5 }	T Th F	NH	106	Scherago
BOTANY						
1a	General Botany, Lab. -----	1, 2	MTWTh	WH	102	McFarland
1a	General Botany, Lec. -----	4	MTWTh	WH	101	McFarland
A	High School Botany -----	3	Daily	WH	101	McFarland
5	Dendrology -----	5	MW	WH	101	McFarland
CHEMISTRY						
1a	General Inorganic Chemistry -----	1, 2, 3	Daily	KH		Mitchell and Zimmerman
1b	General Inorganic Chemistry -----	1, 2, 3	Daily	KH		Mitchell and Zimmerman
3	Inorganic Preparations -----	1, 2	Daily	KH		Stewart
4	Qualitative Analysis -----	2, 3, 4	Daily	KH		Mitchell and Stewart
7	Organic Chemistry -----	2, 3, 4	Daily	KH		Stewart
8	Quantitative Analysis -----	1, 2, 3, 4	Daily	OC		Bedford
9	Quantitative Analysis -----	1, 2, 3, 4	Daily	OC		Bedford
12	Advanced Agricultural Anaysis -----	1, 2, 3, 4	Daily	OC		Bedford
14	Advanced Quantitative Analysis -----	1, 2, 3, 4	Daily	OC		Bedford
ECONOMICS AND SOCIOLOGY						
1a	Principles of Economics -----	1	Daily	WH	205	Wiest
2	Economic History of Europe -----	3	Daily	WH	205	Wiest
111	Production and Marketing -----	4	Daily	WH	206	Wiest
51a	Principles of Sociology -----	3	Daily	WH	205	Wright
153	Criminology -----	1	Daily	WH	206	Wright
154	Rural Sociology -----	2	Daily	WH	206	Wright

COLLEGE OF ARTS AND SCIENCES—Continued

Course No.	SUBJECT	Hour	Bldg.	Bldg.	Room No.	Instructor
ENGLISH						
1a	English Composition -----	1	Daily	A	301	Yates
1b	English Composition -----	2	Daily	A	301	Yates
3b	History of English Literature-----	3	Daily	A	301	Yates
106	English Romanticism -----	3	Daily	A	205	Dantzler
110	Shakespeare -----	1	Daily	A	302	Farquhar
111	The English Novel -----	2	Daily	A	205	Knight
114	American Literature -----	4	Daily	A	301	Knight
116	The Contemporary Drama -----	6	Daily	A	301	Knight
16a	Literature of the Bible-----	2	Daily	A	302	Farquhar
18	Teachers' Course -----	1	Daily	A	205	Dantzler
201a	Literary Criticism -----	3	Daily	A	302	Farquhar
103	Old English -----	4	Daily	A	205	Dantzler
GEOLOGY						
2a	Elementary Geology -----	1	Daily	S	203	McFarlan
4	Mineralogy -----	2, 3	MTh	S	203	McFarlan
1a	Physiography -----	4	Daily	S	203	McFarlan
GERMAN						
1a	Elementary German -----	1	Daily	A	304	Melcher
1b	Elementary German -----	1	Daily	A	304	Melcher
2a	Intermediate German -----	2	Daily	A	304	Melcher
2b	Intermediate German -----	2	Daily	A	304	Melcher
4a	Adv. Reading and Composition-----	3	Daily	A	304	Melcher
6	Scientific German -----	4	Daily	A	304	Melcher
Special arrangements will be made for students who cannot be accommodated in this schedule.						
MATHEMATICS						
6	Analytic Geometry -----	1-2	Daily	CP	310	Davis
1	Elementary Algebra -----	3	Daily	CP	310	Davis
5	College Algebra -----	1-2	Daily	CP	303	Downing
*105	Differential Equations -----	3	Daily	CP	303	Downing
*103	Theory of Equations -----	3	Daily	CP	303	Downing
*106	Advanced Calculus -----	3	Daily	CP	303	Downing
7b	Integral Calculus -----	2	Daily	CP	308	LeSturgeon
7a	Differential Calculus -----	3-4	Daily	CP	308	LeSturgeon
A	Plane Geometry -----	3	Daily	CP	306	Andrew
4	Plane Trigonometry -----	6-7	Daily	CP	306	Andrew
2	Solid Geometry -----	2	Daily	CP	306	Andrew
*Only one of these courses will be given, according to demand.						
HISTORY AND POLITICAL SCIENCE						
2	History of the English People Since 1600 -----	1	Daily	A		MacGregor
3b	English Constitutional History-----	2	Daily	A		MacGregor
52	Municipal Government -----	3	MTThF	A		MacGregor
111	Reconstruction -----	4	Daily	A		MacGregor
51a	American Government -----	1	Daily	A		Barth
57	Public Utilities -----	2	MTThF	A		Barth
70	Political Parties -----	3	Daily	A		Barth



