

# BULLETIN

#### OF

# WILLIAM JEWELL COLLEGE

FOUNDED 1849.

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# Calendar.

#### 1910.

MONDAY, JANUARY 3, 8:40 O'CLOCK a. m.—Winter Term begins. TUESDAY, FEBRUARY 22—Washington's Birthday. WEDNESDAY TO FRIDAY, MARCH 16-18—Examinations, Winter Term. MONDAY, MARCH 21, 8:40 O'CLOCK a. m.—Spring Term begins. FRIDAY, MAY 13 (subject to change)—Athletic Field Day. WEDNESDAY TO FRIDAY, JUNE 1-3—Examinations, Spring Term. SUNDAY TO WEDNESDAY, JUNE 5-8.

#### COMMENCEMENT WEEK.

SUNDAY, JUNE 5-11:00 a. m.-Baccalaureate Sermon.

8:00 p. m.—(For School of Theology) Annual Address before the Board of Ministerial Education.

MONDAY, JUNE 6-11:00 a. m.-Address before the Literary Societies. TUESDAY, JUNE 7-Alumni Day.

11:00 a. m.—Address before the Alumni Association. WEDNESDAY, JUNE 8—Commencement Day.

10:00 a.m.—Exercises of the Graduating Class.

Fall term begins Thursday, September 8.

## Correspondents

Wishing further information concerning admission, courses of study, and all other matters pertaining to the internal or fiscal affairs of the College, address the President, Dr. J. P. Greene, Liberty, Mo.

#### To the New Student.

It is always best, if possible, to room in the dormitories and to board at the club. If this is not possible, confer with the Treasurer, J. E. Cook, immediately on arriving in Liberty, and he will give you a list of approved boarding and rooming places. If you need employment to help you through school, write the Treasurer or consult him. If you will write President Greene, telling him by what train you expect to reach Liberty, he will have a committee from the Young Men's Christian Association meet you at the station. The Young Men's Christian Association is a part of the college, and all students are advised to avail themselves of its help from the very first day of their arrival in Liberty. Any particular help, or any information desired from the Y. M. C. A., may be obtained by writing to G. W. Wise, President, Liberty, Mo.

## Fees.

## Regular Fees.

Entrance fee, per term, payable in advance	\$5.00
Tuition, per term, payable in advance	15.00
Entrance fees and tuition for entire year, if paid in advance	50.00
Athletic Association fee, \$2.00 first term, \$1.00 each 2nd and 3rd terms.	4.00
Athletic Association fee, per year, if paid in advance	3.50

#### Fees for Special Students.

Laboratory fee in Chemistry, per term, payable in advance	\$5.00
Laboratory fee in Physics, per term, payable in advance	2.50
Fee in Mechanical Drawing, per term, payable in advance	2.50
Laboratory fee in Bacteriology, per term, payable in advance	5,00
Laboratory fee in Biology, per term, payable in advance	2.50
Laboratory fee in Mineralogy, per term, payable in advance	2.50
Fee for use of typewriter, per term	5.00
For use of typewriter, per year, if paid in advance	10.00

## Dormitory Fees.

Room rent in Ely Hall or cottages, per term, payable in advance	\$5.00
Room rent in Ely Hall or cottages, per year, if paid in advance	12.00
Steam heat in Ely Hall, per year, payable in advance	6.00
Board at the club per month at cost, about	8.00

## Caution Fee.

Each student will be required to deposit with the Treasurer a Caution Fee of \$5.00, which will be returned to him when he withdraws regularly from school, less whatever charges may be against him for breakage and damage to the college property.

### Graduation Fee.

Payable before delivery of diploma..... \$5.00

## Estimate for Year's Expense to Ordinary Student.

Incidental and tuition fees	\$50.00
Board at the club, estimated	75.00
Room rent	12.00
Fuel and lights, estimated	8.00
Books and washing, estimated	15.00
Estimated expense	\$160.00

## Requirements for Admission.

**Fifteen Units** of preparatory work are required for admission to the Freshman class. By a unit is meant an amount of work equal to that accomplished in a well equipped high school or academy in a term of not less than thirty-two weeks by a class reciting not less than forty minutes each day. The amount and character of the work required for each unit is outlined below.

Admission to the Freshman class, subject to the probation rule, may be obtained on a statement from the principal of an approved high school or academy that the applicant has passed satisfactorily in that school on work satisfying our entrance requirements. A blank for such a statement will be furnished by the Secretary of the Faculty on request. This should be filled out by the principal of the school and returned to the Secretary of the Faculty not later than one week before the opening of the term in which the prospective student desires to enter. An applicant without such certificate must satisfy the professors of the various college departments concerned that he has met properly our entrance requirements and secure their signatures to his application for admission.

Students who are deficient in any part of the work required for admission can find classes in our sub-collegiate department in which the deficiency can be made up.

# Outline of Entrance Requirements.

(The following refers to work done in High Schools and Academies.)

## English.

Three units must be offered for entrance to either group of college studies. Either the following or the equivalent must be offered:

1. Grammar: "The English Language and Its Grammar." (Mead); "Grammar and Its Reasons." (Leonard). I unit. 2. Elements of Rhetoric: "English Composition" (Thomas and Howe). Reading: "Vicar of Wakefield;" Lamb's "Tales from Shakespeare;" George Eliot's "Silas Marner." I unit.

**3. Literature**: "Primer of English Literature" (Brooke); Selected Classics. American Literature: "Carpenter's Prose," Selected Classics, Page's "Chief American Poets." I unit.

### Latin.

Four units must be offered for entrance to Group A; for entrance to Group B, four units of Latin must be offered, or, three units of Latin and one unit of German.

1. Hale's First Latin Book, or a book of equal grade, completed. I unit.

2. Four books of **Caesar's Gallic War**; or, selections from Caesar's writings or other Latin, equalling this requirement in amount and difficulty. Prose composition should occupy one-fifth of the recitation periods of the class during this course. I unit.

3. Cicero, six orations, including the Manilian Law, with prose composition based on the text read. I unit.

4. Vergil, six books of the Aeneid; or four books of the Aeneid, and selections from Ovid, not less than 1,400 lines. Prose composition, with a systematic review of the principles of syntax, one lesson per week throughout the year. I unit.

No student will be allowed to continue in the freshman class beyond the probationary period who does not know the declensions and conjugations thoroughly, and know the common principles of syntax.

Course 4, if not offered for entrance, will receive 9 term hours of college credit in Group B.

## Greek.

One unit is required for entrance to Group A, and the second unit may be offered for entrance to this group; one or both units may be offered for entrance to Group B. 1. Elementary Greek: Benner and Smyth's Beginner's Greek Book, complete; or White's First Greek Book, complete; or an equivalent. I unit.

2. Xenophon: Anabasis. Books I-IV, with exercises in composition; or, an equivalent. I unit.

If not offered for entrance, the first unit will receive 9 term hours college credit in Group B, and the second unit will receive 9 term hours college credit in either Group.

## Modern Languages.

Two units, selected in any way from the following courses, may be offered as electives for entrance to Group A; for entrance to Group B one unit of German, or the fourth unit of Latin, must be offered, and two additional units of modern language, selected in any way from the following courses, may be offered as electives.

1. German: The rudiments of Grammar, throughly learned and studied with exercises; about 100 pages of Maerchen or short stories; I unit.

2. German: Advanced German Grammar. Conversation. 250-300 pages of reading of standard German authors. Theme writing. I unit.

3. French: Elementary Grammar. 75-100 pages of easy reading. I unit.

4. French: Advanced Grammar. Conversation. 250-300 pages of reading of standard French authors. Theme writing. I unit.

5. Spanish: Elementary Grammar. 75-100 pages of easy reading. I unit.

6. Spanish: Advanced Grammar. Conversation. 300-400 pages of reading of standard authors. I unit.

At least two years of German is required for graduation in Group B. Any of the above courses, if not offered for entrance, may be offered for credit in college, each course receiving 9 term hours credit.

### Mathematics.

Three units must be offered for entrance to Group A, three and one-half units must be offered for entrance to Group B. The remaining units may be offered for entrance to either Group.

1. A thorough knowledge of elementary Algebra through quadratics, including elementary curve tracing, with special emphasis on fractions, theory of exponents, quadratic equations, and simultaneous equations. 2 units.

2. A course in **Plane Geometry** of not less than thirtytwo weeks in some standard text. I unit.

3. A course covering the principal theorems of Solid Geometry. One-half unit.

4. Plane Trigonometry, including a thorough knowledge of the elementary trigonometric functions, the solutions of right and oblique triangles, and the solution of trigonometric equations. One-half unit.

No student deficient in Algebra will be permitted to continue in freshman mathematics beyond the probationary period.

If Plane Trigonometry or Solid Geometry is not offered for entrance either will receive 5 term hours credit in the college.

## Science.

One unit of physics is required for entrance to either Group. One unit of chemistry or one unit of biology or one-half unit of physical geography or one-half unit of physiology or one-half unit of astronomy may be offered for entrance to either group.

1. Physics. The preparation in physics should include: (a) Individual laboratory work, comprising at least thirty-two exercises not very different from those described in Millikan and Gale's "A Laboratory Course in Physics." These experiments should be divided in about the following proportion: mechanics, 12; electricity and magnetism, 6; heat, 5; light, 5; sound, 4. A note book containing the student's own record of his experiments, written up in the laboratory at the time that the experiments were performed, and certified to by the teacher, should be submitted at the time of application for entrance. (b) In-

struction by lecture, table demonstrations, to be used mainly as a basis for questioning upon the general principles involved in the subject. (c) The study of a text-book equal in scope to Millikan and Gale's "First Course in Physics." I unit.