COLLEGE OF ARTS AND SCIENCES—Continued

No. Course	SUBJECT	Hour	Days	Bldg.	Room No.	Instructor
HYGIENE						
105a	Advanced Hygiene -----	2	Daily	NH	302	Lipscomb
105b	Advanced Hygiene -----	3	Daily	NH	302	Lipscomb
103	School Hygiene -----	5	Daily	NH	302	Lipscomb
2	First Aid -----	By Appt.	Daily	NH	302	Lipscomb
MUSIC						
13a	Sight Reading -----	1	MTThF	WH	301	Lampert
2a	Music Appreciation -----	2	MW	WH	301	Lampert
3a	Harmony -----	3	MWThF	WH	301	Lampert
4a	Public School Music -----	4	MTThF	WH	301	Lampert
5a	History of Music -----	7	MWThF	WH	301	Lampert
8a	Chorus -----	6	MWF	WH	301	Lampert
PHYSICAL EDUCATION						
8	Principles of Coaching Basketball (Men and Women) -----	4	Daily	MG	104	Boles
9	Principles of Coaching Football --	3	Daily	MG	104	Boles
10	Plays and Games for Graded and Rural Schools -----	5	Daily	MG	104	Boles
PHYSICS						
1a	Elementary Physics -----	2	Daily	C&P	200	Webb
	Laboratory and Recitation -----	3	MWF	C&P	200	Webb
1a	Elementary Physics, Laboratory --	*0, 1	MW	C&P	203	Ass't No. 1
1b	Elementary Physics -----	2	Daily	C&P	103	States
	Lecture and Recitation -----	3	MWF	C&P	103	States
1b	Elementary Physics, Laboratory --	0, 1	TTh	C&P	203	Ass't No. 2
3a	General College Physics, Lecture and Recitation -----	0 } 1 }	Daily MWF	C&P C&P	200 200	Webb States
3b	General College Physics -----	0 } 1 }	Daily MWF	C&P C&P	103 103	States States
4	Elementary Physical Measure- ments -----	0, 1	MTWTh	C&P	203	Ass'ts 1 and 2
5	General College Physics, Lecture --	1	TTh	C&P	200	Webb
5	General College Physics, Lab. ----	4, 5	MTWTh	C&P	105	Ass't No. 1
6	General College Physics, Lecture --	1	TTh	C&P	103	States
6	General College Physics, Lab. ----	4, 5	MTWTh	C&P	3	Ass't No. 2
	*hour is 7:10 to 7:50 a. m.					
PSYCHOLOGY						
1	Introductory Psychology -----	2	Daily	NH	204	Allport
111	Tests of Intelligence -----	1	Daily	NH	204	Allport
104	Social Psychology -----	4	Daily	NH	204	Allport

COLLEGE OF ARTS AND SCIENCES—Continued

Course No.	SUBJECT	Hour	Days	Bldg.	Room No.	Instructor
ROMANCE LANGUAGES						
1a	Elementary French -----	3	Daily	NH	304	Server
1b	Elementary French -----	2	Daily	NH	304	Zembrod
2a	Intermediate French -----	4	Daily	A	204	Zembrod
101a	French Novel and Drama -----	3	Daily	A	204	Zembrod
*5a	Elementary Spanish -----	2	Daily	NH	304	Server
*5b	Elementary Spanish -----	2	Daily	NH	304	Server
103a	Intermediate Spanish ----- *Spanish 5a or 5b given accord- ing to the demand.	1	Daily	NH	304	Server
ZOOLOGY						
1a	General Zoology, Rec. -----	1	Daily	S	108	Allen
1a <sub>1</sub>	General Zoology, Lab. -----	2	Daily	S	105	Allen
1b	General Zoology, Rec. -----	2	Daily	S	108	Funkhouser
1b <sub>1</sub>	General Zoology, Lab. -----	1	Daily	S	103	Funkhouser
8a	Principles of Zoology, Lec. -----	3	Daily	S	108	Funkhouser
9	Animal Ecology, Rec. -----	3	Daily	S	107	Allen
9 <sub>1</sub>	Animal Ecology, Lab. -----	4	Daily	S	107	Allen
102	Bird Study, Rec. -----	4	Daily	S	108	Funkhouser

COLLEGE OF AGRICULTURE

THOMAS P. COOPER, B. S. IN AGRICULTURE, Dean

AGRONOMY						
1 <sub>1</sub>	Soils, Lec. -----	} 1 2	Daily	Agr.	301	Karraker
			TTh			
1 <sub>2</sub>	Soils, Lab. -----	6, 7	MW	Agr.	303	Karraker
8 <sub>1</sub>	Cereals, Lec. -----	2	Daily	Agr.	304	Fergus
8 <sub>2</sub>	Cereals, Lab. -----	6, 7	TTh	Agr.	304	Fergus
101	Methods and Results of Field Experimentation -----	3	MTWTh	Agr.	303	Roberts
FARM ENGINEERING						
4 <sub>1</sub>	Farm Motors Lec. -----	1	MTWTh	Agr.	303	Kelley
4 <sub>2</sub>	Farm Motors, Lab. -----	6-9	MW	GEL		Kelley
6 <sub>1</sub>	Farm Shop, Lec. -----	2	MW	Agr.	303	Kelley
6 <sub>2</sub>	Farm Shop, Lab. -----	6-8	TTh	FS		Kelley
ANIMAL INDUSTRY						
5 <sub>1</sub>	Farm Dairying, Lec. -----	5	MWF	Agr.	205	Hooper
5 <sub>2</sub>	Farm Dairying, Lab. -----	6-9	F	Agr.	4	Hooper
7a	Livestock Feeding -----	2	MTWTh	JP		Good
7b	Livestock Feeding -----	4	MTWTh	JP		Good
12a <sub>1</sub>	Types and Classes of Beef Cattle, Sheep and Hogs, Lec. -----	1	MW	JP	1	Horlacher
12a <sub>2</sub>	Types and Classes of Beef Cattle, Sheep and Hogs, Lab. -----	6-8	MW	JP	1	Horlacher