2. Chemistry. The course in chemistry which may be offered as an elective entrance requirement in science should comprise a minimum of thirty-two weeks of regular work in the better class of high schools and academies of this and neighboring states. There should be a minimum of two sessions per week in the laboratory, each occupying the time of at least two ordinary class sessions, and regular class and recitation work in addition, to the extent of at least three periods per week. The class should pursue the work as outlined in some standard high school, text and the recitations should be illustrated with experimental demon-The student should perform for himself in the strations. laboratory the appropriate work as laid down in a standard laboratory manual, and should himself record at the time his own observations and deductions in a note-book, which note-book should be graded and certified to by the instructor and presented on entrance to college, together with class and examination grades. Emphasis will be laid, not upon the rare elements and unusual compounds, but the student must show a fair familiarity with the details of the more common elements and their compounds. Especially should he be able to express himself in chemical formulas and make calculations of weights of reagents entering into chemical reactions, as well as densities and volumes of gases evolved. T unit.

3. Biology. (A) ZOOLOGY. Daily recitations for one-half year.  $\frac{1}{2}$  unit.

(B) BOTANY. Daily recitations for one-half year.  $\frac{1}{2}$  unit.

In either of the above courses, work will be accepted only upon the presentation of note book showing the nature of the work done.

4. Physical Geography. Davis, Dryer, Tarr, or text  $W \downarrow O-2$ 

of equal grade, completed. Note book must be presented showing the nature of the work done.  $\frac{1}{2}$  unit.

5. Physiology. Daily recitations for  $\frac{1}{2}$  year, including laboratory work, will be accepted for  $\frac{1}{2}$  unit, if satisfactory note books on laboratory work are presented.

6. Astronomy. Daily recitations for at least 16 weeks.  $\frac{1}{2}$  unit.

Courses in beginning Chemistry and Biology are given in the college. Students offering these subjects for entrance and desiring to take more advanced work in them in the college will usually find it necessary to do some additional work in them in the college before attempting the advanced course. The amount of such additional work required, if any, will be determined by the head of the department concerned after an examination, not necessarily written. For such additional work college credit, not to exceed twofifths of the usual college credit for the corresponding beginning course, will be allowed.

## History.

One unit of History is required for entrance to either Group. Two additional units selected from those outlined below may be offered for entrance to either Group.

1. Ancient History. The work should be pursued with a class, using some standard text, as West's, or separate texts for each country may be used, as Botsford's Rome. The subject should include the history of Greece and of Rome to its fall. Proper attention should be given to the civilization and government, as well as the narration of events. Location of cities and political divisions should be known; the drawing of history maps is recommended. When such a course has been continued daily for three-fifths of a year in daily recitations, or throughout the year reciting three times a week, three-fifth unit credit will be given, and this is the minimum amount that will be accepted for entrance. If the course has been made very complete, with supplementary reading, and Egypt and other eastern countries included, a full year's time may be spent with profit on the subject and the maximum, one unit's credit, received.

Required for entrance to either Group. If the requirement of one unit has not been met by the work offered in Ancient History, the remainder, as well as optional credit for partial year's work, or more, may be selected from the following:

2. United States History, when the course has been given within the last two years of a four-year high school course, using such texts as Channing's, McLaughlin's, Johnston's, edited by MacDonald. In this course there should be library reading and note-books. Credit not to exceed one unit for a full year's course, when done in class.

English History, treated as outlined above in 3. United States History, based on Andrew's, Cheyney, or an equivalent. Credit as in course 2. May 1-145

Mediaeval History, from 476 to 1500, will be ac-4. cepted if not less than three hours a week for the entire year have been given to the study in the class-room, using as text Bemont and Monod's, Thatcher and Schwill's, or an In addition to text, library reading, map equivalent. drawing and note taking accompany the class text. Three-Fatt fifths unit. And haras

## **College Entrance Requirements.**

#### Absolute Requirements for A. B. in | Absolute Requirements for A. B. in Literature.

English	•		•	•			•		•	•			•				•		3	units.
Latin.		•							•	•		,			•				4	units.
Mathem	12	ı	i	c	5.								•	•	•	•	,		3	units.
History	٠.													,					1	unit.
Physics																			1	unit.
Greek							,	,				,					,	÷	1	unit.

13 units.

In addition, two units must be selected from the following: History. ..... 2 units. Mathematics ..... 2 units.

Science.

English			•																3	units.
Latin	•••							•	•		•	,		,	•		•		3	units.
Mathem	iat:	ics											•			•	•		31	units.
History				•		•				•		•			•		•		1	unit.
Physics						÷	•		•				•	•	,	•			1	unit.
German	01	a	d	d.	it	i	)]	n	a	1	1	31	ιt	i	n		•	•	1	unit.
																		۰.		

121 units.

In addition, 2½ units must be selected from the following: ..... 2 units. History..... 2 units.

# Collegiate Courses of Study.

The college offers two Courses of Study leading to the degrees, A. B. in Literature and A. B. in Science, which for convenience will also be designated as Group A and Group B respectively. If all of the required courses in both groups are selected the degree will be designated **A**. **B**. in Literature and Science.

Absolute	College Re	quirements
for A. B	. Literature	(Group A.)

Absolute College Requirements for A. B. Science (Group B.)

	(	d	
Martin and a second	Term hours.		Term hours.
Latin 2, 3 (Fr.) Greek 1,2 (Fr.) Advanced Latin or Greek (So.). English 1, 2 (Fr.). History 1 (Fr.). History 3, 4 (So.) History 7 (Sen.). Mathematics 1 (Trig.) (Fr.) Laboratory science from— Chemistry 1, 2 (Fr.) Physics 2, 3 (So.). Biology 1, 4 (So.) Philosophy 1 (Fr.) Philosophy 2, 3 (Jun.) Philosophy 5 (Sen.) Political Science 1 (Jun.)	9 9 9 9 5 5 5 5 18 4 7 3 5 5	Mathematics 1, 2, 2a. (Fr.) Chemistry 1, 2 (Fr.) Physics 1, 2 (So.) Biology 1, 4 (So.) Advanced course in Physics, Chemistry or Biology Calculus (So. or Jun.), or Or- ganic Chemistry (So.) English 1, 2 (Fr.) History 1 (Fr.) German 1, 2 (Fr.) Modern Language (So.) Philosophy 1 (Fr.) Philosophy 2, 3 (Jun.)	15 10 9 9 10 9 5 4 9 9 9 9 4 7
Free electives	105 87	Free electives	109 83
Total for graduation	192	Total for graduation	192

The abbreviations appended to each course indicate the year in which they may be taken conveniently, and the student should follow these suggestions as far as possible. Freshmen and Sophomores are *required* to select a minimum of three courses per term from the group chosen for graduation, either Group A or Group B. Courses should be taken in such an order as always to preserve a proper balance of studies. For example, not more than two laboratory courses should be undertaken at once. Further, the student should note carefully the courses which are prerequisite to advanced work and place them early in his program, in order that he may be prepared to engage in such work, should he so desire.

Time.	Fall Term.	Winter Term.	Spring Term.
9:00	Latin, 2, (5) Political Science, 1, (5) German, 3, (4) Philosophy, 4, (3) Mineralogy, 1, (5) Mathematics, 7, (5) Graphics, 1, 2, 3, 4. Mathematics, 8, (5) English, b, (5) Mathematics, d, (5) Latin, d, (5)	Mathematics, 8, (5) Latin, 3, (4) German, 2, (4) History, 3, (4) Botany, 3, (5) English, 7, (4) Mineralogy, 2, (4) Graphics, 1, 2, 3, 4. Mathematics, s1, (5) Mathematics, el, (5) Mathematics, e, (5) Latin, d1, (5) Physiography c, (5)	History, 4, (4) German, 4, (5) Mineralogy, 2, (4) English, 8, (5) Mathematics, 8a, (5) Graphics, 1, 2, 3, 4. Mathematics, s2, (5) English, b2, (5) Mathematics, e1, (5) Latin, d2, (5) Physiography, c1, (4)
10:00	Mathematics, 1, $(5)$ Physics, 1, $(4)$ Spanish, 1, $(5)$ Geology, 1, $(4)$ Greek, 3, $(4)$ . Mathematics, c, $(5)$ English, a, $(5)$ Latin, b, Sec. I, $(5)$ Latin, c, $(5)$ Mathematics, b, $(5)$	Mathematics, 2, (5) Physics, 2, (5) Geology, 2, (5) Spanish, 2, (4) Physics, 4, (5) Mathematics, c1, (5) Latin, b1, Sec. I, (5) Latin, c1, (5) Mathematics, b1, (5)	Mathematics, 2a, (5) Botany, 4, (4) Philosophy, 5, (3) Physics, 5, (4) Latin, 7, (5) Greek, 6, (5) Mathematics, c2, (5) Latin, b2, Sec. I, (5) Latin, c2, (5) Mathematics, b2, (5)
11:00	Chemistry, 1, (5) Latin, 4, (5) French, 3, (4) Mathematics, 5, (5) Bacteriology, 5, (4) Political Science, 7, (5) Latin, a, Sec. II, (5) Latin, b, Sec. III, (5) English, c, (5)	Chemistry, 2, (5) Latin, 10, (4) Political Science, 3, (4) French, 4, (5) Mathematics, 6, (5) Geology, 3, (5) Latin, a1, Sec. I, (5) Latin, b1, Sec. II, (5) English, c1, (5) History, d1, (5)	Chemistry, 3, Tu., Th., (5) Latin, 9, (5) Phrysics, 3, M., W., F., (5) Philosophy, 6, (5) Mathematics, 6a, (5) Latin, 22, Sec. II, (5) Latin, b2, Sec. II, (5) English, c2, (5) History, d2, (5)