**COLLEGE OF AGRICULTURE**  
**THOMAS P. COOPER, B. S. IN AGRICULTURE, Dean**

Course No.	SUBJECT	Hour	Days	Bldg.	Room No.	Instructor
12b <sub>1</sub>	Types and Classes of Dairy Cattle, Horses and Mules, Lec.-----	1	TTh	JP	1	Horlacher
12b <sub>2</sub>	Types and Classes of Dairy Cattle, Horses and Mules, Lab. -----	6-8	TTh	JP		Horlacher
17a <sub>1</sub>	Breeds of Horses, Jacks and Dairy Cattle, Lec. -----	3	MWF	JP	1	Horlacher
17a <sub>2</sub>	Breeds of Horses, Jacks and Dairy Cattle, Lab. -----	6-9	F	JP		Horlacher
104 <sub>1</sub>	Animal Breeding, Lec. -----	4	Daily	Agr.	301	Anderson
104 <sub>2</sub>	Animal Breeding, Lab. -----	1 Cr.	By Appt.			Anderson
203	Research in Genetics -----	4 Crs.	By Appt.			Anderson
<b>FARM ECONOMICS</b>						
1	Farm Management -----	5	Daily	Agr.	301	Hutson
3 <sub>1</sub>	Farm Accounting, Lec. -----	2	TTh	Agr.	303	Hutson
3 <sub>2</sub>	Farm Accounting, Lab. -----	4 hrs.	By Appt.			Hutson
4 <sub>1</sub>	Agricultural Economics, Lec. ----	3	MTWTh	Agr.	301	Hutson
4 <sub>2</sub>	Agricultural Economics, Lab. ----	2 hrs.	By Appt.			Hutson
<b>HORTICULTURE</b>						
7a <sub>1</sub>	Vegetable Gardening, Lec. -----	4	MWF	Agr.	303	Olnéy
7a <sub>2</sub>	Vegetable Gardening, Lab. -----	6, 7	F			Olnéy
7b <sub>1</sub>	Fruit Growing, Lec. -----	5	F	Agr.	303	Olnéy
7b <sub>2</sub>	Fruit Growing, Lab. -----	4	Th			Olnéy
		6, 7	W			Olnéy
<b>HOME ECONOMICS</b>						
9 <sub>1</sub>	Foods, Lecture -----	1	MWF	Agr.	205	Cornell
9 <sub>2</sub>	Foods, Lab. -----	6, 7	TTh	Agr.	103	Cornell
10 <sub>1</sub>	Clothing, Lec. -----	2	MWF	Agr.	205	Cornell
10 <sub>2</sub>	Clothing, Lab. -----	6, 7	MW	Agr.	202	Cornell
11 <sub>1</sub>	General Nutrition, Lec. -----	3	MWF	Agr.	205	Cornell
11 <sub>2</sub>	General Nutrition, Lab. -----	6, 7	MW	Agr.	103	Cornell
12	Teaching of Health and Nutrition in Public Schools -----	4	Daily	Agr.	205	Fitzgerald
13	Teaching of Methods of Field Work in Nutrition -----	1	Daily	Agr.	202	Fitzgerald
14	Advanced Course in Nutrition and the Community -----	2	Daily	Agr.	202	Fitzgerald
25	Millinery -----	4, 5	TWThF	Agr.	202	Fitzgerald

COLLEGE OF EDUCATION  
W. S. TAYLOR, PH. D., Dean

Course No.	SUBJECT	Hour	Days	Bldg.	Room No.	Instructor
AGRICULTURAL EDUCATION						
180	Methods of Teaching Voc. Ag.-----	1	Daily	NH	303	Anderson
183	Rural School Problems -----	3	Daily	NH	303	Anderson
184	Community Studies and Their Application -----	6	Daily	NH	303	Anderson
ADMINISTRATION AND SUPERVISION						
17	High School Administration -----	2	Daily	Ed	204	Skinner
115	Administration and Supervision---	4	Daily	Ed	204	Birckhead
113	State and County School Adm.-----	1	Daily	Ed	204	Baker
	The Junior High School-----	3	Daily	Ed	204	Hunt
	The Supervision of El. Instr.-----	3	Daily	Ed	205	Woerner
108	Public Education in U. S.-----	2	Daily	Ed	201	Patrick
EDUCATIONAL PSYCHOLOGY						
16	Educational Psychology -----	7	Daily	Ed	105	Hunt
122	Educational Tests and Measurements -----	6	Daily	Ed	205	Fling
123	Statistical Methods in Education---	6	Daily	Ed	204	Birckhead
HISTORY OF EDUCATION						
117a	History of Education -----	1	Daily	Ed	106	Noe
117b	History of Education -----	4	Daily	Ed	106	Hill
110	Moral and Aesthetic Education---	6	Daily	Ed	106	Noe
120	Great Educators and Their Work---	3	Daily	Ed	106	Noe
121	History of Education in U. S.-----	1	Daily	Ed	201	Patrick
220	Comparative Education -----	7	Daily	Ed	106	Noe
HOME ECONOMICS EDUCATION						
165	Problems in Vocational Home Economics Education -----	2	Daily	NH	305	Tupper
163	Current Problems in Home Making Education -----	4	MTThF	NH	305	Tupper
INDUSTRIAL EDUCATION						
74	Vocational Guidance -----	3	Daily	Ed.	201	Birckhead and May
170	Part-Time Continuation School Education -----	2	Daily	NH	303	May
171	Vocational Education -----	1	Daily	NH	303	May
PRINCIPLES AND PRACTICE OF EDUCATION						
2	Methods and Aims of Teaching---	1	Daily	Ed.	205	Fling
3	Elementary Education -----	2	Daily	Ed.	205	Fling
4	Principles of Education -----	6	Daily	Ed.	105	Hill
18	Modern Educational Problems ----	5	Daily	Ed.		Taylor and others
105	Technique of Teaching -----	1	Daily	Ed.	105	Skinner
109	Principles of Secondary Ed.-----	3	Daily	Ed.	105	Hill
114	Educational Sociology -----	4	Daily	Ed.	105	Skinner
127	Problems in Curriculum Building---	2	Daily	Ed.	105	Hunt