# Scheme of Recitations-College and Sub-Collegiate.

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Time.	Fall Term.	Winter Term.	Spring Term.
1:15	German, 1, $(5)$ Political Science, 5, 5a, $(5)$ English, 5, $(4)$ Greek, 1, $(4)$ Latin, a, Sec. II, $(5)$ History, a, $(5)$ Mathematics, c, $(5)$ Physics, d, $(4)$	French, 1, (5) Mathematics, 3, (5) History, 7, (5) Greek, 2, (5) Philosophy, 1, (4) Latin, al, Sec. II, (5) History, al, (5) Mathematics, c1, (5) Physics, d, (5)	French, 2, (4) Mathematics, 4, (4) History, 8, (4) Greek, 4, (5) Latin, a2, Sec. II, (5) Civics, b, (5) Mathematics, c2, (5)
2:15	History, 1, (5) Zoology, 1, (5) Bible, 3, (3) Chemistry, 4, (5) Greek, 10, (1) [Bookkeeping, (4)] Mathematics, b, (5) History, c, (5) English, d, (5)	English, 1, (5) Chemistry, 5, (5) Latin, 5, (4) Bible, 4, (3) Greek, 11, (1) Bookkeeping, (5)] Mathematics, b1, (5) History, c1, (5) English, d1, (5)	English, 2, (4) Chemistry, 6, (5) Latin, 6, (5) Greek, 12, (1) [Commercial Law, (5)] Mathematics, b2, (5) History, c2, (5) English, d2, (5)
3:15	Bible, 1, (2) English, 3, (4) Spanish, 3, (5) Latin, 8a, (4) [Stenography, (5)] Greek, d, (5) German, d, (5) Physiology, b, (4)	Philosophy, 2, (4) Zoology, 2, (4) English, 6, (5) Spanish, 4, (4) Latin, 11, (4) Bible, 2, (2) [Stenography, (5)] Greman, d1, (5) Physiology, b1, (5)	Philosophy, 3, (3) English, 4, (5) Bible, 2a, (2) Geology, 4, (5) Greek, d2, (5) German, d2, (5)

NOON INTERMISSION.

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## General Notes on the Courses of Study.

I. A student must offer for his graduation at least one of the Groups of absolute requirements and also a sufficient number of free electives to aggregate 192 term hours of college work.

II. If work done in a preparatory school should be accepted for advanced standing in college, not more than nine term hours credit shall be given for one entrance unit.

III. If college work should be offered for entrance, a student may receive one unit credit for nine term hours work; but not more than I unit's credit shall be given for Latin d, dI, d2; or Greek d, dI, d2, or German d, dI, d2.

IV. No student shall receive both entrance and college credit for the same work. If a student, who has offered a course for entrance, repeats a similar course in college, he shall not receive more than two-fifths of the usual college credit therefor.

V. If a required college course should be offered for entrance, the number of absolute college requirements is thereby reduced, leaving a larger number of electives.

VI. No substitutions of any kind will be allowed for any course, partial course or examination.

VII. Every student must carry at least three required courses each term of his Freshman and Sophomore years.

VIII. A student who has not satisfied the college entrance requirements must, as far as possible, choose subjects that will remove entrance conditions.

# Extracts from the College Regulations. Classification in College.

(a) A student shall be classified as *Freshman* if the number of term hours required for his graduation lies between 156 and 105, including his conditions for entrance and excluding the year's work in actual progress.

(b) He shall be classified *Sophomore* if the number of term hours required for his graduation lies between 104 and 53 under the same conditions as above.

(c) To be classified *Junior* the student shall have removed every condition for entrance to college, and the number of term hours required for his graduation shall lie between 52 and I, excluding the year's work in actual progress.

(d) If a student has met all conditions for entrance and there remain no requirements for his graduation beside the year's work in actual progress, he shall be classified *Senior*.

(e) All advanced students not coming under one of these four heads shall be classified Special.

(f) If a student enters any class his right to become a member thereof will not be decided until he shall have successfully passed a probationary period of one-half term and thus evinced his ability to do the work of the class. If it is evident at the close of this period that the student is unable to do the work of the class satisfactorily, he shall be dropped to a lower class.

(g) No student will be allowed to take more than 20 hours per week except in review work, nor less than 15 hours without consent of the Faculty.

(h) No student who preaches regularly more than twice a month is permitted to take more than 15 hours work per week without special consent of the Classification Committee.

# Grading and Examinations.

**I.** To complete the work of a term in any subject, a minimum grade of 60 is required both in class work and on examination.

**II.** A grade below 60 in either means that the student must do the regular class work of that course again before receiving any credit for it, except in cases covered by rule III.

**III.** A student receiving an examination grade not *below* 50 may be granted another examination within one year, provided his class grade for that course was 80 or above. **IV.** No student is allowed to take an examination in any subject in which he has failed to attain a class grade of d or 60 per cent.

 $\nabla$ . A minimum standing of 75 is required of every candidate for graduation, being the average of all grades he has received in the college.

**VI.** The schedule of examinations shall be as follows: Classes reciting at 9 a. m. examined 1st day a. m. Classes reciting at 1 p. m. examined 1st day p. m. Classes reciting at 10 a. m. examined 2nd day a. m. Classes reciting at 2 p. m. examined 2nd day p. m. Classes reciting at 11 a. m. examined 3rd day a. m. Classes reciting at 3 p. m. examined 3rd day p. m.

Irregular hours to be arranged with the teacher within the above period.

# Courses in Detail.

#### Collegiate and Sub-Collegiate.

(All sub-collegiate work is under the direction of the heads of the respective collegiate departments.)

## Department of Bible Study.

### Old Testament.

(President Greene.)

1. The Historical Books from Genesis to II Samuel: Special attention is given to the spelling and pronunciation of proper names, prominent persons, geography of Bible lands, periods of Old Testament history, contents of the books, etc.

Fall Term. Daily at 3:15. Elective in both Groups. Credit, 2 term-hours.

2. Historical and Poetical Books of the O. T. I. Kings to Song of Songs: Continuation of previous work in Historical books, and, in addition, attention will be given to the form content and spirit of the poetical writings. Portions of them will be committed to memory.

Winter Term. Daily at 3:15. Elective in both Groups. Credit, 2 term-hours.

2a. Prophetical Books of the Old Testament: The object of this course is to make students familiar with the Prophets, their messages and their times.

Spring Term. Daily at 3:15. Elective in both Groups. Credit, 2 term-hours.

#### New Testament.

(Professor Stafford.)

3. The Gospels in Harmony: Events in chronological order are committed to memory; the discourses of Jesus analyzed; a study of the inter-Biblical Period.

Text-book, Jno. A. Broadus' Harmony of the Gospels.

Fall Term. Four hours per week at 2:15. Elective in both Groups. Credit, 3 term-hours.

4. The Acts and Epistles: Events of Acts committed to memory and Epistles studied in connection with the history.

Text-book, Revised Version.

Winter Term. Daily at 2:15. Elective in both Groups. Credit, 3 term-hours.

## Hebrew.

Courses taken in Hebrew will receive full credits towards the college degrees. See Catalog of the School of Theology.

## Department of Biology.

(Professor Richmond and Assistants.)

#### Zoology.

This course embraces the study of the simple laws of life, and the life-relations of plants and animals. It comprises a full year's work in Zoology and also in Botany, special attention being given to methods of comparative study. The order of treatment is as follows:

1. Invertebrate Zoology: Comparative study is made of the various types of invertebrate life, their structure, development, relations, and geographical distribution. Representatives of each grand division of invertebrate life will be used in the laboratory work, which includes dissection, microscopical examination, and drawing of specimens studied.

Fall Term. Daily at 2:15. Required in Group B. May be chosen as a required science in Group A. Credit, 5 term-hours.

2. Vertebrate Zoology: This course is designed to complete the work of Course I, giving a comprehensive view of the entire animal kingdom. It comprises comparative study of the fish, frog, reptile, bird and mammal.

Winter Term. Four hours per week at 3:15. Elective in both Groups. Credit, 4 term-hours.

#### Botany.

3. Plant Relations: This course begins with the relations which plants sustain to light, soil, moisture and living organisms, considering the various organs and functions of the plant with reference to them. It also includes the relations sustained by individual plants, and their association in societies.

Winter Term. Daily at 9:00. Elective in both Groups. Credit, 5 term-hours.

4. Plant Structures: This course embraces the study of the great plant groups, beginning with the simplest and proceeding in order to the highest. It treats of the life processes of nutrition and reproduction, and the relation of the various groups to each other. Laboratory work and lectures accompany both courses in Botany.

Spring Term. Tuesday, Wednesday, Thursday, Friday at 10:00. Required in Group B. May be chosen as a required science in Group A. Credit, 4 term-hours.