COLLEGE OF ENGINEERING  
F. PAUL ANDERSON, M. E., Dean.

Course No.	SUBJECT	Hour	Days	Bldg.	Room No.	Instructor
<b>CIVIL ENGINEERING</b>						
21	Hydraulics -----	5	Daily	MH	209	Hawkins
<b>DRAWING</b>						
1a	Mechanical Drawing -----	3 hrs.	Daily	CP	207	Horine
1b	Mechanical Drawing -----	3 hrs.	Daily	CP	207	Horine
3	Descriptive Geometry -----	1-2	Daily	CP	107	Horine
4a	Advanced Drawing -----	3 hrs.	Daily	CP	207	Horine
4b	Advanced Drawing -----	3 hrs.	Daily	CP	207	Horine
<b>ELECTRICAL ENGINEERING</b>						
2	D. C. Dynamos -----	3	Daily	MH	209	Freeman
3	Alternating Currents -----	4	Daily	MH	209	Freeman
9b	Electrical Laboratory -----	6-7	MW	MH	112	Watkins
7	Dynamo Design -----	3 hrs.	Daily	MH	209	Freeman
<b>MECHANICAL ENGINEERING</b>						
8	Steam Laboratory -----	6-7	TTh	MH	112	Watkins
12	Automotive Engineering -----	6	Daily	MH	113	Singer
<b>MECHANICS OF ENGINEERING</b>						
1	Mechanics of Materials -----	1-2	Daily	MH	201	Johnson
2	Testing of Materials -----	6-7	MWF	MH	A	Johnson
3	Kinematics -----	3	Daily	MH	209	Hawkins
4	Kinematic Design -----	5 hrs. Daily	By Appt.	MH	206	Hawkins
6	Analytical Mechanics -----	3-4	Daily	MH	201	Johnson
7	Machine Design -----	3 hrs. By Appt.	Daily	MH	206	Hawkins
10	Graphics of Machines -----	6-7	WF	MH	206	Hawkins
<b>PRACTICAL MECHANICS</b>						
7a	Wood Working and Foundry -----	15 hrs. By Appt.	Week	NS		Dicker
7b	Wood Working and Foundry -----	15 hrs. By Appt.	Week	NS		Dicker
8a	Forge, Machine and Auto Shop -----	12 hrs. By Appt.	Week	NS		Thurman, Saun- ier, Singer
8b	Forge, Machine and Auto Shop -----	12 hrs. By Appt.	Week	NS		Thurman, Saun- ier, Singer

COLLEGE OF LAW  
 LYMAN CHALKLEY, B. L., Acting Dean.

Pleading -----	1	MWF	S	306	Chalkley
Practice Court -----	1	TTh	S	308	Chalkley
Practice Court -----	4	F	S	308	Chalkley
Property V. -----	1	Daily	S	307	Roberts
Civil Procedure -----	2	Daily	S	308	Chalkley
Municipal Corporations -----	2	Daily	S	307	Scarborough
Mortgages -----	3	MWF	S	306	Roberts
Mining Law -----	3	TTh	S	306	Roberts
Mining Law -----	4	M	S	306	Roberts
Workmen's Compensation -----	3	MWF	S	307	Scarborough
Law of Oil and Gas -----	4	TWT	S	306	Scarborough

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