#### Bacteriology.

5. Bacteriology: This course will consist of lectures upon important phases of the subject and thorough drill in laboratory methods. It will include methods of sterilization and disinfection; staining, mounting and examination of bacteria; preparation of culture media and cultivation of bacteria in them; a study of the more common pathogenic bacteria, and the analysis of water and food stuffs.

Fall Term. Tuesday, Wednesday, Thursday, Friday at 11:00. Elective in both Groups. May be chosen as a required advanced science in Group B. Credit, 4 term-hours.

## Sub-Collegiate Physiology.

(Professor Brumage.)

**b. Physiology.** Through Respiration. Fall Term. 4 times per week at 3:15. Credit,  $\frac{1}{4}$  unit.

b1. Physiology. Completed. Winter Term. Daily at 3:15. Credit, ‡ unit.

## Department of Chemistry.

(Professor Parker and Assistants.)

1. General Inorganic Chemistry. The non-metallic Formal lectures covering the general relations elements. of the subject are given on Mondays and Wednesdays. Discussion and quiz, Fridays. The lectures are copiously illustrated with experiments and demonstrations. Students who have completed a satisfactory course in general chemistry in a high school may attend the lectures on Mondays and Wednesdays and take the examination with the class at the end of the term, and receive full credit for the five term-hours credited to the course. Such students will pay a fee for the lectures of \$2.00 per term. All students who wish to take advantage of this arrangement must present satisfactory evidence that the work done previously in the high school is up to the standard. Laboratory note books and all evidences of work must be submitted and passed upon in each individual case.

Text: Newth's Inorganic Chemistry.

Fall Term. Lectures Monday, Wednesday and Friday at 11:00. Two sessions per week in the laboratory at hours to be arranged. Required in Group B. May be taken as a required science in Group A. Credit, 5 term-hours. Should be taken in the Freshman year. *Professor Parker and Assistants*.

2. General Inorganic Chemistry. The metallic elements. This course is a continuation of Chemistry I, and the methods of instruction are the same. Chemistry I and 2 make a complete course in general chemistry and are designed for the needs of students who wish to undertake this study as a part of a liberal education, as well of those making a specialty of science. These two courses are prerequisites for all further courses in chemistry and should be taken in the freshman year.

Text: Newth's Inorganic Chemistry.

Winter Term. Lectures Monday, Wednesday and Friday at 11:00. Two sessions per week in the laboratory at hours to be arranged. Required in Group B. May be taken as a required science in Group A. Credit, 5 termhours. For Freshmen. *Professor Parker and Assistants*.

3. Qualitative Analysis. The work is of a broader character than the name would indicate, being in essence a closer study of the elements, more especially the separation of one from another, and has long been recognized as the best means of increasing a student's practical acquaintance with the facts of chemistry.

Spring Term. Lectures Tuesday and Thursday at 11:00. Three sessions per week in the laboratory at hours to be arranged. Elective in both Groups. May be taken as a required science in Group A. May be taken as a required advanced science in Group B. Credit, 5 term-hours. Prerequisite, courses I and 2 in Chemistry or their equivalent. *Professor Parker and Assistants*.

4. Organic Chemistry. This course embraces a study of the compounds of carbon, and especially considers their structural relations and graphic formulas. The laboratory work will consist of various syntheses of organic compounds with their purification.

Text: Cohen's Organic Chemistry.

Fall Term. Lectures and recitations Monday, Wednesday and Friday at 2:15. Two laboratory sessions per week at hours to be arranged. Elective in Group A. Either this course or Calculus is required in Group B. Credit, 5 term-hours. Prerequisite: Chemistry I and 2 or their equivalent. *Professor Parker and Assistants*.

# 5. Continuation of Course 4.

Winter Term. Lectures and recitations Monday, Wednesday, Friday at 2:15. Two laboratory sessions per week at hours to be arranged. Elective in Group A. Either this course or Calculus is required in Group B. Credit, 5 termhours. Prerequisite: Chemistry 1, 2, 4 or the equivalent. *Professor Parker and assistants.* 

6. Elementary Quantitative Analysis. Principally laboratory work. This course will be an introduction to the methods of quantitative chemical analysis, including an outline of gravimetric and volumetric processes. The course is somewhat technical in its character and is designed for students specializing in science. For those who intend to make chemistry their specialty, quantitative analysis is absolutely indispensable, being the key to all further progress. This course should be taken by students intending to enter the medical profession.

Text: Newth's Chemical Analysis.

Spring Term at 2:15. Hours for laboratory work to be arranged. Elective in Group A. May be taken as a required advanced science in Group B. Credit, 5 term-hours. Prerequisite Chemistry I, 2 and 3. *Professor Parker*.

7. Advanced Quantitative Analysis. Largely work in the laboratory. The course covers the same sort of work as Chemistry 6, but of a most advanced nature, including the analysis of water, gas analysis and the ultimate analysis of carbon compounds. The work may be varied from time to time to suit the needs of the class.

Fall Term. Hours to be arranged. Elective in both groups. Credit, 5 term-hours. Prerequisites: Chemistry 1, 2, 3 and 6. *Professor Parker*.

8. Fire Assaying. The course will embrace the fire assay of the precious metals by the scorification and crucible processes, and is a specialized quantitative analysis intended for students looking toward the various mining industries.

Winter Term. Hours to be arranged. Elective in both Groups. Credit, 5 term-hours. Prerequisites: Chemistry 1, 2, 3 and 6. *Professor Parker*.

# Department of English.

## Language and Literature.

(Professor Fruit and Associate Professor Edwards.)

**1. Rhetoric**: This contemplates the study and practice of the principles of a good prose style.

Text, Wendell's English Composition.

Winter Term, daily at 2:15. Required in both Groups. Credit, 5 term-hours. Professor Fruit. 2. English Prose Forms: Exposition, Argument, Criticism, Narrative, and Description, are the topics indicating the scope of this course. Much written work in way of exemplification of principles is required.

Text, Gardiner's Forms of Prose Literature.

Spring Term. Four hours per week at 2:15. Required in both Groups. Credit, 4 term-hours. *Professor Fruit*.

3. Anglo-Saxon: This course is intended to acquaint the student with the essentials of Anglo-Saxon Grammar, that he may read with comparative ease Anglo-Saxon prose and poetry.

Text, Smith's Old English Grammar.

Fall Term. Four hours per week at 3:15. Required in Group A. Elective in Group B. Credit, 4 term-hours. *Professor Edwards.* 

4. Chaucer: Chaucer's place in the history of the English language calls for special attention; the emphasis, however, is laid upon his place and significance in English literature.

Spring Term. Daily at 3:15. Required in Group A. Elective in Group B. Credit, 5 term-hours. *Professor Edwards*.

5. Shakespeare: This course is devoted to Shake-speare as a dramatic artist.

Baker's Development of Shakespeare as a Dramatist, Moulton's Shakespeare as a Dramatic Artist, are used to direct the study.

Fall Term. Four hours per week at 1:15. Elective in both Groups. Credit, 4 term-hours. *Professor Fruit*.

6. From Spenser to Shelley: Selections from the representative poets from Spenser to Shelley are studied critically.

Text, Gayley and Young's English Poetry: Its Principles and Progress.

Winter Term. Daily at 3:15. Elective in both Groups. Credit, 5 term-hours. *Professor Fruit*.

7. Victorian Poetry: Stedman's Victorian Poets, Stedman's Victorian Anthology (Students Ed.) Winter Term. Four hours per week at 9:00. Elective in both Groups. Credit, 4 term-hours. *Professor Fruit*.

8. English Prose Style: The critical introductions in Craik's English Prose, in five volumes, are taken for a guide to this study. The student gets here a view of the development of English prose.

Spring Term. Daily at 9:00. Elective in both Groups. Credit, 5 term-hours. Professor Fruit.

#### Sub-Collegiate English.

(Professor Edwards and Assistants.)

a. Grammar. Fall Term. Part I. Daily at 10:00. No entrance credit.

a1. Grammar. Winter Term. To Participles. Daily at 10:00. No entrance credit.

a2. Grammar. Spring Term. Completed and reviewed. Daily at 10:00. No entrance credit.

Text: English Grammar, Webster.

b. Grammar. Advanced Work. Fall Term. Daily at 9:00. Credit, <sup>1</sup>/<sub>3</sub> unit.

**b1. Grammar.** Advanced Work. Winter Term. Daily at 9:00. Credit,  $\frac{1}{3}$  unit.

b2. Grammar. Advanced Work. Spring Term. Daily at 9:00. Credit, <sup>1</sup>/<sub>3</sub> unit.

Texts: The English Language and its Grammar, Mead. Grammar and its Reasons, Leonard.

c. Composition. Fall Term. Daily at 11:00. Credit, 1 unit.

c1. Composition. Winter Term. Daily at 11:00. Credit,  $\frac{1}{3}$  unit.

c2. Composition. Spring Term. Daily at 11:00. Credit, 1 unit.

Text: Rhetoric and Composition, Thomas and Howe.

d. American Literature. Prose. Fall Term. Daily at 2:15. Credit, 1 unit.

Text: Carpenter's American Prose.

d1. American Literature. Poetry. Winter Term. Daily at 2:15. Credit,  $\frac{1}{3}$  unit.

Text: Page's Chief American Poets.

d2. English Literature. Spring Term. Daily at 2:15. Credit,  $\frac{1}{3}$  unit.

Text: Primer of English Literature, Brooke.

Classics to be read in courses c, c1, c2, d and d2.

## Department of Geology.

(Professor Richmond and Assistants.)

1. Lithological, Dynamic and Structural Geology: This course embraces the consideration of forces now at work and their efforts in shaping the earth, as furnishing a key for the reading of its past history. The field work will consist of a careful study of geological formations in Western Missouri. Students will be required to illustrate the formations studied by drawing maps. Such study will also be made of the common minerals as will enable the student to identify them readily. Classification will be required throughout the course.

Fall Term. Tuesday, Wednesday, Thursday, Friday at 10:00. Elective in both Groups. Credit, 4 term-hours.

2. Historical Geology: A study is made of the succession of events in geological time as revealed by the rocks. Fossil organisms are especially considered, their manner of preservation, their value as a geological record, their succession in time, and their relations in the development of life. The history and present state of opinion and the factors of evolution are fully treated in the lectures of this course. Excursions will be made for study of the fossils of this and neighboring localities, and classification of the same will be required.

Winter Term. Daily, at 10:00. Elective in both Groups. Credit, 5 term-hours.

3. Economic Geology: This course is open to students who have completed course 1.

Winter Term. Daily at 11:00. Elective in both

Groups. May be chosen as a required advanced science in Group B. Credit, 5 term-hours.

4. Paleontology: This course is open to students who have completed course 2.

Spring Term. Daily at 3:15. Elective in both Groups. May be chosen as a required advanced science in Group B. Credit, 5 term-hours.

#### Mineralogy.

This course is intended to be preparatory for the work in Geology, and also for entrance upon practical work in Mineralogy. It will be made as thorough and as practical as possible, and will include the common laws of crystallography, the modes of occurrence of common minerals, and the ordinary tests for their determination. Lectures will accompany the entire course, and laboratory work will be required, with special reference to classifying all common minerals.

1. **Descriptive Mineralogy:** This embraces the study of appearance, modes of occurrence, methods of distinguishing minerals by their physical properties, including microscopic tests, and the consideration of their economic importance.

Fall Term. Daily at 9:00. Elective in both Groups. Credit, 5 term-hours.

2. Determinative Mineralogy: This course will be a qualitative analysis of the various ores, and will include blow-pipe analysis and the usual chemical tests.

Winter and Spring Terms. Tuesday, Wednesday, Thursday, Friday at 9:00. Elective in both Groups. Credit, 4 term-hours.

### Sub-Collegiate Physiography.

#### (An Assistant.)

c. **Physiography**. Through Volcanoes. Winter Term. Daily at 9:00. Credit, <sup>1</sup>/<sub>4</sub> unit.

c1. Physiography. Completed. Spring Term. 4 times a week at 9:00. Credit, 4 unit.

## Department of Greek.

(Professor Tukey.)

1. Xenophon: Anabasis. Continuation of work done in d2.

Fall Term. Four hours per week at 1:15. Required in group A. Elective in Group B. Credit, 4 term-hours.

2. Lucian: Dialogues. Lectures on the history of Greek Literature.

Winter Term. Daily at 1:15. Required in Group A. Elective in Group B. Credit, 5 term-hours.

4. Plato: The Apology, Crito and part of Phaedo. Discussion of the life and teachings of Socrates.

Spring Term. Daily at 1:15. This course or Latin 4 is required in Group A. Elective in Group B. Credit, 5 hours.

**3. Homer: Iliad;** Selections by Sterrett. Study of forms from the text and Sterrett's "Dialect of Homer." Metrical reading of the Greek.

Fall Term. Four hours per week at 10:00. Credit, 4 term-hours.

5. Demosthenes: Philippics or the Oration on the Crown. Lectures on the Greek Orators.

Winter Term. Four hours per week at 10:00. Credit, 4 term-hours.

6. Attic Drama: The Oedipus Tyrannus of Sophocles and the Iphigenia among the Taurians of Euripides. Lectures on the development of the drama and on the construction of the Greek Theatre. Study of the various meters and exercises in metrical reading.

Spring Term. Daily at 10:00. Credit, 5 term-hours.

10. Greek Literature in English: Epic Poetry and History. Reading of the Iliad and Odyssey and selections from Herodotus.

Fall Term. Mondays at 2:15. Credit, I term-hour.

11. Greek Literature in English: The Drama. Reading of selected plays from Aeschylus, Sophocles, Euripides and Aristophanes. Winter Term. Mondays at 2:15. Credit, I term-hour. 12. Greek Literature in English: Philosophical Writ-

ings. Reading of selected works from Plato and Aristotle. Spring Term. Mondays at 2:15. Credit, 1 term-hour. Besides these courses, there are offered in the School of

Theology, being required for the Th. B. the following:

13a and 14a. Greek New Testament: The four Gospels, the Epistle of James, the First Epistle to the Corinthians and the Epistle to the Hebrews. Systematic study of the idioms of the New Testament and its divergencies from classical usage. Robertson's Short Grammar of the Greek New Testament will be used.

Fall Term. Four hours per week. Winter Term. Five hours per week.

No college credit is given for these courses.

# Sub-Collegiate Greek.

(Professor Tukey.)

d. Elementary Greek: Benner and Smyth's Beginner's Greek Book.

Fall Term. Daily at 3:15. Credit, 5 term-hours in Group B if not offered for entrance. Otherwise, credit,  $\frac{1}{3}$  unit.

## d1. Beginner's Book Completed.

Winter Term. Daily at 3:15. Credit, 5 term-hours in Group B if not offered for entrance. Otherwise, credit,  $\frac{1}{3}$  unit.

d2. Xenophon: Anabasis: Review of grammatical forms and study of syntax of the text with Goodwin's Greek Grammar.

Spring Term. Daily at 3:15. Credit, 5 term-hours in Group B if not offered for entrance. Otherwise, credit,  $\frac{1}{3}$  unit.

Courses d, dI and d2 are required for entrance to the course for **A**. **B**. in Literature, counting one point. They are elective for **A**. **B**.<sup>¶</sup> in Science with college credit of 15 term-hours.

## Department of History.

(Professor Griffith.)

1. Mediaeval History—Europe, 476 to 1500: The course seeks to trace those institutions of government and general influences upon society which appeared during this period, and which have been developed since into our present civilization. Emphasis will be given to special periods.

In addition to text-book instruction and supplementary readings, the following topics are treated in lectures: The fall of Rome and the rise of new nationalities; the Franks; the Church; the feudal system; the crusades; the growth of towns; the renaissance. The sources will be used as far as practicable.

Fall Term. Daily at 2:15. Required in both Groups. Credit, 5 term-hours. For Freshmen.

3. Modern History—Europe, 1500 to 1650: Among the subjects discussed in lectures are the Protestant Reformation in the several countries, the Thirty Years' War, the various principles of government of the period.

Winter Term. Tuesday, Wednesday, Thursday, Friday at 9:00. Required in both Groups. Credit, 4 term-hours. For Sophomores.

4. Modern History—Europe, 1650 to 1905: A continuation of the foregoing course. Special topics are the French Revolution, Prussia and the German Empire, the unification of Italy, colonization by European nations, the Eastern question, and present tendencies and influences. Recitations, Lectures and collateral readings.

Spring Term. Tuesday, Wednesday, Thursday, Friday at 9:00. Required in Group A. Elective in Group B. Credit, 4 term-hours. For Sophomores.

7. Political and Constitutional History of England: This course traces the national development of England and its growth as a world power, together with the struggles of the English people for political liberty and their contribution to constitutional government. English feudalism is contrasted with continental feudalism: the growth of parliamentary control is followed with the development of democracy, and the influence of the religious movements is studied. Lectures, recitations and supplementary readings.

Winter Term. Daily at 1:15. Required in Group A. Elective in Group B. Credit, 5 term-hours. For Seniors and others by permission.

8. Constitutional and Political History of the United States: Special attention is given the following subjects: The origin and character of the Constitution, the causes of sectional divergence, the war between the states, the reconstruction period, and congressional disagreement with the executive. The origin and principles of the political parties are explained. Lectures, recitations and supplementary readings.

Spring Term. Tuesday, Wednesday, Thursday, Friday at 1:15. Elective in both Groups. Credit, 4 term-hours.

## Sub-Collegiate History.

(Associate Professor Pence; Instructor J. W. Greene.)

a. American History: Fall Term. Daily at 1:15. No entrance credit.

al. American History Cont.: Winter Term. Daily at 1:15. No entrance credit.

Text: Adams and Trent.

c. Ancient History: Fall Term. Daily at 2:15. Credit,  $\frac{1}{3}$  unit.

c1. Ancient History Cont.: Winter Term. Daily at 2:15. Credit,  $\frac{1}{3}$  unit.

c2. Ancient History Cont.: Spring Term. Daily at 2:15. Credit,  $\frac{1}{3}$  unit.

Text: West.

d. English History. Fall Term. Daily at 11:00. Credit,  $\frac{1}{3}$  unit.

d1. English History Cont.: Winter Term. Daily at 11:00. Credit,  $\frac{1}{3}$  unit.

d2. English History Cont.: Spring Term. Daily at 11:00. Credit,  $\frac{1}{3}$  unit.

## Latin Language and Literature.

(Professor Stout and Associate Professor Coon.)

2. Cicero: De Senectute, De Amicitia, Somnium Scipionis. The De Senectute or the De Amicitia is read carefully, the other two more rapidly, the easier passages from them being read as sight translation. Two lessons per week are given to prose composition and a study of the principles of syntax.

Fall Term. Daily at 9:00. Required in Group A. Elective in Group B. Credit, 5 term-hours.

3. Livy: Selections equivalent in amount to fifty Teubner pages. Collateral reading in English on the subjects treated in these selections is required. In 1910 the selections will be from the first and twenty-first books. One recitation per week is given to a systematic review of Roman history, using Abbott's Short History of Rome as a text.

Winter Term. Four hours per week at 9:00. Required in Group A. Elective in Group B. Credit, 4 term-hours.

7. Terence, Catullus. One play of Terence is read by the class, and at least one other is read to the class by the teacher. Lectures and required readings on the Roman theatre and the history of comedy among the Romans. In 1910 the play read by the class will be the Phormio. Most of the best poems of Catullus are read in the later weeks of the course.

Spring Term. Daily at 10:00. Elective in both Groups. Intended primarily for Freshmen and Sophomores. Credit, 5 term-hours.

4. Horace: Selections from the Odes and Epodes. One recitation per week is given to the history of Latin literature, using Mackail's Latin Literature as a text.

Fall Term. Daily at 11:00. Either this course or course 3 in Greek is required in Group A. Elective in Group B. Credit, 5 term-hours.

10. Horace: Selections from the Satires and Epistles. This course is intended as a supplement to course 4. The greater part of his works are read in the two courses. Some of the best criticisms and studies of Horace in English are also read.

Winter Term. Four hours per week at 11:00. Elective in both Groups. Credit, 4 term-hours. Prerequisite: three courses in Latin.

9. Cicero: Selected Letters. These are studied for the light they throw on (I) Cicero as a man, (2) the political institutions of Republican Rome and the political movements of his time, (3) the private life of the time, (4) the characteristics of epistolary and colloquial Latin.

Spring Term. Daily at 11:00. Elective in both Groups. Credit, 5 term-hours. Prerequisite: two courses in Latin.

8a. Cicero: Philosophical writings. These are among the most interesting of the ancient philosophical works that are left to us, and form a good introduction to the study of ancient philosophy. A general view of the history of ancient philosophy is given in lectures and required readings. In 1909 De Natura Deorum will be read.

Fall Term. Four times per week at 3:15. Elective in both Groups. Credit, 4 term-hours. Prerequisite: three courses in Latin.

5. Juvenal and Persius: Selected Satires. The origin and history of satire as a literary form is studied in connection with this course.

Winter Term. Four hours per week at 2:15. Elective in both Groups. Credit, 4 term-hours. Prerequisite: four courses in Latin.

6. Tacitus, and the history of the first century of the empire. Selected portions of the Annals and the Histories are read. These are studied both as History and as Latin. Comparisons with other historians aim to acquaint students with our chief original sources of information for the history of this period, and how to use them.

Spring Term. Daily at 2:15. Elective in both Groups. Credit, 5 term-hours. Prerequisite: four courses in Latin.

11. Prose Composition. An advanced course, dealing

principally with the subtler points of syntax, the order of words, the period, the particles, and connected discourse.

Winter Term. Four hours per week at 3:15. Elective in both Groups. Credit, 4 term-hours. Prerequisite: four courses in Latin.

In some of the advanced courses a change in the hour of recitation may be made if it will better accommodate those taking the course.

A credit of 9 term-hours will be given to students in Group B, who elect the fourth year entrance Latin.

## Sub-Collegiate Latin.

' (Professors Coon, Upchurch, Pence and Assistants.)

a. Grammar and Exercises. 30 chapters. Fall Term. Section I daily at 11:00. Section II daily at 1:15. Credit,  $\frac{1}{3}$  unit.

a1. Grammar and Exercises. 26 Chapters. Winter Term. Section I daily at 11:00. Section II daily at 1:15. Credit,  $\frac{1}{3}$  unit.

a2. Grammar and Exercises: Completed. Easy readings. Spring Term. Section I daily at 11:00. Section II daily at 1:15. Credit,  $\frac{1}{3}$  unit.

Texts: **A First Latin Book**, Hale; **Fabulae Faciles**, Kirtland.

b. Caesar's Gallic War. Book I. Fall Term. Section I daily at 10:00. Section II daily at 11:00. Credit,  $\frac{1}{3}$  unit.

**b1.** Caesar's Gallic War. Selections, 41 pages. Winter Term. Section I daily at 10:00. Section II daily at 11:00. Credit,  $\frac{1}{3}$  unit.

b2. Caesar's Gallic War. Selections. Year's work equal to 5 books. Spring Term. Section I daily at 10:00. Section II daily at 11:00. Credit,  $\frac{1}{3}$  unit.

Prose Composition equivalent to one day per week throughout the year.

Texts: Kelsey's Caesar. D'Ooge's Latin Composition. Hale and Buck's Latin Grammar. c. Cicero. Orations. Selections. Fall Term. Daily at 10:00. Credit,  $\frac{1}{3}$  unit.

c1. Cicero. Orations. Selections. Winter Term. Daily at 10:00. Credit,  $\frac{1}{3}$  unit.

c2. Cicero. Orations, Selections. Spring Term. Daily at 10:00. Credit,  $\frac{1}{3}$  unit.

Total amount read equal to 175 pages.

Prose composition equivalent to one day per week throughout the year.

Text: Allen and Greenought's Cicero. Grammar and Prose-same texts as above.

d. Ovid. Selections, 1,200 lines. Fall Term. Daily at 9:00. Credit,  $\frac{1}{3}$  unit. 5 term-hours credit in Group B if not offered for entrance.

d1. Vergil. Books I and II. Winter Term. Daily at 9:00. Credit,  $\frac{1}{3}$  unit. 5 term-hours credit in Group B if not offered for entrance.

d2. Vergil. Books IV and VI. Spring Term. Daily at 9:00. Credit,  $\frac{1}{3}$  unit. 5 term-hours credit in Group B if not offered for entrance.

Scansion and Prose equivalent to one day per week throughout the year.

Texts, Vergil's Aeneid, Knapp. A Term of Ovid, Gleason. Grammar and Prose same as texts above.

### **Department of Mathematics.**

(Professor Fleet and Associate Professor McAtee.)

1. Trigonometry. Fall Term. Daily at 10:00.

Required in both Groups. Credit, 5 term-hours. Prerequisites: entrance requirements in mathematics to Group A.

N. B.—If course I should be offered for entrance, any elective may be chosen in its place.

2. Plane Analytic Geometry. Winter Term. Daily at 10:00. Required in Group B. Elective in Group A. Credit, 5 term-hours. Prerequisites: Entrance requirements in mathematics to Group B and Mathematics I. 2a. Continuation of Course 2. This course will also contain a few subjects in Solid Analytic Geometry.

Spring Term. Daily at 10:00. Required in Group B. Elective in Group A. Credit, 5 term-hours. Prerequisite: Course 2.

3. College Algebra. This course contains such subjects as series, determinants, theory of equations, etc.

Winter Term. Daily at 1:15. Elective in both Groups. Credit, 5 term-hours. Prerequisite: Course 1.

4. Continuation of Course 3. Spring Term, Tuesday, Wednesday, Thursday, Friday at 1:15. Elective in both Groups. Credit, 4 term-hours. Prerequisite: Course 3.

5. Calculus. These courses in Differential and Integral Calculus ought to be taken by students of science, especially those preparing for Engineering or advanced work in *Physics*. The Calculus is a powerful instrument of mathematical research, lying at the basis of higher mathematics and indispensable to the theory of many sciences.

Fall Term. Daily at 11:00. Elective in Group A. Either this course and 6 or chemistry 4 and 5 are required in Group B. Credit, 5 term-hours. Prerequisites: Courses 1, 2, 2a.

6. Calculus. Continuation of Course 5. Winter Term. Daily at 11:00. Elective in Group A. Either this course and 5, or chemistry 4 and 5 are required in Group B. Credit, 5 term-hours. Prerequisite: Course 5.

6a. Calculus. Continuation of 6. Spring Term. Daily at 11:00. Elective in both Groups. Credit, 5 term hours. Prerequisites: Courses 5 and 6.

7. Theoretical Mechanics. Statics and Dynamics. Fall Term. Daily at 9:00. Elective in both Groups. Credit, 5 term-hours. Prerequisites: Courses 5 and 6.

8. Descriptive Astronomy. This course will begin with a few lessons in spherical trigonometry. It will then pass to the physical aspects and motions of the planets, satellites, stars, comets, etc., with explanations of eclipses, tides, seasons and other astronomical phenomena. This is a most interesting subject of study and should have a place in every liberal education. Winter Term. Daily at 9:00. Elective in both Groups. Credit, 5 term-hours. Prerequisites: Courses I, 2, 2a.

N. B.—Students carrying course 2 may choose course 8 also.

8a. Elementary'Differential Equations and Mechanics (completed). After a short study of differential equations the student can attack some of the most interesting simple problems of theoretical and celestial mechanics. Spring Term. Daily at 9:00. Elective in both Groups. Credit, 5 term-hours. Prerequisite: Mathematics, 7.

The following elective courses will be given on sufficient demand at times to be arranged:

9. Solid Analytic Geometry. Credit, 5 term-hours. Prerequisite: First course in differential and integral calculus.

10. Modern Synthetic Geometry. Double Ratios, Poles and Polars, Inversion, Projections, etc. Credit, 5 term-hours. Prerequisite: Courses 1, 2, 2a.

11. Theory of Equations and Determinants. Credit, 5 term-hours. Prerequisites: Courses 5 and 6.

12. History of Mathematics. Credit, 5 term-hours. Prerequisites: Courses in Higher Algebra and Calculus.

Master of Arts: Candidates who wish to take courses in Mathematics leading to this degree must have completed courses I to 8, inclusive, or their equivalent, before taking up the advanced work. This work will consist of selections from the following subjects:

Advanced Algebra, Analytic Geometry, Differential Calculus, Integral Calculus, Differential Equations, Calculus of Variations, Number Theory, Projective Geometry, Analytic Mechanics, Theory of Curves and Surfaces, Theory of Functions of a Complex Variable.

## Sub-Collegiate Mathematics.

(Professor McAtee and Assistants.)

s. Arithmetic. Elementary course. Fall Term. Daily at 9:00. No entrance credit.

s1. Arithmetic Cont.: Winter Term. Daily at 9:00. No entrance credit.

s2. Arithmetic Cont. Spring Term. Daily at 9:00. No entrance credit.

a. Arithmetic. Review, beginning at Percentage and ending at Ratio. Fall Term. Daily at 9:00. No entrance credit.

a1. Arithmetic. Review from Ratio to end of text. Winter Term. Daily at 9:00. No entrance credit.

b. Beginning Algebra. Fall Term. I Section, daily at 10:00. II Section, daily at 2:15. Credit,  $\frac{1}{3}$  unit.

**b1.** Algebra Cont. Winter Term. I Section, daily at 10:00. II Section, daily at 2:15. Credit,  $\frac{1}{3}$  unit.

**b2.** Algebra Cont. Spring Term. I Section, daily at 10:00. II Section, daily at 2:15. Credit,  $\frac{1}{3}$  unit.

c. Plane Geometry. Fall Term. I Section, daily at 10:00. II Section, daily at 1:15. Credit,  $\frac{1}{3}$  unit.

c1. Plane Geometry Cont. Winter Term. I Section, daily at 10:00. II Section, daily at 1:15. Credit,  $\frac{1}{3}$  unit.

c2. Plane Geometry Cont. Complete the text. Spring Term. I Section, daily at 10:00. II Section, daily at 1:15. Credit,  $\frac{1}{3}$  unit.

d. Solid Geometry. Begun and completed. Fall Term. Daily at 9:00. Credit,  $\frac{1}{2}$  unit. 5 term-hours credit in Group A if not offered for entrance.

e. Algebra from the Theory of Exponents Simultaneous Quadratic Equations. Winter Term. Daily at 9:00. Credit,  $\frac{1}{2}$  unit.

e1. Algebra Cont. Through Logarithms. Spring Term. Daily at 9:00. Credit,  $\frac{1}{2}$  unit.

# Department of Modern Languages.

(Professor Baskett.)

#### German.

No student will be admitted to the Freshman German class who has not completed one year's work of five hours per week in German.

1. Advanced German Grammar: Heyse's Das Maedchen von Treppi, or reading of a similar grade, increasing in difficulty throughout the year. German Composition and Conversation.

Fall Term. Daily at 1:15. Required in Group B. Elective in Group A. Credit, 5 term-hours. For Freshmen.

2. Continuation of Course 1.

Winter Term. Four hours per week at 9:00. Required in Group B. Elective in Group A. Credit, 4 term-hours. For Freshmen.

3. Advanced German Grammar: Conversation.

Reading of Standard German Authors. Theme writing. Reference reading.

Fall Term. Four hours per week at 9:00. Elective in both Groups. Credit, 4 term-hours. For Sophomores.

4. Continuation of Course 3.

Spring Term. Daily at 9:00. Elective in both Groups. Credit, 5 term-hours. For Sophomores.

#### German Club.

For practice in German conversation and the study of German customs, a German Club has been organized, which meets one night during the week. Members of the Sophomore German Class, or those students in College who have completed the Sophomore German, are eligible to membership.

### French.

1. Elementary Grammar. Easy reading.

Winter Term. Daily at 1:15. Elective in both Groups. Credit, 5 term-hours. For Freshmen. 2. Continuation of Course 1.

Spring Term. Four hours per week at 1:15. Elective in both Groups. For Freshmen.

3. Selected Reading. Composition. Conversation. Advanced Grammar.

Fall Term. Four hours per week at 11:00. Elective in both Groups. Credit, 4 term-hours. For Sophomores.

4. Continuation of Course 3.

Winter Term. Daily at 11:00. Elective in both Groups. Credit, 5 term-hours. For Sophomores.

#### Spanish.

(Mr. Cantu.)

### 1. Elementary Grammar. Light reading.

Fall Term. Daily at 10:00. Elective in both Groups. Credit, 5 term-hours. For Freshmen.

2. Continuation of Course 1.

Winter Term. Four hours per week at 10:00. Elective in both Groups. Credit, 4 term-hours. For Freshmen.

3. Readings from Standard Writers. Grammar and Composition.

Fall Term. Daily at 3:15. Elective in both Groups. Credit, 5 term-hours. For Sophomores.

4. Continuation of Course 3.

Winter Term. Four hours per week at 3:15. Elective in both Groups. Credit, 4 term-hours. For Sophomores.

### Sub-Collegiate German.

(Professor Baskett and Assistants.)

d. Elementary German: Fall Term. Daily at 3:15. Credit,  $\frac{1}{3}$  unit. 5 term-hour's credit in Group A if not offered for entrance.

Text: Bacon.

d1. Elementary German: Winter Term. Daily at 3:15. Credit,  $\frac{1}{3}$  unit. 5 term-hour's credit in Group A if not offered for entrance.

Text: Bacon.

d2. Easy Reading: Spring Term. Daily at 3:15. Credit,  $\frac{1}{3}$  unit. 5 term-hours credit in Group A if not offered for entrance.

Text: Vos.

## Department of Philosophy.

(President Greene and Professor Stafford.)

This department is known as the **Sherwood School of Moral Philosophy.** Moral Philosophy, if studied comprehensively, includes also Psychology, Logic, Metaphysics and the History of Philosophy.

1. Practical Ethics. A study of the applications of ethical principles to daily life. Recitations and lectures.

Text-book, W. D. Hyde's Practical Ethics.

Winter Term. Tuesday, Wednesday, Thursday, Friday at 1:15. Required in both Groups. Credit, 4 term-hours. For Freshmen. *President Greene*.

2. Psychology. A study of the mental powers and processes, their origin and development. Topics for special study are assigned to students.

Text-book, J. R. Angell's *Psychology*. Tests previously unannounced.

Winter Term. Tuesday, Wednesday, Thursday, Friday at 3:15. Required in both Groups. Credit, 4 term-hours. For Juniors. *Professor Stafford*.

**3.** Logic. Equal emphasis is put on both branches of Logic, Deductive and Inductive. Students make actual application of principles in discussions and theses. Tests previously unannounced.

Text-book, J. E. Creighton's Introductory Logic.

Spring Term. Monday, Wednesday and Thursday at 3:15. Required in both Groups. Credit, 3 term-hours. For Juniors. *Professor Stafford*.

4. Metaphysics. An introduction to Philosophy or a study of the principles that are fundamental to Philosophy. Recitations and discussions. Tests previously unannounced.

Text-book, G. S. Fullerton's Introduction to Philosophy.

Fall Term. Tuesday, Wednesday, Thursday at 9:00. Elective in both Groups. Credit, 3 term-hours. For Seniors. *Professor Stafford*.

**5.** Theoretical Ethics. A study of the principles that are fundamental in character and conduct. Recitations, discussions and lectures. Tests previously unannounced.

Text-book, to be selected.

Spring Term. Tuesday, Wednesday and Friday at 10:00. Required in Group A. Elective in Group B. Credit, 3 term-hours. For Seniors. *Professor Stafford*.

6. History of Philosophy. A study of the origin and development of ideas that have influenced the world and, as related to them, the world's great thinkers. Recitations, discussions and lectures. Tests previously unannounced.

Text-book: A. K. Rogers' Student's History of Philosophy.

Spring Term. Daily at 11:00. Elective in both Groups. Credit, 5 term-hours. For Juniors and Seniors. *Professor* Stafford.

Note.—Courses 5 and 6 are intended for, but not limited to, students who have special interest in philosophic studies.

# Department of Physical Culture.

(Alpha Brumage, Director.)

This department has been put on equality with the other departments of the College. Attendance upon its exercises, amounting to at least three hours per week, is obligatory upon all students not excused by vote of the Faculty.

It is the purpose of this department to promote the student's health and usefulness by directing his physical activities and acquainting him with the means of bodily development and preservation of health. Special attention is given to form in all exercises.

Five lines of exercises are offered viz.: 1. Light Gymnastics, Military Tactics and Free Movements; 2. Intermediate Gymnastics, Club Swinging, Dumb Bells, Wands, etc.; 3. Heavy Gymnastics, Horizontal Bar, Low Bar, Parallel Bars, Horse and Tumbling; 4. Special Gymnastics, Individual or private exercises made out in accordance with the physical examination of the student; 5. Athletics, Games, Field Sports, etc.

Without underrating individual work, we emphasize strongly the regular class work, believing that there are benefits and advantages that can be had by this means only. In the classes all exercises are graded. Every student is entitled, free of charge, to a physical examination, a chart showing strong and weak points and a card of exercise made out in accordance therewith.

No charges are made for the regular work or for the use of any apparatus, and special encouragement is given to those who wish to learn the work with a view of becoming teachers.

The theoretical work of this department embraces text-book recitations in Physiology and Hygiene, with lectures on the care of the body and the theory and practice of physical training.

Every student should provide himself with a pair of rubber-soled shoes and a light suit, consisting of gray trousers and shirt to wear in the Gymnasium.

## Department of Physics.

(Professor Parker, Associate Professor Davis, and Assistants.)

1. Mechanics and Properties of Matter. This course is the beginning of college physics and should be taken not later than the Sophomore year.

Fall Term. Tuesday, Thursday, Friday, at 10:00. One laboratory session per week at an hour to be arranged. Required in Group B. May be taken as a required science in Group A. Credit, 4 term-hours. Prerequisites: Entrance Physics and Trigonometry. *Professor Parker and Assistants*.

2. Sound, Heat and Light. Continuation of physics. Instruction by illustrated lectures and recitations. Winter Term. Tuesday, Thursday and Friday, at 10:00. Two laboratory sessions at hours to be arranged. Required in Group B. May be chosen as a required science in Group A. Credit, 5 term hours. Prerequisite: Entrance Physics. *Professor Parker and Assistants*.

3. Magnetism and Electricity. This course will cover the more usual phenomena of electricity and magnetism and will be designed not only for students specializing in science, but for those who wish to include a general knowledge of this branch of physics as a part of a liberal education. Some attention will be paid to the Roentgen ray and space telegraphy as well as the electric theory of matter.

Spring Term. Lectures, Monday, Wednesday and Friday, at 11:00. Two laboratory sessions per week, at hours to be arranged. May be chosen as a required science in Group A. May be taken as a required advanced science in Group B. Credit, 5 term-hours. Prerequisites: Entrance Physics and Chemistry I and 2, or the equivalent. *Professor Parker and Assistants*.

4. Magnetism and Electricity. Advanced course. Instruction will be by recitation, lectures and reference reading, embracing the following subjects: chemical effect of the electric current, magnetism and the magnetic effect of the Electric Current. Induced, E. M. F., inductance and miscellaneous practical applications.

Text. Elements of Electricity and Magnetism, by Franklin and McNutt.

Winter Term. Lectures, Tuesday, Wednesday and Friday, at 10:00. Laboratory work, consisting of standardization of electrical measuring instruments, persistence tests, voltage tests, current tests and the preparation and setting up of standard cells, will be given two sessions per week, at hours to be arranged. Elective in Group A. May be taken as a required advanced science in Group B. Credit, 5 termhours. Prerequisite: Physics, 3. Professor Davis.

5. Dynamo Electric Machinery. Advanced Course. Instruction will be given in armature construction, commutation, field magnets, operation of direct current machinery, motors, efficiency of operation of various types of direct current machinery, and the standardization of direct current measuring instruments.

Text, Dynamo Electric Machinery, by Sheldon.

Spring Term. Lectures and recitations Tuesday and Thursday at 10:00. Laboratory work in the testing of various dynamos and motors, arc and incandescent lamps and various appliances employed in this class of work, will be given two sessions per week at hours to be arranged. Elective in Group A. May be taken as a required advanced science in Group B. Credit, 4 term-hours. Prerequisites: Physics, 3 and 4. *Professor Davis*.

## Graphics.

#### (Professor Davis.)

1. This course will be repeated in each term, so that students may do the work at the time most convenient to them. The course will consist of instruction in graphic language, the use of instruments and orthographic projection as used in working drawings.

Fall, Winter or Spring Term. Four hours per week at 9:00. Elective in both Groups. Credit, 2 term-hours per term.

2. Continuation of I, including the drawing of actual machinery, etc.

Fall, Winter or Spring Term. Four hours per week at 9:00. Elective in both Groups. Credit, 2 term-hours per term.

**3.** Geometrical problems, conic sections, isometric and oblique projections. Problems of intersection of surfaces.

Fall, Winter or Spring Term. Four hours per week at 9:00. Elective in both Groups. Credit, 2 term-hours per term.

4. Wash drawing and blue-print work, including preparations of materials.

Fall, Winter or Spring Term. Four hours per week at 9:00. Elective in both Groups. Credit, 2 term-hours per term.

As the work in mechanical drawing is largely individual, the study may be begun in any term, and the time of work can be arranged to some extent to suit the convenience of both instructor and student. Each course must be taken in order, but not necessarily in consecutive terms. All materials necessary to complete the course will be furnished, including paper and instruments, with a reasonable allowance of inks, etc. However, students will be held accountable for breakage and unnecessary waste.

## Sub-Collegiate Physics.

(Prof. Davis.)

**d.** Physics. Beginning Course. Through Magnetism. Four times a week at 1:15. Laboratory hours arranged. Credit,  $\frac{1}{2}$  unit.

d1. Physics. Book completed. Daily at 1:15. Laboratory hours arranged. Credit,  $\frac{1}{2}$  unit.

Text: Millikan and Gale, First Course in Physics.

## Department of Political Science.

(Professor Griffith.)

1. Political Economy: General study of the subject, using text-books. Lectures on some specific applications of its principles to practical affairs. At the close of the course modern social theories will be explained and criticised.

Fall Term. Daily at 9:00. Required in Group A. Elective in Group B. Credit, 5 term-hours. For Juniors and others by permission of the head of department.

3. Institutional History and Administration: The origin, functions and ends of government are discussed, and the governments of the principal states of Europe and America are explained. Recitations and lectures.

Winter Term. Tuesday, Wednesday, Thursday, Fri-

day at 11:00. Elective in both Groups. Credit 4 termhours.

5. Economic Problems: (Open only to those who have completed Course I.) The subjects discussed are taxation and public finance, money and banking, natural monopolies, the railroad question, financial panics, and the distribution of wealth. Lectures, reports and assigned readings. This course is of importance to those interested in debating.

Fall Term. First seven weeks, daily at 1:15. Elective in both Groups. Credit,  $2\frac{1}{2}$  term-hours.

5a. International Law: In connection with this subject such phases of the history of American diplomacy as illustrate the subject are presented. The laws of peace, arbitration and the Hague tribunals, the laws of war and neutrality are discussed. Frequent use will be made of the case method.

Fall Term. Second seven weeks. Daily at 1:15. Elective in both Groups. Credit,  $2\frac{1}{2}$  term-hours.

7. Sociology: The problems of correction and care of the defective and dependent will be considered. The causes of poverty and the principles and methods of poor relief are explained. Visits will be made to institutions of interest. Lectures and assigned readings. Dr. Charles W. Moore, of the Institutional Church, Kansas City, is a regular lecturer in this course. Other lecturers will address the class during the year.

Fall Term. Daily at 11:00. Elective in both Groups. Credit, 5 term-hours.

## Sub-Collegiate Political Science.

(Instructor, J. W. Greene.)

b. Civics: Spring Term. Daily at 1:15. No entrance credit.

## Special Courses.

For students desiring to prepare themselves to become competent business men, the following special courses are offered: **Bookkeeping:** A two-term course. Classes will be formed at the beginning of the First and Second Terms.

**Stenography:** Two courses of one year each. Classes formed at the beginning of the session only.

**Typewriting:** One course extending through the year. As the instruction in this art is necessarily individual in its character, students will be permitted to begin the work at any time.

Students desiring to enter the special business courses will be examined in Spelling, English Grammar, including simple Letter Writing, Commercial Arithmetic and Penmanship. If found deficient in any of these branches, they will be assigned a place in the classes adapted to their grade of advancement until they acquire the desired proficiency.

# Tabular View by Classes of Sub-Collegiate Work.

Letters indicate the course, figures the number of recitations per week.

#### FIRST YEAR.

Fall Term.	Winter Term.	Spring Term.
English, a, (5)	English, a1, (5)	English, a2, (5)
Latin, a, (5)	Latin, a1, (5)	Latin, a2, (5)
Mathematics, a, (5) American History, a, (5)	Mathematics, 1a, (4) American History, a1, (5)	Civics (5)
	SECOND YEAR.	
English h (5)	English b1 (5)	English b9 (5)

English, b, (5) Latin, b, (5) Mathematics, b, (5) Physiology, b, (4)

#### English, c, (5) Latin, c, (5) Mathematics, c, (5) Physiography, c, (5) History, c, (5)

English, d, (5) Latin, d, (5) Mathematics, d, (5) History, d, (4) El. Physics, d, (4) Greek, d, (5) or German, d, (5)

English, b1, (5)	English, b2, (5)
Latin, b1, (5)	Latin, b2, (5)
Mathematics, b1, (5).	Mathematics, b2, (5
Physiology, b1, (5)	

#### THIRD YEAR.

English, c1, (5)	English, c2, (5)
Latin, c1, (5)	Latin, c2, (5)
Mathematics, c1, (5)	Mathematics, c2, (5
History, c1, (5)	History, c2, (5)

#### · FOURTH YEAR.

English, e, (5) Latin, d1, (5). Mathematics, d1, (5) History, d1, (5) El. Physics, d1, (5) Greek, d1, (5) or German, d1, (5) English, f, (5) Latin, d2, (5) Mathematics, d2, (5) History, d2, (5)

Greek, d2, (5) or German, d2, (5)